

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

ISABEL LITOVICH, on Behalf of Herself and
All Others Similarly Situated,

Plaintiff,

v.

BANK OF AMERICA CORPORATION;
MERRILL LYNCH, PIERCE, FENNER &
SMITH, INC.; BofA SECURITIES, INC.;
BARCLAYS CAPITAL INC.; CITIGROUP
INC.; CITIGROUP GLOBAL MARKETS
INC.; CREDIT SUISSE SECURITIES (USA)
LLC; DEUTSCHE BANK SECURITIES
INC.; THE GOLDMAN SACHS GROUP,
INC.; GOLDMAN, SACHS & CO., LLC;
JPMORGAN CHASE & CO.; J.P. MORGAN
SECURITIES LLC; MORGAN STANLEY;
MORGAN STANLEY & CO., LLC;
MORGAN STANLEY SMITH BARNEY
LLC; NATWEST MARKETS SECURITIES
INC.; WELLS FARGO & CO.; WELLS
FARGO SECURITIES LLC; and WELLS
FARGO CLEARING SERVICES, LLC,

Defendants.

Case No. _____

CLASS ACTION COMPLAINT

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Plaintiff Isabel Litovich, individually and on behalf of all others similarly situated (the “Class”), brings this class action complaint against Defendants Bank of America Corporation; Merrill Lynch, Pierce, Fenner & Smith, Inc.; BofA Securities, Inc.; Barclays Capital Inc.; Citigroup Inc.; Citigroup Global Markets Inc.; Credit Suisse Securities (USA) LLC; Deutsche Bank Securities Inc.; The Goldman Sachs Group, Inc.; Goldman, Sachs & Co., LLC; JPMorgan Chase & Co.; J.P. Morgan Securities LLC; Morgan Stanley; Morgan Stanley & Co., LLC; Morgan Stanley Smith Barney LLC; NatWest Markets Securities Inc.; Wells Fargo & Co.; Wells Fargo Securities LLC; and Wells Fargo Clearing Services, LLC for damages and injunctive relief pursuant to Section 1 of the Sherman Act, 15 U.S.C. §1; and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§15 and 26.

INTRODUCTION

1. This case involves a conspiracy by Defendants from at least August 1, 2006 to the present (“Class Period”) to unreasonably restrain the trade of odd-lots of corporate bonds in the secondary market. Plaintiff and other similarly situated investors (the “Class”) have bought and sold odd-lots of corporate bonds in the secondary market directly from Defendants, who are horizontal competitors. As a result of Defendants’ conspiracy, Plaintiff and the Class paid more when buying, and received less when selling, their corporate bonds, suffering antitrust injury under Section 1 of the Sherman Act, 15 U.S.C. §1.¹

2. The U.S. corporate bond market is among the world’s largest and deepest sources of capital for companies. The corporate bond market has two parts. Companies issue their bonds

¹ Throughout this complaint, the term “bond” is used. Unless the context demonstrates otherwise, the use of the word “bond” should be read to specifically mean “corporate bonds” as opposed to other types of bonds, such as treasuries, municipal bonds, government-sponsored enterprise (GSE) bonds, junk bonds, etc.

into the primary market. In the primary market, bonds are issued in individual offerings of given amounts, known as a “series.” Any given bond in a series is fungible with another in that series. Thereafter, investors trade the bonds in the secondary market. Unlike stocks, which investors trade on exchanges, bond investors in the United States, such as Plaintiff, trade bonds in the secondary market over-the-counter (“OTC”).

3. Within the secondary market, corporate bonds are also categorized based on the size of each bond trade. “Round-lots” consist of any bond trade that is greater than and divisible by \$1 million in par value. “Odd-lots” consist of any bond trade that is less than \$1 million in par value. Because the underlying bonds are fungible, odd-lots of a given underlying bond can be combined into a round-lot of that bond, and a round-lot of a given underlying bond can be broken into odd-lots of that bond. There is no qualitative difference in the underlying bonds comprising odd-lots and round-lots. They both pay the same coupon rate of interest on the same schedule and have the same maturity date.

4. Investors primarily trade either round-lots or odd-lots. Institutional investors, such as pension funds, mutual funds, hedge funds, sovereign funds, insurance companies, and endowments, primarily trade in round-lots. Retail investors primarily trade in odd-lots.

5. In the secondary market, odd-lot bond trades comprise the vast majority of all corporate bond trades by number of trades. For example, in 2017 and 2018, approximately 90% of corporate bond trades were less than \$1 million in size. Corporate bond trades of less than \$100,000 comprise approximately 70% of all trades.

6. In the OTC secondary market, Defendants are market makers for both round-lots and odd-lots of corporate bonds. As market makers, Defendants stand ready to both buy and sell

corporate bonds at any time. To do so, they provide both “bid” prices at which they are willing to purchase bonds and “offer” or “ask” prices at which they are willing to sell bonds.

7. In the OTC secondary market, Plaintiff and the Class are Defendants’ customers. They buy and sell corporate bonds in the secondary market based on the bids and offers shown by Defendants.

8. The difference between the bid price and the offer price is the “bid-offer spread.” By keeping the price at which Defendants buy bonds (the bid) lower than the price at which they sell bonds (the offer), Defendants capture the bid-offer spread as compensation for their market-making activities. As market makers, Defendants prefer wider bid-offer spreads. Defendants wish to buy bonds (at the bid) from Plaintiff and the Class for as little as possible and sell bonds (at the offer) to Plaintiff and the Class for as much as possible. Wider bid-offer spreads increase Defendants’ ability to make profits.

9. In contrast to the Defendants, Plaintiff, and the Class prefer narrower bid-offer spreads. Plaintiff and the Class want to buy for less and sell for more, increasing their ability to make profits when buying or selling bonds.

10. In a competitive market, Defendants compete for Plaintiff’s and the Class’ trading volume. Because bonds within a given series are fungible, Defendants should compete on price. To win trading volume, Defendants should raise their bid prices and/or lower their offer prices. In other words, competition should narrow the bid-offer spreads Defendants show to Plaintiff and the Class.

11. Despite the high number of odd-lot trades and the fact that they are qualitatively identical to round-lot bonds, odd-lot investors, such as Plaintiff and the Class, persistently pay bid-offer spreads that are 25% to 300% wider than investors trading in round-lots of the same

underlying bonds. Odd-lot investors therefore face substantially higher trading costs per bond than round-lot investors. Defendants dealing in odd-lot transactions reap higher compensation from these wider bid-offer spreads.

12. No reasonable economic justification explains the magnitude of the pricing disparity between odd-lot and round-lot trades. In a truly competitive market, multiple factors (such as advancements in technology and the desire to secure a greater share of the growing odd-lot market) suggest that Defendants should be narrowing their bid-offer spreads on odd-lots towards parity with the already profitable round-lot levels, in an effort to divert trades away from dealer competitors. Narrowing bid-offer spreads for odd-lot trades towards spreads for round-lots is in the unilateral economic interest of each Defendant, which could individually profit by increasing its share of the market for odd-lot trading in U.S. corporate bonds. That odd-lot bid-offer spreads have not and are not converging towards the same level as round-lot bid-offer spreads is evidence that corporate bond dealers are acting anticompetitively and against their unilateral interest.

13. Other evidence also supports the conclusion that the wider odd-lot bid-offer spreads paid by Plaintiff and the Class are the result of an anticompetitive, horizontal agreement among Defendants to restrict competition. First, Defendants have a common motive to conspire in the highly concentrated secondary market of OTC trading in corporate bonds. Second, there exists a high level of interfirm communication and opportunities for such communication amongst Defendants to realize higher spreads on odd-lot bond transactions than those for round lots. Third, wider bid-offer spreads for odd-lots persist even as advances in electronic trading (as seen in other markets) should have made trading cheaper and easier for Defendants. Fourth, odd-lot bonds offered in international bond markets with lower volumes and less liquidity than the U.S. market

do not trade at wider spreads compared to round-lots. There is no explanation – other than concerted action by Defendants to maintain wider odd-lot spreads, and thus higher profits for themselves collectively – for why odd-lot spreads for corporate bonds issued and traded in the United States have not converged toward round-lot spreads.

14. As further evidence of Defendants’ anticompetitive conduct, Defendants have frustrated advances in the marketplace that would have improved pricing and increased pre-trade transparency for odd-lot investors. According to a report by Greenwich Associates LLC based on interviews with Defendants, “the top five dealers by market share saw the current e-trading evolution as more of a threat than an opportunity. . . .” Bloomberg recently noted that in U.S. corporate bond trading “[t]here aren’t any exchanges and everything is negotiated, which gives dealers the upper hand when it comes to where the market is for a given bond . . . enabl[ing] the biggest firms, like JPMorgan and Goldman Sachs, to keep a stranglehold on the market. . . . The bond market is littered with startups that have tried – and failed – to loosen Wall Street’s grip on bond trading and make it more efficient.”²

15. Defendants have acted in concert against such market evolutions through group boycotts of electronic platforms that would increase pre-trade pricing transparency for retail investors dealing in odd-lots, and they have colluded to shut down odd-lot-focused electronic trading platforms that might have afforded access to retail investors whose trading would have lessened the price disparity between retail odd-lot transactions and round-lot transactions.

16. Defendants’ collusion was facilitated by their joint ownership and control of 46% of TradeWeb, an electronic platform in which all named Defendants have invested, and which

² Nick Baker and Matthew Leising, *Ex-Goldman Exec Pushes ‘70s Fix for Bond Market’s Big Problem*, BLOOMBERG (June 25, 2018), <https://www.bloomberg.com/news/articles/2018-06-25/ex-goldman-exec-touts-70s-era-fix-to-bond-market-s-big-problem>.

Defendants foreclosed from use by retail odd-lot investors. Defendants also used TradeWeb during the Class Period as a “stalking horse” to acquire and shut down electronic platforms that would have made bond trading much more transparent and that threatened Defendants’ hegemony as market makers and their ability to derive supracompetitive profits from wider odd-lot bid-offer spreads.

17. Taken together, these allegations, as more fully set forth below, plausibly demonstrate that beginning at least as early as August 1, 2006,³ Defendants agreed to unreasonably restrain competition in the secondary trading market for odd-lots of corporate bonds in the United States. Further, as a direct and proximate result of Defendants’ unreasonable restraint, Plaintiff and the Class suffered harm in the form of artificially higher transaction costs for odd-lot corporate bonds, by way of artificially higher bid-ask spreads, than they would have paid but for Defendants’ antitrust violations. Plaintiff therefore brings this class action alleging a violation of Section 1 of the Sherman Act to obtain relief for herself and the Class.

JURISDICTION AND VENUE

18. The Court has subject matter jurisdiction over Sherman Act claims pursuant to 28 U.S.C. §§1331 and 1337 and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§15 and 26.

19. The Court has personal jurisdiction over Defendants subject to service under Section 12 of the Clayton Act, 15 U.S.C. §22. Defendants’ collusive acts took place, in substantial part, in New York specifically and in the United States generally. These acts were conducted by

³ August 1, 2006 is selected as the beginning of the Class Period because beginning in July 2006, corporate bond trade pricing data was required to be reported by FINRA via the public TRACE system. As discussed further in this complaint, this TRACE data demonstrates that Defendants are not competing on odd-lot bid-offer pricing.

persons and entities subject to the laws of the United States, including New York, as well as other states and territories.

20. Venue is proper in this District pursuant to Sections 4, 12, and 16 of the Clayton Antitrust Act, 15 U.S.C. §§15, 22, and 26, and 28 U.S.C. §1391(b), (c), and (d). One or more Defendant resides, transacts business, is found, or has agents in this District, a substantial part of the events giving rise to Plaintiff's claims arose in this District, and a substantial portion of the affected interstate trade and commerce described herein has been carried out in this District.

21. Defendants' acts were within the flow of, were intended to, and did, in fact, have a substantial effect on the interstate commerce of the United States.

PARTIES

22. Plaintiff Isabel Litovich is a citizen of San Juan, Puerto Rico. Plaintiff Litovich held a client account with Defendant Morgan Stanley, in which she traded odd-lots of corporate bonds (including, specifically, bonds issued by Harrahs Operating Co Inc., CUSIP 413627BM1, purchased on March 25, 2013) during the Class Period at prices that were impacted by Defendants' misconduct and/or in transactions that occurred directly with one or more Defendant, and suffered economic injury as a result of Defendants' misconduct.

23. Defendant Bank of America Corporation ("BAC") is a Delaware corporation headquartered at 100 North Tryon Street, Charlotte, North Carolina 28255. Through its bank and non-bank subsidiaries, BAC, a publicly traded bank holding company, provides a range of financial services and products across the United States. BAC operates four business segments, including Consumer Banking, Global Wealth and Investment Management ("GWIM"), Global Banking, and Global Markets. BAC's Global Markets business segment offers sales and trading services to institutional clients across fixed-income, credit, currency, and equity businesses. Global Markets' activities are executed through BAC's global network of bank and broker-dealer

entities. Among Global Markets' "Core Business Lines" (as defined by Rule 165(d) of Dodd-Frank) is "Global Credit and Special Situations," which is a market-maker in the bonds and loans of corporate issuers whose coverage includes investment-grade issuers in the U.S. BAC's GWIM business provides comprehensive wealth management services to individuals, businesses, and institutions, including a full set of investment management, brokerage, banking, and lending solutions. BAC finances its business using a globally-coordinated funding strategy to provide greater control, consistency, and wider name recognition with investors.

24. Defendant Merrill Lynch, Pierce, Fenner & Smith Inc. ("Merrill Lynch") is a Delaware corporation with its headquarters at One Bryant Park, 1111 Avenue of the Americas, New York, New York 10036, and is an indirect subsidiary of Bank of America Corporation. Defendant Merrill Lynch is a "Material Entity" within BAC, as defined by Rule 165(d) of Dodd-Frank, meaning it is a subsidiary that is significant to the activities of a Core Business Line. Through year-end 2018, Merrill Lynch was the primary U.S. broker-dealer for BAC, serving corporate, institutional, retail through BAC's GWIM, and Global Markets businesses. In May 2019, BAC separated the institutional and retail brokerage business within Merrill Lynch with the retail brokerage business remaining within Merrill Lynch.

25. Defendant BofA Securities, Inc. is a Delaware corporation with its headquarters at One Bryant Park, 1111 Avenue of the Americas, New York, New York 10036, and is an indirect subsidiary of BAC. BofA Securities is a U.S. licensed broker-dealer which, as of May 2019, is responsible for BAC's institutional brokerage business for the GWIM and Global Markets business segments.

26. Defendants BAC, Merrill Lynch, and BofA Securities, Inc. are referred to collectively in this complaint as "Bank of America." Bank of America traded odd-lots of corporate

bonds in the United States with Plaintiff and/or the Class during the Class period, and as a result of the conduct alleged herein, Bank of America charged unlawful, artificial prices to Plaintiff and/or the Class. Bank of America, as used in this complaint, includes all of Bank of America's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

27. Defendant Barclays Capital Inc. ("Barclays") is a Connecticut corporation with its headquarters at 745 7th Avenue, New York, New York 10019. Barclays is a U.S. licensed broker-dealer and is a material U.S. operating entity of Barclays PLC, a public limited company. Barclays engages in investment banking, wealth management, and investment management services in the United States. Through its Credit core business line, Barclays provides market-making for, among other things, corporate bonds.

28. Barclays traded odd-lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, Barclays charged unlawful, artificial prices to Plaintiff and/or the Class. Barclays, as used in this complaint, includes all of Barclays' predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

29. Defendant Citigroup Inc. ("Citi") is a Delaware corporation headquartered at 390-388 Greenwich Street, New York, New York 10013. Citi is a publicly traded registered bank holding company that conducts its business through three segments: Global Consumer Banking, Institutional Clients Group, and Corporate / Other. Citi's three main business lines consists of Banking, Market & Securities Services, and Global Consumer Banking.

30. Defendant Citigroup Global Markets Inc. ("CGMI") is a New York corporation with its headquarters at 390-388 Greenwich Street, New York, New York 10013. It is an indirect

subsidiary of the parent, Citi. CGMI is Citi's primary U.S. licensed broker-dealer. CGMI is a dealer and market-maker in equities, fixed income securities and commodities. It provides a full range of products and services, including, among other things, sales and trading, institutional brokerage to a wide range of corporate, institutional, public sector and high-net-worth clients.

31. Defendants Citigroup Inc., and CGMI are referred to collectively in this complaint as "Citigroup." Citigroup traded odd lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, Citigroup charged unlawful, artificial prices to Plaintiff and/or the Class. Citigroup, as used in this complaint, includes all of Citigroup's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

32. Defendant Credit Suisse Securities (USA) LLC ("Credit Suisse") is a Delaware limited liability company with its headquarters at 11 Madison Avenue, New York, New York 10010. It is a U.S. licensed broker-dealer and the main U.S. operating company of its ultimate parent Credit Suisse Group AG, a global financial holding company. It operates as an investment bank in the United States. Its businesses include securities underwriting, sales and trading, investment banking, private equity, alternative assets, financial advisory services, investment research, and asset management. Credit Suisse is a leading market-maker in private and public debt.

33. Credit Suisse traded odd-lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, Credit Suisse charged unlawful, artificial prices to the Plaintiff and/or the Class. Credit Suisse, as used in this complaint, includes all of Credit Suisse's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

34. Defendant Deutsche Bank Securities, Inc. (“Deutsche Bank”), is a Delaware corporation with its headquarters at 60 Wall Street, New York, New York 10005. It is a full service broker-dealer providing brokerage and investment advisory service, investment banking services and other services. Its main activities include, among other things, fixed income sales and trading and market-making. It is one of two subsidiaries through which its ultimate parent, Deutsche Bank AG, primarily operates in the United States.

35. Deutsche Bank traded odd-lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, Deutsche Bank charged unlawful, artificial prices to the Plaintiff and/or the Class. Deutsche Bank, as used in this complaint, includes all of Deutsche Bank’s predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

36. Defendant The Goldman Sachs Group, Inc. (“Group Inc.”) is a Delaware corporation headquartered at 200 West Street, New York, New York 10282. It is a bank holding company and a financial holding company regulated by the U.S. Federal Reserve System (“Federal Reserve”). It reports its activities in four business segments, including “Investment Banking,” “Institutional Client Services,” and “Investment Management.” Group Inc. raises capital for the company and sends its downstream to its subsidiaries to support their business activities. In turn, Group Inc. depends on dividends, distributions, and other payments from its subsidiaries to fund its obligations.

37. Defendant Goldman, Sachs & Co. LLC (“GS&Co.”) is a New York limited liability company with its headquarters at 200 West Street, New York, New York 10282. It is a direct wholly-owned subsidiary of Group, Inc., and is its principal operating subsidiary in the United States. GS&Co. is a broker-dealer and is responsible for Group Inc.’s Investment Banking,

Institutional Client Services, and Investment Management business in the United States. Through its Institutional Client Services business, GS&Co. provides financial products to its clients and acts as market maker, including in investment grade corporate bonds.

38. Defendants Group, Inc. and GS&Co. are referred to collectively in this complaint as “Goldman Sachs.” Goldman Sachs traded odd-lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, Goldman Sachs charged unlawful, artificial prices to Plaintiff and/or the Class. Goldman Sachs, as used in this complaint, includes all of Goldman Sachs’ predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

39. Defendant JPMorgan Chase & Co. (“JPMorgan Chase”) is a Delaware corporation headquartered at 270 Park Avenue, New York, New York 10017. It is a financial holding company regulated by the Federal Reserve. It reports its activities in five business segments, including “Corporate & Investment Bank” and “Asset & Wealth Management.” JPMorgan Chase issues debt and equity securities in the capital markets and uses those proceeds to fund and support its subsidiaries and their business activities. In turn, JPMorgan Chase depends on dividends, distributions, and other payments from its subsidiaries to fund its obligations.

40. J.P. Morgan Securities LLC (“JPMS”) is a Delaware limited liability company with its headquarters at 270 Park Avenue, New York, New York 10017. JPMS is JPMorgan Chase’s primary U.S. registered broker-dealer and investment banking entity. Through its Corporate & Investment Bank business, JPMS provides financial products to its clients and acts as a market-maker, including in investments grade corporate bonds.

41. Defendants JPMorgan Chase and JPMS are referred to collectively in this complaint as “JPMorgan.” JPMorgan traded odd-lots of corporate bonds in the United States with

Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, JPMorgan charged unlawful, artificial prices to Plaintiff and/or the Class. JPMorgan, as used in this complaint, includes all of JPMorgan's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

42. Defendant Morgan Stanley ("MS") is a Delaware corporation headquartered at 1585 Broadway, New York, New York 10036. MS is a global financial services firm that, through its subsidiaries and affiliates, provides a wide variety of products and services to a large and diversified group of customers and counterparties. MS conducts its three core business lines (Wealth Management, Investment Management, and Institutional Securities Group) through its subsidiaries.

43. Defendant Morgan Stanley & Co., LLC (MS&Co.) is a Delaware limited liability company with its headquarters at 1585 Broadway, New York, New York 10036. It is an indirect, wholly owned non-bank subsidiary of MS and serves as MS's primary institutional broker-dealer in the United States.

44. Defendant Morgan Stanley Smith Barney LLC ("MSSB") is a Delaware limited liability company with its headquarters at 1585 Broadway, New York, New York 10036. It is an indirect, wholly owned non-bank subsidiary of MS and serves as MS's primary retail broker-dealer in the United States.

45. Defendants MS, MS&Co., and MSSB are referred to collectively in this complaint as "Morgan Stanley." Morgan Stanley traded odd-lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, Morgan Stanley charged unlawful, artificial prices to the Plaintiff and/or the Class. Morgan

Stanley, as used in this complaint, includes all of Morgan Stanley's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

46. Defendant NatWest Markets Securities Inc. ("NatWest") is a Delaware corporation with its headquarters at 600 Washington Boulevard, Stamford, Connecticut 06901. It is the primary U.S. broker-dealer of RBS Group plc, a foreign banking organization and financial holding company.

47. NatWest traded odd-lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, NatWest charged unlawful, artificial prices to Plaintiff and/or the Class. NatWest, as used in this complaint, includes all of NatWest's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

48. Defendant Wells Fargo & Co. ("WF&Co.") is a Delaware corporation headquartered at 420 Montgomery Street, San Francisco, California 94104. It is a publicly traded financial holding company. Through its direct and indirect subsidiaries, WF&Co. conducts four core business lines, including "Wholesale Banking" and "Wealth and Investment Management," primarily focusing on the United States.

49. Defendants Wells Fargo Securities LLC ("WFS") is a Delaware limited liability company with its headquarters at 420 Montgomery Street, San Francisco, California 94104. It is an indirect, wholly owned non-bank subsidiary of WF&Co. and serves as WF&Co.'s primary institutional broker-dealer in the United States.

50. Defendant Wells Fargo Clearing Services, LLC ("WFCS") is a Delaware limited liability company with its headquarters at One North Jefferson Avenue, St. Louis, Missouri 63103.

It is an indirect, wholly owned non-bank subsidiary of WF&Co. and serves as WF&Co.'s primary retail broker-dealer in the United States.

51. Defendants WF&Co., WFS, and WFCS, are referred to collectively in this complaint as "Wells Fargo." Wells Fargo traded odd-lots of corporate bonds in the United States with Plaintiff and/or the Class during the Class Period, and as a result of the conduct alleged herein, Wells Fargo charged unlawful, artificial prices to Plaintiff and/or the Class. Wells Fargo, as used in this complaint, includes all of Wells Fargo's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

AGENTS AND CO-CONSPIRATORS

52. Defendants' agents, including their officers, employees, or other representatives, ordered, authorized, or performed the acts alleged in this complaint on Defendants' behalf in the normal course of their duties as Defendants' agents engaged to manage and operate Defendants' businesses or affairs.

53. Each Defendant acted as the principal, agent, or partner for each other Defendant with respect to the acts, violations, and common course of collusive conduct alleged herein.

54. Persons not named as Defendants may have committed acts in furtherance of the unlawful antitrust conspiracy alleged herein, such that they may be liable as co-conspirators. Because the record of their conduct lies within their control or the control of the Defendants, Plaintiff is unable at this time to identify any such co-conspirators by name.

FACTUAL ALLEGATIONS

I. BONDS: A PRIMER

55. Bonds are debt similar to a loan or an IOU. The issuer, such as a corporation, issues bonds to raise money for any number of purposes, including augmenting cash, refinancing existing debt, or fund capital investments. The lenders, also known as bondholders, receive from the issuer

scheduled payments of a specified rate of interest (the “coupon rate”) during the life of the bond, as well as the promise to repay the principal (the “face value” or “par value” of the bond) when it matures after a set period of time (the “maturity date”). Bonds allow their issuers to attract a large number of lenders on equal terms in an efficient manner. In the secondary market, the price of a bond is expressed as a percentage of the bond’s par value. Thus, a bid/offer spread of 98/100 means that the bank is willing to buy a bond at 98% of the bond’s par value, and is willing to sell the bond at 100% of the bond’s par value.

56. Corporate bonds have a number of attractive benefits to investors. The bond’s coupon rate provides a predictable income stream of interest payments to bondholders. Upon maturity, the bondholder investor receives back the entire principal amount loaned to the corporation. Bonds are generally regarded to be less volatile in their price movements than many other financial instruments. Bonds are also considered safer than stocks, insofar as they are debt obligations with set payment schedules, and corporate bondholders enjoy priority over shareholders with respect to claims on the company’s assets in the event of bankruptcy.

57. Like any investment, corporate bonds have risks. These bonds have credit risk and prices could move higher or lower based on the market perception of the issuers’ claim-paying ability. Bonds also have interest rate risk. Bond prices will vary inversely with current interest rates because rising interest rates make the bond’s coupon rate less attractive. To sell the older bond with a lower interest rate, the investor may have to sell it at a discount. Bonds also have liquidity risks because investors may not be able to find a market to buy or sell the bond. Bonds have call or pre-payment risk because a bond issuer may retire a bond before its maturity date, depriving the investor of receiving the coupon rate until maturity (bonds may be retired when

interest rates are declining, much like a homeowner might refinance a mortgage to benefit from a lower interest rate).

58. The popularity of corporate bonds as an investment vehicle is evidenced by the monetary value of outstanding bonds. According to the Securities Industry Financial Markets Association (“SIFMA”), \$9.598 trillion in U.S. corporate bonds were outstanding as of the third quarter of 2019.⁴ In 2019, average daily trading volume of publicly traded U.S. corporate bonds was \$33.9 billion.⁵ As further set forth in the chart below, both the volume and value of corporate bond trading has steadily increased between 2013-2018:

Corporate Bonds Annual Trading Volume Data

	2013	2014	2015	2016	2017	2018
Number of trades	10,773,767	10,328,658	10,797,691	12,837,632	13,857,643	15,490,337
Par Amount (\$ Millions)	\$6,174,087	\$6,739,906	\$ 7,047,997	\$ 7,530,079	\$ 7,764,356	\$7,910,259

59. The size of a bond trade has no impact on and is irrelevant to the terms of the underlying bond itself. For any individual corporate bond, the characteristics of that bond – its par value, coupon rate, maturity date, credit rating, type of interest payments, and risks – are identical regardless of whether an investor is trading in odd-lots or round-lots in that particular bond.

II. CORPORATE BONDS ARE TRADED OVER-THE-COUNTER (“OTC”)

60. Investors trade almost all corporate bonds in the United States over-the-counter, or OTC. In contrast, investors trade almost all other equities, such as stocks, on exchanges. There are significant differences between OTC and exchange trading that are relevant for purposes of

⁴ <https://www.sifma.org/resources/research/us-bond-market-issuance-and-outstanding/>.

⁵ <https://www.sifma.org/resources/research/us-bond-market-trading-volume/>.

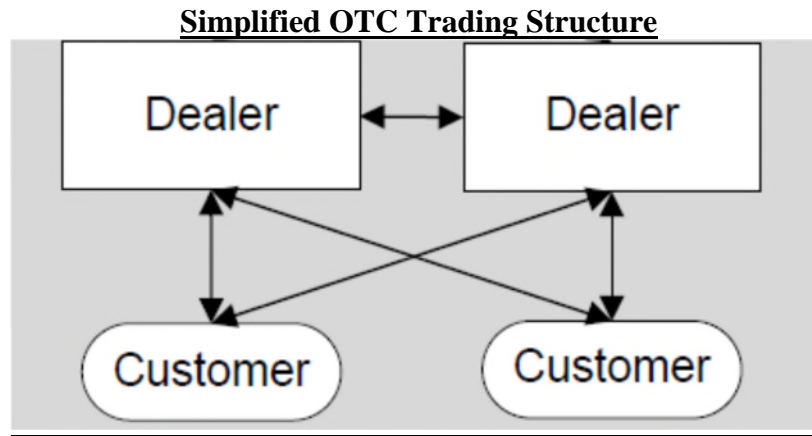
this action, particularly the costs and fees paid by traders, and the degree of transparency of information available to investors before their trades are placed and completed.

61. On an exchange-based market like the NYSE, investors can trade directly with each other, through brokers, by buying or selling a given security via the exchange at a price reflecting the immediately collected and disseminated National Best Bid and Offer (“NBBO”). The brokers who manage the exchange platforms through which these investors trade receive a commission from the investors that is disclosed in advance of trading.

62. For example, if Investor A wished to buy \$10,000 in XYZ company stock traded on the New York Stock Exchange, she could log on to her brokerage account (E-Trade, Scottrade, TD Ameritrade, etc.), see the live-quoted NBBO price for XYZ’s stock, and decide whether to buy \$10,000 of shares at that price. If she decided to buy, she would buy directly from another entity (another retail investor, a bank, an institutional investor, or the company itself) willing to sell at that NBBO price. Investor A’s fees for the transaction would be known in advance as well (some brokerages allow a certain number of “free” trades based on the regular fees you pay; others have set per-trade fees).

63. Exchange-based markets are generally transparent. Investors are informed of the fees/costs they will pay before they trade, pay the same fees regardless of trade size (absent rare exceptions for particularly large orders which may be assessed a *higher* transaction cost due to increased risk), receive the best price then available on the exchange for the security they are trading, and are able to provide liquidity directly to the market without the need for intermediary dealers. Thus, exchanges provide a centralized market for trading, and a centralized information source for the prices offered, and the prices at which trades are transacted.

64. OTC trading works differently because all market-making – and thus, all trading – flows through individual dealers. There is no NBBO price in OTC trading. Instead, investors who want to buy or sell corporate bonds request a bid/offer quote (a “request-for-quote” or “RFQ”) from a specific dealer or set of dealers and must decide, based solely on the extent of their own information gathering, whether to transact at an offered spread.



65. By way of illustration, assume Investor A requested a quote to purchase and Investor B requested a quote to sell an equal volume (100 bonds) of a corporate bond via Dealer X with a par value of \$1,000 on a given day. Under these circumstances, Dealer X’s transaction costs and profit would equal the difference between the price at which it bought the corporate bond from Investor B (its bid, expressed as a percentage of the par value) and the price at which it sold the corporate bond to Investor A (its offer, again expressed as a percentage of the par value), multiplied by the par value and multiplied by the number of bonds traded.

66. Thus, if Dealer X responded to the investors’ respective RFQs on a “98 bid/100 offer” spread, it would have purchased those 100 XYZ corporate bonds from Investor B at a price of \$98,000 (98% bid times \$1,000 par value times 100 bonds) and sold the 100 XYZ corporate bonds to Investor A at a price of \$100,000 (100% offer times \$1,000 par value times 100 bonds). Dealer X’s profit and transaction costs would represent the \$2,000 difference, or the bid-offer

spread expressed as a percentage (2%) multiplied by the par value of the underlying XYZ corporate bond (\$1,000 par value) multiplied by the number of bonds traded (100 bonds).

67. RFQs to obtain a bid or offer price can be made in several ways. The RFQ could be placed electronically via a dealer's proprietary bond-trading system; via Bloomberg message to dealers who had previously quoted non-binding bid-offer spreads on that bond to see what prices they would be willing to trade at now; via a multi-dealer trading platform such as MarketAxess or TradeWeb (although these are open only to institutional investors); or via phone by calling dealers directly (Bloomberg reports that 80% of U.S. corporate bond trades are still done by phone or chat).

68. There is no requirement that a dealer respond to a RFQ, there is no one platform on which all dealers trade and respond to RFQs, and there is no centralized source of information for all available prices. Hence, there is no guarantee that an investor is getting the best price possible because the quality of a quote is entirely dependent on which dealers receive and respond to the RFQ.

69. Once investors select a quote in response to their RFQ, they execute the trade with that dealer. There are no disclosed dealer-imposed transaction costs to the investor, because all transaction costs are subsumed within the dealer's bid-offer spread between the (lower) price at which they buy the bond and the (higher) price at which they sell the bond.⁶

⁶ On May 14, 2018, the Securities and Exchange Commission ("SEC") enacted amendments to FINRA Rule 2232 (Customer Confirmation) that requires member firms to disclose additional transaction-related information to retail customers for trades in certain fixed income securities. Specifically, amended Rule 2232 requires a member to disclose the amount of mark-up or mark-down it applies to trades with retail customers in corporate or agency debt securities if the member also executes an offsetting principal trade in the same security on the same trading day.

70. Where an individual dealer, rather than an exchange, acts as the transaction intermediary, the dealer can charge whatever mark-up or commission it chooses on the transaction. The customer, who receives only the final quote, cannot discern what the dealer is charging for its role as transaction intermediary.⁷ The lack of price transparency to investors in OTC markets stands in stark contrast to the full transparency on exchanges.

71. Thus, for example, if Investor A wanted to buy \$10,000 of a corporate bond issuance by company XYZ, Investor A would direct her wealth management advisor to obtain an RFQ to purchase \$10,000 of that bond. The wealth management advisor, pursuant to the best execution requirements of Rule 5310 of the Financial Industry Regulatory Authority (“FINRA”), would obtain a quote or quotes for that purchase from a dealer or dealers and present the best priced quote to Investor A. If Investor A decided to buy at that price, she would buy from the dealer, and the markups and commissions that the dealer included in that price (representing the dealer’s transaction costs and profit) would be unknown to Investor A.⁸ Instead, the dealer would collect its transaction costs and profit out of the spread between the “offer” price it had accepted from Investor A to sell the \$10,000 in bonds, and the “bid” price it had paid to either the original issuer or a different Investor B for the \$10,000 in par value of the bond. The amount of these transaction costs and profit to the dealer would be entirely opaque to Investor A (and Investor B, for that matter).

72. The lack of pre-trade transparency in the OTC market for U.S. corporate bonds works entirely to the advantage of dealers like Defendants. As Bloomberg has noted “the debt

⁷ *Id.*

⁸ *Id.*

market's lack of transparency . . . has been hugely profitable for the biggest dealers.”⁹ As described further below, Defendants have sought to maintain this lack of transparency as part of their anticompetitive efforts to maintain significantly better prices for them, and worse prices for the investors, on retail investor odd-lot transactions.

III. ROUND-LOT VS. ODD-LOT TRADING

73. Round-lot transactions, given their size, almost always involve institutional investors – sophisticated, repeat participants in the market who are willing and able to shop around for the best pricing. As a result, they are better informed than odd-lot or retail investors, who typically trade infrequently.

74. As a result, Dealers responding to an RFQ for a round-lot know that they are dealing with an institutional investor who is likely to be: (a) price sensitive; (b) willing and able to obtain multiple quotes from other dealers; (c) knowledgeable regarding the market and pricing due to their repeated role in trading; and (d) in control of a large book of business that offers additional trading opportunities in the future if the dealer is competitive in regard to pricing. Responding to these incentives, dealers provide quotes for round-lots at their best competitive pricing, keeping their spreads narrow, in the hope of securing this (and other, future) business from the round-lot institutional investor – a process entirely consistent with economic and market microstructure theory.

75. By contrast, round-lots are almost never traded by retail investors, for the simple reason that retail investors do not tend to have positions in one individual underlying bond in excess of \$1 million. As a result, odd-lot RFQs are more likely to involve less sophisticated retail

⁹ Baker and Leising, *supra* note 2.

investors. Indeed, as the size of an odd-lot trade decreases, it is more likely to be conducted by or on behalf of a retail investor.

76. Defendants as dealers in the secondary market that are trading OTC are therefore able to use the size of a given RFQ for a corporate bond transaction (round vs. odd, and even within odd-lots the relative size of the odd-lot) as one means to price discriminate between institutional and retail investors.

77. While some price discrimination may be expected between odd-lot and round-lot investors because round-lot investors are more likely to be repeat customers who are better-informed and more sophisticated, there is no explanation consistent with a healthy, competitive market for why the differential in bid-offer spreads between odd-lots and round-lots has persisted to the degree it has and has not shown any meaningful improvement, particularly when factoring in technological changes and growth in the number and volume of odd-lot trades that should (in a competitive market) be driving this differential towards parity. Instead, as shown below, the bid-offer differential has been artificially widened by collusive acts among the Defendants, enabling them to charge odd-lot investors (primarily retail investors) more than what they would be charged in a competitive market free of collusion, and more than the charges paid by institutional investors in the same underlying bonds.

IV. DEFENDANTS CHARGE INVESTORS IN ODD-LOTS OF CORPORATE BONDS ADVERSE PRICING COMPARED TO ROUND-LOT INVESTORS

A. Academic Research Shows that Dealers Charge Investors in Odd-Lots of Corporate Bonds Consistently Worse Bid-Offer Spreads than Round-Lot Investors

78. Research on odd-lot versus round-lot trading in the corporate bond markets has established that dealers charge odd-lot investors higher prices when they buy and pay them lower prices when they sell than round-lot investors in the same underlying bonds. This “adverse

pricing” results in wider bid-offer spreads, and therefore higher costs, for odd-lot investors than round-lot investors, at a statistically significant magnitude.¹⁰ As the Financial Economists Roundtable has stated, the corporate bond markets represent a situation where “[p]erversely, these transaction costs rise as the trade size decreases” and “a relatively small trade of \$50,000 may cost, on a percentage basis, five or 10 times more than a large trade arranged by a financial institution.”¹¹

79. Beginning in July 2006, FINRA’s Trade Reporting and Compliance Engine (“TRACE”) system began documenting all corporate bond transactions and making all such data available to the public. Dealers in corporate bonds were required by FINRA to report certain anonymous trade data to the TRACE program (including par value size, price, whether a transaction was a purchase or a sale, and information regarding whether the counterparty to the deal was a fellow dealer or a customer), with all of the collected data being made publicly available. TRACE thus provided greater information to the public, including retail investors, and researchers in corporate fixed-income instruments regarding how OTC trading in the secondary market for corporate bonds worked, pricing trends in the market, and other transactional data.

80. TRACE also should have created increased competitive pressure amongst Defendants for both odd-lot and round-lot transactions, as greater transparency and disclosure of trading prices in the market should have put more pressure on Defendants in a truly competitive market to improve their bid-offer prices.

¹⁰ For purposes of this complaint, Plaintiff is using the term “adverse pricing” or “adverse prices” to describe the scenario by which dealers such as Defendants offer lower bid prices to buy bonds from odd-lot investors, and higher prices to sell odd-lots of bonds to investors. As a result of such “adverse pricing,” odd-lot investors are disadvantaged in any U.S. corporate bond transaction – buy or sell – with dealers such as Defendants.

¹¹ Larry Harris, Albert S. Kyle, Erik R. Sirri, *Statement of the Economists Roundtable, April 2015: The Structure of Trading in Bond Markets*, at 6, FINANCIAL ANALYSTS JOURNAL (November/December 2015).

81. But better bid-offer pricing for odd-lot transactions never materialized. Building primarily off of TRACE data, many research studies have been undertaken by fixed income experts, which have specifically examined the impact of trade size (odd vs. round-lot) on the trading costs paid by investors. The research is peer-reviewed, replicable, and based on reliable data. Within this body of research, an astonishing consensus has emerged: odd-lot trades cost significantly more to transact than larger round-lot trades for the corporate bond market in the United States.

Study	Time Period	Summary of Cost Findings	Increased % Cost of Odd vs. Round
Adrian, <i>et al.</i> (2017)	2002-2015	Bid-offer spreads for odd-lots are approximately double round-lot spreads	100%
Bessembinder, <i>et al.</i> (2017)	2014-2016	One-way (<i>i.e.</i> , one purchase or sale, or half of the bid-offer spread) transaction costs averaged 62 basis points for micro lots (under \$100k); 29 basis points for odd-lots (between \$100k and less than \$1 million); 20 basis points for round-lots (\$1 million to less than \$10 million); and 16 basis points for block trades (\$10 million or more)	45%-210%
Biswas, <i>et al.</i> (2015)	2009-2014	One-way transaction costs for bonds under \$100k in par value was 48.5 basis points; for bonds over \$2 million in par value, transaction costs were just 10 basis points	385%

Study	Time Period	Summary of Cost Findings	Increased % Cost of Odd vs. Round
Ciampi & Zitzewitz (2010)	2008-2009	Mean bid-offer spread for all corporate bonds below \$100k was 207 basis points, compared to 112 basis points for all trades between \$100k-499k; 60 basis points for all trades between \$500k-999k; 30-36 basis points for trades above \$1 million	67%-590% (corporate)
Edwards, <i>et al.</i> (2007)	2003-2005	One way transaction costs averaged 46-75 basis points for micro lots (under \$100k); 14-34 basis points for odd-lots (\$100k-less than \$1 million); and between 4-9 basis points for round-lot trades (\$1 million and above)	55%-1775%
Feldhutter (2012)	2004-2009	Average round-trip transaction costs for odd-lots were between 21-54 basis points (depending on trade size), compared to 19 basis points for round-lot trades	10%-184%
Harris (2015)	2014-2015	Mean effective half-spread of 77.3 basis points for micro lot trades below \$100k; 40.2 basis points for odd-lot trades between \$100k and less than \$1 million; 31.1 basis points for round-lot trades between \$1 million and less than \$5 million; and 30.2 basis points for block trades of \$5 million or more	29%-156%

Study	Time Period	Summary of Cost Findings	Increased % Cost of Odd vs. Round
Hendershott & Madhavan (2015)	2010-2011	Average one-way transaction costs for micro lot trades below \$100k were 87.9 basis points for voice trades and 22 basis points for electronic trades; 46.7 basis points for voice trades and 13.8 basis points for electronic trades for odd-lots of \$100k to less than \$1 million; 15 basis points for voice trades and 10.5 basis points for electronic trades for round-lots of \$1 million to less than \$5 million; and 11.2 basis points for voice trades and 8.9 basis points for electronic trades for block trades of \$5 million or more	211%-685% (voice) 31%-147% (electronic)
Ritholtz (2016)	2003-2015	Average bid-offer spreads of 104 basis points for micro lot trades below \$100k; 28 basis points for odd-lot trades between \$100k and less than \$1 million; and 13 basis points for round-lot and block trades of \$1 million or more	115%-700%
White (2017)	2005-2017	Bid-offer spreads for retail corporate bond transactions (transactions less than \$100k) are over 50 basis points higher than that of institutional transactions (transactions greater than \$100k)	N/A
Zitzewitz (2010)	2008-2010	One-way transaction costs averaged 132 basis points for trades less than \$100k; 44 basis points for transactions over \$500k	200% (increase for trades under \$100k vs. trades over \$500k)

82. Collectively, these studies show that odd-lot investors in corporate bonds pay average transaction costs (represented by the bid-offer spread) that are between 10% (Feldhutter) to as much as 1775% (Edwards) greater than round-lot investors. In dollar terms, using the most recent available (and relatively conservative) analysis by Bessembinder (2017) estimating the one-way (*i.e.*, just for a single purchase or sale) transaction costs for corporate bonds, a \$700,000 odd-lot purchaser or seller would pay \$2,030 ($\$700,000 * 29$ basis points, or 0.0029) in transaction costs, whereas an investor purchasing or selling a \$1 million round-lot would pay \$2,000 ($\1 million * 20 basis points, or 0.0020). Although the dollar amounts for the two transactions are almost the same, the *percentage* is not: 0.29% for the odd-lot bond versus 0.20% for the round-lot bond. In a truly competitive market where dealers competed and drove down the odd-lot pricing to the same level as round-lots – 0.20% in this case – the \$700,000 odd-lot investor would pay in absolute dollars only \$1,400 – a difference of \$630 that the dealers are currently able to impose on their odd-lot counterparties.

83. The disparity in transactions costs becomes even more inequitable for retail odd-lot investors trading in smaller amounts, demonstrated by comparing the total costs paid by such investors for trading in the same volume of bonds as one round-lot trade. For example, a retail investor purchasing \$50,000 in a given corporate bond would pay \$310 ($\$50,000 * 62$ basis points, or 0.0062) in transaction costs according to Bessembinder's model. This means 20 retail investors trading a total of \$1 million in par value in corporate bonds in \$50,000 increments would pay a total of \$6,200 in transaction costs, or 3.1 times as much as the \$2,000 a single, institutional \$1 million round-lot investor would pay.

84. The impact of this adverse pricing for odd-lot transactions, when carried through to the entirety of the market, costs odd-lot investors billions of dollars annually.

85. For instance, the U.S. corporate bond market in 2018 had \$7.91 trillion in annual trading volume by par value, and approximately 18% of this par value volume, or \$1.4238 trillion, was estimated to be in odd-lots. Using Bessembinder's estimates, the total transaction costs for this portion of the market at 29 basis points was \$4.13 billion ($\$1.4238 \text{ trillion} * 0.0029$); if this portion instead traded at the 20 basis point transaction cost Bessembinder found for round-lots, the total transaction costs would be just \$2.85 billion ($\$1.4238 \text{ trillion} * 0.0020$). The difference, or \$1.281 billion, is a conservative measure of the supracompetitive transaction costs in 2018 alone.

B. Expert Analysis Confirms that Dealers Charge More to Perform Odd-Lot Transactions than Round-Lot Transactions Even Where They Carry No Inventory Risk

86. Plaintiff also engaged her own expert to analyze corporate bonds trading data. Plaintiff's expert analyzed the transactions costs for Riskless Principal Trades ("RPT") in the U.S. corporate bond market from January 2006 to December 2017 across four trade sizes: (1) less than \$50,000; (2) \$50,001 to \$100,000; (3) \$100,001 to \$1,000,000; and (4) greater than \$1,000,000.

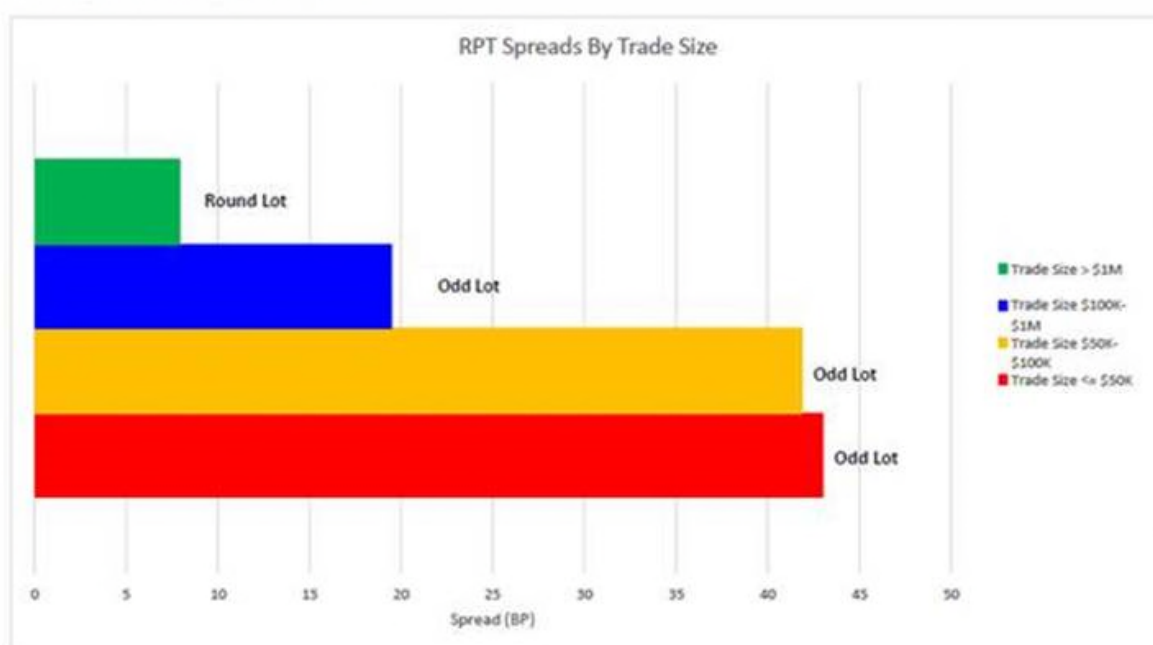
87. In a RPT, the dealer simultaneously arranges both the purchase and sale of the bond. That is, the dealer does not experience any inventory risk if she acts merely as a broker matching the buyer with the seller because the trade does not impact the dealer's portfolio at all.

88. In the analysis, RPTs are defined as buy and sell trades that occur almost simultaneously – *i.e.*, within one minute of each other. The analysis focused on trades in which the trade amount is the same for both the purchase and sale transaction. Thus, the dealer does not have any mismatch in amounts which may cause inventory risk and could contribute to the bid-ask spread. Since trade size is matched upon inception of the buy/sell transaction, there should be no difference in transaction costs across RPTs of different trade sizes. *Of special relevance to this case, there should be no difference in the transaction costs in RPTs for round-lot versus odd-lot RPTs.*

89. The analysis found the opposite. It found economically and statistically significant differences in transaction costs for round-lot and odd-lot trades. The analysis shows that dealers charge considerably higher transaction costs for odd-lot RPTs when compared to round-lot RPTs, even when dealing with larger odd-lot transactions. The following chart shows that the transaction costs for smaller odd-lot RPTs (less than or equal to \$100,000 in size) is around 42 basis points, while larger odd-lots (over \$100,000 but less than \$1 million) have transaction costs of just under 20 basis points. By comparison, round-lot transactions equal to or greater than \$1 million have transaction costs of under eight basis points:

Odd Lots
RPT Analysis
RPT Average Spreads by Trade Size

Chart 1



Notes & Sources:

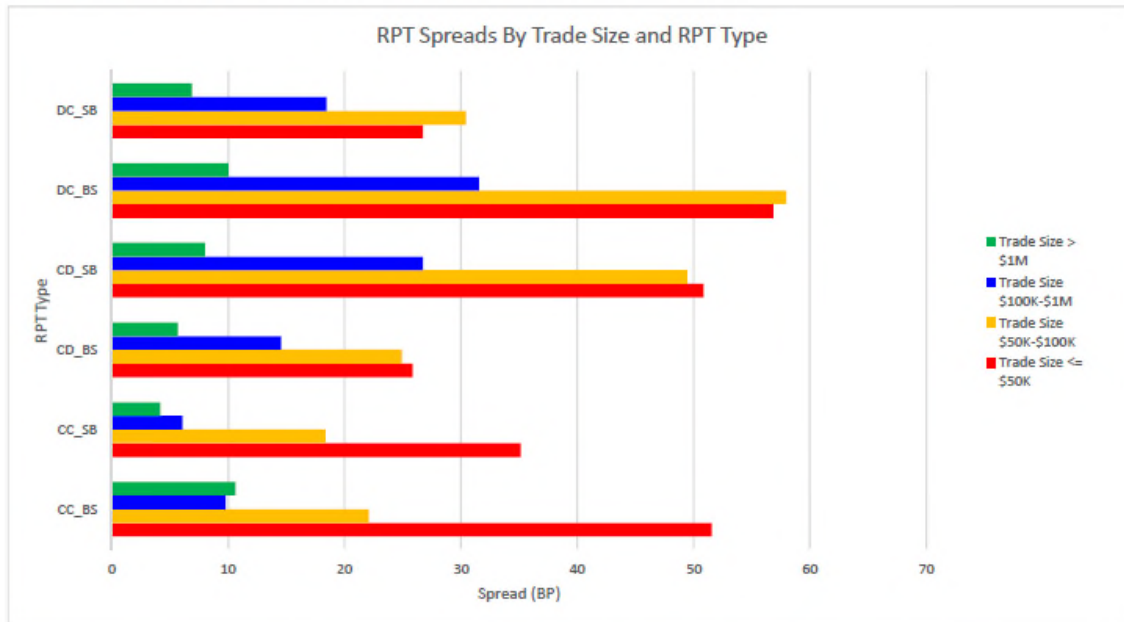
FINRA's Enhanced TRACE bond trading data: enhanced-time-and-sales-non-cusip-2006-01-03.txt - enhanced-time-and-sales-non-cusip-2017-12-29.txt

90. The analysis also found considerably higher transaction costs for odd-lot RPTs when compared to round-lot RPTs when broken down by RPT type. The different types relate to

timing and sequencing of the trades, which are described in detail at the bottom of Chart 2, which summarizes these results:

Odd Lots
RPT Analysis
RPT Average Spreads by Trade Size and RPT Type

Chart 2



Notes & Sources:

FINRA's Enhanced TRACE bond trading data: enhanced-time-and-sales-non-cusip-2006-01-03.txt - enhanced-time-and-sales-non-cusip-2017-12-29.txt

Definitions of field headers:

CC_BS	Customer to Customer crossing RPTs where the dealer first buys from the customer and then sells to another customer.
CC_SB	Customer to Customer crossing RPTs where the dealer first sells to the customer and then buys from another customer.
CD_BS	Customer to Dealer normal RPTs where the dealer first buys from the customer and then sells to another dealer.
CD_SB	Customer to Dealer normal RPTs where the dealer first sells to the customer and then buys from another dealer.
DC_BS	Dealer to Customer normal RPTs where the dealer first buys from another dealer and then sells to the customer.
DC_SB	Dealer to Customer normal RPTs where the dealer first sells to another dealer and then buys from the customer.

91. The results shown in Chart 2 are consistent with anticompetitive practices in the corporate bond market that limit the free flow of information to non-dealer customers, thereby increasing retail odd-lot transaction costs.

92. Consistent with this conclusion is the finding that transaction costs are substantially higher when a retail customer initiates a sale as compared to retail customer purchase. Customer sales may be motivated by liquidity needs, and therefore dealers may have greater ability to exploit their monopoly power to drive up transaction costs relative to customer purchases.

93. Because these are RPTs, inventory risk cannot explain the differential in bid-ask spreads between odd-lot and round-lot transactions. The economically and statistically significant RPT transaction cost differentials instead are strong evidence of collusion by the Defendants.

V. THE ADVERSE PRICES CHARGED BY DEFENDANTS FOR ODD-LOT BOND TRANSACTIONS ARE NOT ECONOMICALLY JUSTIFIED

A. Defendants Are Acting Against Their Unilateral Self-Interest in Charging Adverse Prices for Odd-Lot Bond Transactions

94. No legitimate economic justifications explain the magnitude of adverse pricing for odd-lots of corporate bonds versus round-lots of the same underlying bonds.

95. The costs to Defendants for actual transmission and trading execution is, on information and belief, the same whether the Defendants are dealing in odd-lots or round-lots of corporate bonds. The round-lot bid-offer differentials charged by Defendants for their market-making function in corporate bonds presumably suffices to cover the costs incurred by Defendants and to realize an adequate profit.

96. The existence and persistence of significantly wider spreads for odd-lot corporate bond trades than for round-lot trades (as demonstrated in the research summarized above) is itself evidence that Defendants are acting against their unilateral interest by failing to compete on pricing for odd-lot bonds. The magnitude of adverse pricing for odd-lots cannot be the result of legitimate, individual economic decisions given that round-lot prices for the same bonds are substantially lower yet still profitable. In a competitive market untainted by collusive conduct, any individual Defendant could easily narrow its odd-lot spreads toward greater parity with round-lot spreads while making a profit, and thereby capture a greater percentage of the total market in odd-lot trading at still profitable round-lot spreads.

97. Indeed, FINRA Rule 5310 would assist Defendants in seizing greater odd-lot market share if they provided more competitive odd-lot spreads. Under Rule 5310, FINRA

members (such as wealth management advisors representing retail investors in bond transactions) have a duty to “use reasonable diligence to ascertain the best market for the subject security and buy or sell in such market so that the resultant price to the customer is as favorable as possible under prevailing market conditions.” Thus, any individual Defendant who offered better pricing for odd-lots would, given the FINRA Rule 5310 best execution requirements, eventually succeed in winning market share from any Defendants who refused to offer more competitive odd-lot pricing.

98. That adverse pricing for odd-lots continues even as FINRA Rule 5310 requires members to seek best pricing for customers suggests that responsibility for higher odd-lot pricing lies not with retail customers or their wealth management advisors (since FINRA Rule 5310 presumably requires customers’ wealth management advisors to seek out best pricing), but rather is a direct result of Defendants’ conspiracy to suppress competition in odd-lot pricing.

B. The Adverse Pricing of Bond Odd-Lots Is Not Explained by Limitations in Liquidity

99. Odd-lots are not only actively traded – as discussed earlier, odd-lots in corporate bonds represent approximately 90% of daily trades by number of trades, and approximately 18% of total trading volume – but the number and volume of odd-lot trades have grown since 2006. Given the over \$7 trillion size of the annual trading market in U.S. corporate bonds, there is certainly enough demand and activity in odd-lot trades to suggest that lack of liquidity or trading activity is not the explanation for odd-lot adverse pricing.

100. Indeed, “many bonds trade as actively as do small and some mid-cap stocks,”¹² and the disparity between odd-lot transaction costs and round-lot transaction costs persists within the

¹² Larry Harris, *Transaction Costs, Trade Throughs and Riskless Principal Trading in the Corporate Bond Market* (Oct. 22, 2015).

same underlying bonds, regardless of how actively they trade. If a general lack of activity or liquidity in a specific corporate bond were the cause of higher transaction costs, the effect would be felt by both odd-lot investors and round-lot investors in that bond.

101. In addition, foreign corporate bond markets have successfully reduced (if not eliminated entirely) any differential in pricing between round-lots and odd-lots, which contradicts any suggestion that liquidity or trading activity (or any other legitimate economic force) is the cause of odd-lot adverse pricing in the United States. The success of these foreign markets in reducing and/or eliminating entirely any adverse pricing for odd-lots suggests that the adverse pricing in the U.S. corporate bond market is not the result of unilateral conduct, but rather collusive conduct by Defendants.

102. In Israel, for example, the Tel Aviv Stock Exchange (“TASE”) operates a corporate bond exchange that began operations in 1953. Banks and brokerage firms with membership on the exchange provide their clients with online access to the exchange where they can submit orders, trade anonymously, and view the status of an online order book that is updated in real-time.

103. The TASE bond exchange is much smaller than the U.S. corporate bond market. TASE’s corporate bond market is only 1% of the American corporate market – \$80 billion vs. \$7.48 trillion – and is quite isolated, with foreign entities holding only 0.9% of all corporate bonds. However, as reported by Abudy and Wohl (2017), despite TASE’s smaller size and isolation, the TASE bond exchange is “a lively market with many transactions per bond-day, very little off-exchange trading and low spreads: the average transaction half spread is 0.078% [or 7.8 basis points]. This figure is much lower than the comparable figures in the U.S., especially for ‘retail size’ transactions [which Abudy and Wohl define as transactions by investors with less than \$559,000 in all TASE securities].” The Israeli corporate bond market has better pricing for odd-

lot sized transactions than the United States market, given that the 7.8 basis point transaction cost Abudy and Wohl calculate for the average TASE bond exchange is lower even than Bessembinder's (2017) 20 basis points transaction cost for round-lots.

104. The Italian bond markets likewise function without forcing odd-lot investors to incur adverse pricing when they buy or sell corporate bonds.

105. The Italian bond market is the largest in Europe and the third largest in the world after the United States and Japan. The Italian market includes an outsized retail investor presence, as direct holdings of fixed-income securities (such as corporate bonds) by households are as high as 20% of total financial holdings in Italy (or even higher), compared to between 10%-15% in Germany and typically less than 5% in other countries, including the United States.¹³

106. To serve this large retail investor presence, the Italian corporate bond market has created multiple electronic platforms for the trading of odd-lots of corporate bonds. The Borsa Italiana in Milan (Italy's only stock exchange, which is owned itself by the London Stock Exchange) owns a 70% share in EuroTLX, which specializes in retail-size trades.¹⁴

107. Borsa Italiana's EuroTLX has been operating since 2003, targeting "non-professional and professional investors trading in retail size and focus[ing] on fixed income securities and investment products. EuroTLX offers the possibility of trading electronically a wide range of financial instruments with a high level of transparency on prices and on pre- and post-trade information."¹⁵ Because of EuroTLX's success in catering to retail investors (precisely the

¹³ Bruno Biais, *et al.*, *European Corporate Bond Markets: Transparency, Liquidity, Efficiency*, CENTRE FOR ECONOMIC POLICY RESEARCH (May 2006).

¹⁴ See <https://www.eurotlx.com/en/chi-siamo/>.

¹⁵ See <https://www.eurotlx.com/en/chi-siamo/>.

types of investors who trade in smaller odd-lots), it “has been included in the Best Execution Policy of Italian brokers.”¹⁶

108. Notably, studies have found that EuroTLX, with its retail focus on investors more likely to trade in odd-lots, outperforms dealers in the U.S. in terms of liquidity and bid-offer spread in odd-lots. A November 2008 study by EuroTLX itself found that the bid-offer spread for bonds on EuroTLX were generally between 20-25 basis points; a later 2014 report confirmed this calculation.¹⁷ This average bid-offer spread of 20-25 basis points represents a one-way transaction cost of 10-12.5 basis points for the primarily odd-lot transaction on EuroTLX, well below the 20 basis points Bessembinder (2017) observed for round-lots, and the 29 basis point observed for odd-lots, in the United States.

109. That smaller foreign corporate bond markets can provide odd-lot investors with lower bid-offer spreads, and therefore more competitive, pricing than in the United States strongly suggests adverse pricing for odd-lots in the larger U.S. corporate bond market is the result of collusion and is not economically justified.

C. Pre-World War II, Odd-Lots of Bonds Did Not Trade at Adverse Prices Compared to Round-Lots

110. Historically, trading costs for odd-lots in the U.S. corporate bond markets were much lower than today.

111. Prior to 1946, retail investors were prevalent in the corporate bond market, and bonds primarily traded on exchanges such as the NYSE. During this time period, odd-lot trading

¹⁶ *Id.*

¹⁷ See *Scambi sui bond alla prova della liquidita*, TLX, https://www.eurotlx.com/sites/default/files/Scambi_sui_bond_alla_prova_della_liquidita.pdf; *The Liquidity of Dual-Listed Corporate Bonds*, COMMISSIONE NAZIONALE PER LE SOCIETA E LA BORSA, <http://www.consob.it/documents/11973/204072/qdf79.pdf/bc36834b-bd60-4810-a2e0-b4012c4d040b>.

dominated the market, with trading in round-lots limited to only a few very active issues, and institutional investors (who preferred round-lots) forced to wait for new issues of bonds to buy in round-lot size or deal with bond-trading firms that accumulated odd-lots of bonds, combined them into round-lots, and then sold them as round-lots to institutional investors at a premium. Only after the Great Depression (when private retail investors lost about 75% of their bond holdings due to default, call, or maturity) and World War II did institutional investors dealing in round-lots come to dominate the (now OTC) bond market. By 1946, there was no significant active exchange-based corporate bond market on the NYSE.¹⁸

112. In a study by Biais and Green (2007), the authors found that “[i]n the 1940s, despite fixed commissions, costs for retail investors trading corporate bonds were as low or lower than they are today in OTC markets.” Biais and Green also found that during the pre-World War II period, trade costs were more uniform across all trade sizes – “the relationship between trading costs and trade size is much flatter in the historical exchange data than in the modern samples. . . . [w]hat is most puzzling, in our view, is that costs in the modern data are as high as they are relative to the historical costs.”¹⁹

113. Given advances in communication and data-processing that have – or should have – driven down the costs to Defendants themselves in transacting in odd-lots of corporate bonds, the fact that odd-lot bond pricing has not approached parity with round-lot pricing like that seen in the pre-Depression bond market further suggests that adverse pricing for odd-lots is not economically justified.

¹⁸ Bruno Biais and Richard C. Green, *The Microstructure of the Bond Market in the 20th Century*, at 3 (2007).

¹⁹ *Id.* at 28.

VI. ADDITIONAL EVIDENCE ALSO SUGGESTS THAT DEFENDANTS ARE COLLUDING TO CHARGE ECONOMICALLY UNJUSTIFIED ADVERSE PRICES FOR ODD-LOT BOND TRANSACTIONS

A. OTC Trading in the Secondary Market Is Highly Concentrated

114. First, the fact that OTC trading in the secondary markets for U.S. corporate bonds is highly concentrated, and is becoming even more so, makes it more likely that Defendants are engaging in collusion. Defendants have dominated the U.S. corporate bond market for well over a decade.

115. Defendants who become the leading dealers in a specific corporate bond issuance frequently obtain that status due to their involvement in the underwriting syndicate that brings that bond to the market. Thus, data on market shares for initial U.S. corporate bond underwriting is strongly indicative of the market shares for secondary trading in U.S. corporate bonds. Data from 2014-2018 collected by Bloomberg shows that the Defendants have been among the top firms by market share in the U.S. corporate bond underwriting market almost every year (with the top three firms never changing). Collectively, they have controlled 67% or more of the bond underwriting market every year since at least 2014:

U.S. Corporate Bond Underwriting Market Share (%)					
	2014	2015	2016	2017	2018
JPMorgan	11.9	12.41	11.558	11.517	11.14
Bank of America	10.8	11.44	10.436	10.476	10.788
Citigroup	9	9.93	9.736	9.901	9.244
Morgan Stanley	7.9	7.34	6.926	7.841	7.069
Goldman Sachs	7.6	8.81	7.956	8.505	7.56
Barclays	6.7	5.96	5.98	5.275	6.473
Deutsche Bank	6.5	5.63	5.31	4.115	3.173
Wells Fargo	5.6	6.58	6.832	5.723	6.456
Credit Suisse	4.8	4.47	3.517	3.692	3.705
UBS	2.6	2.61	1.885	2.664	1.417
RBS	2.3	0.73	0	0	0
Top 11 Firms Total:	75.7	75.91	70.136	69.709	67.025

116. From these leading positions as U.S. corporate bond underwriters, Defendants have secured a correspondingly larger aggregate share as the top dealers in the Relevant Market (defined below) for secondary trading in U.S. corporate bonds. According to a survey by Greenwich Associates, the top 10 dealers in the U.S. corporate bond market currently represent approximately 90% of all U.S. trading volume in corporate bonds.²⁰ As recently as 2006, the top 10 dealers in corporate bond trading volume represented 80% of U.S. corporate bond trades. Hence, concentration in the Relevant Market is increasing. Control of 90% of the secondary trading market for corporate bonds means there is no practical alternative for retail odd lot traders, *i.e.*, Plaintiff and the Class, to trading with the cartelists Defendants.

117. Given their high shares of the concentrated Relevant Market, Defendants share a common motive to conspire to charge odd-lot bond investors adverse prices. By conspiring to do so, Defendants retain their respective shares of the market while still securing supracompetitive

²⁰ Greenwich Associates, *U.S. Corporate Bonds: Investors Need Dealers, Dealers Need Incentives*, at 3 (2015); MSRB, *2016 Fact Book*, at 31.

profits for each colluding Defendant; these supracompetitive profits compensate Defendants for the lost opportunity to compete and secure more of the odd-lot bond business individually at the expense of the colluding group.

118. The concentration of market share in the Relevant Market among a small group of Defendants also facilitates collusion. With fewer dealers, Defendants can coordinate and police their cartel to ensure all Defendants maintain supracompetitive prices for odd-lots of corporate bonds.

119. Even as transparency regarding trading data on corporate bonds has increased following the adoption of the publicly available TRACE database, the adverse pricing for odd-lots of corporate bonds continues. If Defendants were actively competing against each other to obtain more odd-lot business, the data in TRACE would show them that they could improve their odd-lot pricing and thereby obtain a larger share of the market.

B. There Are High Levels of Interfirm Communication Between Defendants

120. Second, Defendants' collusion is facilitated by the high levels of interfirm communication between Defendants in the Relevant Market, which makes fixing prices in odd-lots of corporate bonds easier to accomplish.

121. Within Defendants themselves, bond trading desks are organized in such a fashion that one individual is responsible for all bonds in a particular industry, or all bonds issued by a particularly large issuer. Thus, each Defendant might have a specific bond trader responsible for corporate bonds issued by energy companies, one trader responsible for automotive manufacturers, or even one trader responsible for all bonds issued by a large issuer such as AT&T.

122. These traders, in turn, are responsible for publishing via Bloomberg messages pricing for these bonds to salespeople in the market, many of whom work at other Defendants, and

who then communicate this pricing to their own bond traders. The result is a constant communication loop among a small group of bond traders.

123. This communication loop is bolstered by online platforms – such as MarketAxess and TradeWeb – where Defendants’ traders see live quotes from their competitors and likewise coordinate their pricing. These platforms are controlled by and/or owned by dealers such as Defendants, and closed to retail investors. Further, Defendants’ dealers also see the prices at which their competitors are executing odd-lot trades via TRACE.

124. In short, interfirm communication of bond pricing occurs via Bloomberg messages, via dealer-to-sales-desk-to-dealer channels, and on online platforms closed to retail investors. Given the persistence and magnitude of supracompetitive corporate bond odd-lot pricing, it appears that Defendants use these channels of interfirm communication to collude, rather than to find ways to compete that would improve prices for odd-lot investors.

C. The Higher Prices for Odd-Lot Transactions Have Persisted Even as Advances in Electronic Trading Have Driven Defendants’ Trading Costs Down and Demand for Odd-Lot Bond Transactions Has Increased

125. Third, the persistence of higher pricing for odd-lots is further evidence that Defendants are colluding.

126. Given the significant and growing share of the market that odd-lot trading represents – odd-lots are approximately 90% of daily trades in corporate bonds, 18% of trading by volume, and have been growing since 2006 – Defendants should be vigorously competing over odd-lot pricing to capture this market. Instead, odd-lot investors continue to face spreads that are wider than those offered to round-lot investors in the same underlying corporate bonds.

127. The higher pricing for odd-lots is even more incongruous given the advances in electronic trading, transmission, and recordkeeping that have made OTC bond trading more efficient and less costly to Defendants. These advances should have led to improvements in odd-

lot trading costs, as cost-savings to the Defendants were passed on, via competition, to investors. That odd-lot investors instead still face much higher pricing compared to round-lot investors in the same underlying corporate bonds is further evidence of collusion.

VII. DEFENDANTS ENGAGED IN A PATTERN OF COLLUSIVE EFFORTS TO RESTRICT COMPETITION FROM THOSE ELECTRONIC PLATFORMS THAT SOUGHT TO IMPROVE PRICING FOR ODD-LOT BOND INVESTORS

128. Defendants, as the top dealers by market share, admit that they view e-platforms as a threat to their business.²¹ E-platforms have the ability to allow Plaintiff and the Class to trade corporate bonds with greater transparency and significantly less cost, *i.e.*, with narrower bid-offer spreads. Therefore, in order to maintain a wider bid-offer spread on odd-lots of corporate bonds, Defendants have engaged in a pattern of anticompetitive collusion to restrict competition from those electronic platforms seeking to improve pricing for odd-lot bond investors and seeking to compete with Defendants in this market.

129. As *Bloomberg* recently reported:

Today, about 80 percent of U.S. bond deals are still done by phone or over chat. There aren't any exchanges and everything is negotiated, which gives dealers the upper hand when it comes to where the market is for a given bond. It's a situation that has enabled the biggest firms, like JPMorgan and Goldman Sachs, to keep a stranglehold on the market.

And it's not like they have much incentive (or even the legal obligation) to change. The bond market is littered with startups that have tried – and failed – to loosen Wall Street's grip on bond trading and make it more efficient. Names like BondBook, Bond Connect, BondGlobe, BondHub, BondLink and XBond . . . flopped.²²

²¹ Greenwich Associates, *supra* note 20 at 3.

²² Nick Baker and Matthew Leising, *Goldman alum wants to revolutionize bond trading*, BLOOMBERG (June 25, 2018), <https://www.theledger.com/news/20180625/goldman-alum-wants-to-revolutionize-bond-trading>.

130. Defendants' collusive conduct included: investing in and acquiring control of various electronic platforms to ensure they did not threaten to improve pricing for odd-lot investors (including one platform, TradeWeb, that was co-owned by all Defendants and used repeatedly to acquire and shut down platforms that threatened to provide pre-trade pricing transparency and increase pricing competition for retail odd-lot investors); engaging in a group boycott of other retail-focused (and therefore odd-lot focused) electronic trading platforms; denying liquidity to electronic platforms that might improve price competition for retail odd-lot investors; and using their market power to deny and/or delay access to essential facilities that competing retail-focused electronic platforms required to enter the secondary market for trading of odd-lots of corporate bonds.

131. As a result of Defendants' coordinated and collusive conduct, the only electronic platforms that have survived and secured any significant share of corporate bond trading are owned in part by Defendants, are only open to institutional investors, and/or effectively exclude retail investor odd-lot trades.

A. Defendants' Joint Ownership of TradeWeb Allowed Them to Stifle Competition from Electronic Platforms that Threatened to Improve Odd-Lot Pricing

132. TradeWeb was founded in 1996 (with its first electronic marketplace going live in 1998) by Jim Toffey, a former Credit Suisse employee. Initial funding came from Credit Suisse, Lehman Brothers (later acquired by Barclays), Salomon Smith Barney (later acquired by Citigroup), and Goldman Sachs. By 2004, TradeWeb has added Citigroup, Merrill Lynch, Morgan Stanley, JPMorgan, and Deutsche Bank to its consortium of owners.

133. TradeWeb initially focused on Treasury bonds, but it was soon apparent that its platform could work for corporate bond trading as well.

134. News reports from this period suggest that Defendants invested in TradeWeb out of fear that emerging electronic markets would decrease their market power in corporate bonds. In 2001, *Forbes* explained that “TradeWeb came to life as much out of fear as out of efficiency. For brokers, electronic ordering systems threatened to squeeze already thin margins even further. But unlike new digital startups that sought to eliminate established intermediaries, TradeWeb was created with the aim of maintaining the status quo. TradeWeb helps existing bond brokers and dealers do their jobs faster.”²³

135. A 2000 *Euromoney* article laid the situation out in even starker terms, describing TradeWeb was “the textbook case on the politics of multi-bank consortia.”²⁴ The *Euromoney* article cited an example where TradeWeb’s bank owners founded rival platforms to TradeWeb, either to hedge their bets or to weaken TradeWeb itself. According to the *Euromoney* article, TradeWeb shareholders Goldman Sachs, Merrill Lynch, and Morgan Stanley founded BondBook as an attempt to preempt TradeWeb’s entry into the non-treasuries bond market. Summing up the situation, the *Euromoney* article explained that “ultimately TradeWeb is only as independent as the seven banks [that own it] want it to be. And all of them are invested in other models: five are in BondBook (Deutsche, Goldman, Merrill [now owned by Bank of America], Morgan Stanley, Salomon [now owned by Citigroup]) and the other two, CSFB [Credit Suisse] and Lehman [now owned by Barclays], are in Market Axess.”

136. The same *Euromoney* article quoted one unnamed “head of investment banking e-commerce at a US investment bank” as saying, “[h]aving a stake in BondBook or Market Axess

²³ Neil Weinberg, *B2B Grows Up*, FORBES (Sept. 10, 2001), <https://www.forbes.com/best/2001/0910/018.html>.

²⁴ Antony Currie, *Could TradeWeb unravel from inside?*, EUROMONEY (Dec. 1, 2000), <https://www.euromoney.com/article/b1320hxsf8zy1x/could-tradeweb-unravel-from-inside>.

is a way of replacing money which we made on market making but which will be lost once it goes electronic[. . .] That's why we run them as for-profit businesses [rather than utilities]. But if an anonymous platform such as BondBook [or TradeWeb or Market Axess] succeeds, it will kill market-making profits for everyone. So if you're not an equity holder, you lose revenues and you get no compensation for it.”²⁵ Defendants' purchase of anonymous platforms that would otherwise introduce efficiencies to odd lot trading and threaten cartel profits is a game of “catch and kill” that enables the Defendants to maintain their ability to extract monopoly rents from Plaintiff and the Class.

137. In 2004, Thomson Reuters purchased TradeWeb from its dealer bank owners. At least one source has attributed this sale to “regulatory concerns over potential conflicts of interest and competition issues in dealer-owned networks.”²⁶ Indeed, in 2000, the Department of Justice had issued antitrust civil investigative demands to similar electronic bond trading platforms BondBook, BondDesk, and MarketAxess, and contacted Merrill Lynch, Salomon Smith Barney/Citigroup, Morgan Stanley, and Deutsche Bank as part of a probe the DOJ described as an effort to look into “the competitive effects of certain joint ventures in the online bond trading industry.”²⁷

²⁵ *Id.*

²⁶ *Wall Street firms pay \$180 million to buy back into TradeWeb*, FINEXTRA (Oct. 11, 2007), <https://www.finextra.com/newsarticle/17582/wall-street-firms-pay-180-million-to-buy-back-into-tradeweb>.

²⁷ John Parry, *Online Bond Trading Tie-Ups Highlight an Antitrust Issue*, WSJ (May 10, 2001), <https://www.wsj.com/articles/SB989513870694056329>.

138. As part of the sale of TradeWeb to Thomson Reuters, however, the Defendants agreed to a four-year contract whereby “the founding investment banks . . . would steer liquidity to TradeWeb.”²⁸

139. With that deal scheduled to end in 2008, Thomson Reuters “realized the banks would take their liquidity and shop it around, which would threaten the value of TradeWeb.”²⁹ To prevent that from happening, Thomson Reuters proposed “Project Fusion,” a joint ownership structure that went into effect in January 2008 that gave minority ownership stakes in TradeWeb to Credit Suisse, Goldman Sachs, Lehman Brothers (later acquired by Barclays), Merrill Lynch (later acquired by Bank of America), Morgan Stanley, JPMorgan, Deutsche Bank, and RBS.³⁰ In April 2008, Citigroup acquired an equity stake in TradeWeb as well.³¹

140. Defendants’ ownership of TradeWeb (as well as other platforms, such as MarketAxess) gave them both the ability to shut out retail odd-lot investors from using these platforms, and the ability to use TradeWeb as a “stalking horse” to catch and kill would-be electronic platforms that threatened to offer better transparency and pricing to retail odd-lot investors (as discussed further below). To this day, TradeWeb does not offer retail investors access, and continues to maintain a dealer-to-dealer market structure rather than all-to-all trading.

²⁸ Ivy Schmerkin, *BREAKING NEWS: Thomson Plans to Spin Off TradeWeb*, WALL STREET & TECHNOLOGY (Oct. 10, 2007), <https://web.archive.org/web/20170109021802/http://www.wallstreetandtech.com/trading-technology/breaking-news-thomson-plans-to-spin-off-tradeweb/d/d-id/1258992>.

²⁹ *Id.*

³⁰ *Id.*

³¹ Thomson Corp., *Citi Takes Equity Stake in TradeWeb*, MARKETSCREENER (April 8, 2008), <https://www.marketscreener.com/THOMSON-CORP-14638/news/Thomson-Corp-Citi-Takes-Equity-Stake-in-Tradeweb-491596/>.

B. Defendants' Group Boycott and Collusive Effort to Deny and/or Delay ABS/NYSE Bonds from Gaining Access to Bloomberg's Trade Order Management System ("TOMS")

141. As discussed above, prior to the Great Depression, exchange-based trading of corporate bonds predominated in the United States. In 1976, the New York Stock Exchange ("NYSE") attempted to revitalize bond exchange trading by introducing the Automated Bond System ("ABS"), an electronic bond order book with time and price priority. The ABS originally allowed trading in 1,000 debt securities, including corporate bonds.

142. However, despite backing by the NYSE and the historical success of exchange-based trading for corporate bonds, ABS failed. By 2002, only 5% of all corporate bonds were listed on ABS for trading. By 2006, only 333 U.S. corporate bonds (around 1% of the total number of unique TRACE-eligible corporate bonds traded that year) traded on ABS.

143. In 2007, ABS was replaced by NYSE Bonds, which stated that its goal was to allow trading in 6,000 debt securities, mostly corporate bonds.³² NYSE Bonds offered pre-trade transparency for investors on pricing, and had a pro-investor impact on bond pricing: a 2014 study found that corporate bonds listed on NYSE Bonds between 2008-2011 had bid-offer spreads – even when traded OTC – that were 10 basis points lower than comparable bonds not listed on NYSE Bonds and only traded OTC.³³ The positive effect on prices found for investors applied to all sizes of trades, but was greatest for so-called retail-sized trades of less than \$100,000.

144. Despite its success at improving transaction costs for bond investors (in particular retail bond investors trading exclusively in odd-lots), NYSE Bonds failed to gain traction in trading

³² Liz Moyer, *NYSE Plunges Into Bonds*, FORBES (March 23, 2007), https://www.forbes.com/2007/03/23/nyse-bonds-trading-biz-cx_lm_0323nyse.html#e370b23d7d3e.

³³ Fan Chen and Zhuo Zhong, *Pre-Trade Transparency in Over-the-Counter Markets* (July 2014).

among dealers. As of November 2017, only 25 bond dealers continued to participate in NYSE Bonds. Even this number might overstate participation in trading corporate bonds on NYSE Bonds – NYSE Bonds does not identify what dealer participants trade in or at what volumes they trade, so participants may be trading only limited numbers of corporate bonds, or even none at all, since NYSE Bonds also provides municipal bond trading, and U.S. and foreign government bond trading.

145. ABS and NYSE Bonds failed to achieve larger-scale success among investors because of (a) a concerted boycott of the platforms by Defendants, and (b) collusive efforts by Defendants to deny or delay NYSE Bonds access to the Bloomberg TOMS, an essential facility necessary for any newcomer seeking to participate in and compete within the corporate bond market. By impeding the growth and success of ABS and NYSE Bonds, Defendants hindered increased pre-trade price transparency in the odd-lot bond market, thereby preventing increased price competition within that market.

146. Defendants engaged in a group boycott to not provide or allow order flow to ABS/NYSE Bonds, or to severely limit such order flow to a small number of corporate bond issuances.

147. All entities trading securities electronically use trade order management systems for execution, administration, accounting, compliance, and other related trading needs. Generally speaking, a given type of security will only have one dominant trade order management system, as it is time- and cost-prohibitive for all parties to support multiple systems.

148. A new entrant in the electronic trading market for a given security must offer connectivity to the pre-existing dominant trade order management system in place for that security. These trade management systems are necessary portals to the market for electronic trading in that

type of security, and, as such, are essential facilities for any new electronic trading platform market entrant.

149. With respect to the electronic trading of corporate bonds, the sole trade order management system in place in the market during the Class Period is Bloomberg's TOMS. Bloomberg advertises TOMS as "deliver[ing] global, multi-asset solutions for front-end inventory, trading and middle- and back-office operations" that allow users to "optimize your voice and electronic trade workflow, increase global distribution to markets, manage risk and compliance and improve operational efficiency." Everyone trading corporate bonds electronically, including Defendants, must use Bloomberg TOMS. Thus, access to Bloomberg TOMS is essential for participating and competing in this market.

150. Obtaining access to Bloomberg TOMS should have taken a short period of time for NYSE Bonds, particularly given the general significance and power of the New York Stock Exchange – at most, five months. Instead, NYSE Bonds was not given a connection to Bloomberg TOMS for 18-19 months – a delay that crippled NYSE Bonds' ability to gain traction in the electronic bond trading market.

151. Defendants – who are large financial institutions with significant accounts with Bloomberg's separate and profitable Bloomberg terminal business – used their market power and value to Bloomberg as Bloomberg terminal customers to force Bloomberg to materially delay NYSE Bonds' connection to the essential facility of Bloomberg TOMS. Defendants forced Bloomberg to delay NYSE Bonds' connectivity through Bloomberg TOMS, by threatening to terminate or reduce their Bloomberg terminal leases if Bloomberg failed to do so.

C. Defendants' Refusal to Participate with Bonds.com

152. Another example of Defendants' collusive conduct designed to prevent competition from electronic platforms is their refusal to deal with Bonds.com.

153. Bonds.com was founded in 2005 by John J. Barry IV, a former bond underwriter and trader at ABN-AMRO Bank. According to Barry, Bonds.com had “a single goal in mind: Empower the self-directed individual and institutional investors with a no cost trading platform, enabling execution, aggressive pricing and education in the fragmented fixed income market place.”³⁴ Bonds.com sought to do this with electronic, all-to-all, anonymous exchange-like trading focused on retail and institutional investors transacting in odd-lots of corporate bonds.

154. Bonds.com’s initial bond trading platform, BondStation, launched in January 2008, and was open to both retail and institutional investors. BondStation’s marketing materials boasted that it was “The End of the Middle Man” and cast itself as the solution to “Price gauging [sic] by dealers” that could result in markups of “3% or more along the way,” with “100% price and product visibility,” “fee-less transactions,” and “no liquidity provider fees.”

155. After just three months, however, Bonds.com jettisoned BondStation’s retail odd-lot focus amidst pressure from dealers such as Defendants. In April 2008, the company “[r]efocused from the retail segment to the institutional segment due to market conditions and other economic factors.” One of those “market conditions” was a group boycott of the retail-focused BondStation by dealers. The majority of trades executed on BondStation remained retail up through May 2008; after that point, institutional trades predominated.

156. In 2010, the company discontinued its use of BondStation and its service for “institutional and self-directed individual fixed income investors,” and shifted to a platform called BondsPro, which “offers professional traders and large institutional investors an alternative trading system to trade odd-lot fixed income securities.” This shift to a focus on institutional odd-lot

³⁴ *Bonds.com CEO John J. Barry IV Provides Comprehensive Company Update in Open Letter to Investors*, BONDS.COM, http://files.shareholder.com/downloads/BONDS/0x0x239374/45717632-ec8f-4b11-80b1-97b56386fa33/BDCG_News_2008_10_7_General_Releases.pdf.

investors rather than retail investors allowed Bonds.com to secure two rounds of funding to continue operations. BondsPro, however, continued to allow all-to-all, anonymous, exchange-style trading – trading that would eliminate Defendants as middlemen, or force them through anonymous pricing competition to lower odd-lot bid-offer spreads.

157. Between 2012 and 2013, Bonds.com sought order flow and participation on its BondsPro platform from major corporate bond dealers like Defendants, including Bank of America, JPMorgan, and Morgan Stanley, among others.

158. None of the dealers would participate with Bonds.com. Bank of America indicated that it had interest in participating on BondsPro, but that it could not do so due to the blowback it would suffer from other dealers. Bank of America stated that it would only be willing to participate on Bonds.com if at least one or two of the larger dealer banks (such as Morgan Stanley or JPMorgan) also participated and could provide it cover from retribution.

159. As a result of this group boycott by Defendants of Bonds.com's all-to-all, anonymous odd-lot trading platform, Bonds.com ran out of money by late 2013 and was sold in 2014 to MTS, a subsidiary of the London Stock Exchange Group.

D. Defendants Abused Their Board Positions on BondDesk to Remove Leadership that Had Pursued Offering Retail-Sized Odd-Lot Investors More Transparency and Better Pricing

160. BondDesk was founded in 1999 as a bond platform designed to “effectively distribute dealer inventory to regional broker-dealers, smaller shops and investment advisors.”³⁵ From its inception, BondDesk focused on retail-sized trades and catered to investment advisors representing retail investors, but it was not directly open to retail clients.

³⁵ See REUTERS: *Alternative trading system BondDesk up for sale* (Aug. 31, 2013), <https://www.reuters.com/article/idUS6254185320130901>.

161. By 2004, BondDesk had grown to a 100-employee company. Much like TradeWeb and MarketAxess, however, it had sold ownership stakes to 14 major banks, including Defendants such as Goldman Sachs, Bank of America, JPMorgan, and Wells Fargo.

162. In exchange for their investments in BondDesk, Goldman Sachs, Bank of America, JPMorgan, and Wells Fargo (themselves or via predecessors they later acquired) eventually secured six of the 11 seats on the Board of Directors of BondDesk in 2004 for individuals affiliated with Defendants: Brad Levy (Goldman Sachs), Richard Kolman (Goldman Sachs), Matthew Frymier (Bank of America), Charles Forrest (A.G. Edwards, later acquired by Wells Fargo), Ronald Hersch (Bear Stearns & Co., later acquired by JPMorgan), and Thomas Hoops (First Union Investors, Inc., later acquired by Wells Fargo).

163. Despite investing in BondDesk, Defendants saw the innovations that BondDesk and its management had introduced to the bond market (including in regard to improving transparency and price competition for odd-lots) as a threat to the supracompetitive profitability they enjoyed from wider bid-offer spreads on odd-lots of corporate bonds.

164. In response to this threat, Defendants conspired to use their positions on the BondDesk board to remove the existing management of BondDesk from their day-to-day leadership positions at the company in 2004. Brad Levy and Matthew Frymier, in particular, lead this effort.

165. Defendants pressured the leadership of BondDesk to leave by raising false concerns with the rest of BondDesk's board about the accounting BondDesk used for stock options. At the time, BondDesk used Grant Thornton as its outside accounting firm.

166. Levy and Frymier began by reaching out to Grant Thornton's partner in charge of the BondDesk account, and encouraged him to raise a red flag regarding the existing accounting

treatment for stock options and the need to restate BondDesk's accounting statements. Levy and Frymier realized that if there were any improprieties in the stock option accounting treatment, management, would be held responsible.

167. In exchange for raising the red flag, Levy and Frymier offered to refer additional accounting clients to Grant Thornton.

168. Grant Thornton agreed to raise the red flag requested by Levy and Frymier, and the board (again controlled by a majority of directors affiliated with Defendants) used this stock options accounting issue as a ruse for a vote to remove BondDesk management, who was not supportive of the Defendants' interest in maintaining a corporate bond market in which odd-lot investors had little transparency and where Defendants could realize supracompetitive profits from wider bid-offer spreads resulting from them not having to compete.

169. After odd-lot supportive management was forced out of or sidelined from BondDesk management, the Grant Thornton review of the stock options accounting issue was resolved without any changes being made to the existing accounting procedure.

E. Defendants Use TradeWeb (Which They Owned) to Acquire BondDesk and Permanently Foreclose BondDesk as a Retail-Focused Platform

170. Later, in 2006, Advent International Corporation, a private equity firm, bought a majority stake in BondDesk Group from its bank owners, thereby freeing BondDesk to pursue business from (and improve prices for) retail-focused odd-lot traders. As a first step in this process, BondDesk announced in 2007 that it was extending its "online odd-lot fixed-income marketplace to institutional traders and portfolio managers," but not retail investors directly. It did so via its BondDesk Institutional platform, which "connect[ed] broker-dealers through a centralized marketplace by offering a diverse pool of liquidity."³⁶

³⁶ See *BondDesk Extends Largest Online Odd-Lot Fixed Income Marketplace*, BUSINESSWIRE

171. By 2011, BondDesk was facilitating roughly a third of all retail-sized trades and was the primary bond trading platform for retail odd-lot-sized trades by several major retail and institutional investment advisors. As one industry participant stated, BondDesk was “help[ing] the consumer to not absolutely get killed. Consumers can buy 10 bonds for not so much higher a spread than what institutions pay for 10,000 bonds.”³⁷

172. In August 2011, BondDesk hired Kim Bang from Bloomberg to be its CEO. Mr. Bang announced that his plan was to roll out a technology system at BondDesk for direct retail trading without the involvement of portfolio managers – directly threatening Defendants’ role as intermediaries in the OTC market and the supracompetitive bid-offer spreads they charged retail odd-lot investors. To this end, Mr. Bang implemented Bond Works, which created workstations for advisors and brokers to have direct access to BondDesk’s fixed income wealth management platform. Nineteen out of the top 20 bond brokers, including E*Trade, were expected to use Bond Works, which would eventually enable retail investors to access BondDesk for trading directly.

173. By November 2011, BondDesk had also announced a partnership with Trade West Systems, a division of MarketAxess, to enable “BondDesk clients to seamlessly source liquidity from third party platforms . . . in effect creating a retail supermarket for bonds.”³⁸ This service was immediately made available to BondDesk’s dealer clients, but not retail investors. In August

(May 29, 2007), <https://www.businesswire.com/news/home/20070529005238/en/BondDesk-Extends-Largest-Online-Odd-Lot-Fixed-Income-Marketplace>.

³⁷ See Brooke Southall, *Executive leaves Bloomberg with ambitious plan to unify the retail bond market*, RIABIZ (Aug. 18, 2011), <https://www.riabiz.com/a/2011/8/19/executive-leaves-bloomberg-with-ambitious-plan-to-unify-the-retail-bond-market>.

³⁸ See *BondDesk Announces Partnership with Trade West Systems to Include Aggregation to Extend to Rival Platforms*, BUSINESSWIRE (Nov. 21, 2011), <https://www.businesswire.com/news/home/20111121005163/en/BondDesk-Announces-Partnership-Trade-West-Systems-Extend>.

2013, BondDesk reaffirmed its commitment to making “fixed income markets more transparent and accessible to retail investors” by temporarily making its Factsheet bond pricing service free of charge to any investor (up until then, the service had only been available to financial advisors using BondWorks).³⁹

174. Threatened by these moves that would provide greater price transparency to retail odd-lots investors and allow retail investors the opportunity to trade outside of the Defendant-controlled and intermediated OTC market, Defendants took action. Specifically, TradeWeb – an electronic platform open only to institutional investors and owned in part by Bank of America Merrill Lynch, Barclays, Citigroup, Goldman Sachs, JPMorgan, and Morgan Stanley – acquired BondDesk on November 1, 2013 for a rumored \$200 million (which was significantly less than Advent had paid for it in 2006, and bewildering given BondDesk’s growth and the high and increasing proportion of trades that were occurring via BondDesk in the odd-lot market).

175. Initial reports suggested that BondDesk’s purchase by TradeWeb would present an opportunity for TradeWeb to expand into retail bond trading and to break the boundaries between retail and institutional liquidity. Reuters noted that BondDesk’s sale was an opportunity to “improve how bonds are presented to retail customers” and to “make pre-trade pricing and benchmarks more accessible. . . . [the] BondDesk platform is the perfect place for this information to be available. Its new owner could take the lead in the odd-lot market.”⁴⁰

176. Rather than use BondDesk’s promise to improve trading, transparency, and ultimately prices for retail investors, Defendants (via TradeWeb) instead closed off BondDesk

³⁹ See *BondDesk’s Bond Factsheet Service Now Free for a Limited Time to All Investors*, BUSINESSWIRE (Aug. 14, 2013), <https://www.businesswire.com/news/home/20130814005758/en/BondDesk%E2%80%99s-Bond-Factsheet-Service-Free-Limited-Time>.

⁴⁰ See Reuters, *supra* note 35.

access for retail investors, unless those investors were acting through Defendants or other institutional investors/dealers as middlemen. BondDesk was folded into TradeWeb Direct – a platform that provided RFQ and click-to-trade trading in odd-lots, but was only open to institutional investors and dealers.⁴¹

177. Today, TradeWeb Direct (formerly BondDesk) facilitates one in seven corporate bond trades reported to TRACE. All of these trades, however, occur through dealers such as Defendants, as TradeWeb Direct is “on the desktop of every financial adviser at UBS, JPMorgan, Stifel Nicholas, RBS, Raymond James, BBNT, RW Baird. . . . [and in] pre-rollout/pilot stage at Morgan Stanley, Wells Fargo, Ameriprise Financial, Vanguard, and Fidelity.”⁴² Investors trading in odd-lots of corporate bonds through TradeWeb/BondDesk continue to have higher bid-offer spreads than round-lots of the same underlying bonds as a result of Defendants preventing BondDesk from becoming an actual direct trading platform for retail investors in odd-lots.

F. Retail Focused Electronic Platforms for Trading Bonds Failed Due to Defendants’ Resistance

178. Defendants’ agreement to prevent competition from electronic platforms focused on retail bond investors dealing in odd-lots spanned nearly 20 years.

179. In the late 1990s, with the advent of the internet, there was an explosion of bond e-trading startup companies. According to a 2001 report by the Tuck School of Business at Dartmouth, 89 fixed-income trading platforms existed in the first quarter of that year.⁴³ Almost

⁴¹ A FAQ on TradeWeb’s website notes that “you must be an institutional investor to trade on TradeWeb” and that you are required to be “set up with dealers to trade on TradeWeb.”

⁴² See <https://events.wealthmanagement.com/tradeweb-direct/> (last visited April 20, 2020).

⁴³ Examples of such platforms included BondConnect, BondGlobe, BondHub, BondLink, Intervest, Visible Markets, XBond, Limit Trader, and Trading Edge. See Jake Thomases, *Corporate Bonds: The Lost Generation of Corporate Bond Platforms*, WATERSTECHNOLOGY (May 31, 2013).

all of these late 1990s-early 2000s electronic trading platforms for corporate bonds failed within a few years. While some lacked sufficient capitalization, others had sub-standard technology, and still others had flawed business models, the largest impediment to the success of these platforms was (and remains) the resistance of Defendants. As one journalist noted:

Sell-side resistance to the wave of new [electronic] platforms was motivated by profit-and-loss (P&L). Dealers controlled the corporate bond trade. Something like an order book or matching system, where the buy side can trade directly with each other, would have pushed them farther toward the sidelines. It is believed that they helped eliminate those platforms which might otherwise have gained traction and cut them out. . . .

[A 2013] Tabb [Group] poll . . . showed 75 percent of [dealer] respondents calling “vested interests” the biggest reason why central limit order books [a.k.a. exchange-based electronic platforms] have had trouble finding a foothold in fixed income.⁴⁴

180. Even when such electronic platforms had success, they were quickly acquired and shuttered by Defendant-backed platforms, as occurred with BondDesk. For instance, Trading Edge had some success in 1999-2000 with an exchange-like electronic trading platform that allowed anonymous matching on bond trades designed to increase available liquidity to investors and thereby decrease bid-offer spreads.

181. However, in March 2001, Trading Edge was acquired by MarketAxess, an electronic trading platform open only to institutional investors and founded in 2000 by, among others, JPMorgan. As late as 2011, JPMorgan Asset Management Holdings Inc. still held a 17.5% stake in MarketAxess. Richard McVey, CEO of MarketAxess, said that the company “believe[s] investor response to having both multi-dealer and anonymous trading models on one platform will be overwhelmingly positive,” and MarketAxess stated that it would integrate Trading Edge’s

⁴⁴

Id.

anonymous trading capability to its current platform, offering investors the option of immediate liquidity through disclosed counter party or anonymous trading.

182. However, within seven months of the acquisition, MarketAxess shuttered Trading Edge's anonymous trading platform, stating that it had "decided to terminate [Trading Edge's] anonymous convertible and municipal bond trading platforms and currently offer U.S. corporate bond and emerging bond trading on a fully disclosed [*i.e.*, non-anonymous] basis only." As one analyst later noted, Trading Edge was "an anonymous model that could have threatened MarketAxess's business model" – and also therefore threatened the centrality and control over bid-offer spreads that MarketAxess's bond dealer backers (including Defendants) enjoyed.

G. The Survival of Electronic Platforms that Are Only Open to Institutional Investors Is Further Proof of Defendants' Anticompetitive Conduct

183. Platforms restricted to institutional investors are the only corporate bond electronic trading platforms on which Defendants participate, and hence, the only platforms that have survived. This is perhaps the best evidence that Defendants agreed to stop the emergence of electronic trading platforms that sought to increase pre-trade pricing transparency and increase pricing competition for retail investors trading in odd-lots.

184. At present, three electronic trading platforms – MarketAxess, TradeWeb, and Bloomberg – represent approximately 97% of the market in electronic trading of corporate bonds. All three of these platforms have significant relationships with Defendants, and all three of these platforms are only available to institutional investors.

185. Defendants collectively held a 46% ownership stake in TradeWeb as of the filing of its Form S-1 Registration Statement with the SEC on March 7, 2019 as part of TradeWeb's initial public offering.

186. While Bloomberg is not itself a dealer, its business is significantly dependent upon its relationships with dealers such as Defendants, who utilize and subscribe to both the Bloomberg TOMS for corporate bonds, and the extensive Bloomberg terminal system.

187. While not exchange-based trading platforms (they are more accurately described as electronic versions of traditional OTC trading), these three electronic trading platforms nonetheless allow investor-to-investor direct trading (without intermediary dealers), and increase pre-trade pricing transparency, which results in better competition on pricing and lower transactional costs for institutional investors trading in corporate bonds.

188. All three platforms also allow their institutional investor customers to trade in odd-lot transactions, demonstrating that these platforms could accommodate retail investors dealing exclusively in odd-lot transactions.

189. Despite this fact, all three of these electronic trading platforms are closed to retail investors – investors who deal exclusively in odd-lot transactions. Even as other markets with a great deal of risk to investors – foreign exchange, options, futures, stocks – are open to retail investors on electronic platforms, the corporate bond market remains closed.

190. Another recent site in the U.S. corporate bond space, BondCliQ, is an electronic quote feed that claims to be attempting to modernize corporate bond trading by “enabl[ing] all participants to see the same quotes, including size, at the same time.” BondCliQ provides quotes from dealers on corporate bonds, but requires participants to arrange trades themselves rather than providing a platform for direct trading.

191. While BondCliQ has persuaded four of the top 10 U.S. corporate bond underwriters to provide quotes on the site, it has only secured this participation because, like MarketAxess, TradeWeb, and Bloomberg, it is only open to institutional round-lot traders, advertising that it is

“focused on improving the institutional \geq \$1MM market for corporate bonds.” BondCliQ again demonstrates that Defendants are only willing to participate in improving pre-trade price transparency and competition for institutional round-lot traders, and will not participate if such benefits might flow to retail investors so as to maintain their supracompetitive pricing on retail sized odd-lot trades.

192. The fact that electronic trading platforms (like MarketAxess, TradeWeb, and Bloomberg) and electronic pricing services (like BondCliQ) with pre-trade pricing transparency and greater competition on pricing for odd-lots of corporate bonds are open to institutional investors, but not retail investors, defies any economic, competitive justification. Plaintiff and the Class members bought odd-lots of the corporate bond CUSIPs they traded in at higher prices and sold odd-lots of the corporate bond CUSIPs they traded in at lower prices as a result of this, and other, anticompetitive conduct by Defendants.

VIII. DEFENDANTS HAVE AN ESTABLISHED HISTORY OF COLLUSION IN THE FINANCIAL MARKETS

193. Defendants’ anticompetitive conspiracy to restrict competition on pricing for odd-lots of corporate bonds is not an isolated occurrence. Defendants engaged in multiple, similar anticompetitive conspiracies in other markets for financial instruments during the Class Period that led to government investigations, criminal trials and convictions, billions of dollars in fines, and successful litigation by injured investors.

194. These findings further support the conspiracy alleged in this complaint because they demonstrate that each Defendant had a willingness to collude in precisely this fashion before (and/or colluded in other anticompetitive ways in connection with financial instruments), and/or deficient compliance and oversight systems in their sales and trading businesses during the Class Period to prevent this type of conduct. Furthermore, this history of past anticompetitive collusion

in the financial markets supports the feasibility and plausibility of the anticompetitive odd-lot conspiracy alleged herein, and Defendants' failure to employ sufficient compliance and oversight systems in their sales and trading businesses to detect such anticompetitive conduct during the Class Period.

A. Credit Default Swaps

195. The Credit Default Swaps ("CDS") litigation⁴⁵ involved Defendants Bank of America, Barclays, Goldman Sachs, JPMorgan, Morgan Stanley, and Citigroup, along with several other entities. These dominant financial firms in the OTC market for CDS – who had been enjoying supracompetitive profits from inflated bid-offer spreads in the market as a result of the inefficiency of the market and their privileged role as dealer intermediaries in it – conspired to successfully boycott electronic exchanges and clearinghouses for CDS transactions that would have introduced price transparency and other efficiencies that would lower bid-offer spreads for investors, to the detriment of the CDS defendants' supracompetitive profits.

196. The CDS litigation ultimately settled, with the CDS defendants agreeing to collectively pay over \$1.86 billion to plaintiffs harmed by the antitrust conspiracy. The conduct in the CDS litigation was almost identical to the anticompetitive conduct alleged in this complaint, and the CDS litigation involved all of the same defendants as this complaint.

B. LIBOR/Euribor/Yen LIBOR/Swiss Franc LIBOR

197. Government investigations and civil lawsuits have revealed widespread collusion among banks to manipulate benchmark interest rates for multiple currencies (U.S. Dollar LIBOR, Euribor, Yen LIBOR, Swiss franc LIBOR). These investigations have led to fines of upwards of \$9 billion and civil settlements over \$500 million for price fixing. Barclays, Bank of America,

⁴⁵ *In re Credit Default Swaps Antitrust Litigation*, No. 13-md-2476 (DLC) (S.D.N.Y.).

Deutsche Bank, Citigroup, and JPMorgan have all been fined or plead guilty. Regulators found that these banks engaged in widespread misconduct, including coordinating false submissions by panelists to the benchmark-setting panel, sharing customer and order information, and manipulating market prices by submitting false orders (*i.e.*, “spoofing”).

C. Foreign Currency Exchange Spot Market

198. Defendants in this complaint have also been accused of fixing bid-offer spreads, coordinating trading strategies with competitors to manipulate benchmark prices, and sharing confidential customer order information and proprietary information on trading positions with competitors in the foreign exchange (“FX”) market.

199. Investigations by financial regulators from around the globe resulted in criminal guilty pleas, settlements, and fines totaling over \$11 billion, as well as the release of orders, notices, and reports detailing exactly how the banks colluded to manipulate the FX market.

200. For instance, the Commodity Futures Trading Commission (“CFTC”) and U.K. Financial Conduct Authority entered orders imposing over \$2.17 billion in fines on JPMorgan, Citigroup, Barclays, and other entities for manipulating the FX market. The Office of the Comptroller of the Currency likewise fined Bank of America, JPMorgan, and Citigroup another \$950 million for manipulation, collusion, and other market abusive conduct in the FX market. Additionally, on May 20, 2015, the DOJ announced that JPMorgan, Barclays, and Citi (along with other entities) were fined a total of over \$2 billion by the DOJ, and each pled guilty to criminal conspiracy charges for manipulating FX prices and the benchmark rates. And the Federal Reserve imposed more than \$1.4 billion in additional fines on Bank of America, JP Morgan, Barclays, Citigroup, Deutsche Bank, and Goldman Sachs (along with other entities) for their “unsafe and unsound practices in the foreign exchange markets,” and the NYDFS fined Barclays, Credit Suisse, Deutsche Bank, and Goldman Sachs (along with other entities) a total of over \$879 million for

conspiring with other banks, including JPMorgan, to manipulate FX prices. In May 2019, the European Commission fined Barclays, Citigroup, and JPMorgan (along with other entities) about \$840 million for taking part in two cartels in the spot FX market.

D. Interest Rate Swaps (“ISDAfix”)

201. Bank of America, Goldman Sachs, and JPMorgan (along with other entities) have collectively paid over \$222 million to settle private antitrust and common law claims concerning these banks’ collusive manipulation of the ISDAfix benchmark. Goldman Sachs paid an additional \$120 million to settle “particularly brazen” manipulation of the ISDAfix benchmark; Barclays and Citigroup, too, have paid large settlement sums to the CFTC for their manipulation of ISDAfix.

202. The Defendants’ misconduct related to ISDAfix was undertaken, like that described above, to line their own pockets at the expense of their customers and competition, providing another illustration of a lack of internal controls, horizontal collusion between Defendants that harmed competition and increased prices, and a culture where preserving the bottom line was used to justify serious misdeeds.

E. Mexican Government Bonds

203. The Mexican antitrust regulator, the Comisión Federal de Competencia Económica (“COFECE”) announced in April 2017 that it discovered evidence of anticompetitive conduct among dealers in the Mexican Government Bond (“MGB”) market, including subsidiaries of Barclays, Citigroup, JPMorgan, Bank of America, and Deutsche Bank. At least one bank was accepted into its cartel leniency program after admitting to participation in a conspiracy to fix Mexican Government Bond prices. After three years of investigation, on October 14, 2019,

COFECE announced that it found evidence of collusion to manipulate MGB prices during a span of 10 years.⁴⁶

F. Stock Loan Market

204. In a class action currently pending in the United States District Court for the Southern District of New York,⁴⁷ plaintiffs who engaged in securities lending and stock lending transactions with Defendants Bank of America, Goldman Sachs, JPMorgan, and Morgan Stanley (as well as other entities) have alleged that those banks engaged in a wide-ranging antitrust conspiracy to prevent the antiquated stock loan market – a \$1.7 trillion market critical to the short selling of stocks, a common investment tool – from evolving into a transparent, direct, all-to-all electronic exchange.

205. Plaintiffs in the stock loan market litigation allege that defendants conspired together to boycott, attack, and acquire new market entrants (and specifically, new market entrants that threatened to allow non-OTC, direct all-to-all trading) in order to prevent those new entrants from succeeding, thereby maintaining their monopoly grip as prime broker intermediaries, and, by extension, their ability to charge excessive fees under the cover of price opacity – the precise pattern of conduct engaged in by Defendants in this case in connection with odd-lots of corporate bonds.

206. On September 27, 2018, Judge Failla denied a motion to dismiss the class complaint against defendants in the stock loan market antitrust class action; that case remains pending.⁴⁸

⁴⁶ Michael O’Boyle, *Mexico’s Big Banks Unrevealed in Bond Market Collusion Probe*, BLOOMBERG, (Oct 14, 2019), <https://www.bloomberg.com/news/articles/2019-10-14/mexico-s-big-banks-unveiled-in-bond-market-collusion-probe-leak>.

⁴⁷ *Iowa Public Employees’ Retirement System v. Merrill Lynch, Pierce, Fenner & Smith, Inc.*, No. 17-Civ-6221 (KPF) (S.D.N.Y.).

⁴⁸ *Id.* at ECF No. 123.

G. GSE Bonds

207. In 2018, DOJ opened a criminal investigation into whether some traders manipulated prices in the market for unsecured bonds issued by government sponsored entities (“GSEs”). Deutsche Bank is cooperating with the DOJ in this antitrust investigation.

208. Buy side GSE bonds investors also filed a class action⁴⁹ against 16 banks, including all the Defendants in this litigation as well as other entities, accusing them for conspiring to manipulate the prices of GSE bonds. Defendants’ alleged misconduct in the GSE bonds market involves fixing the “free to trade” (“FTT”) prices of newly issued GSE bonds and artificially inflating the bid-ask spreads. Defendants in the GSE antitrust litigation agreed to pay a combined \$386.5 million to settle the case.

H. Precious Metals

209. In 2015, DOJ, CFTC, Swiss Competition authority, WEKO, and antitrust regulators from the European Union all announced that they opened investigations into possible collusion in the precious metals market by several major banks, including, among others, Barclays, Credit Suisse, Deutsche Bank, Goldman Sachs, and JPMorgan. Several former traders from Deutsche Bank and JPMorgan pleaded guilty to manipulate the prices of gold, silver, platinum and palladium futures contracts. Deutsche Bank also paid \$60 million to settle the related civil action.

IX. RELEVANT MARKET DEFINITION

210. The relevant product market is the secondary market for odd-lots of United States corporate bonds (bond lots with a size of less than \$1 million). Hereinafter, the market will be referred to as “the relevant market.”

⁴⁹ *In re GSE Bonds Antitrust Litigation*, No. 1:19-cv-01704-JSR (S.D.N.Y.).

211. Most U.S. corporate bonds are traded OTC, and thus every investor must use OTC trading to transact with dealers in order to have access to and trade in U.S. corporate bonds. There are few, if any, substitutes for OTC trading in the secondary market for investors who wish to trade in U.S. corporate bonds.

212. Defendants' role and dominant market share in OTC trading in the secondary market for U.S. corporate bonds provides Defendants with the power to limit competition on bid-offer spreads for odd-lots, and by doing so allows Defendants and others to charge supracompetitive prices on odd-lots versus round-lots of the same U.S. corporate bonds in the relevant market.

213. Via their agreement to restrain competition on bid-offer spreads of odd-lots, the Defendants have preserved their dominant market share of OTC trading in the secondary market, and maintained supracompetitive prices.

214. The higher costs that result from Defendants' agreement not to compete on bid-offer spreads for odd-lots of corporate bonds raises prices for odd-lot investors. The persistence of the wider bid-offer spread incentivizes Defendants to continue to avoid competition on odd-lot pricing.

215. Defendants' agreement among themselves not to compete on pricing of odd-lot transactions is a horizontal conspiracy in restraint of trade to affect, raise, fix, maintain, and stabilize prices in the market for odd-lots of U.S. corporate bonds.

216. Defendants' concerted effort to deny an essential facility to an electronic trading platform that sought to provide retail investors dealing in odd-lot transactions of corporate bonds with greater pre-trade pricing transparency and increased competition on odd-lot pricing was a

horizontal conspiracy in restraint of trade to affect, raise, fix, maintain, and stabilize prices in the markets for odd-lots of U.S. corporate bonds.

217. Defendants' group boycott of electronic trading platforms that sought to provide retail investors dealing in odd-lot transactions of corporate bonds with greater pre-trade pricing transparency and increased competition on odd-lot pricing was a group boycott in restraint of trade to affect, raise, fix, maintain, and stabilize prices in the markets for odd-lots of U.S. corporate bonds.

218. The effect of this unlawful conduct has been and will continue to be to restrain or eliminate competition among Defendants in regards to the pricing of odd-lots, and will allow Defendants to reap inflated, supracompetitive profits generated by the wider bid-offer spread on odd-lots of U.S. corporate bonds.

219. The geographic scope of the market is the United States.

X. IMPACT OF DEFENDANTS' CONDUCT ON RELEVANT MARKETS AND INVESTORS

220. Publicly available data (including the academic studies discussed above) suggests that Defendants earn supracompetitive fees by maintaining a wider bid-offer spread on odd-lots of corporate bonds as a result of their anticompetitive conduct.

221. Given the total volume of trading during the Class Period (over \$35.2 trillion in par value of corporate bonds traded just between 2013-2017) and the findings of the aforementioned academic studies that odd-lots transaction costs exceeded the costs of round-lots by a conservative 10 basis points (if not more), Plaintiff reasonably believes the potential damages to investors during the relevant time period could amount to billions of dollars of damages caused by Defendants' anticompetitive practices.⁵⁰

⁵⁰ Plaintiff believes a total damages value in the billions may even be conservative. From

ANTITRUST INJURY

222. As a result of Defendants' conduct, Plaintiff and the Class have suffered antitrust injury. Defendants are horizontal competitors who compete to buy and sell odd-lots of corporate bonds to Plaintiff and the Class. Plaintiff and the Class are their customers who directly buy from Defendants and sell to Defendants odd-lots of corporate bonds. Defendants conspired to charge unlawful, artificial bid and offer prices for odd-lots of corporate bonds. Plaintiff and the Class directly paid the supra-competitive price to Defendants when buying odd-lots of corporate bonds, or directly received the worse price from Defendants when selling odd-lots of corporate bonds. Plaintiff and the Class have suffered the quintessential antitrust injury – purchasing a price-fixed product directly from horizontal competitors.

FRAUDULENT CONCEALMENT

223. During the Class Period, Defendants actively, fraudulently, and effectively concealed their collusion, as alleged herein, from Plaintiff and members of the Class.

224. By its very nature, the unlawful activity alleged herein was self-concealing. Defendants conspired to unreasonably restrain the trade of odd-lots of corporate bond in the secondary market and artificially inflated bid/offer spreads to the benefit of Defendants and to the detriment of Plaintiff and members of the Class. Defendants also conspired to keep their collusive

2013-2018, over \$43.1 trillion in notional value of corporate bonds were traded in the United States. If White (2017) is correct that odd-lot trades represent around 18% of daily market volume (\$7.77 trillion) and Plaintiff could demonstrate that Defendants' anticompetitive conduct resulted in odd-lots having just a 10 basis point higher transaction cost (again, conservative based on the academic literature) than comparable round-lot transactions, that would indicate potential damages of \$7.77 billion during just 2013-2018. That number would still be a conservative estimate, because it would not include the August 1, 2006-December 31, 2012 period or the trading to-date in 2019 (times covered by the Class Period but not reflected in the calculation), nor any trebling of damages, and is based off a conservative 10 basis point estimate of the odd-lot pricing differential (the evidence could support a higher differential).

and manipulative conduct secret because their joint efforts would not have been successful if they had been made public.

225. Defendants' collusion is facilitated by the high levels of interfirm communication between Defendants. The details of these communications were secret, as well as identities of the individuals conducting these communications. The communications among Defendants occurs via Bloomberg messages, via dealer-to-sales desk-to-dealer channels, and on online platforms closed to retail investors. Plaintiff and the Class have no way to access such communications.

226. None of the facts or information available to Plaintiff and the Class, if investigated with reasonable diligence, could or would have led to the discovery of the conspiracies alleged in this complaint.

227. As a result, Plaintiff and the Class were prevented from learning of the facts needed to commence suit against Defendants for the manipulative and anticompetitive conduct alleged in this complaint.

228. Because of Defendants' active steps, including fraudulent concealment of their conspiracy to prevent Plaintiff and the Class from suing them for the anticompetitive activities alleged in this complaint, Defendants are equitably estopped from asserting that any otherwise applicable limitations period has run.

CLASS ACTION ALLEGATIONS

229. Plaintiff brings this action on behalf of herself and as a class action under Rule 23(a), (b)(2) and (b)(3) of the Federal Rules of Civil Procedure on behalf of the following class (the "Class"):

All persons in the United States who, between August 1, 2006 to the present ("Class Period"), bought and/or sold odd-lots (lots of total size below \$1 million) of corporate bonds in the secondary market. Specifically excluded from these Classes are Defendants; the officers, directors, or employees of any Defendant; any entity

in which any Defendant has a controlling interest; any affiliate, legal representative, heir, or assign of any Defendant and any person acting on their behalf.

Also excluded from the Class are any judicial officer presiding over this action and the members of his/her immediate family and judicial staff, and any juror assigned to this action.

230. The Class is readily ascertainable and the records for the Class should exist, including, specifically, Defendants' own records and transaction data.

231. Due to the nature of the trade and commerce involved, Plaintiff believes that there are thousands of geographically dispersed Class members in the Class, the exact number and their identities being known to Defendants.

232. Plaintiff's claims are typical of the claims of the members of the Class. Plaintiff and members of the Class sustained damages arising out of Defendants' common course of conduct in violation of the laws alleged herein. The damages and injuries of each member of the Class were directly caused by Defendants' wrongful conduct.

233. There are questions of law and fact common to the Class, including, but not limited to, the following:

- whether investors traded in odd-lots of U.S. corporate bonds during the Class Period;
- whether investors trading in odd-lots of U.S. corporate bonds were charged higher transaction costs via a wider bid-offer spread than the transaction costs charged to investors trading in round-lots of those same bonds;
- whether Defendants entered into a horizontal conspiracy not to compete amongst each other in regards to transaction costs (and the related bid-offer spreads) on odd-lot transactions of corporate bonds;
- whether Defendants engaged in an anticompetitive group boycott of electronic platforms that threatened to give retail investors trading almost exclusively in odd-lots greater price transparency;
- whether Defendants engaged in a horizontal conspiracy to deny and/or delay NYSE Bonds from having access to Bloomberg TOMS, a trade order management system

for electronic trading of corporate bonds that was an essential facility that competitors to Defendants needed access to in order to enter the market; and

- the appropriate Class-wide measures of damages.

234. Plaintiff will fairly and adequately protect the interests of the members of the Class. Plaintiff's interests are aligned with, and not antagonistic to, those of the other members of the Class, and Plaintiff has retained counsel competent and experienced in the prosecution of class actions and financial institution-related litigation to represent herself and the Class.

235. Questions of law or fact that are common to the members of the Class predominate over any questions affecting only individual members of the Class.

236. A class action is superior to other available methods for the fair and efficient adjudication of this controversy. The prosecution of separate actions by individual members of the Class would impose heavy burdens on the courts and Defendants and would create a risk of inconsistent or varying adjudications of the questions of law and fact common to the Class. A class action, on the other hand, would achieve substantial economies of time, effort, and expense and would assure uniformity of decision as to persons similarly situated without sacrificing procedural fairness or bringing about other undesirable results. Absent a class action, it would not be feasible for the vast majority of the Class members to seek redress for the violations of law alleged herein.

CLAIMS FOR RELIEF

First Claim for Relief

Violation of §1 of the Sherman Act, 15 U.S.C. §1
(Conspiracy to Restrain Competition and Price Fixing)

237. Plaintiff repeats and incorporates by reference each of the foregoing allegations of this complaint.

238. The relevant market defined above is a valid antitrust market.

239. Defendants are competitors in the relevant market.

240. Plaintiff and the proposed Class allege a contract, combination, or conspiracy exists between or among Defendants and/or others that unreasonably restrains and/or eliminates trade, so as to fix artificially high prices for trading in odd-lots of corporate bonds.

241. Defendants are engaged in commerce in the United States, and the anticompetitive conduct alleged herein involves U.S. corporate bonds that are in the flow of interstate commerce. Defendants' anticompetitive conduct has substantially impacted and will continue to substantially impact interstate commerce, because U.S. corporate bonds are traded by investors throughout the United States.

242. Defendants have conspired and agreed with each other to limit, reduce, or eliminate competition in regards to the bid and offer prices they quote for odd-lots of U.S. corporate bonds, in order to thereby secure supracompetitive pricing to the detriment of odd-lot investors versus the competitive pricing provided to round-lot investors in the same underlying bonds.

243. This agreement to engage in anticompetitive conduct between the Defendants constitutes a contract, combination, or conspiracy in unreasonable restraint of trade in violation of Section 1 of the Sherman Act, 15 U.S.C. §1, the purpose of which is to unreasonably restrain trade and suppress price competition in the relevant market and reap supracompetitive prices on the odd-lot transactions in which Plaintiff and the Class members traded.

244. Plaintiff and the Class members request the Court to enter judgment in their favor against Defendants, jointly and severally, awarding all damages, in an amount to be proven at trial, costs, and such other relief as the Court deems appropriate and just.

Second Claim for Relief

Violation of §1 of the Sherman Act, 15 U.S.C. §1
(Group Boycott of Odd-lot Focused Electronic Bond Trading Platforms/Refusal to Deal)

245. Plaintiff repeats and incorporates by reference each of the foregoing allegations of this complaint.

246. The relevant market defined above is a valid antitrust market.

247. Defendants are competitors in the relevant market.

248. Plaintiff and the proposed Class allege a contract, combination, or conspiracy exists between or among Defendants and/or others that unreasonably restrains and/or eliminates trade, so as to fix artificially high prices for trading in odd-lots of corporate bonds and prevent competition in that pricing.

249. Defendants are engaged in commerce in the United States, and the anticompetitive conduct alleged herein involves U.S. corporate bonds that are in the flow of interstate commerce. Defendants' anticompetitive conduct has substantially impacted and will continue to substantially impact interstate commerce, because U.S. corporate bonds are traded by investors throughout the United States.

250. As alleged above, Defendants have conspired and agreed with each other to engage in a group boycott as alleged above of certain odd-lot focused electronic trading platforms (including, but not limited to, ABS/NYSE Bonds and Bonds.com's BondStation/ BondsPRO platforms) that sought to increase pre-trade pricing transparency, allow all-to-all direct trading and/or anonymous trading, and/or otherwise promote pricing competition for odd-lot investors.

251. Also as alleged above, Defendants have also used their market power as oligopsony subscribers to Bloomberg's terminal service and their role as providers of liquidity and order flow to Bloomberg's electronic corporate bond trading platform in anticompetitive ways in violation

Section 1 of the Sherman Act, 15 U.S.C. §1. Specifically, Defendants forced Bloomberg to deny and/or delay access to Bloomberg's TOMS – an essential facility necessary to participate in electronic trading of corporate bonds to platforms such as NYSE Bonds that sought to increase pre-trade pricing transparency, allow all-to-all direct trading and/or anonymous trading, and/or otherwise promote pricing competition for odd-lot investors.

252. By engaging in this group boycott and forcing a refusal to deal by Bloomberg in connection with an essential facility, Defendants were able to further their goal of securing supracompetitive pricing to the detriment of odd-lot investors versus the competitive pricing provided to round-lot investors in the same underlying bonds.

253. This group boycott and refusal to deal agreement between Defendants constitutes a contract, combination, or conspiracy in unreasonable restraint of trade in violation of Section 1 of the Sherman Act, 15 U.S.C. §1, the purpose of which is to unreasonably restrain trade and suppress price competition in the relevant market and reap supracompetitive prices on the odd-lot transactions in which Plaintiff and the Class members traded.

254. Plaintiff and the Class members request the Court to enter judgment in their favor against Defendants, jointly and severally, awarding all damages, in an amount to be proven at trial, costs, and such other relief as the Court deems appropriate and just.

REQUEST FOR RELIEF

WHEREFORE, Plaintiff and the Class members request the Court to enter judgment in their favor against Defendants, awarding all such relief as the Court deems appropriate and just.

Plaintiff requests the following relief:

A. That the Court determine that this action may be maintained as a class action under Rule 23(a), (b)(1), (b)(2), and (b)(3) of the Federal Rules of Civil Procedure, and direct that

notice of this action, as provided by Rule 23(c)(2) of the Federal Rules of Civil Procedure, be given to Class members;

B. That the Court enter an order declaring that Defendants' actions, as alleged herein, violate the law;

C. That the Court award Plaintiff and Class members damages, treble damages, punitive damages, and/or restitution in an amount to be determined at trial;

D. That the Court permanently enjoin Defendants, their affiliates, successors, transferees, assignees, and other offices, directors, agents, and employees thereof from continuing, maintaining, or renewing the conduct, contract, conspiracy, or combination alleged herein, or from entering into any other contract, conspiracy, or combination having a similar purpose or effect, and from adopting or following any practice, plan, program, or device having a similar purpose or effect;

E. That the Court award Plaintiff and Class members pre- and post-judgment interest;

F. That the Court award Plaintiff and Class members her costs of suit, including reasonable attorneys' fees and expenses; and

G. That the Court award any and all such other relief as the Court may deem proper.

JURY TRIAL DEMAND

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff demands a jury trial of all issues so triable.

Dated: April 21, 2020

s/ Christopher M. Burke
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