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Conflicts of Interest in Derivatives Clearing

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Summary

The financial crisis implicated the over-the-counter (OTC) derivatives market as a source of systemic risk. In the wake of the crisis, lawmakers sought to reduce systemic risk to the financial system by regulating this market. One of the reforms that Congress introduced in the Dodd-Frank Act (P.L. 111-203) was mandatory clearing of OTC derivatives through clearinghouses, in an effort to remake the OTC market more in the image of the regulated futures exchanges. Clearinghouses require traders to put down cash or liquid assets, called margin, to cover potential losses and prevent any firm from building up a large uncapitalized exposure, as happened in the case of the American International Group (AIG). Clearinghouses thus limit the size of a cleared position based on a firm's ability to post margin to cover its potential losses.

As lawmakers focused on clearing requirements to reduce systemic risk, concerns also arose as to whether the small number of large swaps dealers in existence—mostly the largest banks—might influence clearinghouses or trading platforms in ways that could undermine the efficacy of the approach. Concerns about conflicts of interest in clearing center around whether, if large swap dealers dominate a clearinghouse, they might directly or indirectly restrict access to the clearinghouse; whether they might limit the scope of derivatives products eligible for clearing; or whether they might influence a clearinghouse to lower margin requirements.

Trading in OTC derivatives is in fact concentrated around a dozen or so major dealers. The Office of the Comptroller of the Currency (OCC) estimated that, as of the third quarter of 2010, five large commercial banks in the United States represented 96% of the banking industry's total notional amounts of all derivatives; and those five banks represented 81% of the industry's net credit exposure to derivatives. The first group of Troubled Asset Relief Program (TARP) recipients included nearly all the large derivatives dealers. As a result of the high degree of market concentration, the failure of a large swaps dealer still has the potential to result in the nullification of tens of billions of dollars worth of contracts, which could pose a systemic threat.

A 2009-proposed amendment proposed to H.R. 4173, which passed the House, would have limited ownership interest and governance of the new derivatives clearinghouses by certain large financial institutions and major swap participants. Sections 726 and 765 in the final version of the Dodd-Frank Act mandate that the Commodity Futures Trading Commission (CFTC) and Securities and Exchange Commission (SEC), respectively, must adopt rules to mitigate conflicts of interest. However, it allowed the agencies to decide whether those rules include strict numerical limits on ownership or control. In the CFTC's proposed rules to mitigate conflicts of interest, published on October 18, 2010, and on January 6, 2011, the CFTC did choose to adopt strict ownership limits, along the lines of the Lynch amendment. The SEC's proposed rule, published on October 13, 2010, does the same.

This report examines how conflicts of interest may arise and analyzes the measures that the CFTC and SEC proposed to address them. It discusses what effect, if any, ownership and control limits may have on derivatives clearing; and whether such limits effectively address the types of conflicts of interest that are of concern to some in the 112th Congress. These rulemakings may interest the 112th Congress as part of its oversight authority for the CFTC and SEC. Trends in clearing and trading derivatives, and the ownership of swap clearinghouses, are discussed in the **Appendix**.

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Background

The financial crisis implicated the unregulated over-the-counter (OTC) derivatives market as a major source of systemic risk. In the wake of the crisis, lawmakers sought to introduce regulatory controls over this market, which many viewed as opaque and unregulated. A central element of the Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111-203) is a requirement that certain swaps be cleared by regulated derivatives clearing organizations (DCOs).[1]

Clearing is an institutional arrangement that helps protect against counterparty default. A DCO, or clearinghouse, clears and settles derivatives contracts between counterparties. This report examines how conflicts of interest in derivatives clearinghouses may arise, and what impact such conflicts could have on derivatives reform. It analyzes the measures that the CFTC and SEC have proposed to address such conflicts, and whether such proposed measures effectively address the types of conflicts of interest that are of concern to some in the 112th Congress. These rulemakings may interest the 112th Congress as part of its oversight authority over the CFTC and SEC.

Clearinghouses are a long-standing feature of futures exchanges. They exist to deal with a credit risk problem inherent in derivatives trading. Because derivatives are contracts linked to volatile prices, rates, or other variables, large losses may occur from time to time. Derivatives are bilateral contracts—typically, one counterparty benefits if the underlying price or rate rises; the other if it falls. How do the winners know that the losers will meet their contractual obligations? The clearinghouse guarantees payment of all contracts, offering an efficient alternative to requiring each trader to monitor the financial resources of other traders.

To ensure that it can make good on its guarantees, a clearinghouse requires all derivatives traders to put down cash to cover potential losses (called initial margin) at the time they open a contract, and requires subsequent cash deposits (called maintenance or interim margin) on a daily basis to help cover any actual losses to the position. If traders fail to answer a call for additional maintenance margin, their positions may be liquidated. The effect of the margin system is to eliminate the possibility that any market participant can build up an uncapitalized exposure (or paper loss) so large that default would cause the clearinghouse to fail. Initial margin rates are calculated to approximate the largest daily loss that a contract might experience under extreme market conditions. Margin rates are adjusted frequently to reflect shifts in volatility.

In addition to the margin system, members of the clearinghouse contribute capital to a fund to cover defaults, in the event that (1) the customer, (2) the broker, and (3) the clearing broker[2] are unable to meet the terms of a contract. No futures clearinghouse in the United States has ever failed.

Although the clearinghouse system was developed by private markets to deal with credit risk, posting margin to cover potential and actual losses has important consequences for systemic risk[3] as well. If a large derivatives trader fails, and the losses are not margined, its counterparties will be exposed to losses. There may be a widening circle of defaults, in the manner of dominos

[1] For an overview of Dodd-Frank's derivatives provisions, see CRS Report R41398, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Title VII, Derivatives*, by Mark Jickling and Kathleen Ann Ruane.

[2] A clearinghouse generally accepts only contracts brought to it by a member firm. Non-member brokers must establish a correspondent relationship with a member in order to clear their customers' transactions.

[3] Systemic risk is risk that can potentially cause instability for large parts of the financial system. For more on systemic risk, see CRS Report R41384, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Systemic Risk and the Federal Reserve*, by Marc Labonte.

falling. This was a consideration that led the Federal Reserve and the Treasury to inject hundreds of billions of dollars into the American International Group (AIG) in 2008[4]—the fear that AIG's large bank counterparties would fail (or be perceived by the market as likely to fail, which can become a self-fulfilling prophecy if other institutions withhold credit).

Clearinghouses limit the size of a cleared position based on a firm's ability to post margin to cover its potential losses. If AIG had been required to clear its contracts and post margin, it would likely have run out of money long before its derivatives position reached a size that could threaten systemic stability. An important aim of the derivatives reforms in Dodd-Frank is to ensure that the scale of exposure that resulted in the downfall of AIG is not repeated.

Pre-Dodd-Frank Act Market Structure and Regulation

The different types of derivative financial instruments are used for the same broad purposes—hedging business risk and taking on risk in search of speculative profits.[5] Prior to the Dodd-Frank Act, however, these instruments were traded in different types of markets. Futures contracts are traded on exchanges regulated by the Commodity Futures Trading Commission (CFTC). Stock options are traded on exchanges regulated by the Securities and Exchange Commission (SEC). But swaps (and security-based swaps, as well as some options) were traded OTC, rather than on organized exchanges, and were not regulated by anyone.

The mechanism that exchanges use to deal with the issues of credit risk is a clearinghouse.[6] The process is shown in **Figure 1** below: (1) two traders taking opposite sides of a contract (called long and short) agree on a transaction on the exchange floor or over an electronic platform. (2) Once the trade is made, it goes to the clearinghouse, which guarantees payment to both parties. (3) In effect, the original contract between a long and a short trader is now two contracts, one between each trader and the clearinghouse. The traders do not have to monitor the risk of counterparty default because the clearinghouse stands behind all trades.

In the OTC market, shown on the right side of **Figure 1**, the long and short traders do not interact directly. Instead of a centralized marketplace, there is a network of dealers who stand ready to take either long or short positions, and make money on spreads and fees. The dealer absorbs the credit risk of customer default, while the customer faces the risk of dealer default. In this kind of market, the dealers are expected to be solid and creditworthy financial institutions. The OTC market that emerged was dominated by two or three dozen very large and diversified institutions like JP Morgan Chase, Goldman Sachs, Citigroup, and their foreign counterparts. Before 2007, such firms were generally viewed as too well diversified or too well managed to fail. In 2008, their vulnerability was shown to be greater than previously assumed, and the question of their long-term creditworthiness now depends in part on whether the government would again intervene to ensure that their contracts are honored during a future crisis. (Title II of Dodd-Frank seeks to ensure that such risk is not borne by the taxpayer.)[7]

In the OTC market, some contracts required collateral or margin, but not all. There was no uniform practice: all contract terms were negotiable. A trade group, the International Swaps and Derivatives Association (ISDA), published best practice standards for use of collateral, but

[4] See CRS Report R40438, *Federal Government Assistance for American International Group (AIG)*, by Baird Webel.

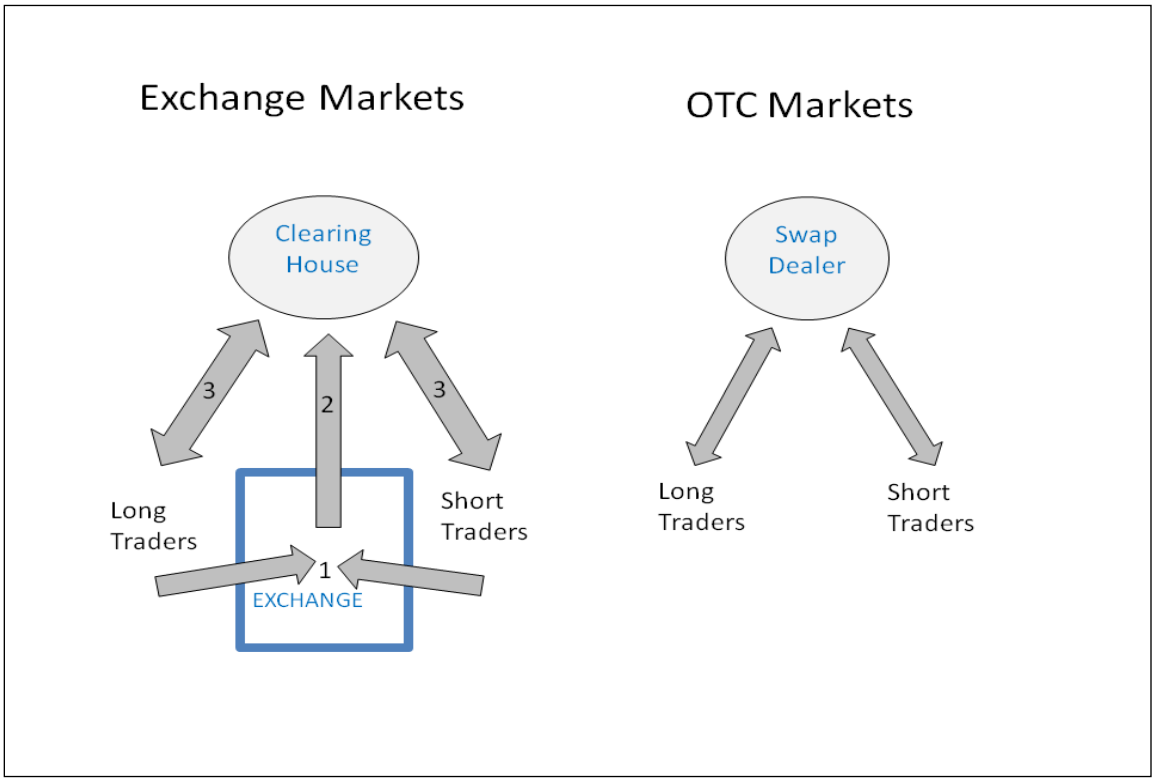
[5] For the mechanics of derivatives, see CRS Report R40646, *Derivatives Regulation in the 111th Congress*, by Mark Jickling and Rena S. Miller.

[6] Also referred to as a central counterparty or as a derivatives clearing organization (DCO).

[7] See CRS Report R41384, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Systemic Risk and the Federal Reserve*, by Marc Labonte.

compliance was voluntary. The Dodd-Frank Act seeks to make standardized clearing of all forms of derivatives the norm, especially in transactions where the counterparties are systemically important financial institutions.

Figure 1. Derivatives Market Structure: Exchanges and Over-the-Counter (OTC)



Source: CRS.

The Dodd-Frank Clearing Reforms

Sections 723 and 763 of Dodd-Frank[8] require that all forms of OTC derivatives that meet the broad statutory definition of "swap" be submitted to a registered DCO for clearing, unless (1) no clearinghouse will accept the contract for clearing, or (2) one of the counterparties to the swap is an exempt commercial end-user.

Even with the exemptions, the law will result in trillions of dollars in derivatives transactions moving from the OTC dealer market into a clearing environment. At present some swaps are cleared voluntarily, but the volume of clearing is likely to expand manyfold when Dodd-Frank becomes effective.[9]

Although the clearing model has historically proved robust in the futures industry, there are concerns about a sudden upsurge in the volume of swaps clearing. Unlike futures, many swaps are customized and complex contracts. The value of most futures contracts is linked directly to the price of a single underlying commodity, rate, or index, or a ratio. To calculate the potential risk from a futures position, one simply needs to estimate the volatility of the underlying interest.

[8] Section 723 deals with swaps under CFTC regulation, while section 763 sets out parallel requirements for security-based swaps, regulated by the SEC.

[9] The SEC and CFTC clearing rules are due to be in place by July 21, 2011, one year from enactment.

With swaps, the relationship between changes in the underlying variables and the value of the contract may not be linear. Also unlike futures, swaps do not have standardized maturity dates. Some swap markets may have low trading volume, but very large contract sizes. Because of these distinctions, pricing risk in swaps may be more complex and prone to error than pricing risk in futures.

Difficulty in pricing swaps could be a source of systemic risk. If derivatives risk is concentrated in a handful of clearinghouses, failure to price risk correctly (and set margins accordingly) could cause a clearinghouse to fail during a market crisis, potentially with systemic repercussions. Rather than simply mandate clearing, Dodd-Frank includes a number of safeguards intended to mitigate the risks in swaps clearing.

Safeguards for Swaps Clearing

Congress addressed two major concerns about swaps clearing in the Dodd-Frank Act: risk management and control and governance of clearinghouses. Before a swap can be cleared, several hurdles must be crossed:

- **A clearinghouse must be willing to accept the swap for clearing.** Under Dodd-Frank, regulators may not force DCOs to clear swaps.[10] Thus, if clearinghouses deem a particular product too risky for clearing, they do not have to accept it.
- **The regulators must approve the swap for clearing**. If the CFTC or SEC believes that a DCO lacks the technical expertise or financial resources to manage the risk in clearing a swap or class of swaps, the swap may not be cleared.
- **DCOs must meet regulatory and statutory standards.** Sections 725 and 762 of the Dodd-Frank Act set out sets of core principles that DCOs must meet as a condition of registration. These include having adequate financial, managerial, and operational resources; appropriate standards for accepting swaps for clearing; the ability to manage risk; and risk control mechanisms that limit exposure to losses that could disrupt clearing operations or spill over onto non-defaulting market participants.

From one perspective, enforcing the above provisions of the law may not require a heavy regulatory hand. DCOs have strong economic incentives to make sure that (1) market participants post enough margin to cover their individual losses; (2) the exchange membership as a whole has sufficient capital to mutualize losses should a member institution or customer fail; (3) that the DCO can net out its position through offsetting counterparty positions, so that it is not at risk from market price fluctuations; and (4) that trades are transparent enough to enable effective monitoring of emerging risks to the trading network. The incentives of clearinghouses to stay in business and the incentives of regulators to prevent financial instability appear to be aligned.

However, Congress and regulators have identified potential counter-incentives that may lead DCOs to act in a way that increases systemic risk. In theory, there may be short-term commercial advantages to behavior that works against stability. In particular, attention focused on the possibility that the handful of dealer banks that dominated the OTC derivatives market could weaken the Dodd-Frank reforms by exercising undue influence over the clearing process.

[10] Regulators may, however, designate classes of swaps that should be cleared, even if no DCO is clearing them. If such swaps are still not cleared, the regulators may impose conditions on transactions in them. Regulators may also write rules to prevent evasion of the clearing mandate.

Conflicts of Interest in Clearing

As lawmakers focused on clearing, concerns arose as to whether the small number of large swaps dealers in existence might influence clearinghouses or trading platforms in ways that could undermine the potential efficacy of clearing in mitigating systemic risk. Could powerful large banks that were both swap dealers and clearing members in a derivatives clearinghouse influence the clearinghouse not to clear certain OTC products in order to maintain the status quo in the lucrative swaps dealing business? Could they influence a clearinghouse to set margin insufficiently low for certain OTC swaps for which they dominated the market? Could they set capital requirements for clearing members unnecessarily high to keep smaller banks out of the OTC market, limit competition, and maintain higher fees?

The Dodd-Frank Act directs the CFTC and SEC to identify the nature and sources of any conflicts of interest that relate to the voting interests in, or governance of, a DCO that may interfere with achieving the policy objectives of the clearing mandate. The SEC has identified three types of conflicts of interest:[11]

- First, DCO members could limit access to the clearing agency. This can occur either by restricting direct participation in the clearing agency, or restricting indirect access by controlling the ability of non-members to enter into correspondent clearing arrangements.
- Second, DCO members could limit the scope of products eligible for clearing, particularly if there is a strong economic incentive to keep a product traded in the OTC market, where there is less transparency and dealer spreads between bid and ask prices are likely to be wider.
- Third, DCO members could use their influence to lower the risk management controls of a clearinghouse to reduce the amount of collateral they would be required to contribute and liquidity resources they would have to expend as margin or guaranty fund to the security-based swap clearing agency.

The CFTC identifies similar potential conflicts of interest. First, in determining whether a swap contract is capable of being cleared; second, in determining the minimum criteria that an entity must meet to become a clearinghouse member; and third, in determining whether a particular entity satisfies the membership criteria.[12] Others have raised a related issue: the possibility of a "race to the bottom" if competing clearinghouses cut margin requirements to imprudent levels in search of market share. While this strategy might jeopardize the long-term survival of the DCO, it could generate short-term profits from clearing fees.

These concerns largely reflect the possibility that large derivatives dealers could come to dominate swaps clearing and essentially seek to preserve the status quo ante of the OTC market. Parts of the concern may appear counterintuitive—why would a clearinghouse refuse to clear?—or may be addressed elsewhere—regulators have authority to require that access to DCOs be open and nondiscriminatory. Some may find improbable the scenario of clearinghouse members deliberately setting capital and margin standards too low. Nonetheless, the issue of concentrated ownership and control of derivatives clearinghouses was a subject of intense debate in the 111th

[11] SEC, "Ownership Limitations and Governance Requirements for Security-Based Swap Clearing Agencies, Security-Based Swap Execution Facilities, and National Securities Exchanges With Respect to Security-Based Swaps Under Regulation MC; Proposed Rule," *Federal Register*, vol. 75, October 26, 2010, p. 65885.

[12] CFTC, "Requirements for Derivatives Clearing Organizations, Designated Contract Markets, and Swap Execution Facilities Regarding the Mitigation of Conflicts of Interest," *Federal Register*, vol. 75, October 18, 2010, p. 63732.

Congress and was addressed in different ways by various iterations of the financial reform legislation that became the Dodd-Frank Act.

Legislative Approaches to Conflicts of Interest

As concerns about the structure of clearinghouses arose in 2009, Representative Stephen F. Lynch proposed an amendment to H.R. 4173, which would have restricted ownership interest and governance of the new derivatives clearinghouses by certain large financial institutions and major swap participants.[13] The Lynch amendment set a 20% limit on the collective ownership of clearing and trading entities by so-called "restricted owners," which included swap dealers, major swap participants, and their security-based swap counterparts, to prevent conflicts of interest. The Lynch amendment was adopted by the House by a vote of 228-202.

The Senate, however, did not take the approach of the Lynch amendment in its version of H.R. 4173. The provisions of the Lynch amendment were ultimately not included in the conference report on H.R. 4173, but the report did, in Sections 726 and 765, include language related to conflicts of interest in swaps clearinghouses. The final version of Dodd-Frank does not impose statutory restrictions on DCO ownership, but does require the regulators to make rules to mitigate conflicts of interest, which could include numerical limits on control and ownership of clearinghouses.

An examination of the legislative history documents accompanying H.R. 4173 does not reveal a rationale for the conferees omitting the language of the Lynch amendment in their final report, or in choosing to include the conflict of interest provisions of Sections 726 and 765. During conference deliberations on H.R. 4173, the House conferees reportedly proposed legislative language to their Senate counterparts which included the language of the Lynch amendment.[14] In doing so, Conference Chairman Representative Barney Frank stated that he and the House conferees viewed the Lynch language as "very important."[15]

Senate conferees reportedly rejected portions of the House offer, including the Lynch language.[16] Instead of setting strict ownership caps, they opted to require regulators to write rules to mitigate conflicts of interest, which could include numerical limits on the control and ownership of clearinghouses, exchanges and other entities.[17] The House ultimately accepted the Senate position. In a June 30, 2010, colloquy on the House floor, Representatives Lynch and Frank clarified the intent of Sections 726 and 765 of the conference report, including making clear that the rulemaking envisioned by the sections was mandatory, not to be done at the discretion of the CFTC and the SEC.[18]

In the final Dodd-Frank Act, Sections 726 and 765 mandate that the CFTC and SEC, respectively, must adopt rules to mitigate conflicts of interest; but leave it to the agencies themselves to decide whether those rules should include strict numerical limits on ownership or control.

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[13] For text of amendment, see U.S. Congress, House, Committee on Rules, *Report to Accompany H.Res. 964*, H. Rept, 111-370, 111th Cong., 1st sess. (Washington: GPO, 2009), pp. 188-192.

[14] "House-Senate Conference Committee Holds A Meeting on Walls Street Reform and Consumer Protection Act." *Financial Markets Regulatory Wire*, June 24, 2010, CQ Transcriptions, LLC.

[15] Ibid.

[16] Ibid.

[17] Ibid.

[18] *Congressional Record*, daily edition, vol. 156, June 30, 2010, p. H5217.

Regulatory Proposals

Both the CFTC and the SEC published proposed rules on conflicts of interest in October 2010. The rules included similar percentage limits on ownership and voting control of DCOs. In addition, the releases contain a number of proposed requirements that DCOs have governance structures to insulate them from control by large financial institutions.

In the CFTC's proposed rules to mitigate conflicts of interest, published on October 18, 2010,[19] and on January 6, 2011,[20] the CFTC did choose to propose strict ownership limits, along the lines of the Lynch amendment. The SEC's proposed rules also adopt such limits.[21] The CFTC and SEC propose to limit the amount of voting equity or voting power that certain "enumerated entities"[22] may own or exercise, individually or collectively, with respect to DCOs.[23] The enumerated entities are those set forth in the statute:[24] (1) bank holding companies with total consolidated assets over $50 billion and their affiliates, (2) nonbank financial companies supervised by the Board of Governors of the Federal Reserve System and affiliates of such companies, (3) swap dealers and associated persons of swap dealers, and (4) major swap participants (MSPs) and associated persons of MSPs.

Under the proposed rules, a DCO may choose to comply with either of two alternative sets of ownership and control limits:

Option One. A DCO member may not individually:

- beneficially own more than 20% of any class of voting equity in the DCO; or
- directly or indirectly vote an interest exceeding 20% of the voting power of any class of equity interest in the DCO.

In addition, enumerated entities—regardless of DCO membership—may not collectively:

- beneficially own more than 40% of any class of voting equity in a DCO; or
- directly or indirectly vote an interest exceeding 40% of the voting power of any class of equity interest in the DCO.

Option Two. A DCO member or enumerated entity regardless of DCO membership may not:

- own more than 5% of any class of voting equity in the DCO; or directly or indirectly vote an interest exceeding 5% of the voting power of any class of equity interest in the DCO.

[19] CFTC, "Requirements for Derivatives Clearing Organizations, Designated Contract Markets, and Swap Execution Facilities Regarding the Mitigation of Conflicts of Interest," *Federal Register*, vol. 75, October 18, 2010, p. 63732.

[20] CFTC, "Governance Requirements for Derivatives Clearing Organizations, Designated Contract Markets, and Swap Execution Facilities; Additional Requirements Regarding the Mitigation of Conflicts of Interest," *Federal Register*, vol. 76, January 6, 2011, p. 722.

[21] SEC, "17 CFR Part 242: Ownership Limitations and Governance Requirements for Security-Based Swap Clearing Agencies, Security-Based Swap Execution Facilities, and National Securities Exchanges With Respect to Security-Based Swaps Under Regulation MC," *Federal Register*, vol. 75, October. 26, 2010, p. 65882.

[22] The SEC rule does the same thing, but refers to these as "specified entities."

[23] The ownership limits will also apply to designated contract markets (futures exchanges) and swap execution facilities (created by Dodd-Frank).

[24] Section 726(a) of the Dodd-Frank Act; 15 U.S.C. § 8323(a).

Some opponents of the proposed rules argue that mandating a more fragmented ownership structure for DCOs could lead them to be under-capitalized.[25] This is risky for DCOs, they argue, which would benefit in times of crisis from the large amounts of capital required to be held by the current large swap dealers who already dominate the swaps market—most of them big banks. If regulators restrict the ownership of DCOs by such large banks, they argue, then smaller and less well-capitalized entities will have to make up the rest of the clearing members, thereby reducing both critical swap-market expertise and access to capital on the part of the DCO. They also argue that limiting the ownership of large banks who are the major swap dealers would also limit the crucial expertise on swaps that DCOs need in order to accurately assess the riskiness of various derivatives, and to decide whether to clear them, and if so, how to set margin requirements accurately.

One of the five CFTC commissioners, Jill E. Sommers, voted against the rule proposal, arguing that the voting equity restrictions are not necessary or appropriate to mitigate the perceived conflicts and may stifle competition by preventing the formation of new swaps trading and clearing firms. Commissioner Sommers also noted that the European Commission rejected ownership limitations.[26]

The CFTC previously addressed a similar kind of structural conflict of interest in a 2007 final rule addressing conflicts of interest in futures exchanges (designated contract markets, or DCMs).[27] In the regulatory framework prior to the Dodd-Frank Act, DCMs were subject to flexible "core principles," including core principle 15 regarding conflicts of interest, instead of more prescriptive rules. Title VII of the Dodd-Frank Act retains various DCM core principles with certain additions and changes (and renumbers 15 to 16). Core principle 16 requires DCMs to establish and enforce rules (1) to minimize conflicts of interest in the decision-making process of the DCM, and (2) to establish a process for resolving such conflicts of interest.[28] The CFTC's 2007 final rule adopted "acceptable practices" for minimizing conflicts of interest pursuant to the DCM core principle. The acceptable practices address conflicts of interest within DCMs as they transform from member-owned, not-for-profit entities into diverse enterprises with a variety of business models and ownership structures.[29] The CFTC indicated that the presence of potentially conflicting demands, that is, regulatory authority coupled with commercial incentives to misuse such authority, constitutes a new structural conflict of interest.[30] The Dodd-Frank Act also

[25] See, e.g., Comment No. 26325, Comment for Proposed Rule 75 FR 63732, from Ernest C. Goodrich Jr. for Deutsche Bank AG, October 26, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26325&SearchText=. See also Comment No. 26411, Comment for Proposed Rule 75 FR 63732, from Robert Pickel for the International Swaps and Derivatives Association, Inc., November 16, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26411&SearchText=. Also see Comment for File No. S7-27-10, from John S. Willian for Goldman, Sachs & Co., November 18, 2010, at http://www.sec.gov/comments/s7-27-10/s72710.shtml. See also Comment No. 26410, Comment for Proposed Rule 75 FR 63732, from Janet McGinness for NYSE Liffe US LLC, November 16, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26410&SearchText=.

[26] Ibid., p. 63753. The European Commission announced its proposal on September 15, 2010. See European Commission, "Proposal for a regulation of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories," at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010PC0484:EN:NOT.

[27] CFTC, "Conflicts of Interest in Self-Regulation and Self-Regulatory Organizations ("SROs")," *Federal Register*, vol. 72, February 14, 2007, p. 6936. (Hereinafter cited as *2007 DCM Conflicts Release*.)

[28] Section 735(b) of the Dodd-Frank Act; 7 U.S.C. § 7(d)(16).

[29] *2007 DCM Conflicts Release*, p. 6937. The acceptable practices, among other things, require 35% representation of public directors on a DCM board and set rules requiring oversight committees, but do not establish ownership limits.

[30] Ibid, p. 6939. The CFTC also expresses concern that sustained competition between DCMs and SEFs for the same swaps contracts may exacerbate certain structural conflicts of interest.

contains a revised set of core principles for DCOs,[31] including management of conflicts of interest.

In addition to the numerical ownership restrictions, the CFTC and SEC propose to require certain governance structures to prevent conflicts of interest in DCOs. These include

- a requirement that 35% of DCO boards of directors (or at least two board members) be independent directors;[32]
- a requirement that 35% of any committee with authority to act on behalf of the board of directors regarding management of a DCO must consist of independent directors; and
- a requirement that each DCO have a Risk Management Committee with a composition of 35% independent directors with sufficient expertise in, among other things, clearing services.

Additionally, the CFTC rules include

- the prohibition of a DCO from being operated by another entity unless such entity agrees to comport with such requirements in the same manner as the DCO; and
- the prohibition of a DCO from permitting itself to be operated by any entity unless such entity agrees to subject (1) its officers, directors, employees, and agents to CFTC or SEC authority, and (2) makes its books and records available to the CFTC or SEC for inspection.

Opponents of the Rule

Some fear that the conflicts of interest rules will harm competition by limiting entry of new DCOs, SEFs, and DCMs to the market.[33] They warn that the rule will hinder the ability of new DCOs to find investors who will devote their time, expertise, and capital if they know they are not able to retain more than a 20% voting equity.[34] Without basic governance rights, these critics argue, investors would lose control over commercial interests (which would include revenue policy and intellectual property). At the same time, they argue, it will force existing DCOs to find ways to replace the portion of their capital that is currently funded by "enumerated entities." They protest that, in effect, the rule will limit trading and clearing options for market participants, limit

[31] Section 725(c) of the Dodd-Frank Act; 7 U.S.C. § 7a-1(c)(2).

[32] No director may qualify as an independent director unless the full board affirmatively determines that the director does not have a material relationship with (1) the DCO or an affiliate, or (2) a DCO member or affiliate.

[33] See, e.g., Comment No. 27266, Comment for Proposed Rule 75 FR 63732, from Kathleen M. Cronin for CME Group Inc. November, 17 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=27266&SearchText=. See also e.g., Comment No. 26474, Comment for Proposed Rule 75 FR 63732, from James B. Fuqua for UBS Securities LLC. November 17, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26474&SearchText=. See also e.g., Comment No. 26422, Comment for Proposed Rule 75 FR 63732, from Timothy G. McDermott for Nadex, November 17, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26422&SearchText=

[34] See, e.g., Comment No. 26429, Comment for Proposed Rule 75 FR 63732, from Thomas Book for Eurex Clearing AG. November 17, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26429&SearchText=. See also Comment No. 26474, Comment for Proposed Rule 75 FR 63732, from James B. Fuqua for UBS Securities LLC. November 17, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26474&SearchText=.

competition, and cause market uncertainty—as traders question the security of funds for existing DCOs.[35]

Additionally, some of the industry's largest banks argue that a limit on aggregate ownership of DCOs (the second option of the CFTC's proposed rule) can cause conflicts of interest amongst non-members, also potentially exacerbating systemic risk.[36] They fear that non-member owners will not possess the appropriate expertise to manage their entities' decisions and they will not share the same principles that prioritize risk management over return on investments. In most clearinghouse structures, they explain, non-member owners may not share the same risk exposure as members when a counterparty defaults, and this can compel them to take greater risks when making important business decisions.

Meanwhile some commenters have noted that the rule will be ineffective for mitigating conflicts of interest amongst members and non-members. They claim that putting a cap on ownership rights does not restrict voting rights—and thus the influence—that a dealer might wield over a DCO.[37] For this reason, they recommend that the regulatory agencies weigh the realistic costs of the ownership rule against its supposed benefits.

Proponents of the Rule

Proponents of the rule, on the other hand, underscore the risk that the system and the DCOs, SEFs, and DCMs would face if allowed to operate by only a handful of large firms.[38] The main problem with allowing these entities to remain unrestricted in ownership and voting rights, they argue, is such entities will unlikely demand sufficient collateral to control risk. We saw the same large banks fail to require sufficient collateral from AIG in the lead-up to the financial crisis, they explain; and as a result of the "undercapitalization" of these banks, billions of dollars were needed from Treasury, the Federal Reserve, and the FDIC to prevent widespread default. There is therefore no guarantee that the financial industry's largest banks would require the appropriate level of collateral when running their clearinghouses, these commenters argue. Without the proposed SEC and CFTC rule, they believe the system would be vulnerable to the same risk that was present before the crisis, this time with concentrated risk among the nation's largest clearinghouses.

[35] See, e.g., Comment No. 26700, Comment for Proposed Rule 75 FR 63732, from Edward J. Rosen for Bank of America Merrill Lynch; Barclays Capital; BNP Paribas; Citi; Credit Agricole Corporate and Investment Bank; Credit Suisse Securities (USA); Deutsche Bank AG; HSBC; Morgan Stanley; Nomura Securities International, Inc.; PNC Bank, National Association; UBS Securities LLC; Wells Fargo & Company. Please see attachment. December 3, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26700&SearchText=.

[36] See, e.g., Comment No. 26700, Comment for Proposed Rule 75 FR 63732, from Edward J. Rosen for Bank of America Merrill Lynch; Barclays Capital; BNP Paribas; Citi; Credit Agricole Corporate and Investment Bank; Credit Suisse Securities (USA); Deutsche Bank AG; HSBC; Morgan Stanley; Nomura Securities International, Inc.; PNC Bank, National Association; UBS Securities LLC; Wells Fargo & Company. Please see attachment. December 3, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26700&SearchText=.

[37] See, e.g., Comment No. 26410, Comment for Proposed Rule 75 FR 63732, from Janet McGinness for NYSE Liffe US LLC. November 16, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26410&

SearchText=.

[38] See, e.g., Comment No. 26486, Comment for Proposed Rule 75 FR 63732, from Sherrod Brown for United States Senate. November 18, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26486& SearchText=.

Then, there is also concern that the agencies have not gone far enough in limiting dealers from gaining monopolistic control over clearinghouses, SEFs, and exchanges.[39] They argue that the purpose of Dodd-Frank—to limit the dominance of the five large banks in the OTC market, and to promote greater competition amongst market participants—is not being fulfilled by the issuance of a 5% ownership cap by any one entity or broker. The problem, they explain, is that brokers will still be able to "band together" to collectively own the majority of DCO, SEF, and DCM operations, which the large banks are likely to do since they share similar interests. After forming these inconspicuous cohorts, they argue, the big banks will be able to dictate the decision making in their respective exchanges, clearinghouses, and execution facilities. Because of this potential loophole (i.e., the fact that the rule does not mandate a limit on aggregate ownership), these critics encourage the CFTC and the SEC to consider issuing stronger restrictions on collective ownership that will better ensure that no one entity or class of entities will dominate DCOs.

[39] See, e.g., Comment No. 26291, Comment for Proposed Rule 75 FR 63732, from Stephen F. Lynch for U.S. House of Representatives. October 18, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26291&SearchText=. See also Comment No. 26341, Comment for Proposed Rule 75 FR 63732, from Michael E. Capuano for U.S. House of Representatives, October 29, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26341&SearchText=. See also Comment No. 26975, Comment for Proposed Rule 75 FR 63732, from Michael N. Castle for U.S. House of Representatives, November 14, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26975&SearchText=. See also Comment No. 26432, Comment for Proposed Rule 75 FR 63732, from Joshua Miller for Senate Corporations Committee, November 17, 2010, at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=26432&SearchText=.

Appendix. Current Ownership of Swap Clearinghouses

Over the past decade, most exchanges and clearinghouses have become "vertically integrated," meaning the DCOs have become subsidiaries or divisions within certain exchanges.[40] Throughout the United States and Europe, there are three main clearinghouse-exchanges that clear and trade OTC derivatives: the Chicago Mercantile Exchange Group (CME), the IntercontinentalExchange (ICE), and LCH.Clearnet. The ownership structure and operations of these clearinghouses and exchanges will likely be affected by Dodd-Frank and the CFTC's proposed rules.

The CME group currently appears to have just a small share of its business in clearing OTC derivatives, relative to regulated futures.[41] The CME ClearPort began clearing interest rate swaps on October 18, 2010.[42] As of February 8, 2011, it had more than $900 million in outstanding notional interest rate swap contracts.[43] This is a fraction of a percent of the global interest rate swaps market.[44] CME ClearPort's buy-side participants are BlackRock, Citadel, Fannie Mae, Freddie Mac, and PIMCO. The sell-side participants are BofA Merrill Lynch, Barclays Capital, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, J.P. Morgan, Morgan Stanley, Nomura, and UBS.

CME ClearPort was originally created in May of 2002 to clear OTC natural gas products for CME. CME has also provided clearing services for credit default swap (CDS) contracts since 2009, but CME's CDS clearing business remains relatively small compared with ICE's.[45] News media also reported that ICE tends to clear the majority of CDS products that are cleared, whereas CME only clears a small amount.[46] By the end of 2009, ICE Trust had cleared more than $4 trillion worth of notional CDS contracts.[47] This represented 16% of the global CDS market. As

[40] LCH.Clearnet appears to be an exception to this trend. See Craig Pirrong, "The Industrial Organization of Execution, Clearing and Settlement in Financial Markets," December 21, 2006.

[41] The CME's main clearing business right now is interest rate futures; see p. 21 of CME 10-Q form for the SEC for 2010, at http://www.sec.gov/Archives/edgar/data/1156375/000119312510250139/d10q.htm. It operates four exchanges: The Chicago Mercantile Exchange (CME), The Board of Trade of the City of Chicago (CBOT), The New York Mercantile Exchange (NYMEX), and the Commodity Exchange (COMEX). It operates its clearing business through CME ClearPort. For its plans to capture more of the European OTC market, see "CME Group Reports Fourth Quarter Earnings and Plans for Returning More Capital to Shareholders," by Michael Wong for Morning Star, February 3, 2011, at http://torontostar.morningstar.ca/globalhome/industry/news.asp?articleid=368898.

[42] See CME Group, "CME Group Begins Clearing OTC Interest Rate Swaps," press release, October 18, 2010, http://cmegroup.mediaroom.com/index.php?item=3073&pagetemplate=article&s=43.

[43] CME Group, "Interest Rate Swaps Market Data Reports," press release, February 2, 2011, http://www.cmegroup.com/trading/interest-rates/cleared-otc/irs.html.

[44] The BIS estimates that in 2010 interest rate swaps totaled $347 trillion. See Bank of International Settlements, *Amounts outstanding of over-the-counter (OTC) derivatives*, http://www.bis.org/statistics/otcder/dt1920a.pdf.

[45] See Christine Birkner, "Credit default swaps clearing buy side access achieved," *Futuresmag.com*, February 1, 2010, at http://www.futuresmag.com/Issues/2010/February-2010/Pages/Credit-default-swaps-buy-side-access-achieved.aspx.

[46] Ibid.

[47] From January to September in 2010, Ice Trust, ICE's U.S. clearinghouse, cleared $4.1 trillion of CDS notional value. See p. 27 of Securities Exchange Commission, "Intercontinental Exchange Form 10-Q," press release, September 10, 2010, http://www.sec.gov/Archives/edgar/data/1174746/000119312510241968/d10q.htm.

of February 8, 2011, CME's net notional outstanding U.S. contracts equaled $33 million,[48] which represented a very small amount of the CDS market.[49]

CME Group's ownership structure is comparatively heterogeneous: 0.86% is owned by individual stakeholders; 29.67% is owned by mutual fund holders; and 37.78% is owned by other institutions.[50] The largest percentages of shares are owned by BackRock Fund Advisors (at 4.35%), Vanguard Group, Inc (at 3.61%), State Street Global Advisors (at 3.50%), Alliace Bernstein LP (at 3.30%), and Goldman Sachs Asset Management LP (at 2.81%).

ICE, like CME, has vertically integrated execution, clearing, and settling facilities. ICE is owned 0.28% by individuals, 31.41% by funds, and 70.10% by institutions.[51] Its largest shareholders are T. Rowe Price (at 9.82%), Sands Capital Management (at 5.64%), Delaware Management Business Trust (at 4.84%), and Vanguard Group (at 4.46%).[52] ICE has been clearing CDSs since 2009, when 10 major banks put forth funds to establish its OTC clearinghouse.[53] Along with LCH, it is the largest clearer of OTC derivatives, but mostly for the CDS market.

For the OTC market as a whole, the interest rate swaps market is by far the largest OTC product traded, representing about 93% of the notional amount of OTC derivatives.[54] LCH is the largest interest rate swap clearinghouse. LCH currently clears more than 40% of the interest rate swaps market. According to its 2009 annual report, LCH has more than $200 trillion outstanding in interest rate swap trades that it has cleared using its subsidiary, SwapClear.[55] This represents 57% of the global interest rate swaps market.[56]

Unlike CME, LCH's ownership is more concentrated. It is a holding company that was created as part of a merger in December 2003 to oversee LCH.Clearnet Limited and LCH.Clearnet SA.[57] 84% of its shares are owned by its users and 17% are owned by exchanges.[58] In 1980, long before

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[48] See chart for CME Group, CDS Market Data Reports, at http://www.cmegroup.com/trading/cds/cds-data.html.

[49] DTCC estimates the net notional amount of the CDS market to be $2.3 trillion as of December 31, 2010, while the gross notional reported was $25.5 trillion. See ISDA, CDS Marketplace, at http://www.isdacdsmarketplace.com/market_statistics.

[50] CNNMoney, "CME Group Inc," press release, 2010, http://money.cnn.com/quote/shareholders/shareholders.html.

[51] Morningstar, "CME Group Inc.," press release, January 31, 2011, http://investors.morningstar.com/ownership/shareholders-overview.html?t=CME.

[52] Ibid.

[53] In 2009, Bank of America, Barclays Capital, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, J.P. Morgan, Merrill Lynch, Morgan Stanley, and UBS became the initial clearing members of ICE Trust. Each contributed "significantly" to the trust's guarantee fund. See ICE, press release, 2009. http://ir.theice.com/releasedetail.cfm?ReleaseID=369373. This was during ICE's March 6, 2009, acquisition of The Clearing Corporation (TCC)—which cleared U.S. futures and OTC emissions.

[54] According to ISDA's mid-year 2010 survey, the total notional amount outstanding for OTC derivatives was around $466.8 trillion, of which interest rate derivatives (swaps, options, cross-currency) comprised $434.1 trillion (around 93%). Credit derivatives, on the other hand, made up $26.3 trillion (this included credit default swaps, single name indexes, etc.). See ISDA, press release, 2010, http://www.isda.org/media/press/2010/press102510.html.

[55] LCH.Clearnet, "2009 Annual Report and Consolidated Financial Statement," press release, 2009, http://www.lchclearnet.com/Images/2009%20Annual%20Report%20and%20Consolidated%20Financial%20Statements_tcm6-53486.pdf.

[56] The BIS estimated the notional amount of interest rate swaps outstanding in 2009 to be $349 trillion. See http://www.bis.org/statistics/otcder/dt1920a.pdf.

[57] LCH.Clearnet, "2009 Annual Report and Consolidated Financial Statement," press release, 2009, http://www.lchclearnet.com/Images/2009%20Annual%20Report%20and%20Consolidated%20Financial%20Statements_tcm6-53486.pdf.

[58] Ibid.

LCH merged with Clearnet SA in 2003, its ownership was passed to a consortium of Britain's six largest banks. Its current board of directors includes members from Morgan Stanley, Goldman Sachs, the London Stock Exchange, ABN AMRO Bank N.V., Citigroup, HSBC, JP Morgan, Deutsche Bank, Barclays, and BNP Paribas—which are some of the leading OTC derivatives dealers.[59] LCH's corporate governance rules require that some of its key stakeholders be represented on the board of directors.[60] It also states that "shareholders have a particularly direct involvement in the business of the company and the group."[61]

On November 6, 2010, LCH.Clearnet Group Ltd., Europe's largest clearinghouse, completed a buyout of shareholders, boosting its largest users' stakes ending a nine-month struggle for control. LCH.Clearnet defines its biggest users as those contributing more than 1% of its total clearing fees. Its biggest users now own 63% of shares compared with 37% prior to the buyout.[62]

Adjustments to DCO ownership and governance structures may occur as a result of Dodd-Frank and CFTC and SEC rules. Many banks and clearinghouses are making moves to capitalize on the new push toward derivatives clearing.[63] To give some examples, Royal Bank of Scotland (RBS) joined CME's OTC clearing division in November 2010 and Wells Fargo Securities became a member in February 2011. LCH.Clearnet is due to launch a "buyside" service for interest rate swaps.[64]

Trends in Clearing and Trading

As mentioned above, over the past 10 years, there has been a trend toward vertical integration in the exchange and clearinghouse industry, amongst exchanges that trade OTC derivatives. Vertical integration is when an exchange that executes transactions in securities or derivatives joins together with an existing clearinghouse or makes moves to create a clearing division of its own to clear and settle all of its transactions. Examples of such integration include CME Group (in 2006),[65] LCH.CLearnet (early 2000s), and ICE (mid- to late 2000s).[66]

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[59] For information on LCH's ownership structure see LCH.Clearnet, "2009 Annual Report and Consolidated Financial Statement," press release, 2009, http://www.lchclearnet.com/Images/2009%20Annual%20Report%20and%20Consolidated%20Financial%20Statements_tcm6-53486.pdf. For information on OTC derivatives trading, see ISDA, "News Release," press release, October 25, 2010, http://www.isda.org/media/press/2010/press102510.html. Note that the ISDA release says: "The five largest US-based dealers reported a notional amount outstanding of $172.3 trillion, which is 37 percent of the total amount. This contrasts with other reports in which the five largest US-based dealers appear to hold 95 percent of outstandings and dominate the OTC derivatives market. The difference lies in the fact that the ISDA Survey takes into account the global scope and scale of the derivatives business, while the other figures compare the five largest U.S.-based dealers to the total held only by U.S. bank holding companies."

[60] See p. 82 of LCH.Clearnet, "LCH Annual Report," press release, 2009, http://www.lchclearnet.com/Images/2009%20Annual%20Report%20and%20Consolidated%20Financial%20Statements_tcm6-53486.pdf.

[61] Ibid.

[62] Lisa Brennan, "Mounting Conflicts at Exchanges, Clearinghouses Prompt Concern," *Bloomberg*, January 20, 2010, available at http://www.bloomberg.com/apps/news?pid=newsarchive&sid=ayyhPhL2Vz2c.

[63] See Jeremy Grant, "Wells Fargo becomes clearing member of CME," *Financial Times*, February 1, 2011. Also see Louise Story, "A Secretive Banking Elite Rules Trading on Derivatives," *New York Times*, December 10, 2010.

[64] Ibid.

[65] Craig Pirrong, "The Industrial Organization of Execution, Clearing and Settlement in Financial Markets," *Bauer College of Business, University of Houston*, December 21, 2006, in appendix.

[66] See Intercontinental Exchange, "A History of Transparent Markets," press release, February 10, 2011, https://www.theice.com/history.jhtml.

CME Group is the product of a merger between the Chicago Mercantile Exchange (CME) and the Chicago Board of Trade (CBOT) that occurred in 2006. The merger occurred after the Board of Trade Clearing Corporation (BTCC) agreed to clear Eurex transactions.[67] Eurex's entrance into the market directly competed with CBOT. In response, CBOT rescinded its rule that required its members to clear through the Board of Trade Clearing Corporation (BTCC), and required them to clear through CME instead. In 2006, the two were finally merged.

ICE Clear US was originally the New York Cotton Exchange Clearing Association from 1915. It later became the Commodity Clearing Corporation.[68] To expand its futures business it merged with the International Petroleum Exchange (IPE), which later became ICE Futures Europe.[69] It then partnered with the Chicago Climate Exchange (CCX) in 2005, to host its OTC emissions markets; and merged with the New York Board of Trade (NYBOT) in January 2007.[70]

Why have exchanges become vertically integrated with clearinghouses? Some academics argue that integration of trade, execution, and settlement in an exchange improves the efficiency of the exchange because it economizes its transaction costs.[71] This happens because the merged entity then has the option of denying other entities access to its clearing and settlement services—particularly those entities which trade products that are already traded on the integrated exchange. Vertical integration can also be beneficial because it allows the exchange to organize its transactions in a way that eliminates double marginalization (because it would clear and settle through its own facilities) and would help to avoid holdups. Vertical integration has been a component of financial markets long before exchanges and clearinghouses started working on OTC transactions. The Chicago Board of Options Exchange, for example, formed its central counterparty clearinghouses in 1973.[72]

There is also a trend toward horizontal integration, whereby exchanges merge to compete with other exchange entities over derivatives, futures, and options trading. For example, in February, 2011 news media reported that the New York Stock Exchange (NYSE) was nearing an agreement to be taken over by Deutsche Borse AG.[73] Such a merger would create the world's largest financial exchange.[74] The takeover would be the latest in a decade of mergers by exchanges around the world looking for new sources of growth, and competing with smaller rivals that have been quicker to embrace new and lucrative kinds of trading.[75] Competition has also been growing from electronic exchanges, and those trading derivative contracts such as options and futures. For instance, a rising competitor for NYSE and Deutsche Borse AG is CME Group Inc.[76] The *Wall*

[67] Craig Pirrong, "The Industrial Organization of Execution, Clearing and Settlement in Financial Markets," *Bauer College of Business, University of Houston*, December 21, 2006, in appendix.

[68] See Intercontinental Exchange, "A History of Transparent Markets," press release, February 10, 2011, https://www.theice.com/history.jhtml.

[69] Ibid.

[70] Ibid.

[71] Craig Pirrong, "The Industrial Organization of Execution, Clearing and Settlement in Financial Markets," *Bauer College of Business, University of Houston*, December 21, 2006, p.1.

[72] Ibid.

[73] E.S. Browning, Jacob Bunge, and Aaron Lucchetti, "Germans in Talks to Buy Big Board," *The Wall Street Journal*, February 10, 2011.

[74] Ibid. Note, Deutsche Borse owns 50% of Eurex Clearing, AG which clears all Deutsche Borse tock trades. See Craig Pirrong, "The Industrial Organization of Execution, Clearing and Settlement in Financial Markets," *Bauer College of Business, University of Houston*, December 21, 2006, p.1.

[75] Ibid.

[76] Ibid.

Street Journal predicted that such a new entity would supplant CME Group as the world's largest futures exchange and create the biggest U.S. options group, as measured by contract volume.

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