UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

NEW MEXICO STATE INVESTMENT COUNCIL,

Plaintiff,

v.

BANK OF AMERICA CORPORATION; BANK OF AMERICA, N.A.; BOFA SECURITIES, INC.; BARCLAYS PLC; BARCLAYS BANK PLC; BARCLAYS CAPITAL INC.; BNP PARIBAS S.A.; BNP PARIBAS SECURITIES CORP.; CITIGROUP, INC.; CITIBANK N.A.; CITIGROUP GLOBAL MARKETS INC.; CITIGROUP GLOBAL MARKETS LIMITED; CREDIT SUISSE GROUP AG; CREDIT SUISSE AG; CREDIT SUISSE SECURITIES (USA) LLC; CREDIT SUISSE CAPITAL LLC; CREDIT SUISSE INTERNATIONAL; DEUTSCHE BANK AG; DEUTSCHE BANK SECURITIES INC.; GOLDMAN SACHS GROUP, INC.; GOLDMAN SACHS & CO. LLC; GOLDMAN SACHS INTERNATIONAL; J.P. MORGAN CHASE & CO.; J.P. MORGAN CHASE BANK, N.A.; J.P. MORGAN SECURITIES LLC; MORGAN STANLEY; MORGAN STANLEY & CO., LLC; MORGAN STANLEY & CO. INTERNATIONAL PLC; MORGAN STANLEY CAPITAL SERVICES, LLC; NATWEST GROUP PLC; NATWEST MARKETS PLC; NATWEST MARKETS SECURITIES, INC.; THE INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION, INC.; CREDITEX GROUP INC; IHS MARKIT, LTD.; and JANE DOES 1-100,

Defendants.

CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

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I. INTRODUCTION

1. Since 2005, the Wall Street banks that comprise the major dealers of credit default swaps ("CDS") have been engaged in a conspiracy to manipulate the CDS "final auction price," the benchmark price used to value all CDS contracts market-wide at settlement. The final auction price is generated through an auction process that was introduced to the market by the Dealers in 2005. The Dealers – Bank of America / Merrill Lynch, Barclays, BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley, and RBS (collectively, the "Dealers" or "Dealer Defendants," and each defined below) – have implemented this conspiracy by using their power over the CDS auction process to rig the CDS auctions and produce a (typically) supra-competitively low CDS final auction price. Working with three entities over which the Dealers yield significant power and influence – Creditex, ISDA, and Markit (together, with the Dealers, the "Defendants") – the Dealers' conspiracy has yielded them billions of dollars in cartel profits at the expense of non-dealer market participants like Plaintiff and the putative Class members. Plaintiff New Mexico State Investment Council brings this class action to stop the Defendants from continuing to violate federal antitrust law and federal market manipulation law and instead hold them accountable for their illegal conduct.

2. A credit default swap is like a form of financial insurance. The "protection seller" promises to pay compensation to the "protection buyer" for losses the buyer sustains if its underlying investment fails. For purposes of Plaintiff's suit, the underlying investment is a debt investment in corporate or sovereign bonds. In exchange for this promise of compensation from the protection seller, the protection buyer makes premium-like payments to the protection seller over the life of the CDS contract.

3. A credit default swap is, however, *unlike* insurance in that the protection buyer can purchase CDS on bonds that it does not actually own. This is known as a "naked" swap. Naked swaps provide an opportunity for CDS market participants to speculate about the creditworthiness of a bond issuer.

4. A credit default swap is triggered, and the protection seller's promise of compensation is activated, when the bond suffers a "credit event." Typical credit events are the bond issuer's filing for bankruptcy or missing a coupon payment on the bond.

5. Historically, credit default swaps were "physically" settled, *i.e.*, the protection buyer would literally give impaired bonds to the protection seller, and the protection seller would pay the protection buyer the face amount of the CDS contract. In a 5-year credit default swap with a face amount of $10 million on JCPenney bonds, for example, the protection buyer would at settlement deliver $10 million of JCPenney bonds in exchange for $10 million from the protection seller.

6. As credit default swaps became more popular and market participants traded more naked swaps, market participants started "cash" settling their CDS contracts. In cash settlement, no bonds change hands. Instead, the protection buyer and protection seller agree on the value of the underlying impaired bonds, and then the protection seller pays the protection buyer the face amount of the CDS contract minus the value of the underlying, impaired bonds.

7. Prior to 2005, protection sellers and protection buyers had different ways to determine the value of the bond, including by bilaterally negotiating the value of the bonds post-impairment. That value would then determine the amount of compensation the protection seller had to pay the protection buyer.

8. In 2005, a group of Dealers working with Creditex introduced a new method for calculating the value of the post-impairment bonds: an auction. The auction process is used today. The process involves two stages that happen in a single day. The first stage happens in the morning. The second stage takes place in the afternoon. The Dealers are the only direct participants in the auctions. A representative from each Dealer – typically, a trader on the CDS market making desk – will participate in each auction on behalf of the Dealer.

9. In the first stage of the auction, each Dealer does two things. First, it submits a "physical settlement request" ("PSR"), which is a request to buy or sell a certain amount of bonds at auction at the (yet to be determined) final auction price. The physical settlement request aggregates both the Dealer's "house" request (for its own proprietary trading books) and any client requests. The Dealers are not supposed to know each other's physical settlement requests until after the end of the auction, when such information is published by auction administrators.

10. Second, each Dealer submits an "initial market." The initial market submission is a two-way price – a bid to buy and an offer to sell – for a pre-defined amount of bonds. Often, the pre-defined amount is $2 million, so the Dealer's initial market submission is supposed to represent each Dealer's independent view of the price at which it would buy or sell $2 million worth of the impaired bonds. The Dealers are not supposed to know each other's initial market submissions until after the end of the auction, when such information is published by the auction administrators.

11. After the first stage is over, the auction administrators – Creditex and Markit – calculate and publish the "net open interest" ("NOI") and the "initial market midpoint" ("IMM"). Creditex and Markit calculate the NOI by summing up all the Dealers' physical settlement requests. The NOI represents the amount of supply or demand for bonds that will be auctioned

off, as well as the *direction* of the second stage of the auction, *i.e.*, whether in the auction's second stage the Dealers will be bidding to buy bonds or making offers to sell bonds.

12. Creditex and Markit calculate the IMM by discarding any "crossing" initial markets and then taking the best half of the bids and offers and calculating the average. ("Crossing" is when one Dealer's bid to buy is higher than or equal to another Dealer's offer to sell, or when a Dealer's offer to sell is lower than or equal to another Dealer's bid to buy.) The best half are, respectively, the highest half of the remaining bids, and the lowest half of the remaining offers. The IMM is used to calculate the ceiling or floor on the final auction price, depending on the direction of the auction.

13. In the second stage of the auction, the Dealers each submit "limit orders" (bids or offers) for a certain amount of bonds at a certain price. Some limit orders are the Dealers' "house" limit orders. Others are client orders that are submitted to the auction through the Dealers. The limit order that exhausts the remaining NOI sets the final auction price, subject to the IMM-derived cap or floor.

14. To force non-dealer client adoption of the auction process, the Dealers beginning in 2005 started using CDS liquidity to influence non-dealer clients' acceptance of the auction process as the settlement and valuation mechanism for impaired bonds. Because the Dealers controlled (and still control) nearly all the CDS liquidity available in the dealer-to-client CDS market, non-dealer market participants accepted the Dealers' terms, agreeing in their CDS contracts that they would settle those contracts by reference to the Dealer-controlled final auction price as determined in the auction process.

15. The Dealers then took one more step to make the final auction price the universal benchmark for valuation and settlement of CDS contracts. During the 2008 financial crisis, the Dealers told Tim Geithner, then-chair of the Federal Reserve Bank of New York, that they would incorporate the auction process that the Dealers and Creditex had created into the standardized contracts that are used to trade CDS. They sold this to Geithner as a mechanism to "improv[e] Credit . . . Derivative market participant practices[.]"

16. The reality was much different. The Dealers formed a Dealer-only "working group" whose only members were representatives of each of the Dealers and a representative from the dealer-dominated trade association ISDA. The Dealer-only working group had no formal name. Its existence was not publicized.

17. The Dealer-only working group was informally led by representatives from Goldman Sachs, Deutsche Bank, and JPMorgan. At the Dealer-only working group meetings, the Dealers reached several agreements to exclude and constrain non-dealer participation in the auctions.

18. *First*, the Dealers agreed that *only Dealers* would be permitted to be direct participants in the auctions, and they reserved for themselves ***the right to vote*** on who could be a direct participant in any auction. A non-dealer who wants to be a direct participant in an auction may do so only if the Dealers (and only the Dealers) vote to allow it. No non-dealer has ever been a direct participant in any auction. Indeed, non-dealers know better than to even ask. They know (and have known) that making such a request would be unsuccessful and could trigger retaliation from the Dealers.

19. *Second*, the Dealers agreed to rig the IMM so that only Dealers would be permitted to submit the initial markets that are used to calculate it. The Dealers prohibited non-dealers from submitting initial markets in any auction. As a result, ***only the Dealers'*** initial markets may be used to calculate the IMM, which serves (depending on the direction of the auction) as a cap or floor on the final auction price. In some auctions, the final auction price was the IMM.

20. *Third*, the Dealers agreed that non-dealers could participate in the physical settlement request and limit order phases of the auctions, ***but only through the Dealers***. When a non-dealer wants to submit a limit order or a physical settlement request into an auction, it needs to disclose that trading information to at least one Dealer, providing that Dealer with advance, insider knowledge of the non-dealer client's identity, the price at which it wants to trade, the quantity that it is looking to trade, the types of bonds it wants to trade, and its timing for the trade – all of which is competitively and commercially sensitive information that the Dealers have exploited through illegal market manipulation tactics, including front-running.

21. The intent of these agreements was to make the Dealers the exclusive gatekeepers to the auction. The effect of making the Dealers the exclusive gatekeepers to the auction was to bestow upon each Dealer various inside-information advantages that enable it to reap anti-competitive trading profits at the expense of unknowing non-dealer market participants – and to enable the Dealers to manipulate the benchmark final auction price.

22. Armed with this disproportionate control over the CDS auctions, and the inside-information advantages that they bestowed upon themselves as exclusive gatekeepers to the auction, the Dealers have engaged in systematic manipulation of the final auction price – the benchmark that they created and forced upon the market. They have achieved this manipulation

by sharing competitively and commercially sensitive pricing information with each other, and then coordinating their auction submissions to drive the final auction price in the direction that suits their respective CDS positions – typically, downward.

23. The effect of a supra-competitively low final auction price is that it increases the amount that must be paid by CDS protection sellers to CDS protection buyers when their respective contracts settle. This generates an anti-competitive windfall for the Dealers, who generally are net protection buyers when the skew is downward.[1] In other words, the Dealers' scheme cheats more protection dollars out of the pockets of their non-dealer counterparties – Plaintiff and the putative Class members – than they would have paid but for the Defendants' conspiracy.

24. Importantly, the Dealers' scheme is *bidirectional*: when the Dealers are net protection *sellers*, they manipulate the final auction price *upward*, which has the effect of cheating their non-dealer counterparties, including Plaintiff and the putative Class members, out of money that they would have received from the Dealers but for the Dealers' manipulative scheme.

25. Using publicly available CDS auction data and bond pricing data, Plaintiff has conducted an extensive econometric analysis that shows that the Dealers are learning each other's purportedly secret initial market submissions before the auction starts and then coordinating their in-auction pricing submissions accordingly. Plaintiff's econometric "screens" – statistical tools built on economic models that use pricing and other types of data to identify the existence, causes, and scope of manipulative and collusive behavior – have detected that the Dealers are learning and

[1] *See* Erica Paulos, Bruno Sultanum, and Elliot Tobin, "CDS Auctions: An Overview," *Federal Reserve Bank of Richmond: Economic Quarterly*, at 131 (2Q 2019) ("Our findings . . . indicate that CDS auction prices are being manipulated in the downward direction when the NOI is to sell. . . . [W]e use regulatory data on CDS positions from the DTCC to demonstrate that dealers sometimes hold positions significant enough to provide incentive to manipulate the auction.").

then following the purportedly secret initial market submission of the one Dealer who has the most at stake in a particular "name" (the "dominant Dealer").[2] Plaintiff's results are statistically significant and applicable to each CDS auction.

26. In particular, Plaintiff's regression shows that the "dominant Dealer's" initial market submission – specifically, the extent to which the dominant Dealer's initial market two-way price *deviates* from the prior day's market price for the same bond – ***predicts other Dealers' initial market submissions to a statistically significant degree***. This effect is shown even after controlling for every variable that an economically rational CDS trader would rely on in forming his or her initial market submission.

27. Moreover, Plaintiff's regression shows – to a statistically significant degree – that the dominant Dealer's initial market submission ***predicts the other Dealers' limit order submissions***, even after controlling for every variable that an economically rational CDS trader would rely on in forming his or her limit order. This substantiates the core finding of Plaintiff's analysis: that the dominant Dealer is communicating its initial market submission to the other Dealers, and the other Dealers are coordinating their own submissions around that information.

28. The findings of Plaintiff's statistical analysis are corroborated by facts that Plaintiff has uncovered concerning several mechanisms the Dealers have used to share pricing and commercially sensitive client information in the run-up to the CDS auctions.

29. *First*, thanks to a back-door in the Bloomberg terminal messaging service that is the primary communication and trading mechanism for Wall Street institutions, it is a practice for

[2] The "name" is what CDS traders call the bond and the CDS covering that bond.

the Dealers to actually check one another's real-time CDS and bond pricing on Bloomberg, even though they are supposed to be prohibited from doing so.

30. *Second*, the Dealers routinely communicate with each other, informally and privately, about the CDS auctions. For example, a Dealer will sometimes send out via Bloomberg its view of the final auction price the night before an auction. These messages are "inside baseball" views by a purportedly knowledgeable Dealer about how the final auction price will end up, and the effect is to signal to the other direct participants in the CDS auctions – the Dealers – about what the final auction price *should* be.

31. *Third*, because clients must submit their physical settlement requests and limit orders in any auction through the Dealers, the Dealers learn confidential client information and "front-run" their clients' submissions into the auction, thereby protecting the Dealers' preferred supra-competitive final auction price. (Front-running is a trading practice where traders place orders on behalf of their firms in advance of an anticipated client transaction.)

32. *Fourth*, the Dealers share material, non-public information with each other during "Determinations Committee" meetings – information that is never publicly disclosed. As part of the auction hardwiring process, the Dealers agreed to create a "Determinations Committee" and structure it with 10 seats for Dealers and 5 seats for non-dealers, so that it would always be majority-controlled by Dealers. The Determinations Committee decides whether a "credit event" has occurred that triggers CDS contracts, whether a corresponding auction will be held, and the rules for each auction.

33. After the LIBOR and foreign exchange scandals cost many Wall Street institutions – including the Dealers – billions of dollars in penalties and damaged their reputations with clients,

CDS auctions had all the hallmarks and risks of a similar playground for Dealer bad behavior. This parallel was not lost on some of the Dealers who were concerned that it was only a matter of time until regulators audited the CDS auction process, uncovered the activity that would give rise to the Dealers' liability, and imposed heavy fines on the Dealers.

34. The profits that control of the auctions provided were too attractive and the Dealers have to this day dismissed any possibility of reforming the auction process.

35. One example of the misconduct that allowed the Dealers to make profits or avoid losses involved improper price sharing. For example, Dealers were able to improperly replicate other Dealers' CDS and bond pricing through a Bloomberg terminal "back-door." The backdoor worked as follows: each Dealer had a credit derivatives business, and inside that credit derivatives business were different desks. There is the "sell-side" desk – the traditional CDS "dealer" market-making desk that provides liquidity to clients like pension funds and hedge funds. There are also, however, "buy-side" desks at each of the dealer banks, *e.g.*, structured credit and/or correlation trading desks, that are actually clients of *other Dealers'* CDS market-making desks. Because all those desks are housed at each Dealer under the "credit derivatives" business, Bloomberg was treating the desks as one unit – and so a trader on the sell-side market-making desk could access in real-time all the pricing that a trader on the buy-side structured credit desk was receiving from *other* CDS dealers.

36. To avoid this improper price sharing, Dealers each had to direct Bloomberg to set up barriers that would prevent traders on a sell-side desk from monitoring the pricing that traders on a buy-side desk would receive. The Dealers did not do this.

37. Nor was it just a technical glitch. CDS market-making desks at the Dealers have been exploiting this Bloomberg trick for years, enabling them to cross-check their own pricing with the pricing of their competitor Dealers *in real-time* on Bloomberg – even though it was against each Dealer's policies to obtain this type of real-time access to competitor pricing and use that pricing to formulate a trader's own pricing.

38. The Dealers were aware of this clear problem, yet they did not act to address the concern or segregate the information that their market-making desks could receive from their structured credit desks. Improper information sharing of pricing among competitors continued as a consequence.

39. In other ways, the CDS auction process created improper opportunities to information share. *First*, the Determinations Committee meetings provided the Dealers with shared, material, non-public information: the Determinations Committee's deliberations themselves. The information was not being shared with other investors or the public at all, and the Dealers were instead using that information to trade on it at the expense of non-dealer counterparties. The Dealer representatives on the Determinations Committee who had access to the material, non-public information being shared amongst the Dealers also shared it with their market-making desks.

40. *Second*, the auction process' exclusion of non-dealers as direct participants was not justified by any economically rational or competitive explanation, but was instead serving the purpose of preserving the Dealers' role in the CDS auction process as the exclusive recipients of client information – which they would trade on to the detriment of clients. The Dealers used their exclusive gatekeeping roles in the auction to trade ahead of clients, and the Dealers did not have

barriers restricting the flow of client-specific auction orders from Dealer personnel responsible for the Dealers' own auction submissions, including pricing and orders for Dealers' house accounts.

41. Despite these serious problems, ISDA refused to act to prevent this improper information sharing. ISDA, beholden to the Dealers, refused to be perceived in any way as regulating them. ISDA and the Dealers refused to act despite the fact that after the LIBOR and foreign exchange antitrust scandals, the most problematic aspects of the Dealers' behavior in the CDS auctions and credit event process generally have the same vulnerabilities as the LIBOR and foreign exchange markets.

42. The Dealers have refused to informationally segregate their CDS market-making operations from other CDS-involved parts of the banks, such as their correlation desks. They have refused to publish more information about the discussions at the Determinations Committee meetings. They have refused any suggestion of providing more sunlight into the CDS auction process. And they have not implemented safeguards to stop trading on material, non-public information exchanged at Determinations Committee meetings (and afterwards).

43. The dealer-dominated ISDA board has shut down any talk of changing the CDS credit event process, the CDS auction protocol, or of the Dealers' manner of participating in either process.

44. Aware of these risks, *ISDA itself* sought to camouflage its role on the Determinations Committee to protect itself from regulatory action. It did this by removing itself formally from the Determinations Committee process and instead creating a new entity – DC Administration Services, Inc. ("DCAS") – that would act as the Determinations Committee

secretary, an entity that ISDA nonetheless controlled but that was bankruptcy-remote, so as to protect ISDA's assets in the event of a substantial regulatory penalty or liability.

45. Plaintiff New Mexico State Investment Council brings this class action to stop the Dealers' violations of federal antitrust law and federal market manipulation law, to obtain compensation for putative Class members who have suffered billions of dollars in injuries over the life of Defendants' scheme, and to reform the CDS auction process.

II. JURISDICTION & VENUE

46. This Court has subject matter jurisdiction over this action pursuant to Sections 4 and 16 of the Clayton Act (15 U.S.C. §§ 15(a) and 26), Section 22 of the Commodity Exchange Act (7 U.S.C. § 25), and pursuant to 28 U.S.C. §§ 1331 and 1337(a).

47. The Court has jurisdiction over the state law claim (1) under 28 U.S.C. § 1367, because the state law claim is so related to the federal claims that it forms part of the same case or controversy, and (2) under 28 U.S.C. § 1332, because the amount in controversy for the Class exceeds $5,000,000 and because there are members of the Class who are citizens of a different state than the Defendants.

48. Each Defendant is subject to personal jurisdiction in this Court because each transacted business throughout the United States, including in this District. This includes settling CDS with Class members via reference to the CDS final auction price throughout the United States and in this District, and transacting other CDS business throughout the United States, including in this District, that is directly related to the claims in this action.

49. Under 15 U.S.C. § 22, some Defendants are subject to personal jurisdiction in the United States. They formed in or have their principal places of business in the United States. Their

conspiratorial behavior – *e.g.*, communicating with each other about the CDS auction process, about the CDS auctions, and about the information arising out of their inside-information advantages in those auctions – was directed at, carried out in substantial part in, and had the intended effect of causing injury to Plaintiff and Class members residing in, located in, or doing business in the United States. The majority of CDS auctions were held in the United States, and participants in London-based auctions participated from the United States.

50. Defendants' activities, and those of their co-conspirators, were within the flow of, were intended to, and had a substantial effect on foreign and interstate commerce.

51. Venue is proper in this District pursuant to 15 U.S.C. §§ 15(a) and 22 and 28 U.S.C. § 1391(b) and (c) because, during the Class Period, Defendants transacted business, or had agents in this District, a substantial part of the events or omissions giving rise to these claims occurred in this District, and a substantial portion of the affected interstate trade and commerce discussed herein has been carried out in this District.

III. THE PARTIES

A. Plaintiff

52. Plaintiff New Mexico State Investment Council ("SIC") is an institutional investment firm that manages New Mexico's $31 billion permanent endowment, as well as investments from 23 other New Mexico state agencies. SIC appears by and through the Office of the Attorney General of the State of New Mexico. The Attorney General for the State of New Mexico is statutorily authorized to provide counsel to the State's agencies, including SIC. Pursuant to New Mexico State law, the Attorney General also has the discretion to initiate or

participate in litigation, when in his judgment the interest of the State so requires. See NMSA 1978, § 8-5-2 (1975).

53. SIC transacted both single-name and index CDS during the Class Period, as both a buyer and seller of credit protection (depending on the particular CDS transaction). Plaintiff's index CDS transactions referenced multiple series of various CDS indices, including the North American Investment Grade CDX index (CDX.NA.IG), the North American High Yield CDX index (CDX.NA.HY), the Emerging Markets CDX index (CDX.EM), the iTraxx Europe index, and the iTraxx Asia ex-Japan Investment Grade index. With respect to certain of its index CDS transactions, Plaintiff had open index CDS positions as a protection seller (*i.e.*, Plaintiff had entered into CDS in which it sold protection on a notional amount of the index) on dates when a CDS auction was held to determine the settlement price for a CDS reference entity that was a constituent of that CDS index. As a result, Plaintiff was obligated to make credit protection payments by applying (1) CDS auction final prices, against (2) the portion of the index position notional comprised by the particular index constituent subject to the auction.

54. During the Class Period, SIC participated in CDS transactions directly with one or more Defendants, including MS&Co. (a Morgan Stanley entity, defined below), and was injured and suffered losses from trading at artificial prices proximately caused by Defendants' conspiracy alleged herein. Defendants' collusive and illegal activities deprived SIC of the ability to transact in a lawful, non-manipulated, competitive market. As a direct and proximate result of Defendants' unlawful conduct, SIC suffered injury to its business and property.

B. Defendants

55. Whenever in this Complaint reference is made to any act, deed, or transaction of any entity, the allegation means that the corporation engaged in the act, deed, or transaction by or through its officers, directors, agents, employees, or representatives while they were actively engaged in the management, direction, control, or transaction of the entity's business or affairs.

1. The Dealer Defendants

56. Bank of America / Merrill Lynch, Barclays, BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley, and RBS are referred to collectively herein as the "Dealer Defendants."

a) Bank of America / Merrill Lynch Defendants

57. Defendant Bank of America Corporation ("BAC") is a bank and financial holding company organized and existing under the laws of the State of Delaware, with its principal place of business located at Bank of America Corporate Center, 100 N. Tryon Street, Charlotte, North Carolina 28255, and branch locations in New York, New York. Through its subsidiaries, including the below-identified Bank of America / Merrill Lynch Defendants, BAC provides a full range of banking, investing, asset management services. During the Class Period, BAC entered into derivative positions, including CDS, on behalf of customers, for trading or to support risk management activities.[3] As of December 31, 2019, BAC reported having purchased $321.6 billion of credit protection through CDS, and having sold $300.2 billion notional of credit protection through CDS.[4]

[3] BAC 2019 10-K, at 102.

[4] BAC 2019 10-K, at 102.

58. Defendant Bank of America, N.A. ("BANA") is a federally chartered national banking association with its principal place of business located at Bank of America Corporate Center, 100 N. Tryon Street, Charlotte, North Carolina 28255, and branch locations in New York, New York. BANA is a wholly-owned subsidiary of BAC. BAC's banking activities are operated primarily through BANA.[5] As of December 31, 2019, BANA reported: (1) having sold $173.44 billion of credit protection through CDS and a further $49.0 billion of credit protection through CDS options, and (2) having purchased $187.04 billion of credit protection through CDS and a further $47.68 billion through CDS options.[6]

59. Defendant BofA Securities, Inc. ("BofA Securities") is a corporation organized and existing under the laws of the State of Delaware, with a principal place of business located at One Bryant Park, New York, New York 10036. BofA Securities is a wholly-owned subsidiary of NB Holdings Corporation, which is a wholly-owned subsidiary of BAC. BofA Securities, one of BAC's two principal U.S. broker-dealers, focuses on institutional clients.[7] During the Class Period, BofA Securities entered into credit derivatives including CDS to facilitate client transactions and to manage credit risk exposures.[8] As of December 31, 2019, BofA Securities reported having purchased $1.842 billion of protection and sold $716 million of protection via CDS.[9] BofA Securities is registered as a broker-dealer and investment adviser with the SEC and as a futures commission merchant with the CFTC.

[5] BAC 2019 10-K at 22.

[6] BANA 2019 FFIEC Consolidated Reports of Condition and Incom, at 40.

[7] BAC 2019 10-K, at 49.

[8] BofA Securities 2019 Financial Statements, at 24.

[9] BofA Securities 2019 Financial Statements, at 22.

60. On January 1, 2009, Bank of America merged with Merrill Lynch & Co., Inc., ("Merrill Lynch"), a holding company organized and existing under the laws of the State of Delaware, with a principal place of business located at 4 World Financial Center, New York, New York 10080 (and together with its consolidated subsidiaries, "Merrill"), with Merrill Lynch becoming a wholly-owned subsidiary of BAC. As of December 26, 2008, immediately prior to Merrill's merger into Bank of America, Merrill reported total credit derivative notional exposure of $2.077 trillion;[10] as of December 31, 2009, Merrill's more detailed derivative disclosures showed Merrill to have purchased $908.6 billion of credit protection through CDS and sold $614.0 billion of credit protection through CDS.[11]

61. As used herein, the term "Bank of America / Merrill Lynch" includes Defendants BAC, BANA, and BofA Securities, and their affiliates, including the Merrill entities acquired by Bank of America on January 1, 2009, that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, Bank of America / Merrill Lynch: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from their inception to the present); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

[10] Merrill Lynch 2008 Form 10-K, at 131.

[11] Merrill Lynch 2009 Form 10-K, at 88.

b) Barclays Defendants

62. Defendant Barclays PLC is a holding company organized under the laws of England and Wales, with its principal place of business located at 1 Churchill Place, Canary Wharf, London E14 5HP, England. Together with and through its wholly-owned subsidiaries, Barclays PLC is a major global financial services provider engaged *inter alia* in investment banking, securities broker-dealing, corporate and wholesale banking, investment management, wealth management, retail banking and credit cards. Among Barclays PLC's self-described "principal" subsidiaries that are most significant for Barclays PLC's consolidated business, results and financial position are Defendants Barclays Bank and Barclays Capital. As of December 31, 2019, Barclays PLC reported outstanding credit derivative positions, including single name and index CDS, in a notional amount of £825.5 billion.[12]

63. Defendant Barclays Bank plc ("Barclays Bank") is a public limited company organized and existing under the laws of England and Wales, with its principal place of business located at 1 Churchill Place, Canary Wharf, London E14 5HP, England. Barclays Bank operates a foreign branch in New York, New York, licensed by the New York Department of Financial Services (NYDFS), at a registered address of 745 Seventh Avenue, New York, New York 10019. Barclays Bank is a wholly-owned subsidiary of Barclays PLC. As of December 31, 2019, Barclays Bank reported outstanding credit derivative positions, including single name and index CDS, in a notional amount of £825.5 billion.[13] Barclays Bank is a registered swap dealer with the CFTC.

[12] Barclays PLC 2019 Annual Report, at 272.

[13] Barclays Bank 2019 Annual Report, at 164; Barclays PLC 2019 Annual Report at 272.

64. Defendant Barclays Capital Inc. ("Barclays Capital") is a corporation organized and existing under the laws of the State of Connecticut, with its principal place of business located at 745 Seventh Avenue, New York, New York 10019. Barclays Capital is ultimately wholly owned by Barclays PLC.[14] Barclays Bank's U.S. securities broker-dealer and investment banking operations are primarily conducted through Barclays Capital.[15] Barclays Capital is registered with the SEC as a securities broker-dealer, and with the CFTC as a swap dealer, futures commission merchant, commodity pool operator and commodity trading advisor.

65. As used herein, the term "Barclays" includes Barclays PLC, Barclays Bank and Barclays Capital, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, Barclays: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from their inception to the present); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

c) BNP Paribas Defendants

66. Defendant BNP Paribas S.A. is a public limited company organized and existing under the laws of France with its principal place of business in Paris, France. BNP Paribas operates

[14] Barclays Capital 2019 Annual Report, at 3.

[15] Barclays Bank 2019 Annual Report, at 112.

a foreign branch in New York, New York, licensed by the New York Department of Financial Services (NYDFS), at a registered address of 787 Seventh Avenue, New York, New York 10019. Through its Corporate and Institutional Banking (CIB) division, BNP Paribas S.A. provides various corporate banking services, including financing, cash management and financial advisory services, a range of securities services (execution services, derivatives clearing, and settlement and custodial services), and a broad range of investment, financing, hedging and market intelligence services across all asset classes, including market-making and trading in credit, equity, interest rate, foreign exchange and commodity derivatives.[16] As of December 31, 2019, BNP Paribas S.A. reported credit derivative positions totaling €940.7 billion.[17]

67. Defendant BNP Paribas Securities Corp. ("BNP Securities") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 787 Seventh Avenue, New York, New York 10019. BNP Securities is ultimately wholly owned by BNP Paribas S.A.[18] BNP Securities engages in market-making transactions and brokerage activities for institutional clients, other broker-dealers and BNP affiliates.[19] BNP Securities engages in derivatives trading, and clears derivatives on behalf of BNP Paribas, other BNP affiliates and external customers.[20] BNP Securities is registered as a broker-dealer with the SEC, as a futures commission merchant with the CFTC, and is approved by ICE Clear Credit LLC

[16] BNP 2018 Resolution Plan, at 7, 18.

[17] BNP 2019 Financial Statements, at 65.

[18] BNP Securities 2019 Annual Report, at 3.

[19] BNP Securities 2019 AR, at 3.

[20] BNP 2018 Resolution Plan, at 18.

as a clearing member for credit default swaps products and by the Chicago Mercantile Exchange to clear OTC swap derivative transactions.[21]

68. As used herein, the term "BNP Paribas" includes Defendants BNP Paribas S.A. and BNP Securities, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, BNP: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from their inception to the present); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

d) Citi Defendants

69. Defendant Citigroup, Inc. ("Citigroup") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 388 Greenwich Street, New York, New York 10013. Citigroup conducts securities underwriting, brokerage and dealing activities in the U.S. through CGMI, and in the Europe, Middle East and Africa (EMEA) region through CGML. Through broker-dealer subsidiaries such as CGMI and CGML, Citigroup is a market maker in and trades a range of credit derivatives, and writes or purchases protection on single-name or portfolio reference credits.[22] As of December 31, 2019,

[21] BNP Securities 2019 AR, at 3.

[22] Citigroup 2019 10-K, at 294.

Citigroup, together with and/or through its consolidated subsidiaries, had purchased $685.6 billion of credit protection and sold $593.8 billion of credit protection through CDS and CDS options transactions.[23]

70. Defendant Citibank N.A. ("Citibank") is a federally chartered national banking association with its principal place of business located at 399 Park Avenue, New York, New York 10022. Citibank is ultimately wholly owned by Citigroup. Citibank is a market maker in, and trades a range of, credit derivatives, including CDS, through which Citibank either purchases or writes protection on either a single name or a portfolio of reference credits.[24] As of December 31, 2019, Citibank reported holding credit derivative positions totaling $1.859 trillion, and having sold $885.6 billion of credit protection through CDS and CDS options transactions.[25]

71. Defendant Citigroup Global Markets Inc. ("CGMI") is a corporation organized and existing under the laws of the State of New York, with its principal place of business located at 388 Greenwich Street, New York, New York 10013. CGMI is ultimately wholly owned by Citigroup. CGMI is Citigroup's primary, and primary U.S., broker-dealer. CGMI transacts and makes markets in a range of credit derivatives, through which CGMI either purchases or writes protection on either a single name or a portfolio of reference credits.[26] As of December 31, 2019, CGMI had purchased $63.6 billion of credit protection and sold $43.8 billion of credit protection through CDS and CDS options transactions.[27] CGMI is registered as a securities broker dealer

[23] Citigroup 2019 10-K, at 239.

[24] Citibank 2019 Financial Statements, at 93.

[25] Citibank 2019 Financial Statements, at 85 and 94.

[26] CGMI 2019 Annual Report, at 25.

[27] CGMI 2019 Annual Report, at 26.

and investment adviser with the SEC, and registered swap dealer and futures commission merchant with the CFTC.

72. Defendant Citigroup Global Markets Limited. ("CGML") is a corporation organized and existing under the laws of England and Wales, with its principal place of business located at Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB. CGML CGMI is ultimately wholly owned by Citigroup. CGML, a CFTC-registered swap dealer, is Citigroup's primary international broker-dealer, operating globally but generating the majority of its business from the Europe, Middle East and Africa (EMEA) region. CGML is a market maker in equity, fixed income and commodity products across cash, over-the-counter (OTC) derivatives and exchange-traded markets, and provides investment banking capital markets and advisory services.[28] As of December 31, 2019, CGML had purchased $24.0 billion of credit protection and sold $23.9 billion of credit protection through credit derivative transactions.[29]

73. As used herein, the term "Citi" includes Defendants Citigroup, Citibank, CGMI and CGML, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, Citi: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from inception through to the present, save the Japan DC between April 2010 and April 2012); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that

[28] CGML 2019 Annual Report, at 2.

[29] CGML 2019 Annual Report, at 53.

owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

e) Credit Suisse Defendants

74. Defendant Credit Suisse Group AG ("Credit Suisse Group") is a holding company organized and existing under the laws of Switzerland with its principal place of business in Zurich, Switzerland. Credit Suisse Group provides banking services through its operating subsidiaries – principally, Defendant Credit Suisse AG, Credit Suisse Group's direct banking subsidiary, which is virtually co-extensive with Credit Suisse Group, and a handful of Credit Suisse AG's subsidiaries, including Defendant CS International and CS Holdings USA, the parent holding company for Defendant CS USA, which Credit Suisse Group identifies as its "major subsidiaries" and which "account for a significant proportion of [Credit Suisse] Group's business operations."[30]

75. Defendant Credit Suisse AG is a corporation organized and existing under the laws of Switzerland with its principal place of business in Zurich, Switzerland. Credit Suisse AG operates a foreign branch in New York, New York, licensed by the New York Department of Financial Services (NYDFS), at a registered address of 11 Madison Avenue, New York, New York 10010. Credit Suisse AG operates *inter alia* as market maker in public and private cash debt across the credit spectrum, including leveraged loans as well as high yield and investment grade, and as a market maker in the credit derivatives market, including for CDS indices, liquid single-name CDS, sovereign CDS and credit default swaptions.[31] As of December 31, 2019, Credit Suisse AG

[30] Credit Suisse Group 2019 Annual Report, at cover page and 179-80.

[31] Credit Suisse Group 2019 Annual Report, at 12.

reported outstanding credit derivative positions, "primarily credit default swaps," in a notional amount of CHF 538.1 billion.[32]

76. Defendant Credit Suisse Securities (USA) LLC ("CS USA") is a limited liability corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 11 Madison Avenue, New York, New York 10010. CS USA is ultimately a wholly-owned subsidiary of Credit Suisse Group.[33] CS USA is registered as a securities broker dealer with the SEC, and as a registered swap dealer and futures commission merchant with the CFTC. As of December 31, 2019, CS USA reported having entered into $10.9 billion of credit derivative transactions, including CDS, through which CS USA sold $1.3 billion of credit protection and purchased $9.6 billion of credit protection.[34]

77. Defendant Credit Suisse Capital LLC ("CS Capital") is a limited liability corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 11 Madison Avenue, New York, New York 10010. CS Capital is ultimately wholly owned by Credit Suisse Group. CS Capital is utilized by Credit Suisse AG as its U.S. OTC non-bank derivatives dealer entity, and transacts OTC derivatives with corporate clients, high net worth individuals and affiliates.[35] CS Capital uses CS USA as its clearing broker-dealer. CS Capital is registered with the CFTC as swap dealer, and with the SEC as a broker-dealer and OTC derivative dealer.

[32] Credit Suisse Group 2019 Annual Report, at 330.

[33] CS USA 2019 Annual Report, at 3.

[34] CS USA 2019 Annual Report, at 25 and 28.

[35] Credit Suisse Group 2019 Annual Report, at 29.

78. Defendant Credit Suisse International ("CS International") is a bank organized and existing as a private unlimited company under the laws of England and Wales, with its principal place of business located at One Cabot Square, London, E14 4QJ. Credit Suisse utilizes CS International as one of its primary non-U.S. and/or international derivative dealer entities,[36] and as one of its "principal booking entities" for Credit Suisse's investment banking business.[37] More particularly, Credit Suisse deploys CS international "as a global hub for [Credit Suisse's] derivative products."[38] CS International is registered with the CFTC as a swaps dealer.

79. As used herein, the term "Credit Suisse" includes Defendants Credit Suisse Group, Credit Suisse AG, CS USA, CS Capital and CS International, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, Credit Suisse: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from inception through to the present); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

[36] Credit Suisse Group 2019 Annual Report, at 29.

[37] CS International 2019 Annual Report, at 9.

[38] CS International 2019 Annual Report, at 9.

f) Deutsche Bank Defendants

80. Defendant Deutsche Bank AG is a corporation organized and existing under the laws of Germany with its principal place of business in Frankfurt, Germany. Deutsche Bank AG operates a foreign branch in New York, New York, licensed by the New York Department of Financial Services (NYDFS), at a registered address of 60 Wall Street, New York, New York 10005. Deutsche Bank AG also operates a foreign branch in London England, at a registered address of Winchester House, 1 Great Winchester Street, London EC2N 2DB. As of December 31, 2019, Deutsche Bank AG reported having entered into credit derivative positions in a total notional amount of €743.2 billion.[39] Six years earlier, as of December 31, 2013, Deutsche Bank's credit derivative positions were approximately three times larger: €2.112 *trillion*, including €1.195 trillion in single-name CDS and €905.2 billion in multi-name CDS).[40]

81. Defendant Deutsche Bank Securities Inc. ("DB Securities") is a corporation organized and existing under the laws of the State of Delaware with its principal place of business located at 60 Wall Street, New York, New York 10005. DB Securities is ultimately a wholly-owned subsidiary of Deutsche Bank AG.[41] DB Securities is registered as a securities broker-dealer with the SEC, and as a futures commission merchant with the CFTC, and in these capacities clears securities and derivatives products for its customers, affiliates or itself. [42] As of December 31,

[39] Deutsche Bank AG 2019 Annual Report, at 131.

[40] Deutsche Bank AG 2014 Annual Report, at 111 and 113.

[41] DB Securities 2019 Annual Report, at 2.

[42] DB Securities 2019 AR, at 2.

2014, DB Securities reported having sold $15.7 billion of credit protection through CDS, and having purchased $16.4 billion of credit protection.[43]

82. As used herein, the term "Deutsche Bank" includes Defendants Deutsche Bank AG and DB Securities, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, Deutsche Bank: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from inception through to the present); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

g) Goldman Sachs Defendants

83. Defendants Goldman Sachs Group, Inc. ("GS Group") is a bank holding company and financial holding company organized and existing under the laws of the State of Delaware, with its principal place of business located at 200 West Street, New York, New York 10282-2198. Through its below-identified broker-dealer subsidiaries Goldman US and Goldman International and other affiliates, GS Group enters into a broad array of credit derivatives to facilitate client transactions and to manage the credit risk associated with market-making, investing and financing activities, including single-name CDS, credit options, and credit indices, tranches and baskets.[44]

[43] DB Securities 2014 Annual Report, at 26-27.

[44] GS Group 2019 Annual Report, at 130; Goldman US 2019 Annual Report, at 17.

As of December 31, 2019, GS Group reported having sold $522.7 billion of credit protection and having purchased $581.76 billion of credit protection, primarily through CDS. [45]

84. Defendant Goldman Sachs & Co. LLC ("Goldman US") is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business located at 200 West Street, New York, New York 10282-2198. Goldman US is a wholly-owned subsidiary of GS Group. Goldman US is utilized by GS Group as its principal U.S. broker-dealer.[46] Goldman US, typically acting as a principal, makes markets in a broad range of derivatives, including single name CDS, CDS options, and CDS indices, tranches and baskets, *inter alia* to provide liquidity to clients and to maintain positions in response to or in anticipation of client demand.[47] As of December 31, 2019, Goldman US reported having entered into credit derivative positions with a notional amount of $223.3 billion, including having sold $110.4 billion of credit protection and having purchased $112.82 billion of credit protection.[48]

85. Defendant Goldman Sachs International ("Goldman International") is a private unlimited company organized and existing under the laws of England and Wales, with its principal place of business located at Plumtree Court, 25 Shoe Lane, London EC4A 4AU, United Kingdom. Goldman International is ultimately wholly owned by GS Group. GS International makes markets in both cash and derivative instruments for interest rate products, credit products, mortgages, currencies and commodities.[49] As of November 30, 2019, Goldman International reported having

[45] GS Group 2019 AR, at 130.

[46] GS Group 2019 AR, at 8, 72.

[47] Goldman US 2019 AR, at 13, 16-17.

[48] Goldman US 2019 AR, at 14, 17.

[49] Goldman International 2019 Annual Report, at 5.

sold $31.4 billion of credit protection and having purchased $33.6 billion of credit protection through credit derivative transactions.[50]

86. As used herein, the term "Goldman Sachs" includes Defendants GS Group, Goldman US and Goldman International, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, Goldman Sachs: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from inception through to the present); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

h) JPMorgan Defendants

87. Defendant J.P. Morgan Chase & Co. ("JPMC") is a financial holding company organized and existing under the laws of the State of Delaware, with its principal place of business located at 383 Madison Avenue, New York, New York 10179. JPMC is both a purchaser and seller of credit protection through CDS and other credit derivatives. In its capacity as a market maker, JPMC actively manages a portfolio of credit derivatives by purchasing and selling credit protection, predominantly on corporate debt obligations, to meet the needs of customers.[51] Additionally, and as an end-user, JPMC uses credit derivatives to manage credit risk associated

[50] Goldman International 2019 AR, at 71.

[51] JPMC 2019 Annual Report, at 191.

with lending exposures, counterparty exposures, and financial instruments and exposures arising from JPMC's market-making businesses.[52] As of December 31, 2019, JPMC reported having sold $562.3 billion of credit protection via CDS (and a further $44.9 billion through other credit derivatives such as credit swap options and total return swaps), and having purchased $571.9 billion of credit protection via CDS (and a further $52.0 billion through other credit derivatives).[53]

88. Defendant J.P. Morgan Chase Bank, N.A. ("JPM Chase") is a federally chartered national banking association with its principal place of business located at 270 Park Avenue, New York, New York 10017. JPM Chase is a wholly-owned subsidiary of JPMC, and is JPMC's principal bank subsidiary.[54] JPM Chase is both a purchaser and seller of credit protection through CDS and other credit derivatives. In its capacity as a market maker, JPM Chase actively manages a portfolio of credit derivatives by purchasing and selling credit protection, predominantly on corporate debt obligations, to meet the needs of customers.[55] Additionally and as an end-user, JPM Chase uses credit derivatives to manage credit risk associated with lending exposures, counterparty exposures, and financial instruments and exposures arising from JPM Chase's market-making businesses.[56] As of December 31, 2019, JPM Chase reported having sold $548.0 billion of credit protection via CDS (and a further $45.1 billion through other credit derivatives

[52] JPMC 2019 AR, at 191.

[53] JPMC 2019 AR, at 193.

[54] JPMC 2019 AR, at 42.

[55] JPM Chase 2019 Consolidated Financial Statements, at 46.

[56] JPM Chase 2019 Consolidated Financial Statements, at 46.

such as credit swap options and total return swaps), and having purchased $556.6 billion of credit protection via CDS (and a further $53.6 billion through other credit derivatives).[57]

89. Defendant J.P. Morgan Securities LLC ("JPMS") is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business located at 383 Madison Avenue, New York, New York 10179. JPMS, an indirect wholly-owned subsidiary of JPMC, is JPMC's principal non-bank subsidiary and JPMC's principal U.S. broker-dealer subsidiary.[58] JPMS makes markets in single name, index and tranche CDS, and uses credit derivatives to manage credit risk arising in connection with other financial instruments, including corporate debt securities.[59] As of December 31, 2019, JPMS reported having sold $14.41 billion of credit protection through CDS and having purchased $15.03 billion of credit protection through CDS. [60] JPMS is a registered broker-dealer and investment adviser with the SEC, is registered with the CFTC as a futures commission merchant, and is provisionally registered with the National Futures Association as a swap dealer.

90. As used herein, the term "JPMorgan" includes Defendants JPMC, JPM Chase and JPMS, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, JPMorgan: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from inception

[57] JPM Chase 2019 Consolidated Financial Statements, at 48.

[58] JPMC 2019 AR, at 42, 92, 269.

[59] JPM Securities 2019 Annual Report, at 23.

[60] JPM Securities 2019 AR, at 23.

through to the present); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

i) Morgan Stanley Defendants

91. Defendant Morgan Stanley ("MS") is a financial holding company organized and existing under the laws of the State of Delaware, with its principal place of business located at 1585 Broadway, New York, New York 10036. MS is an active market maker in the credit derivatives markets.[61] As of December 31, 2019, MS reported: (1) having sold $110 billion of credit protection through single-name CDS, and a further $106 billion of credit protection through index and basket CDS, for a total of $226 billion in credit protection sold; and (2) having purchased $116 billion of credit protection through single-name CDS, a further $103 billion of credit protection through index and basket CDS, and a further $15 billion of credit protection through tranche index and basket CDS, for a total of $236 billion in credit protection purchased.[62]

92. Defendant Morgan Stanley & Co., LLC ("MS&Co.") is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business located at 1585 Broadway, New York, New York 10036. MS&Co. is a ultimately a wholly-owned subsidiary of MS.[63] MS&Co. is MS's primary U.S. broker-dealer subsidiary. As of December 31, 2019, MS&Co. reported having sold $1.72 billion of credit protection via CDS and having

[61] MS 2019 10-K, at 70.

[62] MS 2019 10-K, at 107-08.

[63] MS&Co. 2019 Annual Report, at 3.

purchased $4.0 billion of credit protection via CDS. [64] MS&Co. is registered with the SEC as an institutional securities broker-dealer, and is registered with the CFTC as a futures commission merchant and, provisionally, a swap dealer. [65]

93. Defendant Morgan Stanley & Co. International plc ("MS International") is a company organized and existing under the laws of England and Wales, with its principal place of business located at 25 Cabot Square, Canary Wharf, London E14 4QA, United Kingdom. MS International is ultimately wholly owned by MS. As of December 31, 2019, MS International reported having sold $6.18 billion in credit protection through credit derivatives and having purchased $6.38 billion of credit protection through credit derivatives.[66] MS International is a registered swap dealer with the CFTC.

94. Defendant Morgan Stanley Capital Services, LLC ("MS Capital") is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business located at 1585 Broadway, New York, New York 10036. MS Capital is ultimately a wholly-owned subsidiary of MS. MS Capital is used by other Morgan Stanley entities as a booking entity for interest rate, foreign exchange, credit and equity derivative transactions with Morgan Stanley's Institutional Securities segment customers and clients. MS Capital is provisionally registered as a swap dealer with the CFTC.

95. As used herein, the term "Morgan Stanley" includes Defendants MS, MS&Co., MS Capital, and MS International, and their subsidiaries and affiliates that participated in CDS

[64] MS&Co. 2019 AR, at 14.

[65] MS&Co. 2019 AR, at 3.

[66] MS International 2019 Financial Statements, at 93.

auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, Morgan Stanley: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from inception through at least April 2017); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

j) RBS Defendants

96. Defendant NatWest Group plc ("NatWest Group"), formerly known as the Royal Bank of Scotland Group plc until a July 22, 2020 name change, is a financial holding company organized and existing under the laws of the United Kingdom, with its principal place of business located at Gogarburn, PO Box 1000, Edinburgh EH12 1HQ, United Kingdom. NatWest Group currently retains residual CDS exposures of £15 billion arising from the CDS trading and market-making operations previously conducted by its below-identified subsidiaries NatWest Markets and NWMSI, and their predecessors. These former operations were substantial: NatWest Group credit derivative exposures exceeded £275 billion in 2008, £80 billion in 2009, and £52 billion in 2010.

97. Defendant NatWest Markets Plc ("NatWest Markets"), formerly known as The Royal Bank of Scotland plc, is a company organized and existing under the laws of the United Kingdom, with its principal place of business located at Gogarburn, PO Box 1000, Edinburgh EH12 1HQ, United Kingdom. NatWest Markets operates as NatWest Group's primary banking

subsidiary, and as NatWest Group's primary booking entity for CDS. NatWest Markets' credit derivative exposures exceeded £275 billion in 2008, £80 billion in 2009, and £52 billion in 2010.

98. Defendant NatWest Markets Securities, Inc. ("NWMSI"), formerly known as RBS Securities Inc., is a corporation organized and existing under the laws of Delaware, with its principal place of business located at 600 Washington Boulevard, Stamford, CT 06901. NWMSI is ultimately wholly owned by NatWest Group. NWMSI operated as NatWest Group's primary U.S. broker-dealer subsidiary.

99. As used herein, the term "RBS" includes Defendants NatWest Group, NatWest Markets and NWMSI, and their subsidiaries and affiliates that participated in CDS auctions and/or made markets in, transacted in and/or held CDS. During the Class Period, RBS: (1) developed, together with the other Dealer Defendants and ISDA, Markit and Creditex, the CDS auction protocol, and enforced its market-wide adoption by market participants; (2) participated in CDS auctions; (3) was a member of the Determinations Committee (serving on all five regional DCs from inception through at least April 2012); (4) was, together with the other Dealer Defendants, a member of ISDA and part of the shareholding consortium that owned a controlling stake in Markit until mid-June 2014, and appointed representatives to Markit's board of directors; and (5) made markets in, transacted in and held CDS.

2. The Non-Dealer Defendants

a) ISDA

100. Defendant International Swaps and Derivatives Association, Inc. ("ISDA") is a financial trade association formed in 1985 representing derivatives market participants. ISDA's ~950 current member institutions include (1) market participants such as broker-dealers, banks,

investment managers, insurance companies, corporations, governments and supra-national entities, and (2) providers of market infrastructure/services such as exchanges, intermediaries, clearing houses, law firms and accounting firms. ISDA operates from seven worldwide offices, including headquarters located at 10 East 53rd Street, 9th Floor, New York, New York 10022, and a Washington D.C. office located at 600 13th Street, NW, Suite 320, Washington, DC 2005.

101. ISDA, together with Creditex, Markit and the Dealer Defendants, developed the CDS auction protocol, and the related Determinations Committees. ISDA also developed and provides a "Master Agreement" and other documents used in nearly every CDS transaction.

102. ISDA's members include the Dealer Defendants, which occupy seats on its board of directors. A majority of ISDA's board members are employed by the Dealer Defendants.

103. ISDA has served as the Determination Committee Secretary from the Determinations Committee inception through approximately October 2018. Beginning no later than 2016, ISDA sought to extricate itself from this role, but found no takers for it.

b) Creditex

104. Defendant Creditex Group Inc. ("CGI," and together with its subsidiaries, "Creditex") is a company organized and existing under the laws of the State of Delaware, with its principal place of business located at 875 Third Avenue, 29th Floor, New York, New York 10022.

105. Creditex, together with Markit, ISDA and Dealer Defendants, developed the CDS auction protocol. Creditex and Markit have jointly administered CDS auctions since the auctions' inception in 2005, and Creditex provides the platform through which CDS auctions are conducted. Additionally, Creditex, through its. U.S.-domiciled, SEC-registered, wholly-owned broker-dealer subsidiary, Creditex Securities Corporation, and through its U.K. broker-dealer subsidiary

Creditex Brokerage, L.L.P., provides electronic trade execution services and interdealer brokerage services for CDS.

c) Markit

106. Defendant IHS Markit, Ltd. is an exempted company incorporated under the laws of Bermuda, with its principal place of business located at 4th Floor, Ropemaker Place, 25 Ropemaker Street, London, EC2Y 9LY, United Kingdom, and with branch locations *inter alia* in New York, New York. IHS Markit, Ltd. was originally incorporated on January 16, 2014 under the name Markit Ltd., for purposes of Markit's below-discussed June 2014 initial public offering, and changed its name following the below-discussed June 2016 completion of its merger with IHS, Inc. Prior to the January 2014 incorporation of Markit Ltd., Markit organized itself via a holding company, Markit Group Holdings Limited., a limited company organized under the laws of England and Wales.

107. As used herein, the term "Markit" includes Defendant IHS Markit, Ltd. and its predecessors, subsidiaries, affiliates, and assigns – including Markit Group Holdings Limited and Markit Group Limited – whose operations concerned CDS auctions, CDS pricing/valuation, CDS trading, CDS processing and/or CDS indices.

108. Markit, together with Creditex, ISDA and Dealer Defendants, developed the CDS auction protocol. Markit and Creditex have jointly administered CDS auctions since the auctions' inception in 2005, with Markit reviewing CDS auction order submissions and corroborating CDS auction results, including auction final prices. Markit is a leading provider of CDS pricing and valuation services (it currently prices approximately 3,800 CDS entities and all major CDS indices), and also provides CDS trade processing services. Markit also owns, manages and

administers – principally through its wholly-owned subsidiary Markit Indices Limited – the leading CDS indices, including the CDX and iTraxx indices, both of which Markit acquired in November 2007 from bank-owned consortiums.[67]

109. Markit was founded in 2003 with an initial focus on CDS pricing. Until mid-2014, Markit was majority-owned and controlled by a consortium of approximately 16 investment banks, including each of the Dealer Defendants (Bank of America and its now-subsidiary, Merrill Lynch, Barclays, BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley and RBS), as well as HSBC and UBS, each of whom was entitled to, and did, fill one seat on Markit's board of directors. In January 2010, the private equity firm General Atlantic took a 7.5% stake in Markit, and in May 2013, the Singapore sovereign wealth fund Temasek Holdings Pte Ltd. took a 10% stake.

3. Jane Does / Unknown Defendants

110. Jane Doe Defendants Nos. 1-100 ("Jane Doe Defendants") are other entities or persons, including banks, broker-dealers, interdealer brokers, and other co-conspirators whose identities are currently unknown to Plaintiff. The Jane Doe Defendants participated in, furthered, and/or combined, conspired, aided and abetted, or agreed with others to perform the unlawful acts alleged herein.

[67] Markit acquired the CDX indices from CDSIndexCo LLC, an entity established and wholly owned by a consortium of 16 of the largest global derivatives dealers: ABN AMRO, Bank of America, Barclays Capital, Bear Stearns, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan, Lehman Brothers, Merrill Lynch, Morgan Stanley, UBS and Wachovia. Markit acquired the iTraxx indices from International Index Company Limited, an entity established and wholly owned by a similar consortium of large European and global financial institutions: ABN AMRO, Barclays Capital, BNP Paribas, Deutsche Bank, Deutsche Boerse, Dresdner Kleinwort, Goldman Sachs, HSBC, JPMorgan, Morgan Stanley and UBS.

111. Various other entities and individuals unknown to Plaintiff at this time – including other financial institutions – participated as co-conspirators in the acts complained of, and performed acts and made statements that aided and abetted and were in furtherance of the unlawful conduct alleged herein. Plaintiff reserves the right to identify other co-conspirators and to name subsequently some or all co-conspirators, whether identified here or not, as defendants.

112. Defendants are jointly and severally liable for the act of their co-conspirators whether named or not named as Defendants in this complaint. Each Defendant acted as the agent or joint-venturer of or for the other Defendants with respect to the acts, violations, and common course of conduct alleged herein.

IV. FACTUAL ALLEGATIONS

113. The factual allegations in this Complaint are based on Plaintiff's knowledge and Plaintiff's counsel's investigation.

114. Plaintiff's investigation into Defendants' multiyear scheme is ongoing. Discovery will yield additional support for Plaintiff's allegations.

A. Background On the CDS Settlement Process

1. The CDS Market

115. A credit default swap ("CDS") is a contract between two counterparties, one a "protection buyer" and the other a "protection seller," with respect to the credit risk of an entity "referenced" in the CDS, such as a corporation or sovereign entity (the "reference entity"), and the reference entity's debt ("reference obligation"). The protection buyer agrees to pay an initial sum and a fixed periodic premium to the protection seller in exchange for the protection seller's promise to pay protection against the credit risk of the CDS reference entity for the period of the contract.

If, during the life of the CDS, the reference entity's credit risk materializes in the form of a specified "credit event" (such as a bankruptcy, failure to pay, obligation default or acceleration, restructuring, and/or repudiation or moratorium), the protection seller becomes obligated to make a payment to the protection buyer in an amount equivalent to the reference entity's reference obligation impairment.

116. CDS thus is often analogized to insurance. The protection buyer pays periodic payments (like insurance premiums) to insure against certain material risks and losses, and the protection seller (like an insurer) collects such payments and stands ready to compensate the protection buyer against losses should any of the specified credit events occur.

117. CDS contracts specify, among other things: (1) the reference entity, *e.g.*, a senior unsecured debt obligation issued by Company A; (2) the "notional" amount of that reference entity for which protection is bought/sold, *e.g.*, $10 million of Company A bonds; (3) the initial and periodic payments to be made by the protection purchaser to the protection seller; (4) the specific credit events that trigger payment from protection seller to protection purchaser; and (5) the contract tenor (which can range from less than 1 year to 10 years or more).

118. Aside from differences in the type of reference entity covered by CDS (corporate bonds, corporate loans, sovereign debt, asset-backed and/or mortgage-backed securities, etc.), there are a few different CDS products that are traded and relevant to Plaintiff's claims.

119. "Single-name" CDS insures a protection buyer against the credit risk of a single issuer, *e.g.*, a CDS referencing a senior unsecured debt obligation issued by Hertz Corporation.

120. CDS can also be transacted in "multi-name" form to cover a basket, portfolio, or standardized index of *multiple* reference entities. When transacting in index CDS, protection

buyers obtain protection on each index constituent in an amount equal to the notional amount of the CDS index transacted divided by the number of "names" in the index. For example, when purchasing protection on $100 million notional of a particular index, a protection buyer obtains $1 million notional of credit protection on each of the 100 names in the index.

121. Another type of swap is a "swaption," which is a credit default swap option. With a swaption, transactors have the right, prior to or at option expiry, to buy or sell protection, on a single reference entity or CDS index, at a pre-specified strike price.

2. Settlement Of CDS Contracts

122. Until 2005, CDS were settled following a credit event on a bilateral basis, according to the particular terms agreed to by the counterparties. There were two primary methods of settlement: "physical" settlement and "cash" settlement.

123. In physical settlement, the protection purchaser delivered to the protection seller a reference entity "deliverable obligation," *i.e.*, a specific bond issued by the reference entity and specified as deliverable for settlement in the CDS contract, in a par amount equal to the notional amount specified in the CDS contract, *e.g.*, in a CDS referencing $10 million notional of Company X, the protection buyer would deliver $10 million of Company X bonds specified as deliverable in the CDS documentation. In exchange, the protection buyer would receive the full par value or principal amount in cash, *i.e.*, $10 million in the example. Physical settlement remained the dominant settlement method until the early 2000s.

124. Alternatively, CDS counterparties could elect "cash settlement," in which, following a credit event, the protection seller paid to the protection buyer a sum equal to the difference between the par value of the reference obligation and the value of the reference

obligation following a credit event. For example, in a $10 million CDS referencing Company X, if the post-default value of Company X bonds was 60% of par value, the protection seller would pay the protection purchaser $4 million – representing 40% principal impairment on the $10 million notional specified in the CDS contract.

125. Cash settlement required a mechanism for establishing the post-credit event value of the reference obligation, usually specified in the CDS transaction documentation. The most common such mechanism was to conduct, on a given "valuation date," a dealer poll soliciting bids from multiple dealers, and use the resulting bids as a basis for establishing a post-credit event value.

3. The Dealers' Role In The CDS Market

126. The Dealers have been, and continue to be, the dominant CDS market participants. They are horizontal competitors who compete in the dealer-to-client CDS market as market makers for client business, *i.e.*, trades.

127. To a CDS trader, the most important currency is information. It is the primary way in which a Dealer can obtain a competitive advantage over other Dealers. By becoming knowledgeable about a particular bond, the CDS covering that bond, and who is trading the CDS and the bond (traders refer to the bond and the CDS covering that bond as the "name"), a Dealer can obtain commercially-sensitive, market-moving information about a particular bond and the CDS covering that bond.

128. The Dealers both buy and sell protection. Sometimes, a Dealer will take a significant *net* CDS positions if it believes the information it has about a given name can make the Dealer a profit. A Dealer uses that information to make money for the Dealer's "house" desk, *i.e.*,

the Dealer's proprietary trading desk, by taking positions in the name itself. Moreover, the Dealers each compensate their CDS traders based on the profits and losses that each trader generates for that Dealer. A CDS trader who books a lot of profit for his or her employer Dealer can generate millions of dollars in bonus and other compensation.

129. As a dealer becomes more knowledgeable on a particular name and the market for it, some clients will migrate to that dealer for trades in that name, *e.g.*, if a Goldman Sachs trader on the CDS market making desk becomes particularly knowledgeable about Toys R Us, that trader may devote resources and risk to trading Toys R Us CDS, and non-dealer clients like Plaintiff and the other putative Class members may seek out that trader to trade Toys R Us CDS.

4. The Defendants Introduce The CDS Auction Process To The Market

130. Prior to 2005, the Dealers did not exercise a great degree of control over either the physical settlement or cash settlement processes. Nor did they enjoy any particular advantages from either settlement process. Sometimes, they found themselves competing against each other in the market for bonds if multiple dealers were, for example, major protection buyers on a particular bond and needed to physically settle their CDS – the effect of which would be to drive up the price of the bond, making it more expensive for the Dealers to settle the CDS covering that bond.

131. So, in 2005, Creditex, Markit, ISDA, and the Dealers introduced a third settlement mechanism to the market: auction settlement. Creditex referred to this process as "Credit Event Fixings."[68]

[68] *See* CreditFixings.com, "About this Service: Credit Event Fixings" (accessed June 3, 2021) ("The Fixings were developed by Creditex and Markit in close cooperation with ISDA and major credit derivatives dealers and are an integral part of the auction settlement process.").

132. Generally, the process first involved having a committee of market participants decide whether a credit event for a particular set of bonds had occurred. If the committee so decided, then they would hold an auction for those bonds. At the auction, CDS market participants would submit bids or offers to buy or sell bonds, with the end-point of the auction being the announcement of a final price (*e.g.*, 65.5) that would value the bonds and then be used to settle all CDS issued on those bonds.

133. But the Defendants then contorted the idea: they agreed to transform the auction process into a closed, Dealer-only club. Creditex specified that only "*dealers* place executable orders on the online platform for obligations of a particular company that has undergone a credit event." When the first auctions were held in June 2005, the Dealer Defendants Bank of America (and Merrill Lynch), Barclays, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley, and RBS were the only participants.

134. Defendant Creditex created the auction technology with the Dealers. At the time, Creditex was dependent on the Dealers. Because Creditex was the dominant interdealer broker for CDS, Creditex's business was entirely dependent on its ability to stay in the Dealers' favor. (An interdealer broker facilitates trades between the Dealers.) Creditex was also at the time financially backed by a group of Dealers, including Defendants JPMorgan, Morgan Stanley, and Deutsche Bank.[69] Creditex's connection to the "dealer community" – a term the Dealers frequently use to define themselves and their interests apart from other CDS market participants – was substantial and controlling in Creditex's business.

[69] Paul M. Sherer, "Big Financial Firms Buy Equity Stakes In Credit Derivatives Trading Venture," *The Wall Street Journal* (Oct. 14, 1999).

135. The same was true of Markit. In the early 2000s, Markit was the dominant provider of data about bonds and credit derivatives to the Dealers. As a result, it was dependent on the Dealers' business. Similar to Creditex, Markit was also financially backed by a group of Dealers, including Bank of America, Goldman Sachs, Deutsche Bank, and JPMorgan.[70] Until mid-2014, Markit was majority-owned and controlled by a consortium of approximately 16 global banks, including each of the Dealers (Bank of America and its now-subsidiary Merrill Lynch, Barclays, BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley, and RBS). As a member of the consortium, each Dealer was entitled to, and did, fill one seat on Markit's board of directors.

136. By 2006, the auction settlement process had gained significant adoption for settling CDS contracts. Because the Dealers backed it, non-dealer market participants understood that if they did not agree to settle their CDS contracts via reference to the CDS auctions, the Dealers would collectively cease trading CDS with them – and because the Dealers collectively controlled nearly all CDS liquidity, they had the ability to freeze non-compliant market participants out of the CDS market entirely.

5. The ISDA CDS Credit Event Process And The ISDA Credit Default Swap Auction Protocol

137. Today, nearly all CDS contracts are settled through the "ISDA credit event process," which encompasses the "ISDA CDS auction protocol." In general, the ISDA credit event process involves (1) a finding by a "Determinations Committee" that a reference entity has suffered a qualifying credit event that triggers the CDS contracts referencing that entity, and (2) the holding

[70] *See* Shayndi Raice, Sarah Krouse, and Anne Steele, "IHS and Markit to Merge, Creating Data Heavyweight," *The Wall Street Journal* (March 21, 2016).

of an auction approximately 30 days later. The auction is governed by the ISDA CDS auction protocol. The auction produces the "final auction price," which is a single price that purports to value the bonds of the reference entity that suffered the credit event. That price is then used to settle all CDS contracts issued on that reference entity market-wide.

a) The Determinations Committee

138. The auction process is first set in motion when the Determinations Committee decides whether a credit event has occurred with respect to a given reference entity. If the Determinations Committee agrees that a credit event has in fact occurred, the Determinations Committee proceeds to schedule an auction.

139. The Determinations Committee is charged with binding authority to determine (a) whether a credit event has occurred, (b) whether and/or when a corresponding auction should be held, and (c) certain auction-specific terms, including the set of permissible deliverable obligations for each auction.

140. The Determinations Committee is composed of 15 voting members: ten voting dealers and five voting non-dealer (or "buy side") members. The Determinations Committee also has three additional non-voting, "consultative" members (two dealers and one "buy side" member) and a secretary.

141. At all relevant times, the Dealer Defendants have dominated the Determinations Committee's dealer member seats, occupying at least eight of the ten dealer voting seats at all times. Defendants Bank of America / Merrill Lynch, Barclays, BNP, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, and JPMorgan have continuously occupied seats on the Determinations Committee throughout its existence, from 2009 until the present. Defendant Morgan Stanley

occupied one of the remaining seats for most of this time (from 2009 through April 2017), and RBS had a seat from April 2009 to April 2012.

b) The CDS Auctions

142. The auctions are primarily operated electronically in the United States. Creditex and Markit jointly administer the auctions. Each auction has two stages.

143. In the first stage of the auction, the Dealers – and only the Dealers – each make two submissions. The first is the "initial market submission." This is a two-way, bid-offer (buy-sell) price for the deliverable obligations (bonds) that are the subject of the auction. The auction terms impose a maximum difference between the bid and offer price (or "bid-offer spread"). The second submission is the "physical settlement request" (or "PSR"). This is the quantity of bonds the Dealer commits to buy or sell in the auction. Both submissions are supposed to be private and unknown to the other Dealers until the end of the day, after the auction is complete, when auction administrators publish the Dealers' initial market submissions, PSRs and limit order submissions. The first stage of the auction is completed during a half-hour window prior to 10 a.m. of the auction day.

144. The Dealers are subject to financial penalties (termed "adjustment amounts") when their initial market submissions are deemed to be "off market" and they "cross" with another dealer's price. If, for example, the NOI is "to sell," and a dealer's bid price is above the IMM, then that dealer is on the wrong side of the market. If the NOI is "to buy," and a dealer's offer price is below the IMM, then that dealer's price is off-market. An inside-market submission "crosses" when its bid price is higher than or equal to another Dealer's offer price, or when its offer price is lower than or equal to another Dealer's bid price.

145. With respect to the initial market submissions, the auction administrators Creditex and Markit distill the Dealers' submissions into a single price, referred to as the "initial market midpoint" or "IMM" (*e.g.*, 65% of par value). The initial market midpoint serves as a cap or floor on the final auction price, depending on the direction of the auction.

146. With respect to the PSR submissions, the auction administrators Markit and Creditex add up each Dealer's PSR submissions to calculate the "net open interest," or "NOI." The NOI represents the quantity of demand (or supply) for bonds in the auction.[71] The NOI determines the direction of the auction, *i.e.*, whether the auction is going to be one in which participants in the auction's second round will be bidding to buy bonds (known as a "sell" auction), or whether the auction is going to be one in which the participants will be making offers to sell bonds (known as a "buy" auction). The auction administrators publish the IMM and the NOI at 11:00 a.m., after which a break follows. The break typically lasts several hours.

147. The auction rules impose certain restrictions on PSR submissions. First, PSRs can only be submitted by investors with actual CDS positions. Second, investors who are net purchasers of protection can only submit "to sell" PSRs, while net sellers of credit protection can only submit "to buy" PSRs. Third, investors' PSR submissions are limited in size by the size of their net CDS position. For example, a net purchaser of $10 million of credit protection could submit a "to sell" PSR of anywhere from $0 to $10 million, but no greater.

148. In the second stage of the auction, held in the afternoon of the same auction day, the bonds that comprise the NOI are auctioned off. The auction is accomplished through limit orders prepared and submitted by the Dealers. Each limit order specifies a quantity and price for

[71] If the NOI is zero, the final auction price is the initial market midpoint.

bonds. These second-round limit orders are accumulated and matched against the NOI until the NOI is exhausted. The price of the clearing limit order becomes the final auction price, subject to IMM-based constraints that do not allow the final price to more than marginally exceed the IMM in "to sell" auctions, or fall more than marginally below the IMM in "to buy" auctions. Typically, the final price in "to sell" auctions is capped at the IMM+1 price level (*e.g.*, if the IMM is 65, then the final auction price cannot be higher than 66), while the final price in "to buy" auctions cannot fall below a floor set at the IMM-1 price level.[72]

149. The final auction price is then used as the settlement value for all outstanding CDS. Protection sellers pay, and protection buyers receive, an amount equal to the notional value of their CDS multiplied by (1 – auction price). For example, where the final auction price was 55, a buyer of $10 million of protection would receive $4.5 million (the $10 million notional multiplied by (1 – 0.55)). Additionally, all the PSR submissions (to buy and to sell) are matched against each other and against filled second round limit order bids or offers, and are thereafter transacted at the same final auction price.

6. CDS Indices

a) CDS Indices Generally

150. CDS can also be transacted in "multi-name" form to cover a basket, portfolio or standardized index of *multiple* reference entities. By far the most prevalent form of multi-name CDS are those referencing standardized CDS indices.

[72] In a "sell" auction, if the limit orders fail to clear the NOI, the final auction price is 0. In a "buy" auction, if the limit orders fail to clear the NOI, the final auction price is 100.

151. CDS indices are portfolios of single-name CDS. Since 2001, different standardized CDS indices have been developed, based *inter alia* on different geographical regions (*e.g.*, North America, Europe, Asia), different levels of credit risk (investment grade, high yield), and/or different market sectors (*e.g.*, financials, industrials, energy, consumer cyclicals). Among the most liquid and highly-traded such CDS indices are: (1) the North American Investment Grade CDX index (known as the CDX.NA.IG, composed of 125 equally-weighted North American corporate issuers with investment grade credit ratings); (2) the North American High Yield CDX index (CDX.NA.HY, composed of 100 equally-weighted North American sub-investment grade issuers); (3) the CDX Emerging Markets index (CDX.EM); (4) the iTraxx Europe index (125 equally-weighted European investment grade issuers); and (5) the iTraxx Crossover index (75 sub-investment grade European issuers).[73] Several of these main indices also have related sub-index products, consisting of different "cuts" of the main index portfolio.[74]

152. The first standardized CDS indices were developed in 2001 by JP Morgan and Morgan Stanley. They subsequently merged their CDS index ventures to form the CDX indices for North American and iTraxx indices for Europe and Asia. In 2007, Markit acquired both the CDX and iTraxx index families, and has owned, operated and administered them ever since. ISDA has aided CDS index adoption and spread by helping to create standardized legal documentation for index CDS trades.

[73] Other CDS indices cover other regions (*e.g.*, Japan, Asia ex-Japan, Latin America), other categories of issuers (*e.g.*, sovereigns, municipals), and other reference entity asset classes (mortgage-backed securities, leveraged loans, etc.).

[74] For example, the CDX.NA.IG has various sector-specific subindices; the CDX.NA.HY has two subindices devoted, respectively, to reference entities with single-B and double-B credit ratings (the CDX.NA.HY.B and CDX.NA.HY.BB), and the iTraxx Europe index has three sector-specific indices (senior financials, subordinate financials, and non-financials) as well as a "HiVol" index composed of the 30 nonfinancial index constituents with the highest credit spreads).

153. Each of these CDS indices exists in the form of different "Series" – for example, the CDX.NA.IG Series 1, the CDX.NA.IG Series 2, etc. Each series remains unchanged throughout its lifetime, except in the instance, discussed below, that any of its constituent reference entities experience a credit event. New series of each index are issued biannually, in March and September of each year, with updated portfolios/constituents, in order to take into account developments during the prior six months that might have caused the index to deviate from its desired profile (for example, removing from the CDX.NA.IG any reference entities whose credit ratings were downgraded to below investment grade since the prior index series issued, or replacing reference entities that experienced credit events with new reference entities to restore the portfolio to its intended full roster). On average, 4% of the CDX.NA.IG and 7% of the CDX.NA.HY are replaced in each roll. Prior series of index continue to trade even as and after new series are created, but liquidity is concentrated in the current, "on the run" series.

154. In a CDS transaction referencing a CDS index (hereinafter, "Index CDS"), the protection buyer pays quarterly coupons to the protection seller, and in return is insured by the protection seller against credit events experienced by any constituent in the specified CDS index's portfolio.

155. If a CDS index constituent experiences a credit event, that constituent is removed from the index and settled separately, through the CDS auction process. The index CDS protection seller is then obligated to make a credit protection payment that applies: (1) the CDS auction final price, to (2) the portion of the Index CDS notional that the auctioned reference entity represents. The following example is illustrative. Market Participant A enters into an Index CDS in which it writes credit protection on $100 million notional of Series 10 of the CDX.NA.HY. As the

CDX.NA.HY index includes 100 equally weighted constituents, this Index CDS amounts to Market Participant A writing credit protection of $1 million notional on each of the 100 index constituents. If during the pendency of this Index CDS trade, a constituent of the index (for example, Chesapeake Energy) defaults, the Index CDS protection seller is obligated to provide a credit protection payment to its counterparty on that portion of the total Index CDS notional ($100 million) represented by that particular constituent (here, $1 million). The amount of that credit protection payment is determined by that constituent's CDS auction. For example, if the Chesapeake Energy CDS auction resulted in a final price of 10% of par (meaning, a 90% loss following default), Market Participant A would be required to make a cash payment of $900,000 (represented the 90% loss, as determined by the Chesapeake Energy CDS auction, applied against the $1 million notional of the original $100 million Index CDS trade that represented specific exposure to Chesapeake Energy).[75]

156. Until mid-2013, Index CDS traded as over the counter (OTC) products, obtained from so-called "licensed participants" who provided liquidity for and made markets in these CDS indices. During the Class Period, each of the Defendants was a licensed participant for the CDX and iTraxx CDS indices. In August 2013, new regulations mandated that most CDS index trades be executed on swap execution facilities ("SEFs"). However, liquidity on SEFs is still largely provided by a small number of CDS dealers, primarily Defendants. As of mid-2019, 82% of all CDS index gross notional trades involved a dealer as a counterparty (including 44% between a

[75] Thereafter, and to complete the explanation, a new version of the same index series (*e.g.*, CDX.NA.HY Series 10 v.2) is then created, in which the defaulted constituent (Chesapeake Energy) is removed, and the notional amount on the Index CDS trade is reduced by the weight of that constituent in the index. Continuing the example, the Index CDS trade now references CDX.NA.HY Series 10 v.2 (which has 99 rather than 100 entities) in a new notional amount of $99 million (now that the $1 million notional relating to Chesapeake Energy has been removed).

dealer and a CCP, 26% between dealers and clients, and 11% between two dealers), while 18% of CDS index gross notional was between CCPs and non-dealers. *See* "Global Credit Default Swaps Market Study," *ISDA* (September 2019) (hereinafter, "ISDA 2019 Study"), at 15.

157. CDS indices are now, and in more recent times have been, the largest and most liquid portion of the CDS market. During 2007-2008, when CDS gross notional peaked above $60 trillion, index CDS gross notionals neared $20 trillion. *See* Inaki Aldasoro and Torsten Ehlers, "The Credit Default Swap Market: What a Difference a Decade Makes," BIS Quarterly Review, June 2018 (hereinafter, "BIS Study"), at 3. By 2014, index CDS gross notional had fallen to $10 trillion, and since mid-2014, have fluctuated between $5 and $8 trillion. *See* ISDA 2019 Study, at 12-14. Since mid-2014, index CDS have generally accounted for 50% or more of the total gross notional of all CDS. *See* ISDA 2019 Study, at 14. In recent years (between 2014 and mid-2019), index CDS transactions have generally exceeded 120,000 per quarter (*i.e.*, more than 1,000 per day). *See* ISDA 2019 Study, at 12.; Nina Boyarchenko, Anna M. Costello, and Or Shachar, "The Long and Short of It: The Post-Crisis Corporate CDS Market," *FRBNY Economic Policy Re*view, Vol. 26, Number 3 (June 2020), at 4 (hereinafter, "FRBNY Study"). During 2018, daily Index CDS trading volume was approximately $38 billion. FRBNY Study, at 4.

158. In 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act") amended and expanded the CEA to include index CDS. The Dodd-Frank Act and implementing CFTC regulations require certain market participants entering into certain swap transactions, such as CDS, to submit those swaps for clearing to a derivatives clearing organization ("DCO"). Specifically, section 2(h) of the CEA and Regulation 50.4(b), 17 CFR § 50.4, imposed a clearing requirement on all trades referencing five primary CDS indices – the CDX.NA.IG,

CDX.NA.HY, iTraxx Europe, iTraxx Europe Crossover, and iTraxx Europe HiVol. The Dodd-Frank Act also expanded Section 22(a) of the CEA, 7 U.S.C. § 25, to provide a private right of action to any person injured by the manipulation of the price of any swap, including CDS.

159. Most index CDS trades, after being negotiated and confirmed by their original bilateral counterparties, are thereafter cleared through a clearinghouse or central counterparty ("CCP"). *See e.g.*, BIS Study, at 6 (65% of index CDS trades cleared as of year-end 2017). Through such clearing, the CCP is interposed between the counterparties to the original CDS trade, becoming a buyer to every seller and a seller to every buyer. The original trade between the counterparties (one buying index protection, one selling it) is split into two trades: the CCP sells credit protection to the original protection buyer counterparty, and buys credit protection from the original protection seller counterparty. In this manner, the two original counterparties no longer face counterparty risk from each other: instead, both face and are exposed only to the CCP. Because the CCP's resulting positions are offsetting (obtaining CDS protection from one counterparty, and selling the same CDS protection on the same terms to the other counterparty), the position is credit risk-neutral for the CCP. However, the counterparty risk that previously confronted both CDS counterparties has now been transferred to the CCP, which is exposed to both original counterparties' risk. If one of the original counterparties fail, the CCP still must make good on its now-unbalanced obligations to the other original counterparty. CCPs utilize numerous methods to mitigate this risk, including: imposing membership criteria on clearing participants (e.*g*., adequate capitalization); requiring clearing participants to collateralize their exposures through initial and daily variation margin; and maintaining a mutualized guaranty fund for the CCP to draw on, from contributions required of clearing participants.

160. Due to their greater standardization and liquidity, index CDS are cleared to a much greater extent than single-name CDS, and were the first CDS transitioned to mandatory central clearing. *See* BIS Study, at 6-7.

161. The CFTC requires that any clearinghouse that seeks to provide clearing services for CDS must register with the CFTC as a DCO and must comply with CFTC regulations regarding DCOs. As of July 16, 2011, ICE Clear Credit is a registered DCO under Section 5b of the CEA, 7 U.S.C. § 7a-1. CDS transactions cleared with ICE Clear Credit are subject to ICE Clear Credit's rules and regulations.

162. By 2010, less than 10% of single-name CDS notional, and less than 20% of index CDS notional, were cleared. *See* BIS Study, at 7. By year-end 2017, approximately 65% of index CDS notional and 44% of single-name CDS notional were cleared. Ice Clear Credit has the largest share of CDS clearing. *See* BIS Study, at 7. Currently, ICE Clear Credit has cleared nearly 2.3 million Index CDS trades with a gross notional of $105 trillion (versus 1.4 million single-name CDS trades with a much small gross notional of $6.92 trillion).[76]

163. Index or portfolio CDS can also be transacted in "tranched" form, where investors can take exposures to a particular portion of the index's loss distribution ("CDS index tranches"). Tranches are defined by their attachment point (the level of overall index losses where the tranche begins to take losses) and their detachment point (the level of overall index losses where the tranche suffers total losses). For example, the CDX.NA.HY index has the following set of standard tranches: (1) a 0% (attachment point) -10% (detachment point) "first loss" or "equity" tranche; (2) a 10%-15% junior mezzanine tranche; (3) a 15%-25% senior mezzanine tranche, (4) a 25%-35%

[76] Per ICE Clear's website (accessed June 28, 2021), available at: https://www.theice.com/clear-credit.

junior senior tranche; and (5) a super-senior tranche attaching at 35% and detaching at 100%. Defaults and losses on index names start at the bottom of the tranche structure and pile up. For example, if 5 of the 100 index names default and suffer total losses (or 10 names default and suffer 50% losses), aggregate index losses are 5% -- which causes a 50% loss to the equity tranche (which attaches at 0% and detaches at 10%) but leaves the other tranches as yet untouched by loss. If defaults and losses thereafter continue in the index portfolio, so that 10 of the 100 names default and suffer total losses (or 20 default and suffer 50% losses), aggregate index losses rise to 10%, rending the 0-10% equity tranche a total loss, and bringing principal losses to the door of the next tranche, the 10%-15% tranche.

b) CDS Auction Prices Have A Direct, Necessary Impact On Single-Name And Index CDS

164. The Dealers' manipulation of the CDS final auction price directly and *necessarily* harms two sets of interlinked CDS market participants.

165. First, where a given CDS auction (*e.g.*, for General Motors) produces a final price contaminated by such misconduct, that price then serves as the price for *all* single-name CDS referencing the CDS auction entity (General Motors). That auction-produced settlement price arithmetically determines the amount of cash that CDS counterparties will receive or pay to settle their CDS. For example, if the auction produces a price of 60% of par, then protection buyer counterparties to CDS referencing General Motors stand to receive a cash payment equal to 40% of their CDS notional (*e.g.*, if $10 million notional, then a payment of $4 million), and protection seller counterparties must make that cash payment. But if misconduct nudges the final auction price down to 55% of par, then protection buyers stand to receive a higher payment, $4.5 million, and protection sellers will be required to provide that higher payout. In sum, when misconduct

pushes auction prices down, all sellers of single-name CDS protection on that reference entity are harmed; conversely, when misconduct operates to push auction prices up, all purchasers of single-name CDS protection are harmed.

166. Second, the CDS auction has exactly the same effect on all *Index* CDS where the CDS index at issue has, as one of its constituents, the reference entity that is the subject of the auction. In such cases, the constituent reference entity is removed from the index (in a notional amount equal to that portion of the Index CDS notional amount represented by that particular index constituent) and settled separately through the CDS auction for that reference entity.

167. To date, there have been over 1,600 instances where a CDS auction has thus affected any CDS index or series thereof. This is because any given reference entity can be included in multiple series of the same index (*e.g.*, CDX.NA.HY Series 20, 21, 22, 23, etc.), and can also be included in multiple indices and sub-indices (*e.g.*, not only the CDX.NA.HY, but also the CDX.NA.HY.B). For example, the August 4, 2020 CDS auction for Chesapeake Energy affected 20 series of the CDX.NA.HY (series 15-34), each of which included Chesapeake as a reference entity, but also 4 series of the CDX.NA.HY.B (series 30-33) and 2 series of the CDX.NA.HY.BB (series 25 and 34).[77]

B. The Dealers Conspire To Manipulate The CDS Final Auction Price

168. Plaintiff has uncovered a multi-year bid-rigging and price-fixing scheme in which the Dealers have been sharing competitively sensitive pricing information with each other in advance of the auction and then synchronizing their auction submissions, particularly their

[77] The CDX.NA.HY.B is a sub-index of the CDX.NA.HY consisting only of single-B rated reference entities. Likewise, the CDX.NA.HY.BB is another sub-index of the CDX.NA.HY consisting only of BB-rated reference entities.

morning inside market submissions and their afternoon limit order submissions, to skew the final auction price.

169. The Dealers' scheme predominantly involves manipulating the final auction price downward. The Dealers secure anti-competitive profits from this scheme because they are generally net protection buyers of CDS on the bonds that are up for auction. Because the CDS cash transfer at settlement is calculated as 100 minus the final auction price, skewing the final auction price *downward* increases the amount of money that is paid out to protection buyers on their CDS contracts.

170. But the scheme is *bidirectional*. On the less frequent occasions when the Dealers are net protection *sellers*, they skew the final auction price *upward*, which decreases the amount of money they have to pay out on their CDS contracts to their non-dealer counterparties (Plaintiff and the putative Class members).

171. The Dealers facilitate their bid-rigging and price-fixing scheme by communicating sensitive pricing information to each other in advance of the auctions.

172. To successfully manipulate the CDS final auction price, however, the Dealers first needed to ensure their control of the auctions and the auction process more generally. The Dealers obtained that control by reaching certain anti-competitive agreements to exclude and constrain non-dealer rival participation in the auctions. The primary effect of excluding non-dealer rivals was to preserve the Dealers' ability to move the final auction price without fear of interference from non-dealer market participants who may have contrary economic interests.

173. An additional effect of excluding non-dealer rivals was to bestow upon each Dealer the status of an exclusive auction gatekeeper. As a gatekeeper, each Dealer obtains certain inside-

information about client order flow into each auction – and that information is something each Dealer can and frequently does use to generate their own anti-competitive profits at the expense of non-dealer market participants.

174. With their exclusive power over the auctions, the Dealers have successfully been able to manipulate the final auction price.

1. The Dealers Agree To Exclude And Constrain Non-Dealer Rival Participation In The CDS Auctions

175. To fully transition the market towards the auction as the method of settlement, the Dealers through ISDA "hard-wired" the auction process into the CDS market infrastructure, making it *the* settlement mechanism for the entire market. They did this by inserting the auction process into the ISDA Master Agreement – the standardized form contract that all CDS investors use in trading CDS – and by declaring via rule that legacy CDS contracts must settle via reference to the CDS final auction price.

176. In mid-2008, the Dealers formed a "Dealer working group" under the auspices of ISDA. The members of the Dealer working group were Goldman Sachs, JPMorgan, Deutsche Bank, UBS, Citi, Morgan Stanley, Bank of America, Credit Suisse, and RBS. ISDA chaired the Dealer working group.

177. Control over the CDS settlement process was important because the stakes for the Dealers were (and remain) high. When a CDS contract is triggered by a credit event, there can be millions of dollars at stake *per contract*. If the CDS on a particular bond is heavily traded, the amount of money changing hands can be in the billions of dollars. In some years, such as 2008,

2009, or 2020, there can be over a dozen credit events – which can mean *billions* of dollars changing hands at CDS settlement, sometimes even on only a handful of auctions.[78]

178. As the primary market makers in CDS, the Dealers know this. Their market-making desks make money by taking positions, speculating, and dealing (buying and selling) CDS. Institutionally, each Dealer also has multiple other business lines (besides CDS market making) that buy and trade CDS – correlation desks and distressed desks, for example – and those other business lines also take positions, speculate, and buy and sell CDS. As a result, each Dealer benefits from having more control over the CDS settlement process, including and especially if that control is at the expense of non-dealer counterparties.

179. While the Dealer working group met multiple times a week for several months between the Fall of 2008 and March 2009, it had no formal name and its formation was not publicized. The group's meetings were not public. They were not open to other market participants. There were no minutes of the meetings. There were no regulators present.

180. In the glare of the 2008 financial crisis, the Dealers were careful to make it appear as though the working group's work was non-controversial and the product of market consensus and an ostensibly neutral trade association, ISDA.

181. The reality was different. ISDA published the CDS auction protocol rules as if they were its own, but they were actually Dealer-only work product: the draft of the CDS auction rules was authored by Mr. Chung, a credit executive at Goldman Sachs. The Dealer working group in general was an inside club of Dealers run by the most powerful three dealers. Those Dealers' representatives on the working group – Mr. Chung (Goldman Sachs), Mr. Diplas (Deutsche Bank),

[78] *See* Katie Linsell, "Coronavirus Tips Odds in $4 Billion Bet Against Troubled Firms," *Bloomberg* (April 17, 2020).

and Mr. Bennison (JPMorgan) – would frequently meet among themselves privately to make the most important decisions about how the CDS settlement process would work, who would get to participate, and what the settlement rules would actually look like. They did so without regard to the interests of non-dealer market participants. Instead, they were extensively focused on the interests of the "dealer community" and their own bottom lines. Then, once they reached consensus amongst the three of them, they would propose those rules to the other members of the Dealer working group, who would discuss the rules and approve them.

182. The Dealer working group had all the power to create the CDS settlement process, but it had no non-dealer representatives on it. ISDA formed a non-dealer working group to discuss the auction rules, and that group was comprised of representatives of the "buy-side," *i.e.*, pension funds, local government and municipal funds, hedge funds, corporations, asset managers, and other non-dealer market participants. But the non-dealer working group was expressly "advisory." It had no power to write, modify, edit, or even view the auction rules while they were being formed, and it had no voice in the process.

183. After the Dealers wrote the auction protocol rules, they presented them to the non-dealer working group as the final version. When the non-dealers pushed back against some of the auction rules, the Dealers closed ranks: several heated phone calls between the non-dealers and the Dealers took place, but the Dealers refused to accept meaningful feedback on the auction rules, ultimately telling the non-dealer working group that their auction proposal was not up for negotiation. The non-dealer working group had no choice: if they wanted to continue to receive financial services from Wall Street, and wanted access to CDS liquidity from the only providers of that liquidity (the Dealers), then they had to accept the terms.

184. Ultimately, the Dealers steamrolled any opposition from the non-dealer working group and used the "hard-wiring" to transition the market completely to what became known as the "ISDA Credit Event Process," and more specifically the "ISDA CDS auction protocol." Today, over 99% of CDS are settled via reference to the ISDA CDS auction protocol.

185. Ultimately, at the Dealer working group, the Dealers reached certain anti-competitive agreements. The intent of these agreements was to preserve the Dealers' control over the CDS settlement process. The effect of these agreements was to bestow upon the Dealers various inside-information advantages that enable each Dealer to reap supra-competitive trading profits at the expense of unknowing non-dealer market participants.

186. *First*, the Dealers agreed that *only Dealers* would be permitted to be *direct* participants in the auctions. There is no competitive justification for this agreement. Non-dealers are capable of being direct participants in the CDS auctions, and the Dealers' exclusive status as direct participants in the auction does not yield any pro-competitive benefits for the CDS market or the auction process.

187. *Second*, the Dealers reserved for themselves the right to vote on who could be permitted to be a direct participant in the auction.[79] A non-dealer who wants to be a direct participant in an auction may do so only if the Dealers (and only the Dealers) vote to allow it. In practice, no non-dealer has ever been a direct participant in any auction. Non-dealers know better

[79] *See* ISDA, Inc., Form of Credit Derivatives Auction Settlement Terms § 1 (stating that Participating Bidders in the auction are the dealers and "any other institution that submits . . . a Participating Bidder Letter that. . . is approved by the relevant Convened DC pursuant to Section 3.2(b)(iii) of the" Credit Derivatives Determinations Committees Rules set out in Annex A to the March 2009 Supplement); Annex A – Credit Derivatives Determinations Committees Rule 3.2(b)(ii) ("The Global Dealer Voting Members and Regional Dealer Voting Members of a Convened DC shall Resolve, for each Auction, by a Majority . . . whether an institution (other than a Global Dealer Voting Member or a Regional Dealer Voting Member) that submits a Participating Bidder Letter with respect to an Auction will be permitted to act as a Participating Bidder for purposes of the relevant Auction[.]").

than to even ask: they know (and have known) that making such a request would be unsuccessful and would likely trigger retaliation from the Dealers, such as by withholding liquidity or putting a client "in the box."[80] There is no competitive justification for this agreement. Non-dealers are just as capable as Dealers of assessing whether a market participant can serve as a direct participant in the auctions. The only justification is to ensure that the Dealers have the exclusive say in who may participate in what is otherwise a Dealer-only club of auction direct participation.

188. *Third*, the Dealers agreed that *only* Dealers could submit inside market submissions. No non-dealers are permitted to make the two-way price submissions in the morning session of the auction that are used to calculate the initial market midpoint. Given the significance of the initial market midpoint – it serves as the main component in calculating the floor or ceiling for the final auction price – the Dealers' agreement serves to preserve their control over the final auction price by excluding non-dealer rivals from the process that generates the initial market midpoint. There is no competitive justification for this agreement. Given that the inside market submissions are a price valuation mechanism for bonds, any non-dealer CDS market participant is capable of assigning a market-based value to those bonds; indeed, non-dealer CDS market participants can trade bonds *in the bond market* the day before the auction, the day of the auction, and the day after the auction.

189. *Fourth*, the Dealers agreed that non-dealers could participate in the PSR and limit order phases of the auctions, *but only through the Dealers.* So when a non-dealer wants to submit a limit order or a physical settlement request into an auction, it needs to disclose that trading

[80] The Dealers would sometimes place market participants "in the box," effectively starving them of liquidity or business as a punishment for their recalcitrance.

information to at least one Dealer. That Dealer then has advance, insider knowledge of the non-dealer client's identity, its appetite, the price at which it wants to trade, the quantity that it is looking to trade, the types of bonds it wants to trade, and its timing for the trade – all of which is competitively sensitive information. And if *multiple* non-dealer clients submit physical settlement requests or limit orders into an auction through a Dealer, that Dealer then has a tremendous amount of advance, insider knowledge about the CDS market. There is no competitive justification for this agreement. Non-dealer market participants are equally capable of conducting their auction-related participation without Dealer intermediation.

190. *Fifth*, the Dealers agreed to structure the Determinations Committee with 10 seats for Dealers and 5 seats for non-dealers, so that it would always be majority-controlled by Dealers. This ensured that the voice of the dealer community would always be disproportionately represented in the key decisions about the credit event process and the auctions. There is no competitive justification for this agreement. The Dealers are not somehow more important CDS market participants than non-dealers. The Dealers are not more capable members of the Determinations Committee. They have no skill or expertise that makes them worth double the number of seats on the Determinations Committee versus non-dealers.

191. The intent and cumulative effect of these agreements was to create a Dealer cartel over access to the auction and over the competitively sensitive price and quantity information that clients submit into the auction – information that is used to determine the benchmark final auction price. As members of the cartel, each Dealer is bestowed with an exclusive auction gatekeeping role that entitles it to competitively sensitive client information submitted into the auction. With

that information, the Dealers each reap supra-competitive profits at the expense of CDS non-dealer market participants, and use that information to manipulate the final auction price.

2. The Dealers Coordinate Their Auction Submissions And Exploit Inside-Information Advantages To Manipulate The CDS Final Auction Price

192. Through statistical analysis, Plaintiff can demonstrate that the Dealers know each other's in-auction pricing before that information is publicly available, and that they then coordinate their own in-auction submissions using that information. Plaintiff's investigation has further uncovered that the Dealers through several mechanisms share or have the means to share competitively and commercially sensitive, non-public trading information with each other, including their specific views on pricing for the auctioned-off bonds. Taken together, these allegations show a scheme amongst the Dealers to collusively manipulate the final auction price, the benchmark that is used to settle all CDS contracts market wide.

a) Econometric Analysis Shows That The Dealers Secretly Coordinate Their Auction Submissions, Using The Information They Share With Each Other To Engage In Benchmark Manipulation

193. Using publicly available CDS auction data and bond pricing data, Plaintiff conducted multiple statistical analyses that show (a) that the Dealers are learning each other's purportedly secret morning initial market submissions before the auction starts, and then using that information to coordinate their in-auction pricing submissions, (b) that this interdealer pricing coordination behavior is carried through into the afternoon limit order stage of the auction, and (c) that as a result the final auction price is repeatedly and dramatically being manipulated (typically, but not exclusively) downward. When the interdealer pricing coordination effects Plaintiff have

identified are statistically, counterfactually filtered out of the auctions, the identified final auction price manipulation dissipates.

194. Plaintiff's analyses are types of econometric "screens," statistical tools built on economic models that use pricing and other types of data to identify the existence, causes, and scope of manipulative and collusive behavior. Screens are used by federal agencies to detect market manipulation and cartel behavior, by large companies to monitor compliance with antitrust laws, and by litigants as evidence of manipulative and collusive behavior. Screens were what helped detect the banks' manipulative schemes involving LIBOR and the foreign exchange market, for example, that resulted in billions of dollars in penalties and settlements against many of the same institutions that are Defendants in this action.[81]

195. The Dealers each participate in an auction through one CDS trader who is responsible for the submission of that Dealer's initial market submissions (the morning two-way price), the physical settlement request of that Dealer and that Dealer's clients, and the limit orders of both that Dealer and that Dealer's clients.

196. A critical premise of the CDS auctions is that the Dealers' submissions are secret to each other until after the auction is over and the final auction price is announced. A corollary premise is that one Dealer's initial market submission or limit order price should not be coordinated with another Dealer's initial market submission or limit order price – because each Dealer's pricing should be developed independently and without knowledge of another Dealer's pricing.

[81] *See* Carrick Mollenkamp and Mark Whitehouse, "Study Casts Doubt on Key Rate," *The Wall Street Journal* (May 29, 2008); Liam Vaughan and Gavin Finch, "Currency Spikes at 4 P.M. in London Provide Rigging Clues," *Bloomberg* (Aug. 27, 2013).

197. Plaintiff's analyses demonstrate that these premises are not true. In each auction, the Dealers are identifying the Dealer with the dominant physical settlement request in the auction ("dominant Dealer"), learning that Dealer's initial market submission, and then using that information to generate *their own* initial market submissions in the morning *and* their limit orders in the afternoon. The ultimate effect of this interdealer pricing coordination is to (typically) drive the final auction price to a supra-competitively low level, which has the effect of enabling the dominant Dealer – who is typically a significant buyer of protection on the bonds in that auction – to maximize the protection payments that it will receive on its CDS positions.

198. The effect Plaintiff identifies is, however, bidirectional: when the dominant Dealer is a significant *seller* of protection on the bonds in an auction, the interdealer pricing coordination drives the final auction price to a supra-competitively *high* level – which has the effect of protecting the dominant Dealer from paying out larger sums of money on CDS to non-dealer counterparties than it otherwise would.

199. The Dealer with the dominant physical settlement request (PSR) in the auction is frequently the Dealer who has the most substantial position in the CDS covering the auctioned-for bond. Given that each Dealer is, at times, the "dominant Dealer" in an auction, the cartel works because it rewards each Dealer substantially when it has the most at stake amongst the Dealers in a particular auction.

200. Moreover, it does not cost each Dealer financially to help the dominant Dealer, *i.e.*, a non-dominant Dealer who has no CDS positions at stake in a particular auction but still is obligated to submit an initial market submission can make a skewed submission that helps the dominant Dealer make a windfall profit – without imposing any financial cost on the non-dominant

Dealer. Indeed, the non-dominant Dealer *gains an advantage* in learning the dominant Dealer's initial market submission – it can be a material data point in helping the non-dominant Dealer avoid the adjustment amount penalty.

b) The Dealers Are Coordinating Their Initial Market Submissions

201. By the morning of an auction, each Dealer will have designated a CDS trader who will be that Dealer's representative in the auction. Each CDS trader first submits the Dealer's physical settlement request, which the trader does by aggregating the Dealer bank's appetite for buying or selling bonds to settle CDS with the appetite of the Dealer bank's clients.

202. Next, the CDS trader makes the initial market submission. It is supposed to be each Dealer's price at which they would buy or sell a pre-determined amount of bonds (typically, $2 million bonds par value) that are up for auction. Each Dealer's trader forms its two-way price using information that is available to the Dealer and known through lawful channels. This information is (1) the price of the cheapest-to-deliver bond, and (2) the Dealer's own physical settlement request.[82]

203. The cheapest-to-deliver bond is typically the lowest value bond issued by the debt issuer whose bonds are the subject of the auction. Market participants typically look to the cheapest-to-deliver bond because they provide the least costly way for Dealers to satisfy their physical settlement requests in the auction. In other words, if a Dealer wants to physically settle their CDS contract, that Dealer will – under rational economic assumptions – submit the lowest

[82] Each non-dominant Dealer's physical settlement request is entered and signed to accommodate the direction of the auction, *i.e.*, it is a positive number if the PSR is submitted as an offer to sell bonds into the auction, and a negative number if the PSR is submitted as a bid to buy bonds.

quality bond to deliver on their physical settlement request (the Dealer will not want to give up their more valuable and higher-quality bonds). Plaintiff's model calculates the price of the cheapest-to-deliver bond using the methodology of published academic studies of CDS auction prices, *i.e.*, it calculates a weighted average of transaction prices on the day before the auction using the bond trade sizes as weights.

204. The Dealer's own physical settlement request control variable takes into account the total outstanding amount of deliverable bonds.[83] This gives the Dealer a sense of the supply that will be available in the auction relative to the amount of outstanding bonds overall, and thus can help the Dealer determine how much bonds will trade for heading into the auction.

205. Plaintiff's model uses a subset of all CDS auctions, namely all 62 CDS auctions with publicly available bond price information. Plaintiff incorporates both of these data points as control variables in a multivariate ordinary least squares ("OLS") regression to construct an economic model that measures the extent to which certain variables predict the relevant side of each Dealer's initial market submission. "Relevant side" because each Dealer makes a *two-way* price in its initial market submission – both a bid to buy and an offer to sell – and only one of those sides carries over into the afternoon after the auction administrators determine the direction of the auction.

206. Statisticians use regression analysis to try and test whether an observation of correlation is a statement of causation, as well as to isolate the effect of lawful factors (like publicly

[83] The PSR is scaled by the total outstanding amount of bonds that are deliverable into the auction, *i.e.*, the physical settlement request is divided by the total outstanding amount of bonds. Academics who have studied the auction process often scale the net open interest by the total outstanding amount of bonds. By analogy, the physical settlement requests – which are aggregated to calculate the net open interest – are scaled by the total amount of bonds outstanding.

available information) on prices from unlawful factors (like anticompetitive conduct). An ordinary least squares regression is a standard statistical technique for this type of analysis – by estimating the linear relationship between one or more variables and a dependent variable. Statisticians prefer OLS because it is robust, even when some of its core assumptions are violated (a feature known as "best linear unbiased"). In regression analysis, a multivariate regression incorporates multiple predicting variables ("control" or "explanatory" variables) to explain or predict another variable (the "dependent" variable).

207. Plaintiff's model incorporates a third variable as an explanatory variable: ***the extent to which the relevant side of the dominant Dealer's initial market submission deviates from the prior day's cheapest-to-deliver ("CTD") bond price.*** Plaintiff's model thus tests whether there is a predictive relationship between *each non-dominant Dealer's initial market submission* (the dependent variable) and *the dominant Dealer's initial market submission* by using the following regression equation:

$$\text{Initial market submission}_{ik} = \alpha + \beta\,\text{Prior day bond price}_{i} + \gamma\,\text{Physical settlement request, scaled by outstanding bonds}_{ik} + \delta\,\text{Dominant dealer's initial market submission minus prior day CTD bond price}_{i} + \varepsilon_{ik}$$

208. Where the subscript "i" designates one of the 62 CDS auctions, and the subscript "k" designates one of the non-dominant Dealers. The symbols β, γ and δ represent coefficients of the regression equation and the symbol α is the intercept of the regression equation.

209. A "t-statistic" is one measure of confidence that an econometric result is statistically significant, *i.e.*, not the byproduct of chance.[84] A t-statistic of 1.96 translates to a 95% confidence level that the result is statistically significant, or, inversely, a 5% chance that the figure is statistically insignificant. Using the inverse measure, confidence levels of 1%, 5%, or 10% have all been treated as benchmark measures of reliability by statistics experts.

210. A "regression coefficient" measures the association between a control or explanatory variable and the model's dependent variable.[85] A coefficient of 0 indicates no linear association between the variables, while a positive coefficient indicates that an increase (or decrease) in the control or explanatory variable causes an increase (or decrease) in the dependent variable. A regression coefficient indicates the direction and magnitude of a relationship between a control or explanatory variable and the model's dependent variable.

211. Plaintiff's model has an extremely high degree of explanatory power:

- As a control variable, the price of the bond on the day before the auction has a t-statistic of 204.3 and a regression coefficient estimate of 0.97.
- Similarly, as a control variable, the Dealer's own physical settlement request has a t-statistic of -4.10 and a regression coefficient estimate of -0.02.
- The explanatory variable that Plaintiff's model uses to detect interdealer price coordination – the extent to which the relevant side of the dominant Dealer's initial market submission deviates from the CTD bond price for auction bonds on the day before the auction – has a t-statistic of 18.9, and a regression coefficient of 0.63.

[84] *See* Federal Judicial Center, *Reference Manual on Scientific Evidence*, 342–43 (3d 2011).

[85] *Id.* at 261.

212. The t-statistics for each of these variables – 204.3, -4.10, and 18.9, respectively – far exceed the threshold for being statistically significant at the 0.05 level (the 5% error rate) and even at the 0.01 level (the 1% error rate).

213. The regression coefficients for each of these variables – 0.97, -0.02, and 0.63 – demonstrate that, in particular, the dominant Dealer's initial market submission has a tight relationship with the non-dominant Dealers' initial market submissions, controlling for other lawful factors (namely, each Dealer's respective physical settlement request, and the cheapest-to-deliver bond price on the day before the auction).

214. The R-squared measures how well a regression equation fits a set of data. It is a statistic that measures the percentage of variation in the dependent variable that is accounted for by all the control or explanatory variables. An R-squared can vary between 0 (no fit) and 1 (perfect fit). Here, Plaintiff's model has an R-squared of 0.98, meaning that the three variables in Plaintiff's model explain 98% of the variation in the non-dominant Dealers' initial market submissions.

215. Plaintiff's model thus demonstrates, with a very high degree of statistical certainty, that the extent to which the dominant Dealer's initial market submission deviates from the prior day's cheapest-to-deliver bond price predicts *the other Dealers'* initial market submissions, even after controlling for the other variables that those Dealers rely on in generating their initial market submissions. The t-statistic of 18.9 for the dominant Dealer's initial market submission indicates a result with ***a less than one-in-ten thousand probability of occurring by random chance***.

216. Plaintiff's model thus evidences that the Dealers are routinely and systematically identifying a very specific piece of purportedly secret pricing information – the extent to which the dominant Dealer's initial market submission deviates from the prior day's cheapest-to-deliver

bond price – and using that information to generate their own initial market submissions. The effect of this behavior is to conform the initial market midpoint and, ultimately, the final auction price to the dominant Dealer's pricing preference – typically, downward.

217. Other features of Plaintiff's model indicate its robustness. The negative correlation coefficient for the Dealer's own physical settlement request, for example, is an indication of the model's robustness. The model measures the relationship between certain variables and the non-dominant Dealers' initial market submissions. The negative regression coefficient for the Dealer's own physical settlement request indicates that a Dealer with a large physical settlement request (typically indicating a protection receiver) will act to some degree in its self-interest by skewing its initial market submission *downward*. Notwithstanding that self-interest, the model still shows that there is an *even more significant* influence on the non-dominant Dealer's initial market submission: the dominant Dealer's initial market submission.

218. Plaintiff's model is based on reliable, accurate, complete, and appropriately representative data. It uses 62 auctions, representing more than one third of all CDS auctions from 2005 to 2020. The 62 auctions include CDS auctions from 2005 through 2020, and thus covers auctions over time. The auctions analyzed include both "buy" (10) and "sell" (52) auctions; given that most auctions are "sell" auctions, the model's auction dataset appropriately includes more "sell" auctions than "buy" auctions. All the bonds for these auctions had reliable, accurate and complete bond pricing data available from FINRA's Trade Reporting and Compliance Engine ("TRACE"), which is the industry standard informational service about the bond market.

219. Because only the Defendant Dealers are alleged to have participated in the conspiracy, Plaintiff's dataset does not include (the relatively few) auctions where a non-defendant

dealer was the dominant dealer. It also does not include any non-defendant dealer pricing submissions. The data is thus only about the Dealer Defendants' submissions.

c) The Dealers' Interdealer Pricing Coordination Is Carried Through Into The Limit Order Stage Of The Auction

220. In a separate econometric model using CDS auction limit order data, Plaintiff is able to demonstrate, to a statistically significant degree, that the dominant Dealer's inside market submission – in particular, ***the extent to which the relevant side of the dominant Dealer's inside market submission deviates from the initial market midpoint*** – is also able to predict *the other Dealers'* limit order submissions, even after controlling for the additional information that the Dealers learn after the morning phase of the auction. This indicates that the dominant Dealer's purportedly secret inside market submission plays a material and enduring role in predicting the other Dealers' in-auction behavior throughout the day, and even more directly impacts the final auction price itself.

221. As described above, by the morning of the auction each Dealer will have designated a CDS trader who will be that Dealer's representative in the auction. In the morning, that trader submits the Dealer's physical settlement request and the initial market submission. After the morning session, the auction administrators publish the net open interest and the initial market midpoint.

222. When the Dealer's CDS trader submits limit orders in the afternoon, he or she thus has additional, lawfully acquired data points that shape that trader's view of what limit order prices to submit: the net open interest, and the initial market midpoint. In testing the relationship between *the dominant Dealer's initial market submission* and *the non-dominant Dealers' limit order prices*, Plaintiff's model thus incorporates all of this information as five control variables that serve as the

data points a Dealer's CDS trader would consider in formulating limit orders: (1) the Dealer's initial market submission (from the morning); (2) the Dealer's total limit order quantity at each limit order price, accounting for the direction of the auction, *i.e.*, a positive number to buy bonds in a "sell" auction, and a negative number to sell bonds in a "buy" auction;[86] (3) the net open interest, scaled by the total amount of outstanding bonds and accounting for the direction of the auction;[87] (4) the direction of the auction, *i.e.*, whether it is a "buy" or "sell" auction; and (5) the initial market midpoint, which is generated from the Dealers' initial market submissions.

223. Plaintiff's model incorporates a sixth variable: ***the extent to which the relevant side of the dominant Dealer's purportedly secret initial market submission deviates from the initial market midpoint.*** Plaintiff's model thus tests whether there is a relationship between *each non-dominant Dealer's limit order prices* and *the dominant Dealer's initial market submission* by using the following regression equation:

$$\text{Limit order price}_{ijk} = \alpha + \beta\ \text{Dealer's initial market submission}_{ik} + \theta\ \text{Dealer's total limit order quantity at each limit order price}_{ijk} + \kappa\ \text{Net open interest, scaled by total outstanding bonds}_{i} + \lambda\ \text{Direction of the auction (a value of "1" if buy auction, zero for sell auction)}_{i} + \gamma\ \text{Initial market midpoint}_{i} + \delta\ \text{Dominant Dealer's initial market submission minus initial market midpoint}_{i} + \varepsilon_{ijk}$$

[86] This variable represents the Dealer's supply or demand curve in a "buy" or "sell" auction, respectively. *See* LARRY HARRIS, TRADING & EXCHANGES: MARKET MICROSTRUCTURE FOR PRACTITIONERS (Oxford University Press 2003).

[87] The net open interest can be positive or negative depending on the direction of the auction, *i.e.*, "sell" or "buy." The net open interest is a positive number, *i.e.*, a value greater than zero, for a "sell" auction, and a negative number for a "buy" auction.

224. Where the subscripts "i" and "j" designate a particular auction and limit order submission by a non-dominant Dealer "k". The symbols β, θ, κ, λ, γ and δ represent coefficients of the regression equation and the symbol α is the intercept of the regression equation.

225. Again, Plaintiff's model has an extremely high degree of explanatory power:

- The Dealer's initial market submission (from the morning) has a t-statistic of 3.3 and a regression coefficient estimate of 0.29.
- The total limit order quantity at each limit order price has a t-statistic of -5.10 and a regression coefficient estimate of -0.40.
- The net open interest has a t-statistic of -7.9 and a regression coefficient estimate of -7.1.
- The direction of the auction has a t-statistic of 18.0 and a regression coefficient of 8.1.
- The initial market midpoint has a t-statistic of 7.1 and a regression coefficient of 0.60.
- The variable that Plaintiff's model uses to detect interdealer price coordination – the extent to which the relevant side of the dominant Dealer's initial market submission deviates from the initial market midpoint – has a t-statistic of 12.3 and a regression coefficient of 0.80.

226. The t-statistics for each of these variables far exceed the threshold for being statistically significant at the 0.05 level (the 5% error rate) and even at the 0.01 level (the 1% error rate).

227. The regression coefficients that are positive – the Dealer's initial market submission, the direction of the auction, the initial market midpoint, and the dominant Dealer's initial market submission – each have a strong association with the non-dominant Dealers' limit order prices.

228. That the regression coefficient of the total limit order quantity variable is negative is logical and demonstrates the robustness of Plaintiff's model. It is negative because it has an inverse relationship with the limit order price, *i.e.*, it reflects a rational economic assumption that a limit order to purchase a larger volume of bonds will have a corresponding lower price. Conversely, a limit order to sell a larger volume of bonds will have a correspondingly higher price.

229. That the regression coefficient of the net open interest variable is negative is similarly logical and demonstrates the robustness of Plaintiff's model. It is negative because it has an inverse relationship with the limit order price, *i.e.*, it reflects a rational economic assumption that a larger, positive net open interest is a greater supply, and as a result auction participants will submit lower limit order prices to clear the supply – and, conversely, a larger, negative net open interest is a greater excess demand, and as a result auction participants will submit higher limit order prices to clear the excess demand.

230. Plaintiff's model has an R-squared of 0.94, meaning that the six variables in Plaintiff's model explain 94% of the variation in the non-dominant Dealers' limit order price submissions.

231. Plaintiff's model is based on reliable, accurate, complete, and appropriately representative data. It uses a subset of 109 auctions, representing more than half of all CDS auctions and all CDS auctions that have total outstanding bond information (which is needed to appropriately scale the net open interest, as done by academic studies of the CDS auctions). Plaintiff's model incorporates a cross-section incorporating all CDS auctions from 2005 through 2020, and thus covers auctions over time. The dataset includes both "buy" (24) and "sell" (85) auctions; given that most auctions are "sell" auctions, the dataset appropriately includes more

"sell" auctions than "buy" auctions. All the bonds for these auctions had reliable, accurate and complete pricing data available from publicly available CDS auctions data (creditfixings.com) and Bloomberg data on the total outstanding bond amount.

232. Because only the Defendant Dealers are alleged to have participated in the conspiracy, Plaintiff's dataset does not include (the relatively few) auctions where a non-defendant dealer was the dominant dealer. Plaintiff's model excludes limit orders submitted by any non-Defendant dealers.

233. Limit orders are each submitted by the Dealers, but they are sometimes submitted on behalf of non-dealer clients who are prohibited from participating directly in the CDS auctions. Because the publicly available auction data does not identify whether a limit order is for the Dealer or for the Dealer's client (it only displays the Dealer's name who is submitting the limit order, not who that limit order is for), the data necessarily incorporates some non-Defendant limit order pricing.

234. Plaintiff's model accommodates this feature of the way the CDS auction data is published by running two tests. First, Plaintiff's model incorporates a test in which multiple limit orders attributed to a single Dealer at an identical price are considered to represent at least one order by a non-dealer client, *e.g.*, when Goldman Sachs submits two separate orders for different quantities of bonds at the same price – one at $10 per $100 notional for $20 million of bonds, and another at $10 per $100 notional for $30 million of bonds – a valid assumption is that at least one of those orders is for a non-dealer client of Goldman Sachs.[88] In the model test, one of those orders is dropped. When this method is implemented systematically in the model, the outcome is the

[88] This method has been used by independent academics who have studied the CDS auction limit orders.

same: the dominant Dealer's initial market submission still predicts, to a statistically significant degree, the non-dominant Dealers' limit order price submissions.

235. Second, Plaintiff's model incorporates a test in which randomized samples of the limit orders – at increasing percentages – are dropped from the model, so as to accommodate the possibility that a non-*de minimis* percentage of limit orders in any given auction may be submitted by Dealers on behalf of their non-dealer clients. Even after running this test, however, the result of Plaintiff's model was the same: the dominant Dealer's initial market submission still predicts, to a statistically significant degree, the non-dominant Dealers' limit order price submissions.

236. Plaintiff's model thus demonstrates with a high degree of statistical certainty that the extent to which the dominant Dealer's initial market submission deviates from the initial market midpoint is predicting *the other Dealers'* limit order prices, even after controlling for the other variables that those Dealers rely on in generating their limit order prices.

237. Plaintiff's model evidences that the Dealers are routinely and systematically identifying a very specific piece of purportedly secret pricing information – the extent to which the dominant Dealer's initial market submission deviates from the initial market midpoint – and incorporating that information into their own limit order submissions. The effect of this behavior is to conform the final auction price to the dominant Dealer's pricing preference – typically, downward.

238. When analyzed together with Plaintiff's model analyzing the Dealers' initial market submissions, the findings of both analyses are stark: that the dominant Dealer's purportedly secret initial market submission has such an enduring, statistically significant, and material impact on the pricing decisions of the other Dealers that it indicates interdealer price coordination in the manner

of a price-fixing and bid-rigging scheme that has systematically driven the final auction price to supra-competitive levels since the introduction of the auction in 2005.

d) The Dealers' Collusive Price Manipulation Has A Substantial Effect On The Initial Market Midpoint and the Final Auction Price

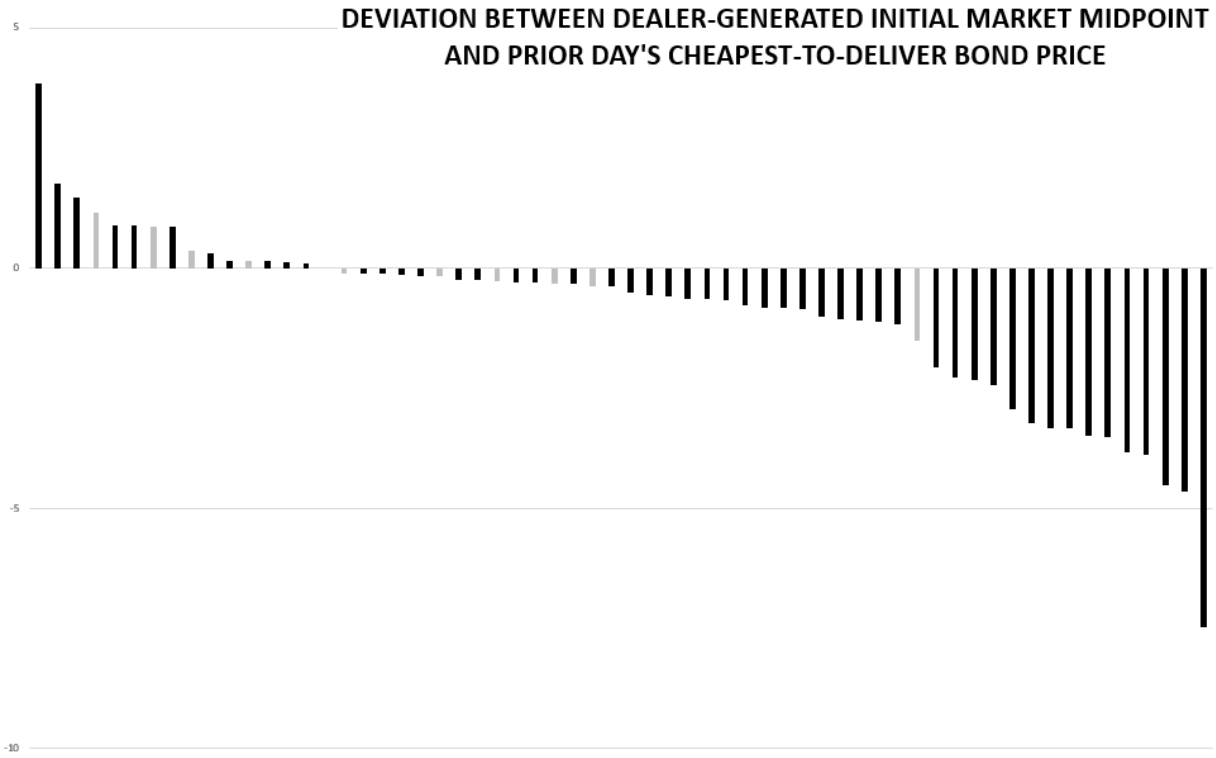
239. The initial market midpoint and the final auction price are both intended to value bonds for a specific purpose: for CDS settlement. A rational economic premise is that the initial market midpoint and the final auction price should both closely reflect the recent bond market prices for *the same bonds* that are up for auction, controlling for certain distinctive features of the auction process.

240. The bond market is a legitimate benchmark against which to compare the initial market midpoint and the final auction price. It has all the typical features of an efficient market. It has many more participants than the CDS auctions. Distressed bonds are still traded actively in the bond market, even after a filing for Chapter 11 by the bond issuer or a missed coupon payment. In short, bond markets are capable of quickly incorporating information about the subject bonds into the market price. The benchmark bond market pricing data comes from TRACE, an independent, third-party, government-regulated source for market data that market participants all rely on in conducting business and analysis related to the financial markets.

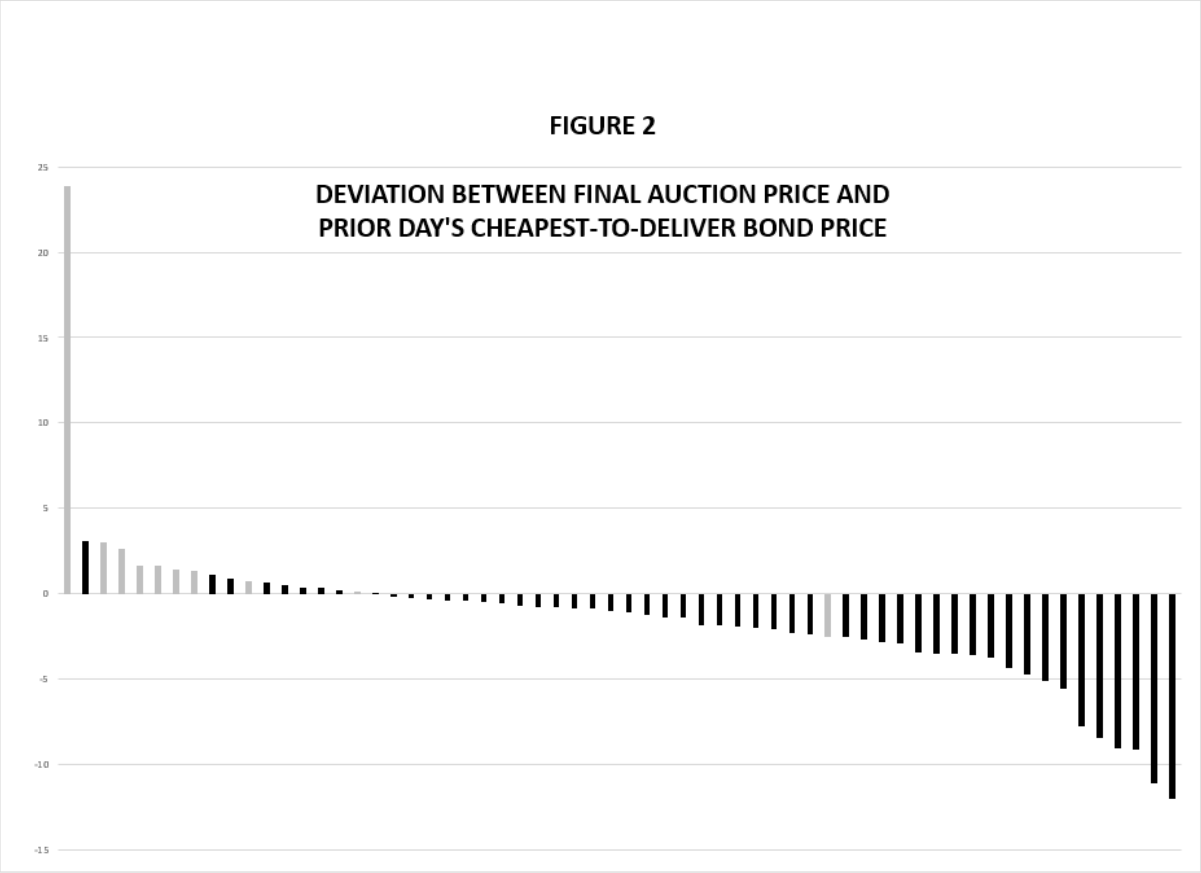
241. Yet the initial market midpoint and the final auction price are repeatedly and consistently skewed in ways that cannot be explained by rational economic principles. The initial market midpoint, for example, is consistently lower over time than the cheapest-to-deliver bond price on the day before the auction in "sell" auctions (shaded dark), and consistently higher over

time than the cheapest-to-deliver bond price on the day before the auction in "buy" auctions (shaded light):

FIGURE 1



242. Similarly, the final auction price is consistently lower over time than the cheapest-to-deliver bond price on the day before the auction in "sell" auctions (shaded dark), and consistently higher over time than the cheapest-to-deliver bond price on the day before the auction in "buy" auctions (shaded light):



243. In Figures 1 and 2, the "y" axis represents the difference between the initial market midpoint (in Figure 1) or final auction price (in Figure 2) and the cheapest-to-deliver bond price on the day before the auction, expressed in the units of the CDS auction pricing. (All auction price submissions and prices generated by the auction, including the initial market midpoint and final auction price, are reported in percentages displayed as whole numbers.) The "x" axis represents auctions in Plaintiff's initial market submission model dataset (in Figure 1) and limit order model dataset (in Figure 2).

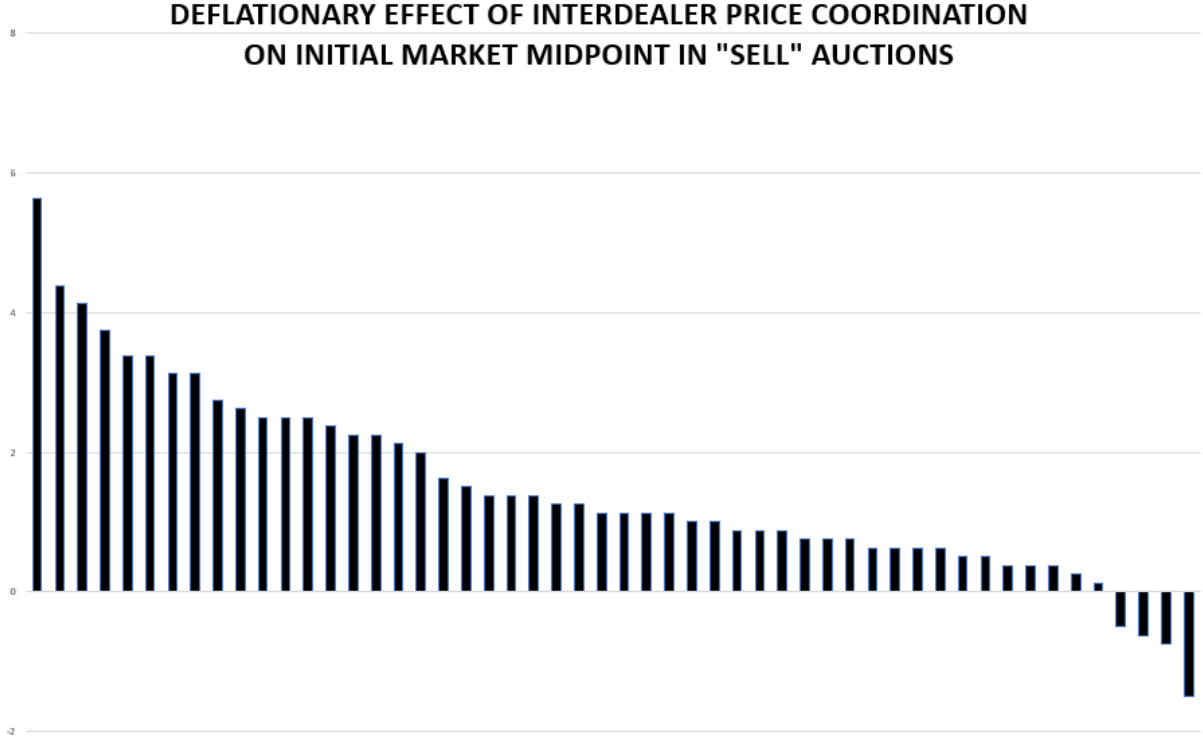
244. These findings are consistent with Plaintiff's analyses of the Dealers' initial market submissions and limit orders. When the effect of the Dealers' collusive price manipulation is filtered out, the results are substantial: in "sell" auctions (which are most auctions), the initial

market midpoint and the final auction price would each be substantially *higher*; and in "buy" auctions, the initial market midpoint and the final auction price would each be substantially *lower*.

245. Using Plaintiff's model analyzing the Dealers' initial market submissions, Plaintiff is able to isolate the highly material and consistently deflationary impact that the Dealers' pricig coordination has on the actual initial market midpoints in "sell" auctions:

FIGURE 3

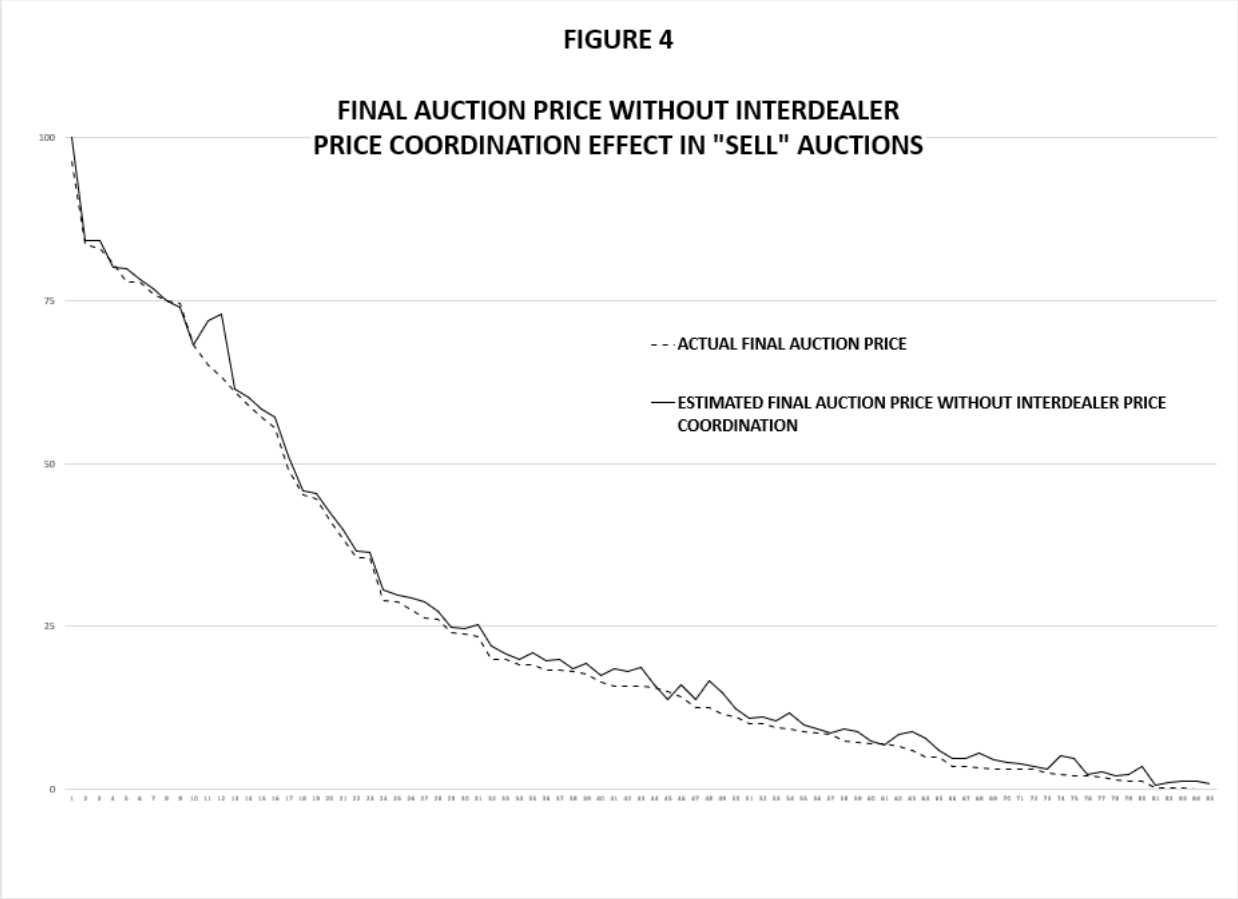
DEFLATIONARY EFFECT OF INTERDEALER PRICE COORDINATION ON INITIAL MARKET MIDPOINT IN "SELL" AUCTIONS



246. In Figure 3, the "y" axis represents the price effect that the interdealer pricing coordination identified in Plaintiff's model has on the actual initial market midpoint across the "sell" auctions in Plaintiff's initial market submission model dataset (*e.g.*, in the auction represented by the bar furthest to the left of the chart, without the Dealers' pricing coordination

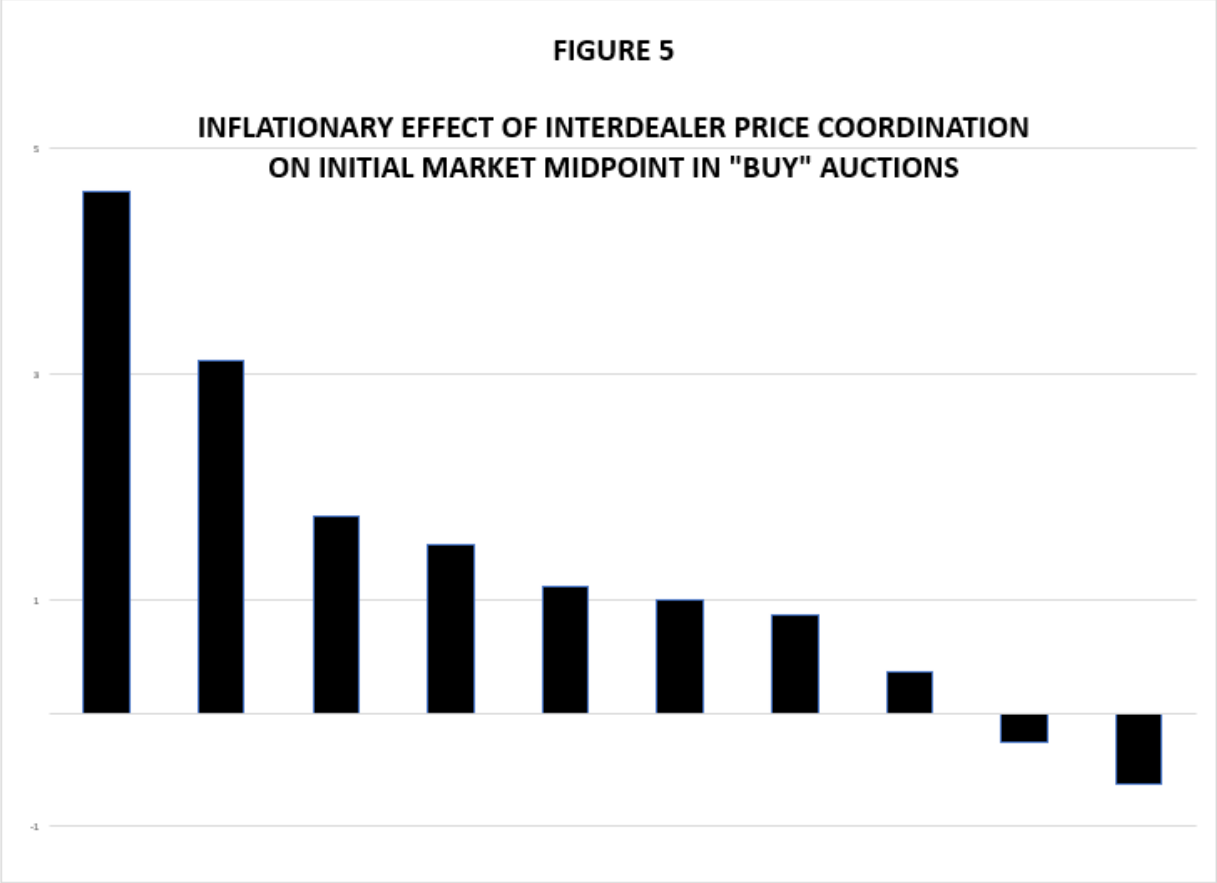
the initial market midpoint would be more than 5.5 points higher than it otherwise would have been).

247. Similarly, using Plaintiff's model for limit order submissions, Figure 4 shows that isolating the effect of the Dealers' price coordination would have resulted in a final auction price that was consistently] *higher* than the actual final auction price across "sell" auctions in Plaintiff's limit order model dataset:



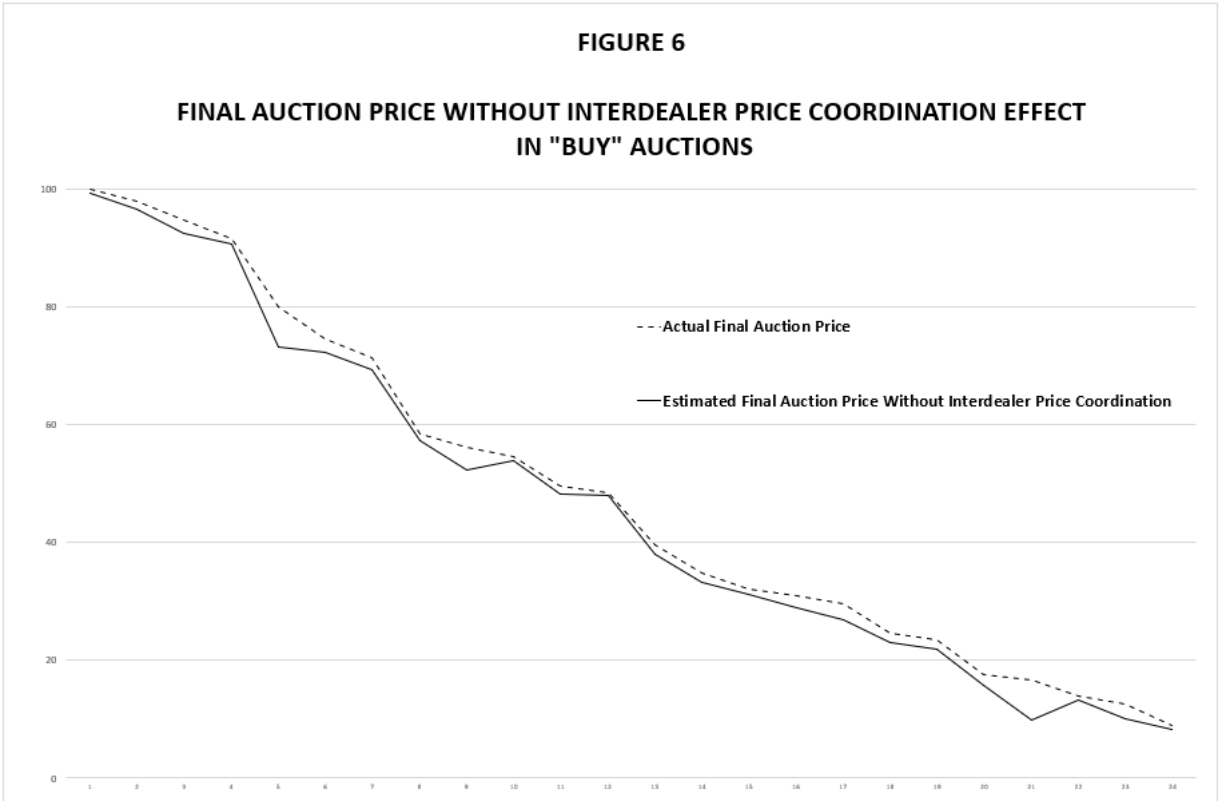
248. In Figure 4, the "y" axis represents the final auction price (expressed in the unites used by the CDS auctions), and the "x" axis is each "sell" auction in Plaintiff's limit order model dataset.

249. Applying the same models in "buy" auctions demonstrates that the initial market midpoints would have been *lower* than the actual initial market midpoints once the effect of the Dealers' interdealer price coordination is isolated:



250. In Figure 5, the "x" axis represents each "buy" auction in Plaintiff's initial market submission model dataset, while the "y" axis represents the price effect that the interdealer pricing coordination identified in Plaintiff's model has on the actual initial market midpoint across the "buy" auctions in Plaintiff's initial market submission model dataset (*e.g.*, in the auction represented by the bar furthest to the left of the chart, without the Dealers' pricing coordination the initial market midpoint would have been more than 4.5 points *lower* than it otherwise would have been).

251. The same is true for the final auction prices, *i.e.*, isolating and removing the price effect of the Dealers' pricing coordination demonstrates that final auction prices in "buy" auctions would have been consistently *lower*:



252. In Figure 6, the "y" axis represents the final auction price (expressed in the units used by the CDS auctions), and the "x" axis is each "buy" auction in Plaintiff's limit order model dataset.

253. Plaintiff's model does not attempt to aggregate the entire impact of the Dealers' manipulative tactics, discussed *infra*. Rather, the cumulative impact of Plaintiff's econometric findings is that the Dealers' pricing coordination has an enduring and material impact on the key benchmark pricing metrics produced in the CDS auctions, the initial market midpoint and the final auction price, and that the isolated impact is directionally consistent with Plaintiff's allegations of

collusive price manipulation in which the Dealers aid one another in driving the initial market midpoint and final auction price downward when the dominant Dealer is a net protection buyer and upward when the dominant Dealer is a net protection seller.

254. These findings implicate billions of dollars in damages to Plaintiff and class members over time. Even minor deviations in the final auction price cause a sea-change in the amount of money that changes hand for CDS settlement purposes market-wide, netting the Dealers billions of dollars in additional CDS protection payments over time. In a single auction, for example, over $380 million changed hands between protection buyers and receivers. If the final auction price was artificially deflated by even a few points, it would represent a windfall to protection receivers of over $25 million. Given that there have been over 150 CDS auctions, the financial value of the Dealers' benchmark manipulation is substantial.

3. The Dealers Share Their Pricing With Each Other Through Bloomberg

255. Detailed pricing information is shared between the Dealers via Bloomberg. In particular, a trader who sits on the market making desk at one Dealer is able to see all the CDS and bond pricing that their competitor Dealers are quoting to non-dealer clients, in real-time.

256. This is because of a secret loophole that the Dealers exploit in Bloomberg's system. The Dealers' credit derivatives businesses are comprised of several different sub-businesses, including CDS market-making, correlation trading, and others. The CDS market-making desk is where the "dealer" business, *i.e.*, the market-making business, resides within each Dealer bank. The other sub-businesses within the Dealers' credit derivatives business are often *clients* of the other Dealers – they are not "market makers" in CDS, but they trade CDS.

257. Because all the Dealers house at least some of their CDS market-making desks in the same business unit as their other credit derivatives desks (for example, correlation desks), the CDS market-making desk is able to access the pricing information that the other credit derivatives desks are receiving from the CDS market-making desk's competitors.

258. Using this loophole, it has become industry practice for the Dealers to cross-check their CDS and bond pricing against their competitor Dealers' CDS and bond pricing. And as traders move from one Dealer bank to another, they engage in the same practice – using this system to cross-check the trader's pricing against the other Dealers' pricing to make sure the trader stays within the Dealers' consensus view of where CDS and bond pricing should be.

259. This Bloomberg loophole is thus a mechanism by which the Dealers can communicate sensitive, current pricing information with each other. It is a tool they can use before submitting their inside market submissions in any CDS auction, or before submitting their limit orders in any CDS auction.

4. The Dealers Learn Confidential Client Information In The Auction And Then Front-Run Their Clients' Physical Settlement Requests And Limit Orders In The Auction, Resulting In A Supra-Competitive Final Auction Price

260. Information is extremely valuable currency in the CDS market. Unlike equities, there is no "tape" or ticker for CDS. CDS are not exchange-traded. The market is opaque. Advance knowledge of even a single trade can be valuable – and advance knowledge of many trades from many clients on a single day can be extremely lucrative.[89]

[89] *See* LARRY HARRIS, TRADING & EXCHANGES: MARKET MICROSTRUCTURE FOR PRACTITIONERS, at 97 (2007) ("Traders use [information] to predict where prices are going and how much trading will cost. Who has access to market information, when they can access it, and the form in which they can access it greatly influence who will trade profitably and who will pay high transaction costs.")

261. In this environment, the Dealers' agreement to exclude and constrain non-dealer rival participation in the auction process forces non-dealer CDS market participants to disclose their trading information in advance of the auction to the Dealers – and only the Dealers.

262. Because the Dealers are the exclusive auction gatekeepers, they can each learn when a non-dealer client wants to submit limit orders or physical settlement requests into the auction. The Dealers share that information with their respective market-making desks – which then adjust *their own* physical settlement requests, inside market submissions, or limit orders to counteract that submission. The effect of the Dealer's adjustment is to manipulate the final auction price so that it does not accurately reflect economic conditions.

263. For example, when a client submits a physical settlement request, it does so in advance of the auction. That information is shared with the Dealer's CDS market-making desk – because a trader on that desk is the one who has to input that information into the auction. That trader can then change *the Dealer's own* physical settlement request – so as to drive the auction in a particular direction that favors it, or to manage the size of the net open interest (which can have a material impact on the final auction price).

264. Or if a client submits a physical settlement request or limit order for a Dealer to submit into the auction, the Dealer can then (for example) submit an inside market submission that skews the initial market midpoint to compensate for the effect of the non-dealer client's physical settlement request or limit order (assuming the effect works against that Dealer's preferred trading outcome). This has the effect of supra-competitively skewing the final auction price.

265. But these tactics are no longer potential. Instead, they actively occur to the knowledge of the Dealers and ISDA.

5. The Dealers Share Material, Non-Public Information With Each Other During Determinations Committee Meetings

266. The Dealers' communications with each other begin at the closed-door Determinations Committee meetings, where they decide whether a particular CDS has experienced a triggered credit event. At those meetings, representatives of each Dealer meet privately to discuss the bond/CDS (or "name") up for debate in granular detail.

267. The Dealers each have seats on the Determinations Committee, which is the committee that decides whether a credit event has occurred, whether and when the corresponding auction must be held, and the rules of each auction (the auctions are standardized).

268. Because the Dealers are guaranteed a certain number of seats on the Determinations Committee, and because the Dealers are the only direct participants in the auction, the Dealers often use Determinations Committee meetings (a) to assess where the other Dealers are with respect to their CDS positions, and (b) to exchange material, non-public information about the auction, the market participants, and a particular bond and its CDS.

269. This exchange of information is critical market intelligence that non-dealers either do not have access to or cannot act on in the way that the Dealers can by virtue of their role as the exclusive gatekeepers of and direct participants in the auction.

270. Within the first few minutes of the Determinations Committee meetings, each Dealer knows the other Dealers' positions with respect to that name – whether they are net protection buyers or sellers, and whether each Dealer intends to vote that there has been a credit event or not. Those meetings can go for several hours. They are not open to the public. The only report the public receives about the meeting is a multi-page form that lists the question presented, who voted, how they voted, and a 1 or 2 paragraph statement describing the Determinations

Committee's rationale. The form does not disclose the level of detailed, material non-public information shared between the Dealers at the Determinations Committee meetings – information that is material in forming each Dealer's view of their pricing submissions into the CDS auctions.

271. Because the meetings are not public, the Dealers have taken advantage of their inside-information knowledge of how the credit event process will unfold to trade advantageously in anticipation of the auction to secure supra-competitive profits as a result. For example, once the credit event vote had taken place, there is often a delay of a few hours between the vote and the public announcement of whether an auction was going to be held. During those few hours, Dealer members of the Determinations Committee could trade on that information – either to enter trades that would make them money, exit trades that would lose them money, or position themselves so as to maximize their credit trading profits as the auction approached.

272. These concerns are not hypothetical. But knowing the risks associated with the structure of the auction process, ISDA has consistently taken the position that it is not a regulator, and that it would not police the Dealers who were its largest and most powerful members. Moreover, ISDA's board was comprised of and remains controlled by representatives of the Dealers – and ISDA's management recognized that the Dealers' substantial power over ISDA made it impossible for ISDA to implement any reforms at which the Dealers would chafe, because there was always the threat that the Dealers could eliminate ISDA and render it a non-entity.

6. The Dealers Routinely, Informally, And Privately Communicate With One Another

273. There are typically a few weeks between the announcement of the credit event and corresponding auction. During those few weeks, the Dealers continue to share proprietary trading and pricing information with each other.

274. In particular, they share information about major non-dealer trades and positions, major Dealer trades and positions, and they discuss the price of the bond and what the final auction price should be. This information helps the Dealers gain inside knowledge about the likely direction of the auction, the size of the net open interest, and the participants in each auction.

275. These communications happen over Bloomberg chats, WhatsApp chats, and text messages. For example, sometimes a Dealer that has a particularly large financial stake in the outcome of the auction will blast out its pricing for the corresponding bonds the night before an auction to large groups, including other Dealers. Those quotes are understood by the traders receiving them to be signals about what that Dealer wants the auction price to be on the following day; and many of the other Dealers will adopt that pricing on the next day, during the (dealer-only) two-way price submission or in their limit order submissions. *Supra* ¶¶ 201-219.

276. The Dealers' communications also happen over the phone and in-person, at coffees, industry events, dinners, and drinks. Many of the Dealers' traders will spend time over their careers at different banks, and in the process they develop relationships with other Dealer traders. Those relationships often form the basis for these informal communications.

277. Interdealer communications also happen through intermediaries – sometimes through a non-dealer client or through an interdealer broker, including the brokers at Creditex.

C. The Antitrust And Regulatory Red Flags About The Auction Process

278. The auction process and the Dealers' information sharing in and around the auction raises several antitrust and regulatory "red flags." *First*, the Dealers have used (and continue to use) the Determinations Committee meetings to exchange material, non-public information. The information is not shared with the public at all, and it is price-sensitive – meaning it could directly

impact market participants' views of the price of the auction bonds and eventually the final auction price. Dealer representatives on the Determinations Committee share this material, non-public information with their CDS market-making desks. The market-making desks then use that information to trade ahead of non-dealer clients.[90]

279. *Second*, the auction process' exclusion of non-dealers as direct participants is unjustified by law, policy, or market forces, and has instead served the purpose of preserving the Dealers' role in the CDS settlement process as the exclusive recipients of client order flow information – which the Dealers trade on to the detriment of clients. That the Dealers bestowed upon themselves the right to vote on whether non-dealers may be direct participants in any auction is an indication of the extent to which the Dealers want to preserve their status as exclusive auction gatekeepers.

280. *Third*, the credit event process as a whole is insufficiently transparent, causing much of this misconduct to happen in largely private forums.

281. ISDA has abdicated its responsibility by refusing to police the Dealers. ISDA does not have the leverage or the will to require the Dealers – its biggest and most powerful members – to alter the manner in which they structure the CDS settlement process or participate in the CDS auctions. It is and always has been a front organization for the Dealers, bestowing the appearance

[90] *See* Federal Trade Commission and the U.S. Department of Justice, "Antitrust Guidelines for Collaborations Among Competitors," at 15 (April 2000) ("[T]he sharing of information related to a market . . . in which the participants are actual or potential competitors may increase the likelihood of collusion on matters such as price, output, or other competitively sensitive variables. . . . Other things being equal, the sharing of information relating to price, output, costs, or strategic planning is more likely to raise competitive concern than the sharing of information relating to less competitively sensitive variables.").

of legitimacy on what is actually an organization that serves only the interests of "the dealer community."

282. Notwithstanding the abdication of its responsibility to serve as an advocate for financial market participants as a whole, rather than the dealer community, *ISDA itself* has sought to camouflage its role on the Determinations Committee, presumably out of fear that it would be swept into a regulatory action.

283. Multiple dealers who formerly were Determinations Committee members – such as RBS, HSBC, UBS, Nomura, Morgan Stanley and Société Générale – have not continued their Determinations Committee membership. Certain of these dealers elected to discontinue their Determinations Committee membership, and their associated direct participation in CDS auctions, due to similar liability concerns. Indeed, for the past two years, the Determinations Committee has operated with only nine dealer members, down from the ten voting dealer members (and additional consultative dealer members) when the Determinations Committee was first established, and below the ten voting dealer members contemplated by the Determinations Committee rules.

D. Plus Factors Indicative Of The Dealers' Conspiracy To Manipulate The CDS Final Auction Price

284. The following plus factors provide additional indications that the Dealers are engaged in a conspiracy to manipulate the final auction price.

285. *First*, the Dealers generally are aligned in their net CDS positions on those bonds that are the subject of the auction, so they share a common motive in driving the final auction price in one direction or the other (typically, downward). Researchers at the Federal Reserve Bank of Richmond, for example, tested whether the Dealers' own CDS positions provided an incentive for

them to manipulate the auction price downward (in "sell" auctions). In doing so, the researchers accessed the Dealers' confidential trading data as reported to the central repository for CDS trades, the Depository Trust & Clearing Corporation ("DTCC"), and found that "dealers own protection on average," that sometimes the "dealers have very large positive positions" (meaning: they buy protection), and that the positions were large enough that some Dealers "have incentive to manipulate the auction price downward when the NOI is positive[.]"[91] That some Dealers are nte purchasers of protection on the bonds that are up for auction is consistent with the broader market understanding that the Dealers are generally net protection buyers.[92]

286. *Second*, even if some Dealers do not benefit in a particular auction from driving the final auction price up or down, the Dealers share a common motive to protect their privileged status as the exclusive gatekeepers to the auction. With this status, the Dealers gain inside information – who is trading what in the auction, and at what price and what quantity – and they use that inside information to obtain advantages in the auction, as demonstrated in the following examples.

a. The Dealers strategically share client information – with clients, with other Dealers, with interdealer brokers, and with others – to win business from clients, to gather intelligence from other market participants, and to generate anti-competitive trading profits at the expense of their non-dealer clients.

[91] Erica Paulos, Bruno Sultanum, and Elliot Tobin, "CDS Auctions: An Overview," *Federal Reserve Bank of Richmond: Economic Quarterly*, at 130 (2Q 2019).

[92] *See, e.g.*, Iñaki Aldasoro and Torsten Ehlers, "The credit default swap market: what a difference a decade makes," *BIS Quarterly Review*, at 2 (June 2018) ("Reporting dealers continue to be net buyers of CDS protection ($258 billion at end-2017).").

b. With their power as the exclusive gatekeepers to the auction, the Dealers improperly allocate deliverable obligations to clients post-auction, so as to generate supra-competitive, risk-free auction profits. The Dealers have the ability to actively trade all of the bonds they receive due to their role in the settlement chain. No Dealer is required to deliver an exact basket of obligations to a non-dealer client who submits a successful limit order in the auction. Thus, the Dealers have an incentive to (and do) purchase lower value bonds at a discount and sell those bonds to the non-dealer client with the successful limit order. Then the Dealers turn around and sell the higher quality, more expensive bonds that the non-dealer client *actually* purchased through the auction in the bond market. This yields the Dealer a perfect, risk-free, anti-competitive trading windfall – and it does so solely by virtue of the Dealers' cartel agreement to make themselves the exclusive gatekeepers to the auction.

c. The Dealers can use the information they obtain through their status as the exclusive gatekeepers to the auction to trade ahead of clients who submit limit orders into the auction. For example, when a pension fund submits a limit order to buy bonds in an auction through a Dealer, that Dealer can adjust *its* own "house" limit order with full knowledge of the client's order.

287. *Third*, there is a high degree of interdealer communication about and around the CDS auctions.

a. As noted above, the Dealers created the auction process and then hard-wired it into the market infrastructure via a dealer-only working group that was dominated and led by representatives from Goldman Sachs, JPMorgan, and Deutsche Bank.

b. The Dealers each have (or have had) seats on the Determinations Committee, where material, non-public information about the auctions and the bonds that were the subject of the auctions were shared between and amongst Dealers.

c. The CDS market-making industry is a small club of traders who spend their careers migrating from bank to bank. They know each other, speak with each other often, and socialize with each other. They attend social events together – including, for example, up to 50 different events during the holiday season alone where traders meet with each other, drink with each other, and talk about the market. These traders communicate with each other over email, Bloomberg, WhatsApp, text, and mobile phone, as well as in-person.

288. *Fourth*, in coordinating their submissions into the auction, some of the Dealers acted against their apparent individual economic self-interest.

a. Plaintiff's econometric analysis of the Dealers' initial market submissions shows that even when Dealers appeared to be on the opposite sides of the market – when one Dealer appeared to be a net protection buyer and another a net protection seller in a particular auction[93] – the Dealer who was a net protection seller would nonetheless submit an initial market submission that incorporated *the net protection buyer dominant Dealer's* initial market submission, even though the two had diametrically opposed economic incentives in the auction.

[93] Because a Dealer's physical settlement request in any auction is constrained by the Dealer's actual derivative position, a Dealer who (for example) submits a "buy" physical settlement request in a "sell" auction has CDS positions that place that Dealer's interests contrary to the dominant Dealer's CDS position.

b. The Dealers' sharing of competitively and commercially sensitive information with one another is against their economic self-interest. Rather than sharing that information with each other, their economic self-interest should be to use it to gain an advantage on one another.

c. The Dealers' decision to keep the auction process as a dealer-only club despite the substantial regulatory and antitrust concerns is contrary to their economic self-interest, particularly given the substantial fines imposed in the LIBOR and the foreign exchange scandals.

289. *Fifth*, the Dealers' recidivism shows an ongoing pattern of similar antitrust violations using similar tactics in parallel markets. The specific conduct identified in this case – with the Dealers structuring critical market infrastructure processes with themselves as the gatekeepers, excluding non-dealer rivals, using liquidity to force the market to adopt its preferred market infrastructure processes, and coordinating pricing behavior to manipulate benchmark prices to profit their own positions – is similar to conduct in other cases.

a. In the ***LIBOR*** scandal, for example, government investigations revealed that rather than submitting honest, expected borrowing costs, the banks instead submitted deliberately false quotes for the purpose of manipulating the published LIBOR rate, similar to the allegations here involving the Dealers' auction submissions. The governmental investigations have resulted in both criminal and civil fines.[94]

b. In the ***foreign exchange*** scandal, the banks, with customer information in hand, would move prices in a particular direction and the colluding banks would equip each other

[94] *See* Nicole Hong, "Banks Dealt Blow in Libor Lawsuits," *The Wall Street Journal* (May 23, 2016).

with the tools to do so. Again, prosecutors and regulators imposed substantial fines on the banks for engaging in conduct similar to that present in the CDS auctions – banks relying on their access to client information to trade on that information, and then share that information with other banks to drive prices in a direction that favors the Dealers.[95]

c. Antitrust regulators are investigating the banks' conduct in setting the benchmark prices of precious ***metals***. Similar to the CDS auction, "prices for gold, silver, platinum and palladium were set using a decades-old practice of once- or twice-a-day conference calls between a small group of banks," and that process prompted government antitrust investigations and regulatory scrutiny.[96]

d. In the antitrust investigations and litigation into the ***credit default swaps*** market from several years ago, the banks were "accused of colluding to prevent exchanges from entering the credit default swaps business from 2006 to 2009" by using their collective liquidity to blunt the market's transition towards electronic, all-to-all exchange trading of swaps.[97] This mechanism – using liquidity to push the market towards a structure that favors the Dealers – is analogous to the Dealers' conduct in forcing market participants to accept the dealer-centric CDS auction process and the final auction price.

e. The Dealers paid hundreds of millions of dollars in penalties to the CFTC, and hundreds of millions more in private lawsuits, arising out of their collusive manipulation of

[95] *See* Aruna Viswanatha, "Banks to Pay $5.6 Billion in Probes," *The Wall Street Journal* (May 20, 2015).

[96] *See* Jean Eaglesham and Christopher Matthews, "Big Banks Face Scrutiny Over Pricing of Metals," *The Wall Street Journal* (Feb. 23, 2015).

[97] *See* Gaspard Sebag and Aoife White, "Swaps Probe Reviewed as EU Said to Weigh New Antitrust Complaint," *Bloomberg Law* (May 14, 2015).

the ***ISDAfix***, a benchmark rate for interest rate derivatives. Similar to Plaintiff's allegations, the Dealers had set up a closed system in which they could trade to drive the benchmark ISDAfix rate up or down based on their own positions.[98]

290. The Dealers' talking points to the public are that this type of interfirm collusive dealing is a "legacy" problem.[99] This is false. As recently as 2020, JPMorgan fired one of its lead CDS/bond traders in 2020 – who had been with the firm for 20 years – after he created a WhatsApp group and used it "to discuss market chatter with other trading employees."[100] "Market chatter" is often a euphemism for insider discussions about confidential and commercially sensitive information, including and especially information from competitors. The cases identified above, along with the other ongoing government antitrust and market manipulation investigations, demonstrate that the banks are corporate recidivists, particularly in markets where there is a "lack of oversight, coupled with the pressure to squeeze profits from a relatively middling business."[101] This recidivism persists even when the Dealers are subject to non-prosecution agreements, deferred prosecution agreements, monitoring agreements, and government-imposed compliance

[98] *See* Aruna Viswanatha, "Goldman Sachs to Pay $120 Million to Resolve Benchmark Manipulation Probe," *The Wall* Street Journal (Dec. 21, 2016).

[99] *See, e.g.*, Ben Protess and Matthew Goldstein, "Citigroup Fined in Rate-Rigging Inquiry but Avoids Criminal Charges," *The New York Times* (May 25, 2016); Vanessa Mock and David Enrich, "EU Fines Financial Institutions Over Fixing Key Benchmarks," *The Wall Street Journal* (Dec. 4, 2013).

[100] *See* Michelle Davis and Sridhar Natarajan, "JPMorgan Fires Credit Trader and Cuts Staff Bonuses for WhatsApp Use," *Bloomberg* (April 8, 2020) (stating that WhatsApp is encrypted, can't be easily monitored by compliance departments, and that other traders followed Koo's lead in using the WhatsApp group).

[101] *See* Michael Corkery and Ben Protess, "Rigging of Foreign Exchange Market Makes Felons of Top Banks," *The New York Times* (May 20, 2015).

regimes – because the profits of the misconduct, the incentives to pursue those profits, greatly outweigh the fear or reality of prosecution, fines, or civil suit.[102]

291. Furthermore, prior government prosecutions do not and have not cured the incentive structures that create the conditions for these scandals, because "top prosecutors at [aong other places] the Department of Justice suffer 'revolving door' bias. They are frequently former federal prosecutors who left the DOJ to work for big law firms that represent large corporations and high-level executives. Now they are back for a few years at the DOJ, knowing, however, that they will soon return to private practice. As a result, they are more than sympathetic to arguments for leniency that they themselves used to make and will make against in the near future. . . . [P]rosecutors [thus] find it convenient to resolve cases of corporate criminality with a quick and simple plea bargain that gives the appearance of robust enforcement even if it has little long-term effect."[103] The consequence of this is that the Dealers continue to cultivate cultures in which trader bad behavior that generates profit is rewarded more substantially than trader good behavior that elevates the interests of clients over the interests of the Dealers' house positions.

E. The Dealers' Conduct Is A *Per Se* Violation Of The Antitrust Laws

1. It Is A *Per Se* Violation Of The Antitrust Laws For The Dealers To Collude To Manipulate A Benchmark Price

292. The Dealers' conduct constitutes a *per se* violation of the antitrust laws. It represents concerted action amongst a group of horizontal competitors to artificially depress (or artificially inflate, in certain auctions) a benchmark price, when doing so would benefit the

[102] *See* Jed S. Rakoff (Hon.), "Getting Away With Murder," *The New York Review of Books* (Dec. 3, 2020) (citing and discussing John C. Coffee Jr., *Corporate Crime and Punishment: The Crisis of Underenforcement* (2020)).

[103] *Id.*

horizontal competitors at the expense of every other market participant. The Dealers' conduct constitutes an agreement by horizontal competitors (the Dealers) to rig their bids into the CDS auctions so as to fix the final auction price.[104]

293. The Dealers' scheme to bid-rig the CDS auctions and ultimately fix the final auction price at artificial and supra-competitive levels directly impacted the dealer-to-client market for credit default swaps, which is a market in which the Dealers participate as market-makers, *i.e.*, as buyers and sellers of CDS, to non-dealer counterparties such as pension funds, hedge funds, municipalities, asset managers and corporations.

294. The Dealers are considered horizontal competitors as market-makers in the dealer-to-client market for credit default swaps. They are expected to compete against each other when trading their own proprietary books or the assets and investments of their clients. The integrity of the CDS auctions depends on the Dealers competing properly in the auction itself.

295. Instead of competing for client business, however, the Dealers and their co-conspirators agreed to restrain trade to pursue collective goals and to manipulate the market by collusion and coordination. This collusive bid-rigging and price-fixing was inimical to competition and restrained trade in the affected market.

296. Defendants represented the CDS auctions as a fair, transparent, and efficient process to establish the final auction price that can be used to settle CDS contracts. The auctions were supposed to reflect actual market conditions, as reflected by the properly-generated actual

[104] *See* Federal Trade Commission and the U.S. Department of Justice, "Antitrust Guidelines for Collaborations Among Competitors," at 8 (April 2000) ("Types of agreements that have been held per se illegal include agreements among competitors to fix prices or output, rig bids, or share or divide markets by allocating customers, suppliers, territories, or lines of commerce.").

initial market submissions of the Dealers themselves, the physical settlement requests of the Dealers and their non-dealer clients, and the limit orders of the Dealers themselves and of the Dealers submitted on behalf of the non-dealer market participants. But the Dealers – who have bestowed upon themselves the disproportionate power to shape the key metrics that the CDS auctions produce, including the final auction price – repeatedly colluded to manipulate those metrics and the final auction price. Trade was accordingly restrained and competition decreased in the market for CDS.

297. Courts have over the last decade developed substantial experience with the type of restraint at issue here, involving manipulation of a benchmark financial rate by horizontal competitors. In those cases, courts have recognized that there are no redeeming pro-competitive benefits to the type of benchmark manipulation alleged by Plaintiff, and so courts can predict with confidence that the type of restraint identified here – a group of horizontal competitors obtaining exclusive control over a process that generates a benchmark price, and then using that control to coordinate their bids in the process so as to skew the benchmark price to supra-competitively low (or high) levels – would be invalidated in all or almost all instances.

2. Even Under A Quick Look Or Rule Of Reason Analysis, The Defendants' Conduct Violates The Antitrust Laws

298. The Dealers' conspiracy targets the dealer-to-client credit default swap market, which is the relevant antitrust market.

299. The Dealers, hedge funds, pension funds, asset managers, businesses, insurance companies, and other market participants buy and sell CDS to hedge the risk that a bond will default, to generate returns from selling CDS, and to speculate on the creditworthiness of bond issuers.

300. CDS are not substitutable. CDS replace credit risk (the risk that an issuer defaults) with counterparty risk (the risk that a CDS counterparty cannot pay), a unique feature that investors seek out because it enables differentiation of risk. Additionally, for protection buyers, there is no other way to as easily hedge the risk that a bond will default than buying CDS. And for protection buyers who have no underlying bond position, there is no comparable way to speculate on the risk that a bond will default – because there is no short market for bonds. For protection sellers, the coupon payments they receive are unique to CDS, and are preferred by market participants because they are not determined by interest rates.

301. The credit default swap auction is a process within the dealer-to-client CDS market. It is a protocol designed to mimic certain attributes of physical settlement of CDS transactions. Its intended and primary function is the production of a benchmark, the final auction price, that is used to cash settle CDS contracts across the entire CDS market. In any CDS auction, the Dealers are the only permitted direct participants: they are the only ones who make initial market submissions; they are the only ones who submit physical settlement requests; and they are the only ones who submit limit orders. Other participants who seek to participate in the auction are either not permitted to do so or must participate through the Dealers, and only at certain stages – the physical settlement request and limit order stages, specifically.

302. The relevant geographic market for the dealer-to-client CDS market is global. The majority of dealer-to-client market participants and trades are centered in the United States. The auctions are mostly conducted in the United States and run by Markit and Creditex, from their U.S. offices. The Dealers participate in the auctions primarily via their CDS market-making desks in

the United States, and act in furtherance of the conspiracy in the United States (as shown above, *see supra* ¶¶ 8, 46-51).

303. The Dealers have market power in the dealer-to-client CDS market. The Dealers are (and have been) a counterparty on the overwhelming majority of dealer-to-client CDS transactions. Market concentration among dealers is high and has grown over the years due to the exit of Lehman Brothers, Merrill Lynch, and Bear Stearns from the market as CDS market makers.

304. The Dealers use their market power to influence the relevant market, particularly at key times such as in and around the auction process where their submissions directly influence the initial market midpoint and the final auction price. That data show signs of artificiality in and around the auction itself demonstrates the ability to make prices artificial. *See supra* ¶¶239-54.

305. The Dealers are the dominant liquidity providers in the dealer-to-client CDS market. They have been since the inception of the market. Together, the Dealers' market share in the dealer-to-client CDS market is well over 80%. As an example, by the end of the second quarter of 2019, 95.6% of single-name CDS gross notional outstanding involved a dealer as a counterparty, and 81.4% of index CDS gross notional outstanding involved a dealer as a counterparty.

306. The Dealers' information-sharing has all the red flags indicative of a naked restraint on competition that can be condemned without further inquiry. These horizontal competitors shared (and continue to share) information with the anti-competitive purpose and effect of deriving artificially high profits at the expense of other, less-informed market participants. Sharing information surrounding a bidding process is an indicia of a naked restraint.

307. The information-sharing was done privately, without formal controls, including directly through horizontal competitors in a way designed to avoid detection. Such sharing of information by horizontal competitors is another indicia of a naked restraint.

308. The type of information shared was current, specific pricing information and customer order flow information. The sharing of such information is another indicia of a naked restraint. It was also conduct against self-interest, and as such is a recognized plus factor under established law.

309. The anti-competitive effects of the Dealers' conspiracy outweigh any potential procompetitive benefits that the Dealers can be expected to identify. The purpose and effect of the conspiracy was to allow the Dealers to reap artificially high profits at the expense of their non-dealer counterparties in the CDS market. Every extra dollar they earned was at the expense of someone else.

310. Specifically, the anti-competitive intent and effects of the Dealers' conduct include the following:

a. ***Supra-competitively low (or high) final auction prices.*** As documented by independent academic experts in the financial markets, the final auction price has been inexplicably and systematically divorced from the bond market pricing – typically, much lower. Plaintiff's econometric analysis demonstrates that this pricing behavior is actually *manipulation*, that the manipulation is extreme and enduring, and that the manipulation is caused by the Dealers' using each other's purportedly secret pricing submissions to coordinate their auction submissions, typically to drive the final auction price downward. The effect of supra-competitively low final auction prices is to cause Plaintiff and the putative Class members to pay more money to the

Dealers than they would have under their CDS contracts but for the Dealers' collusive price manipulation. In other circumstances, Plaintiff has shown that the final auction price is skewed upward. The effect of supra-competitively high final auction prices is to cause Plaintiff and the putative Class members to receive less money than they would have under their CDS contracts but for the Dealers' price manipulation.

b. ***Sharing of confidential client physical settlement requests with the Dealer's CDS market-making desk.*** Non-dealer clients are unable to participate directly in a CDS auction. Rather, all non-dealers must participate through the Dealers. As a result, non-dealer clients who wish to submit a physical settlement request into an auction must submit it to the relevant Dealer prior to the start of the auction. This client information is not treated confidentially, but instead is shared with the Dealer's own market maker. Having line of sight on confidential client information can provide the Dealer with a significant advantage and influence the Dealer's own submissions in the auction's first round – specifically, it can enable the Deale to skew its initial market submission (its indicative morning two-way price quote) and the Dealer's "house" physical settlement request (which the Dealer adds to the PSRs it received from its clients and aggregates into a single PSR to submit into the auction). Receipt of such client information enables the Dealers to modify their initial market submissions used to generate the initial market midpoint or their physical settlement requests, both of which have the effect of manipulating the auctions and the final auction price.

c. ***Front-running of confidential client limit orders.*** During the second, afternoon phase of the auction, participants are able to submit limit orders against the net open interest. The limit order process then determines the final auction price (which is the price at which

submitted limit orders suffice to clear the NOI). Just as with client PSRs, client limit orders are not submitted directly into the auction, but instead must be submitted to and through a dealer. And just as with client PSRs, client limit orders are shared with the Dealer's CDS market making desk, which is responsible for determining and submitting the Dealer's own "house" limit orders. There is no mechanism to prevent the Dealer from trading ahead of a client limit order. Such front-running negatively impacts the client, and the auction outcome.

d. ***Sharing of confidential client information by Dealers with other clients.*** By virtue of their status as the exclusive auction gatekeepers, the Dealers are provided with valuable information regarding their client activity during both morning and afternoon phases of the auction. The more dominant the Dealer is in the given credit, the greater the client activity they will be able to see, and the greater the value of the information obtained. The Dealer may also share this information with other clients, in order to secure future business. For example, if the Dealer can see from the NOI and its collection of client limit orders that Client A, desirous of buying $10 million of bonds, has no chance to do so successfully at the price Client A initially provided, the Dealer can inform Client A that it will need to raise its price (to at least $X) in order to secure its desired allocation. Leveraging this information is a direct violation of client confidentiality. Additionally, it can also impact auction outcomes, by inducing clients to submit a limit order at price different than the one they had independently envisioned, and based instead on feedback from the limit order book.

e. ***Discrimination in allocation of deliverable obligations by Dealers post-auction, yielding artificially high and anti-competitive windfall profits for the Dealers at the expense of their non-dealer clients.*** All valid client PSRs and limit orders, *i.e.*, all client trades

resulting from auction activity, are settled through the Dealers. For such trades, most CDS auctions specify multiple acceptable deliverable obligations, *e.g.*, different bond and loan issues from the same obligor. Some CDS auctions feature a dozen or more different acceptable deliverable obligations. Some of these obligations may be more or less valuable than others. Currently, the Dealers have tremendous discretion in how they allocate the various deliverable obligations obtained in the auction to their clients. There is significant risk that a dealer may decide to allocate more valuable bonds to a preferred client at the expense of a smaller client. This may also be done to win future business from the preferred client.

F. The Plaintiff Was Injured As A Result Of Defendants' Manipulation

311. The auction process produces the final auction price, which is supposed to represent a fair value for the bonds at auction for purposes of CDS settlement. As described above, the Dealers' collusive conduct results in a supra-competitive final auction price. *See* Section IV.B.2, *supra*.

312. Plaintiff's econometric analysis reveals that the Dealers' manipulation of the final auction price is persistent, dramatic, and consistent. Once the Dealers' bid-rigging and price-fixing conduct is filtered out, Plaintiff calculates that the final auction price would typically be substantially *higher* in "sell" auctions, a further indication of the extent to which the Dealers' collusive price manipulation skews the final auction *downward*. *See* ¶¶ 239-254, *supra*.

313. Plaintiff's analysis further demonstrates that the final auction price would be substantially *lower* in "buy" auctions, an additional indication of the extent to which the Dealers' collusive price manipulation tracks their own interests. *Id*. ¶¶ 239-254.

314. Plaintiff's econometric analysis of the price manipulation of the final auction price is corroborated by independent academics who have conducted their own analyses of the auctions and have come to parallel conclusions as Plaintiff.

315. Researchers at the Federal Reserve Bank of Richmond also conducted an econometric analysis built upon a multivariate regression and found results "consistent with the theory of price manipulation," with average downward price manipulation of 13 percent.[105] Those researchers also found that the downward price manipulation appeared to favor the Dealers' proprietary CDS positions, such that at least some dealers had "significant positive CDS positions and therefore . . . incentive to manipulate the auction price downward when the NOI is positive[.]"[106]

316. The Dealers have caused Plaintiff to suffer from a supra-competitive final auction price, the effect of which has been to either compel Plaintiff and similarly-situated Class members to pay out more money (or receive less money) in protection than they would have but for the Dealers' conspiracy.

317. During the Class Period, SIC purchased and sold millions of dollars of CDS, including directly with Defendants, that settled at artificial prices caused by Defendants' collusive activities. Accordingly, SIC was harmed when, as a direct result of Defendants' conspiracy, it was required to pay more (as a CDS protection seller) and/or receive less (as a CDS protection buyer) on auction-settled CDS transactions during the Class Period.

[105] Erica Paulos, Bruno Sultanum, and Elliot Tobin, "CDS Auctions: An Overview," *Federal Reserve Bank of Richmond: Economic Quarterly*, at 129 (2Q 2019).

[106] *Id.* at 130.

318. For example, beginning on or about April 24, 2019, SIC entered into multiple Index CDS transactions with Defendant MS&Co., in which SIC sold protection on CDX.EM Series 31 (the CDX Emerging Markets Index, made up of a portfolio of emerging market sovereign issuers, including Argentina). CDX.EM Series 31 is centrally cleared in the United States through ICE Clear Credit. On May 22, 2020, Argentina missed coupon payments on certain of its sovereign debt issues, which constituted a "failure to pay" credit event, and triggered a CDS auction held on June 12, 2020. Defendants' misconduct caused the auction's final price to fall to 31.5% of par. SIC, as a protection seller on CDX.EM Series 31, had to make credit protection payments to its counterparty that were artificially inflated as a result of Defendants' conspiracy. Accordingly, SIC was injured when it suffered greater losses as a result of Defendants' conspiracy and was deprived of the ability to transact in a lawful, non-manipulated, competitive market.

319. The Dealers' collusive manipulation of the final auction price has a direct, proximate, and arithmetic effect on the amount of money Plaintiff pays or receives on its CDS contracts. Every dollar the Dealers made by virtue of their conspiracy is a dollar they took from the Class members.

320. Given the duration and extent of the conspiracy, the Class has suffered losses of billions of dollars – which the Dealers have enjoyed as windfall, anti-competitive, and illicit cartel profits.

G. Equitable Tolling Due To Defendants' Concealment

1. Defendants Actively And Effectively Concealed Their Collusion And Misconduct From Plaintiff And The Class And Committed Acts In Furtherance Of Their Concealment

321. Defendants' conspiracy was self-concealing by its nature. As explained above, Defendants "hardwired" their exclusive and secret control of the CDS auction process from the very beginning by creating a Dealer-only "working group." Shrouded from the public, the Dealer-only working group had no formal name and its existence was never publicized. During these secret meetings Dealers reached several agreements to exclude and constrain non-dealer participation in the auctions, while studiously making it appear as though the working group's work was non-controversial and the product of market consensus and an ostensibly neutral trade association, ISDA. ISDA published the CDS auction protocol rules as if they were its own, but they were actually Dealer-only work product which was itself under the control of an inner core of the Dealers' cartel run by Defendants Goldman Sachs, JPMorgan, and Deutsche Bank.

322. Defendants built the secrecy and lack of scrutiny of their conduct into the DNA of the CDS auction process: Defendants agreed that only Dealers would be permitted to be direct participants in the auctions and that they would block non-dealers from being direct participants in the auctions. The Dealers then reserved for themselves the right to vote on who could be a direct participant in any auction, thus sealing and concealing what 'went on in the room' from Plaintiff and other investors.

323. Defendants sealed their concealment by controlling who had information about inputs into the auction, isolating and segregating investors and clients so that no one could ever see the 'big picture' of Dealers' collective conduct. As explained above, Dealers secured this

concealment and information control by many means. Defendants agreed that non-dealers could participate in the physical settlement request and limit order phases of the auctions, but only through the Dealers. This resulted in information isolation: when a non-dealer wants to submit a limit order or a physical settlement request into an auction, it needs to disclose that trading information to at least one Dealer, providing that Dealer with advance, insider knowledge of the non-dealer client's identity, the price at which it wants to trade, the quantity that it is looking to trade, the types of bonds it wants to trade, and its timing for the trade. By making themselves the exclusive gatekeepers to the auction, the Dealers were able to control all inside-information advantages and conceal their collective collaboration from investors.

324. Defendants' concealment was furthered by the embargo on information for outsiders in the lead-up to the auction. Between the relevant Determinations Committee meeting and the auction, the Dealers share information about major non-dealer trades and positions, major Dealer trades and positions, the price of the bond and what the final auction price should be — all information that gives the Dealers inside knowledge about the likely direction of the auction, the size of the net open interest, and the participants in each auction. Critical pieces of the 'fix' begin long before auction day, in other words, and Plaintiff and other investors are never the wiser.

325. Beyond actively seeking to conceal their conduct, Dealers simultaneously mounted a sustained effort to promote a false narrative about the auctions and the final auction price.

a) The Dealers Have Propagated A Variety Of Pretextual Justifications That Mask Their Conspiracy To Manipulate The Final Auction Price

326. Since the inception of the auction process in 2005, Defendants – as well as Creditex, Markit, and ISDA – have carefully presented a narrative that the CDS auction process is fair,

efficient, and transparent, and that the benchmark final auction price is the result of normal market forces. This narrative is false and misleading. It has worked to conceal from the Plaintiff and putative Class members that they had a cause of action against Defendants and has succeeded in keeping Plaintiff ignorant of that cause of action.

327. Defendants' narrative is comprised of several talking points that comprise a misleading campaign to keep non-dealer CDS market participants from discovering the truth about the Dealers' exploitation of the CDS auction process and their collusive manipulation of the final auction price.

328. Defendants' fraudulent concealment was carried out by virtue of numerous and repeated claims by Defendants that the CDS auctions are "fair," "efficient," "transparent," and superior to prior methods of settlement that were more prone to manipulation. For example:

- The Dealers through Creditex have for years said that the "Credit Event Auctions were designed to ensure *a fair, efficient and transparent process* for settlement of credit derivative trades following a credit event."[107]
- Defendant Credit Suisse in 2011 published a report to its clients describing the auction process as part of an effort "*to further increase transparency* . . . in the CDS markets."[108]
- The Dealers through Creditex presented the CDS auction process as a superior and more fair alternative to the dealer poll, which they claimed was more "open to

[107] ICE, "Credit Auctions," https://www.theice.com/service/creditex/credit-auctions (date accessed: March 4, 2021) (emphasis added).

[108] Credit Suisse, "A guide to Credit Events and auctions," *Fixed Income Research*, at 4 (Jan. 12, 2011) (emphasis added)

> manipulation by dealers[.]"[109] The Dealers stated that the auction process would thus "replace[] the conventional dealer poll approach with one that provides any market participant *the ability to have a voice* in what should be subject to the auction."[110]

329. These statements were false and misleading. The CDS auctions are not fair, efficient, or transparent because, as set forth above, the Dealers secretly (1) agree to exclude and constrain non-dealer participation, *see* Section III.B.1 *supra*, (2) collude to bid-rig and price-fix the final auction price, *see* Sections III.B.2-6, *supra*, and (3) exploit inside-information advantages arising out of their exclusive auction gatekeeper status by collecting commercially and competitively sensitive client information that they improperly and illegally trade on, *see* Sections III.B.2-6, *supra*.

330. Defendants' fraudulent concealment was further propagated by Defendants' claim that normal market forces explain why the CDS final auction price deviates significantly from bond market prices. For example, Credit Suisse in 2011 published a report to its clients advising them that for those who were cash settling their CDS via reference to the final auction price, "the cheapest to deliver [bond] will drive the level the IMM [initial market midpoint] sets at in the first part of the auction, but the Final Price can differ from the IMM depending on how the second part of the auction pans out."

331. This statement is false and misleading. The notion that the cheapest to deliver bond "will drive the level the IMM sets at in the first part of the auction" misattributes the circumstances that are actually driving the IMM to its supra-competitively low price. It is not the cheapest-to-

[109] *See* U.S. Patent No. 8,078,521, at 13, 14 (issued Dec. 13, 2011).

[110] *Id.* at 14 (emphasis added).

deliver bond that does all the work, but rather *the Dealers' coordinated pricing submissions* that drive the IMM and the final auction price to a supra-competitively low price (in "sell" auctions).

b) Plaintiff Was Able To Uncover The Dealers' Conspiracy Only Through A Sustained, Extensive, And Expensive Investigation That Similarly-Situated Entities Do Not Have The Resources To Undertake

332. Plaintiff's ignorance of the concealed misconduct is not attributable to a lack of reasonable diligence on their par. Indeed, it is only because of the extraordinary efforts of Plaintiff and their counsel that they have been able to uncover Defendants' conspiracy to bid-rig CDS auctions and price-fix the final auction price.

333. There was no government investigation that clued Plaintiff in to the Dealers' bid-rigging and price-fixing. Instead, Plaintiff through its counsel undertook an extensive and expensive investigation – necessitating hundreds of thousands of dollars of expenses and attorney time – to uncover the facts that are reflected in this Complaint. Plaintiff's inability to discover the Defendants' conspiracy up until this point is due to the Defendants' concealment, not a lack of diligence.

334. Moreover, by virtue of their conspiracy to control and manipulate the final auction price, the Dealers have substantial market power, insider status, and expertise relative to the non-dealers in the CDS industry. As a result, their access to information and knowledge about the market is deep, institutionalized, and bolstered by their leverage over critical market infrastructure entities like ISDA, Creditex, and Markit. The same is not true for non-dealer CDS market participants, and particularly not for the vast majority of non-dealer clients who trade CDS.

c) The Dealers Have Operated Without Serious Government Oversight And Have Not Been Caught

335. Because of the regulatory patchwork that governs the credit default swap market, no regulator has unearthed the Defendants' conspiracy.

336. Regulatory authority over CDS is divided between the Commodity Futures Trading Commission ("CFTC") and the Securities and Exchange Commission ("SEC").[111] The CFTC retains primary authority over swaps, except for single-name (or "security-based") swaps.[112] The SEC has jurisdiction over single-name (or "security-based") swaps.[113]

337. The CDS auction process slips through this patchwork of regulatory oversight. The auction is the settlement mechanism for single-name, index, and mixed swaps, but the auction process itself is not a swap, and no single regulator has ever asserted oversight or regulatory authority over the CDS auction process. The result is a regulatory failure that overlooks the CDS auctions and the anti-competitive conduct that takes place within them.

2. Defendants' Conduct Constitutes A Continuing Violation Of The Antitrust Laws

338. Under the continuing violations doctrine, in a conspiracy to violate the antitrust laws each of the Defendants' new and independent overt acts that injures the Plaintiff triggers the statute of limitations anew for that act, regardless of the Plaintiff's knowledge of the alleged prior illegality.

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[111] Nina Boyarchenko, Anna M. Costello, and Or Shachar, "The Long and Short of It: The Post-Crisis Corporate CDS Market," *Federal Reserve Bank of New York Economic Policy Review*, at 9 (June 2020).

[112] *Id.*

[113] *Id.*

339. Each time the Defendants acted to successfully manipulate the final auction price of a new CDS auction was a new and independent act that caused a fresh injury to the Plaintiff and the putative class. Multiple CDS auctions are held each year, and Plaintiff's allegations demonstrate that the Dealers' conspiracy involves bid-rigging and price-fixing of each CDS auction. Accordingly, each final auction price corrupted by the Defendants' bid-rigging and price-fixing is a new injury that gives rise to a new cause of action and the statute of limitations begins to run from that time.

340. Because of Defendants' concealment, any applicable statute of limitations affecting or limiting the rights of action by Plaintiff or members of the Class have been tolled during the period of concealment.

V. CLASS ACTION ALLEGATIONS

341. Plaintiff, on behalf of itself and those similarly situated, seek damages against Defendants based on the allegations contained of herein.

342. Plaintiff brings this action on behalf of themselves and, under Federal Rule of Civil Procedure 23(a) and (b)(3), as representatives of a Class defined as follows:

> All persons or entities who, during the period of June 1, 2005 through the present, settled a credit default swap in the United States and its territories by reference to the ISDA credit default swap auction protocol or the auction process that became the ISDA credit default swap auction process. A "credit default swap" includes the following instruments: single-name CDS, index CDS, and swaptions.
>
> Excluded from the Class are Defendants, their officers, directors, management, employees, current subsidiaries, or affiliates, and all federal governmental entities (the "Class").[114]

[114] Plaintiff has defined the Class based on currently available information and hereby reserves the right to amend the definition of the Class, including, without limitation, the Class Period.

343. ***Numerosity.*** Members of the Class are so numerous that joinder is impracticable. Plaintiff does not know the exact size of the Class, but believe that there are thousands of putative Class members.

344. ***Typicality.*** Plaintiff's claims are typical of the claims of the members of the Class. Plaintiff and all members of the Class were damaged by the same wrongful conduct of Defendants. Specifically, Defendants' misconduct caused Plaintiff and members of the Class to, in certain circumstances, pay more money than they should have in CDS protection payments at settlement and, in certain circumstances, receive less money than they should have in CDS protection payments at settlement.

345. Plaintiff will fairly and adequately protect and represent the interests of the Class. Plaintiff's interests are coincident with, and not antagonistic to, those of the Class. Accordingly, by proving its own claims, Plaintiff will prove other Class members' claims as well.

346. ***Adequacy of representation.*** Plaintiff is represented by counsel who are experienced and competent in the prosecution of antitrust litigation, Class action litigation, and antitrust Class action litigation. Plaintiff and its counsel have the necessary financial resources to adequately and vigorously litigate this Class action. Plaintiff can and will fairly and adequately represent the interests of the Class and has no interests that are adverse to, in conflict with, or are antagonistic to the interests of the Class.

347. ***Commonality***. There are questions of law and fact common to the Class, which questions relate to the existence of the conspiracy alleged, and the type and common pattern of injury sustained as a result thereof, including, but not limited to:

a. Whether Defendants engaged in a conspiracy among themselves to bid-rig the CDS auctions and price-fix the final auction price;

b. The identity of the participants in the conspiracy;

c. The duration of the conspiracy alleged and the nature and character of the acts performed by Defendants and their co-conspirators in furtherance of the conspiracy;

d. Whether the alleged conspiracy violated Section 1 of the Sherman Act;

e. Whether the conduct of Defendants and their co-conspirators, as alleged, caused injury to the business and property of Plaintiff and other members of the Class;

f. The effect of Defendants' alleged conspiracy on the final auction price;

g. The appropriate measure of damages sustained by Plaintiff and other members of the Class;

h. Whether Plaintiff and other Class members are entitled to injunctive relief; and

i. The appropriate injunction needed to restore competition.

348. ***Predominance.*** Questions of law and fact common to the members of the Class predominate over questions that may affect only individual Class members because Defendants have acted on grounds generally applicable to the entire Class, thereby making a common methodology for determining Class damages as a whole appropriate. Such generally applicable conduct is inherent in Defendants' wrongful conduct.

349. ***Superiority.*** Class action treatment is a superior method for the fair and efficient adjudication of the controversy. Such treatment will permit a large number of similarly situated, geographically dispersed persons or entities to prosecute their common claims in a single forum simultaneously, efficiently, and without the unnecessary duplication of evidence, effort, or expense that numerous individual actions would engender. The benefits of proceeding through the Class mechanism, including providing injured persons or entities a method for obtaining redress on claims that could not practicably be pursued individually, substantially outweighs potential

difficulties in management of this Class action. The Class has a high degree of cohesion, and prosecution of the action through representatives would be unobjectionable.

350. Plaintiff knows of no special difficulty to be encountered in the maintenance of this action that would preclude its maintenance as a Class action.

VI. CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF
Conspiracy to Restrain Trade in Violation of Section 1 of the Sherman Act, 15 U.S.C. § 1 (Against All Defendants)

351. Plaintiff incorporates each preceding and succeeding paragraph as though fully set forth herein.

352. Plaintiff incorporates each preceding and succeeding paragraph as though fully set forth herein. This cause of action is against the Defendants on behalf of the Class, for the information-sharing and bid-rigging conspiracy alleged above.

353. Defendants and their unnamed co-conspirators entered into and engaged in a combination and conspiracy that was an unreasonable and unlawful restraint of trade in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1, *et seq.*

354. During the Class Period, Defendants agreed to reduce competition amongst themselves by fixing and/or manipulating prices.

355. The conspiracy is a *per se* violation of Section 1 of the Sherman Act. Alternatively, the conspiracy resulted in substantial anticompetitive effects in the CDS Auction market. There is no legitimate business justification for, or pro-competitive benefits from, the Defendants' conduct.

356. As a direct and proximate result of the Defendants' violation of Section 1 of the Sherman Act, those who transacted in or held CDS or related instruments have suffered injury to their business and property throughout the Class Period. Those harmed are entitled to treble damages for the violations of the Sherman Act alleged herein. They are also entitled to an injunction against the Defendants preventing and restraining the violations alleged herein.

SECOND CLAIM FOR RELIEF
Violation of the Commodity Exchange Act, 7 U.S.C. § 13, and 17 C.F.R. § 180.1
(Against the Dealer Defendants and Jane Doe Defendants Nos. 1-100)

357. Plaintiff incorporates each preceding and succeeding paragraph as though fully set forth herein.

358. The Dealer Defendants and Jane Does Defendants possessed an ability to influence market prices. As the only permitted direct participants in the CDS auctions, the Dealers are able to influence the CDS final auction prices by colluding in their submission of two-way prices and limit orders, both of which are used to calculate the final auction price.

359. The final auction price is an artificial price. Its artificiality is evidenced by its material divergence from bond market prices that value the same underlying asset that the CDS auction protocol is supposed to value for purposes of CDS settlement.

360. The Dealer Defendants and Jane Does Defendants caused the artificial prices by excluding non-dealers and constraining non-dealer participation in the auctions, and by coordinating Dealer submissions into the auction so as to manipulate the final auction price for the benefit of the Dealers' own proprietary trading positions.

361. The Dealer Defendants and Jane Does Defendants specifically intended to cause artificial prices. The Dealers intended to the cause the artificial final auction prices so as to benefit

their own trading positions, including by obtaining more CDS protection than they would have but for their conspiracy to control and manipulate final auction prices.

362. The Dealer Defendants' and Jane Does Defendants' manipulation deprived Plaintiffs and the Class of a lawfully operating market during the Class Period.

363. Plaintiff and members of the putative Class suffered actual damages as a result of the manipulation by the Dealer Defendants and Jane Does Defendants.

THIRD CLAIM FOR RELIEF
Vicarious Liability in Violation of the
Commodity Exchange Act, As Amended
(7 U.S.C. §§ 1, *et seq.*)
(Against All Defendants)

364. Plaintiff incorporates the Complaint's allegations by reference and realleges them as though fully set forth herein.

365. Each Defendant is liable under Section 2(a)(1) of the CEA, 7 U.S.C. § 2(a)(1), for the manipulative acts of their agents, representatives, and/or other persons acting for them in the scope of their employment.

366. Plaintiff and the Class are each entitled to damages for the CEA violations alleged herein.

FOURTH CLAIM FOR RELIEF
Aiding and Abetting in Violation of the
Commodity Exchange Act, As Amended
(7 U.S.C. §§1, *et seq.*)
(Against All Defendants)

367. Plaintiff incorporates the Complaint's allegations by reference and realleges them as though fully set forth herein.

368. Defendants knowingly aided, abetted, counseled, induced and/or procured the violations of the CEA alleged herein. Each and every Defendant had extensive knowledge of the manipulation, and with such knowledge, willfully intended to materially assist the manipulation by the other Defendants, which caused artificial prices throughout the Class Period in violation of Sections 13 and 22(a)(1) of the CEA, 7 U.S.C. §§ 13c(a), 25(a)(1).

369. Plaintiff and the Class are each entitled to damages for the CEA violations alleged herein.

FIFTH CLAIM FOR RELIEF
Unjust Enrichment
(Against All Defendants)

370. Plaintiff incorporates each preceding and succeeding paragraph as though fully set forth herein.

371. This cause of action is against the Dealers for their conspiracy to cartelize the CDS settlement process, and to bid-rig and price-fix the CDS final auction price. This count is only against each Dealer for those transactions in which it (or an affiliate) was the counterparty.

372. The Dealers were unjustly enriched when they transacted with Plaintiff according to a supra-competitive final auction price. They settled CDS at supra-competitive prices, which yielded them ill-gotten profits at the expense of Plaintiff and the Class members.

373. Those who transacted in or held CDS have no adequate remedy at law for these misappropriated gains. The Court should issue a constructive trust compelling the Dealers to disgorge to Plaintiff and members of the Class all unlawful or inequitable proceeds. Such counterparties are also entitled to rescission of the transactions or rescissory damages.

VII. PRAYER FOR RELIEF

374. Plaintiff, on behalf of itself and the proposed Class of similarly situated entities, respectfully request that the Court:

a. Determine that this action may be maintained as a Class action pursuant to Federal Rule of Civil Procedure 23(a) and (b)(3), direct that reasonable notice of this action, as provided by Federal Rule of Civil Procedure 23(c)(2), be given to the Class, and declare Plaintiff as the representative of the Class;

b. Decree that Defendants and their co-conspirators have unlawfully conspired to violate of Section 1 of the Sherman Act, 15 U.S.C. § 1;

c. Decree that Defendants violated the CEA and award appropriate damages;

d. Decree that Defendants have been unjustly enriched by their wrongful conduct and award restitution to Plaintiff;

e. Find Defendants jointly and severally liable for the damages incurred by Plaintiff and the Class;

f. Award the Class treble damages;

g. Award reasonable attorneys' fees and costs;

h. Award all available pre-judgment and post-judgment interest, to the fullest extent available under law or equity from the date of service of the initial complaint in this action;

i. Permanently enjoin Defendants from continuing their unlawful conduct; and

j. Order such other, further and general relief as is just and proper.

VIII. DEMAND FOR A JURY TRIAL

375. Pursuant to Federal Rule of Civil Procedure 38, Plaintiff, on behalf of itself and the proposed Class, demand a trial by jury on all issues so triable.

Dated: June 30, 2021

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