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

IN RE LIBOR-BASED FINANCIAL INSTRUMENTS ANTITRUST LITIGATION

MDL No. 2262

THIS DOCUMENT RELATES TO:
Case No. 12 CV 1025 (NRB)

ELLEN GELBOIM and LINDA ZACHER, individually for themselves and on behalf of all others similarly situated,

Plaintiffs,

-against-

CREDIT SUISSE GROUP AG, BANK OF AMERICA CORPORATION, BANK OF AMERICA, N.A., JP MORGAN CHASE & CO., JPMORGAN CHASE BANK, NATIONAL ASSOCIATION, HSBC HOLDINGS PLC, HSBC BANK PLC, BARCLAYS BANK PLC, LLOYDS BANKING GROUP PLC, WESTLB AG, WESTDEUTSCHE IMMOBILIENBANK AG, UBS AG, THE ROYAL BANK OF SCOTLAND GROUP PLC, DEUTSCHE BANK AG, CITIBANK NA, CITIGROUP INC., COÖPERATIEVE CENTRALE RAIFFEISEN-BOERENLEENBANK B.A., THE NORINCHUKIN BANK, THE BANK OF TOKYO-MITSUBISHI UFJ, LTD., and ROYAL BANK OF CANADA,

Defendants.

**FIRST AMENDED CLASS ACTION COMPLAINT**

**JURY TRIAL DEMANDED**

**ECF Case**

1. Plaintiffs Ellen Gelboim and Linda Zacher ("Plaintiffs"), by their undersigned attorneys, bring this action against Defendants based on the Defendants' conspiracy to manipulate the London Interbank Offered Rate ("Libor") in violation of the Sherman Act, 15 U.S.C. § 1.

Plaintiffs bring this action for themselves and on behalf of all others who owned (including beneficially in "street name") any U.S. dollar-denominated debt security (a) that was assigned a unique identification number by the CUSIP[1] system; (b) on which interest was payable at any time between August 2007 and May 2010 (the "Class Period"); and (c) where that interest was payable at a rate expressly linked to the U.S. Dollar Libor rate ("US$ LIBOR" or simply "LIBOR"[2]). These debt securities are collectively referred to herein as the "Relevant LIBOR-Based Debt Securities." Excluded from "Relevant LIBOR-Based Debt Securities" and the Class are debt securities issued by any Defendant as obligor.

2. Plaintiffs' claims are made on information and belief (except as to allegations specifically pertaining to themselves and their own actions, which are made on personal knowledge) based on the investigation conducted by and under the supervision of Plaintiffs' counsel. That investigation included reviewing and analyzing information concerning Defendants and LIBOR, which Plaintiffs (through their counsel) obtained from, among other sources: (i) analyses by consulting experts engaged by plaintiffs in these coordinated proceedings; (ii) publicly available press releases, news articles, and other media reports (whether disseminated in print or by electronic media); (iii) filings Defendants made to the United States Securities and Exchange Commission ("SEC"); (iv) court documents submitted in Libor-related proceedings in Canada, Singapore, and Japan; and (v) scholarly literature concerning the potential manipulation of LIBOR during the Class Period. Those sources collectively support Plaintiffs' allegations that Defendants collusively and systematically suppressed LIBOR during the Class Period, so that the interest rates on Relevant LIBOR-Based Debt Securities purchased during the

[1] "CUSIP" stands for Committee on Uniform Securities Identification Procedures.
[2] As used herein, "US$ LIBOR" or "LIBOR" refers to the U.S. Dollar Libor rate, whereas "Libor" refers to all Libor rates, generally.

Class Period were lower than they otherwise would have been absent Defendants' misconduct.

3. Except as alleged in this Complaint, neither Plaintiffs, other Class members, nor other members of the public have access to the underlying facts relating to Defendants' improper activities. Rather, that information lies exclusively within the possession and control of Defendants and other insiders, which prevents Plaintiffs from further detailing Defendants' misconduct. Moreover, numerous pending government investigations—both domestically and abroad, including by the United States Department of Justice ("DOJ"), the Commodity Futures Trading Commission ("CFTC"), and the SEC—concerning potential LIBOR manipulation could yield information from Defendants' internal records or personnel that bears significantly on the Plaintiffs' claims. Indeed, as one news report observed in detailing U.S. regulators' ongoing investigation, "[i]nternal bank emails may prove to be key evidence . . . because of the difficulty in proving that banks reported borrowing costs for Libor at one rate and obtained funding at another."[3] Plaintiffs thus believe further evidentiary support for their allegations will come to light after a reasonable opportunity for discovery.

## SUMMARY OF THE CLAIM

4. This case arises from the manipulation of LIBOR for the U.S. dollar[4]—the reference point for determining interest rates for trillions of dollars in financial instruments—by a cadre of prominent financial institutions. Defendants perpetrated a scheme to depress LIBOR for two primary reasons. First, well aware that the interest rate a bank pays (or expects to pay) on its debt is widely, if not universally, viewed as embodying the market's assessment of the risk asso-

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[3] David Enrich, Carrick Mollenkamp & Jean Eaglesham, "U.S. Libor Probe Includes BofA, Citi, UBS," *MarketWatch*, March 17, 2011.

[4] While the term "LIBOR" generally encompasses rates with respect to numerous currencies (which are separately referred to as, for example, US$ LIBOR or Yen-LIBOR), for convenience Plaintiffs use the term "LIBOR" to refer to US$ LIBOR.

ciated with the bank, Defendants understated their borrowing costs to the BBA (thereby suppressing LIBOR) to portray themselves as economically healthier than they actually were—of particular importance given investors' trepidation in light of the widespread market turmoil of the past few years. Indeed, in an April 10, 2008 report, analysts at Citigroup Global Markets Inc. (a subsidiary of Defendant Citigroup) posited the "liquidity crisis" had "created a situation where LIBOR at times no longer represents the level at which banks extend loans to others"; specifically, the analysts concluded LIBOR "may understate actual interbank lending costs by 20-30bp [basis points]."[5] Second, artificially suppressing LIBOR allowed Defendants to pay lower interest rates on LIBOR-based financial instruments that Defendants sold to investors during the Class Period.

5. Each business day, Thomson Reuters calculates LIBOR—a set of reference or benchmark interest rates priced to different ranges of maturity, from overnight to one year—on behalf of the British Bankers' Association ("BBA"), which first began setting LIBOR on January 1, 1986. As the BBA itself has acknowledged, it is not a regulatory body and has no regulatory function.[6] Its activities are not overseen by any U.K. or foreign regulatory agency. It is governed by a board of member banks that meets four times each year. The board is composed of senior executives from twelve banks, including Barclays Bank plc, Citibank NA, Credit Suisse, Deutsche Bank AG, HSBC Bank plc, J.P. Morgan Europe Ltd., and the Royal Bank of Scotland plc.[7]

6. Each of the ten currencies for which daily Libor are reported is overseen by a

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[5] Scott Peng, Chintan (Monty) Gandhi, & Alexander Tyo, "Special Topic: Is LIBOR Broken?", April 10, 2008 (published by Citigroup Global Markets Inc.)
[6] http://www.bba.org.uk/blog/article/bba-repeats-commitment-to-bba-libor, last accessed on April 30, 2012
[7] http://www.bba.org.uk/about-us, last accessed on April 30, 2012.

separate LIBOR panel created by the BBA. During the Class Period, designated contributing panels ranged in size from eight banks for Australian dollar, Swedish krona, Danish krone, and New Zealand dollar panels to sixteen banks for U.S. dollar, pound sterling, Euro, and Japanese yen panels. There is substantial overlap in membership among the panels. For example, during the Class Period, nine of the sixteen banks that served on the U.S. dollar panel also served on the Japanese yen, Swiss franc and Euro LIBOR panels.[8] Similarly, thirteen banks participated on both the dollar and yen LIBOR panels[9] and eleven banks participated on both the U.S. dollar and Swiss franc LIBOR panels.[10]

7. During most of the Class Period, the BBA calculated LIBOR based on the rates the 16 banks who sat on the US$ LIBOR panel ("Panel Banks") reported as their costs of borrowing.[11] Every day, the banks responded to the BBA's question: "At what rate could you borrow funds, were you to do so by asking for and then accepting inter-bank offers in a reasonable market size just prior to 11 am?" [12] On its website, the BBA explains "a bank will know what its

[8] Those banks are Bank of Tokyo, Barclays, Citibank, Deutsche Bank, HSBC, JP Morgan, Lloyds, Rabobank, RBS, and UBS.

[9] Those banks are Bank of America, Bank of Tokyo, Barclays, Citibank, Deutsche Bank, HSBC, JP Morgan, Lloyds, Rabobank, RBS, Société Générale (beginning in 2009), UBS, and West.

[10] Those banks are Bank of Tokyo, Barclays, Citibank, Credit Suisse, Deutsche, Bank HSBC, JP Morgan, Lloyds, Rabobank, RBS, and UBS.

[11] On February 9, 2009, Société Générale replaced Defendant HBOS on the BBA's US$ LIBOR panel. In February 2011, in response to concerns about possible LIBOR manipulation, the BBA added four more banks to the panel. On August 1, 2011, Defendant West, at its request, was removed from the panel. As of December 2011, the US$ LIBOR panel consisted of 18 banks.

[12] The composition of the LIBOR panel is intended to reflect the constituency of the London interbank money market for U.S. Dollars. The LIBOR definition is amplified as follows:

a. The rate at which each bank submits must be formed from that bank's perception of its cost of unsecured funds in the London interbank market. This will be based on the cost of funds not covered by any governmental guarantee scheme.
b. Contributions must represent rates at which a bank would be offered funds in the London interbank market.

credit and liquidity risk profile is from rates at which it has dealt and can construct a curve to predict accurately the correct rate for currencies or maturities in which it has not been active." The banks informed the BBA of their costs of borrowing funds at different maturity dates (e.g., one month, three months, six months). The BBA discarded the upper four and lower four quotes and set LIBOR by calculating the mean value of the remaining middle eight quotes, known as an "inter-quartile" methodology. Thomson Reuters then published LIBOR, also reporting the quotes on which the BBA based its LIBOR calculation.

8. LIBOR is "the primary benchmark for short term interest rates globally,"[13] and has occupied (and continues to occupy) a crucial role in the operation of financial markets. For example, market participants commonly set the interest rate on floating-rate notes as a spread against LIBOR (e.g., "LIBOR + [X] bps")[14] and use LIBOR as a basis to determine the correct rate of return on short-term fixed-rate notes (by comparing the offered rate to LIBOR). Additionally, the pricing and settlement of Eurodollar futures and options—the most actively traded interest-rate futures contracts on the Chicago Mercantile Exchange—are based on the three-month LIBOR. LIBOR thus affects the pricing of trillions of dollars' worth of financial transactions, rendering it, in the BBA's own words, "the world's most important number."[15]

9. Accordingly, it is well-established among market participants that, as *The Wall*

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c. Contributions must be for the specific currency concerned and not the cost of producing the currency by borrowing in a different currency and obtaining the required currency via the foreign exchange markets.
d. The rates must be submitted by members of staff at a bank with primary responsibility for management of a bank's cash, rather than a bank's derivative book.
e. The definition of "funds" is: unsecured interbank cash or cash raised through primary issuance of interbank Certificates of Deposit.

[13] http://www.bbalibor.com/bbalibor-explained/the-basics, last accessed on April 19, 2012.
[14] The term "bps" stands for basis points. 100 basis points equal 1%.
[15] BBA press release, "BBA LIBOR: the world's most important number now tweets daily," May 21, 2009, available at http://www.bbalibor.com/news-releases/bba-libor-the-worlds-most-important-number-now-tweets-daily, last accessed on April 28, 2012.

*Street Journal* has observed, confidence in LIBOR "matters, because the rate system plays a vital role in the economy."[16] Moreover, given the vast universe of financial instruments LIBOR impacts, "even a small manipulation" of the rate "could potentially distort capital allocations all over the world."[17]

10. Throughout the Class Period, Defendants betrayed investors' confidence in LIBOR, as these financial institutions conspired to, and did, manipulate LIBOR by underreporting to the BBA the actual interest rates at which the Defendants expected they could borrow funds—i.e., their true costs of borrowing—on a daily basis. The BBA then relied on the false information Defendants provided to set LIBOR. By acting together and in concert to knowingly understate their true borrowing costs, Defendants caused LIBOR to be set artificially low.

11. Defendants' manipulation of LIBOR allowed them to pay unduly low interest rates to lenders on LIBOR-based financial instruments outstanding during the Class Period. Investors—who until recently had no reason to suspect Defendants' knowing suppression of LIBOR—justifiably believed the financial instruments they were purchasing derived from a rate that was based on US$ LIBOR panel members' honest and reasonable assessments of their borrowing costs. To the contrary, Defendants—in the debt-instrument context, the borrowers—surreptitiously bilked investors—the lenders—of their rightful rates of return on their investments, reaping hundreds of millions, if not billions, of dollars in ill-gotten gains. Moreover, by understating their true borrowing costs, Defendants provided a false or misleading impression of their financial strength to investors and the rest of the market.

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[16] Carrick Mollenkamp and Mark Whitehouse, "Study Casts Doubt on Key Rate --- WSJ Analysis Suggests Banks May Have Reported Flawed Interest Data for Libor," *The Wall Street Journal*, May 29, 2008.

[17] Rosa M. Abrantes-Metz and Albert D. Metz, "How Far Can Screens Go in Distinguishing Explicit from Tacit Collusion? New Evidence from the Libor Setting," *CPI Antitrust Chronicle*, March 2012.

12. During the Class Period, Plaintiffs and Class members owned in excess of $500 billion of LIBOR-based instruments, which paid artificially low returns due to Defendants' suppression of LIBOR.

13. Plaintiffs now seek relief for the damages they and Class members have suffered as a result of Defendants' violations of Section 1 of the Sherman Act, 15 U.S.C. § 1.

14. Plaintiffs and the members of the Class suffered damages by, *inter alia*, receiving manipulated and artificially depressed amounts of interest on Relevant LIBOR-Based Debt Securities they owned during the Class Period.

## PARTIES

### A. PLAINTIFFS

15. Plaintiff Ellen Gelboim ("Gelboim"), a resident of New York, New York, is the sole beneficiary of her Individual Retirement Account that during the Class Period owned a CUSIP number-bearing Relevant LIBOR-Based Debt Security issued by General Electric Capital Corporation and received artificially depressed amounts of interest on the security as the result of Defendants' unlawful conduct.

16. Plaintiff Linda Zacher, a resident of Bryn Mawr, Pennsylvania, is the sole beneficiary of her late husband's Individual Retirement Account that during the Class Period owned a CUSIP number-bearing Relevant LIBOR-Based Debt Security issued by the State of Israel and received artificially depressed amounts of interest on the security as the result of Defendants' unlawful conduct.

### B. DEFENDANTS

17. Defendant Bank of America Corporation is a Delaware corporation headquartered in Charlotte, North Carolina. Defendant Bank of America, N.A. is a federally chartered

national banking association headquartered in Charlotte, North Carolina and an indirect, wholly owned subsidiary of Defendant Bank of America Corporation. Defendant Bank of America Corporation and Bank of America, N.A. are hereinafter referred to collectively as "Bank of America." At all relevant times, Bank of America was a Panel Bank.

18. Defendant Barclays Bank plc ("Barclays") is a United Kingdom public limited company headquartered in London, England. At all relevant times, Barclays was a Panel Bank.

19. Defendant Citigroup Inc. is a Delaware corporation headquartered in New York, New York. Defendant Citibank NA is a federally chartered national banking association headquartered in New York, New York and a wholly owned subsidiary of Defendant Citigroup Inc. Defendant Citigroup Inc. and Defendant Citibank NA are hereinafter referred to collectively as "Citibank." At all relevant times, Citibank was a Panel Bank.

20. Defendant Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A. ("Rabobank") is a financial services provider with its headquarters in Utrecht, the Netherlands. At all relevant times, Rabobank was a Panel Bank.

21. Defendant Credit Suisse Group AG ("Credit Suisse") is a Swiss company headquartered in offices in Zurich, Switzerland. At all relevant times, Credit Suisse was a Panel Bank.

22. Defendant Deutsche Bank AG ("Deutsche Bank") is a German financial services company headquartered in Frankfurt, Germany. At all relevant times, Deutsche Bank was a Panel Bank.

23. Defendant HSBC Holdings plc is a United Kingdom public limited company headquartered in London, England. Defendant HSBC Bank plc is a United Kingdom public limited company headquartered in London, England and a wholly owned subsidiary of Defendant

HSBC Holdings plc. Defendant HSBC Holdings plc and Defendant HSBC Bank plc are hereinafter referred to collectively as "HSBC." At all relevant times, HSBC was a Panel Bank.

24. Defendant JPMorgan Chase & Co. is a Delaware corporation headquartered in New York, New York. Defendant JPMorgan Chase Bank, National Association, is a federally chartered national banking association headquartered in New York, New York and a wholly owned subsidiary of Defendant J.P. Morgan Chase & Co. Defendant JPMorgan Chase & Co. and Defendant JPMorgan Chase Bank, National Association are hereinafter referred to collectively as "JPMorgan." At all relevant times, JPMorgan was a Panel Bank.

25. Defendant Lloyds Banking Group plc ("Lloyds") is a United Kingdom public limited company headquartered in London, England. Lloyds was formed in 2009 through the acquisition of HBOS plc ("HBOS") by Lloyds TSB Bank plc ("Lloyds TSB"). At all relevant times, HBOS, Lloyds TSB, or Lloyds was a Panel Bank.

26. Defendant Royal Bank of Canada ("RBC") is the largest financial institution in Canada, and is headquartered in Toronto, Canada. At all relevant times, RBC was a Panel Bank.

27. Defendant The Bank of Tokyo-Mitsubishi UFJ, Ltd. ("Bank of Tokyo") is a Japanese subsidiary of Mitsubishi UFJ Financial Group, Inc., and is headquartered in Tokyo, Japan. At all relevant times, Bank of Tokyo was a Panel Bank.

28. Defendant The Norinchukin Bank ("Norinchukin") is a Japanese cooperative bank headquartered in Tokyo, Japan. At all relevant times, Norinchukin was a Panel Bank.

29. Defendant The Royal Bank of Scotland Group plc ("RBS") is a United Kingdom public limited company headquartered in Edinburgh, Scotland. At all relevant times, RBS was a Panel Bank.

30. Defendant UBS, AG ("UBS") is a Swiss company based in Basel and Zurich,

Switzerland. At all relevant times, UBS was a Panel Bank.

31. Defendant WestLB AG is a German joint stock company headquartered in Dusseldorf, Germany. Defendant Westdeutsche ImmobilienBank AG is a German company headquartered in Mainz and wholly owned subsidiary of WestLB AG. Defendant WestLB AG and Defendant Westdeutsche ImmobilienBank AG are hereinafter referred to collectively as "West." At all relevant times, West was a Panel Bank.

32. Various other entities and individuals not named as defendants in this Complaint participated as co-conspirators in the acts complained of, and performed acts and made statements which were in furtherance of the unlawful conduct alleged herein.

## JURISDICTION AND VENUE

33. This action arises under Section 1 of the Sherman Antitrust Act, 15 U.S.C. § 1, and Section 4 of the Clayton Act, 15 U.S.C. § 15.

34. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1337 and Section 4 of the Clayton Act.

35. Venue is proper in the Southern District of New York pursuant to Section 12 of the Clayton Act, 15 U.S.C. § 22, and 28 U.S.C. § 139l(b), (c), and (d). One or more of the Defendants reside, transact business, are found, or have agents in the District, a substantial part of the events giving rise to Plaintiff's claims arose in the District, and a substantial portion of affected interstate trade and commerce described herein has been carried out in this District.

## SUBSTANTIVE ALLEGATIONS

### A. EURODOLLAR ANALYSIS SUPPORTS COLLUSION DURING THE CLASS PERIOD.

36. As demonstrated by the work of an independent consulting expert retained by counsel in these actions, analysis of the Eurodollar market strongly supports that the Defendants

suppressed their LIBOR quotes and colluded to suppress reported LIBOR rates. Moreover, this analysis further supports that Defendants colluded to control the amount of suppression over the Class Period.

37. The U.S. Federal Reserve prepares and publishes Eurodollar deposit rates for banks (the "Federal Reserve Eurodollar Deposit Rate"). These Eurodollar deposit rates are analogous to LIBOR in that they reflect the rates at which banks in the London Eurodollar money market lend U.S. dollars to one another, just as LIBOR is intended to reflect rates at which panel banks in the London interbank market lend U.S. dollars to one another. The Federal Reserve obtains its data from Bloomberg and the ICAP brokerage company.[18] Bloomberg Eurodollar deposit rate is similar to BBA's LIBOR except that the sampling is not limited to the 16 banks chosen by BBA. ICAP is a large broker-dealer in London in Eurodollar deposits.[19] ICAP surveys its client banks and updates its Eurodollar deposit rates about 9:30 AM each morning.

38. While the Defendants could have access to the ICAP Eurodollar deposit rates prior to submitting their individual LIBOR quotes at 11:00 each day, they would not — absent collusion — have access to other bank LIBOR quotes, which are confidential until submitted. Thus, even within the context of a suppressed LIBOR, absent collusion, individual panel banks would not know what quote other panel banks intended to submit relative to the Federal Reserve Eurodollar Deposit Rate.

39. The consulting expert determined that because of the nature of the relationship be-

[18] See http://federalreserve.gov/releases/h15/data.htm, footnote 8. Last visited on April 23, 2012.
[19] 'ICAP is the world's leading voice and electronic interdealer broker and the source of global market information and commentary for professionals in the international financial markets. The Group is active in the wholesale markets in interest rates, credit, commodities, foreign exchange and equity derivatives. ICAP has an average daily transaction volume in excess of $1.5 trillion, more than 60% of which is electronic. ICAP plc was added to the FTSE 100 Index on 30 June 2006. For more information go to www.icap.com.'

tween the Federal Reserve Eurodollar Deposit Rate and LIBOR (detailed below), it would be unusual even for one bank to submit a LIBOR bid below the Federal Reserve Eurodollar Deposit Rate. For all Defendants to submit bids below the Federal Reserve Eurodollar Deposit Rate would be extremely unusual, and strongly supports evidence of collusion among the banks.

40. Economic and statistical analysis strongly supports the use of the Federal Reserve Eurodollar Deposit rate as a benchmark for measuring the validity of LIBOR as reported by the panel banks. To measure how well the Federal Reserve Eurodollar Deposit Rate and LIBOR move together, for the purposes of this analysis, the difference between the two rates, the "Spread," is calculated as follows: Spread = BBA LIBOR – Federal Reserve Eurodollar Deposit Rate.

41. Since both LIBOR and the Federal Reserve Eurodollar Deposit Rate measure the lending cost to banks of Eurodollar deposits, important market and financial fundamentals, such as day-to-day changes in monetary policy, market risk and interest rates, as well as risk factors facing the banks generally (collectively "Market Fundamentals"), should be reflected similarly on both variables, and therefore should not affect the Spread. The BBA's LIBOR panel is intended to reflect the Eurodollar deposit market in London. By focusing on the Spread, the model therefore should be able to factor out normal and expected co-movements in banks' LIBOR quotes that arise from changes in Market Fundamentals.

42. To analyze how well the Federal Reserve Eurodollar Deposit Rate captures changes in Market Fundamentals and absorbs variations in LIBOR that are driven by such fundamentals, consulting experts used regression analysis to measure the day-to-day changes in the Spread against changes in the T-Bill rate and the commercial paper rate. The evidence from these regressions strongly supports that day-to-day changes in the Federal Reserve Eurodollar De-

posit Rate effectively capture day-to-day movements in LIBOR caused by Market Fundamentals. Thus, once the Federal Reserve Eurodollar Deposit Rate is subtracted to arrive at the Spread, remaining movements in LIBOR reflected in the Spread would be unrelated to movements in Market Fundamentals.

43. Because Market Fundamentals are fully captured by the Spread, absent manipulation, the Spread should always be zero or close to zero. Thus, as more fully discussed below, negative Spreads provide a strong basis to conclude that the Defendants suppressed and colluded to artificially suppress LIBOR.[20]

44. Figures 1 and 2 show the relationship between LIBOR, the Federal Reserve Eurodollar Deposit Rate, and the Spread beginning in 2000 and ending in mid 2012. As can be seen, between January 5, 2000 and around August 7, 2007, Federal Reserve's Eurodollar Deposit Rate tracked LIBOR very closely and the Spread remained positive and very close to zero. This finding indicates that the Spread effectively captures shared risks of the banks sampled by BBA and by Bloomberg and ICAP. The validity of this finding is bolstered by the fact that the Spread remained very close to zero in the face of multiple major financial dislocations, including the bursting of the dot-com bubble in 2000, the terrorist attacks of September 2001, and the 2001 U.S. economic recession. Likewise, the unusual downward movements in the Spread starting in August 2007 strongly evidences that LIBOR was being manipulated and suppressed during this period.[21]

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[20] It is important to note that to the extent panel banks submitting LIBOR quotes submit suppressed rates to the BBA, and these suppressed rates are also considered by Bloomberg or ICAP, then the resultant Federal Reserve Eurodollar Deposit rate would also be understated by the same suppression. Consequently, the Spread computed above could even understate the true magnitude of the suppression.

[21] The Spread only became consistently positive around the end of October 2011, just after the European Commission raided banks in connection with LIBOR.

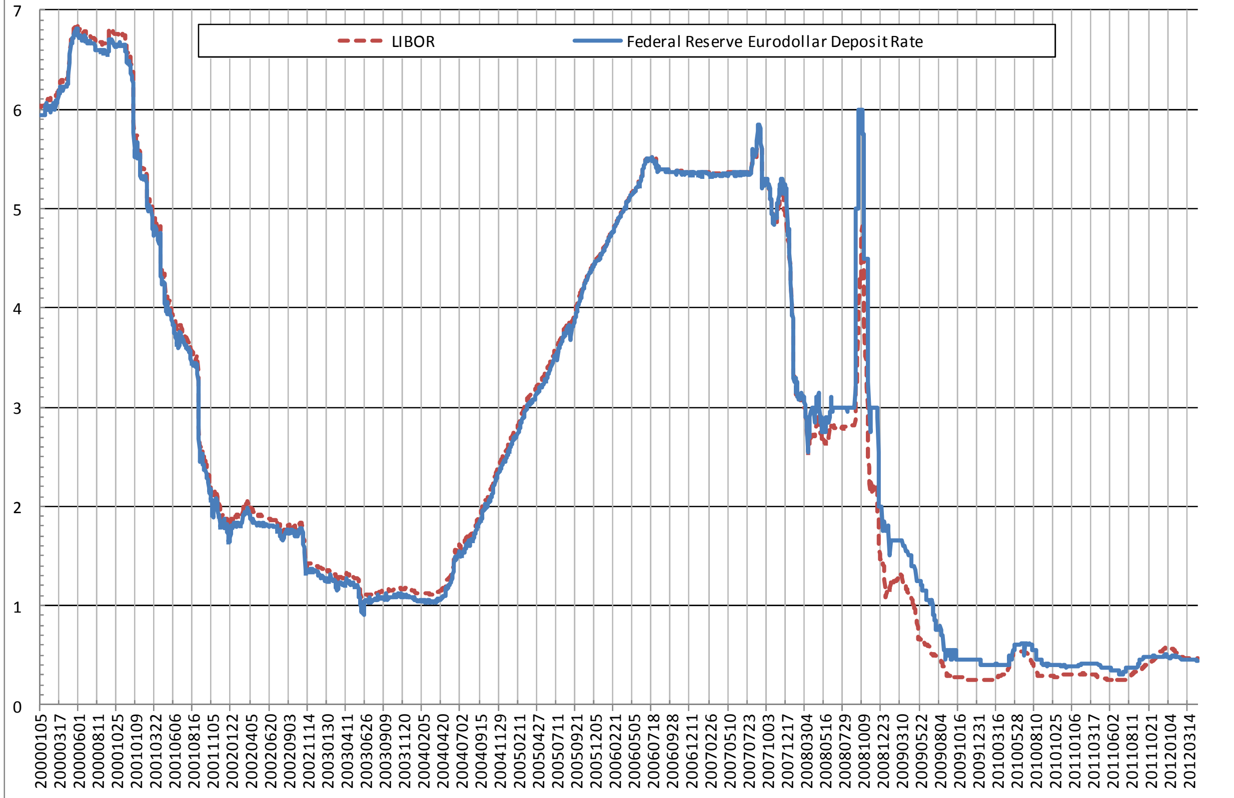
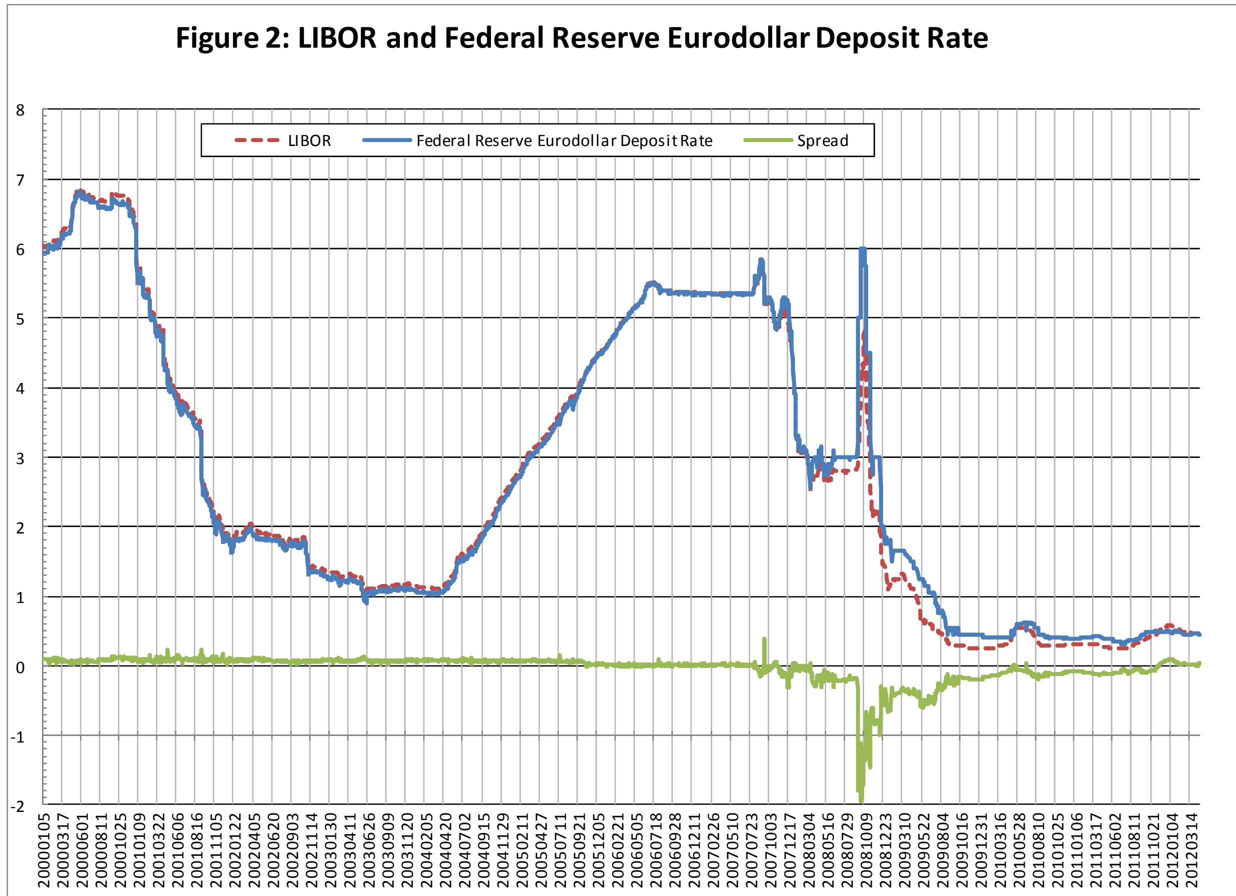
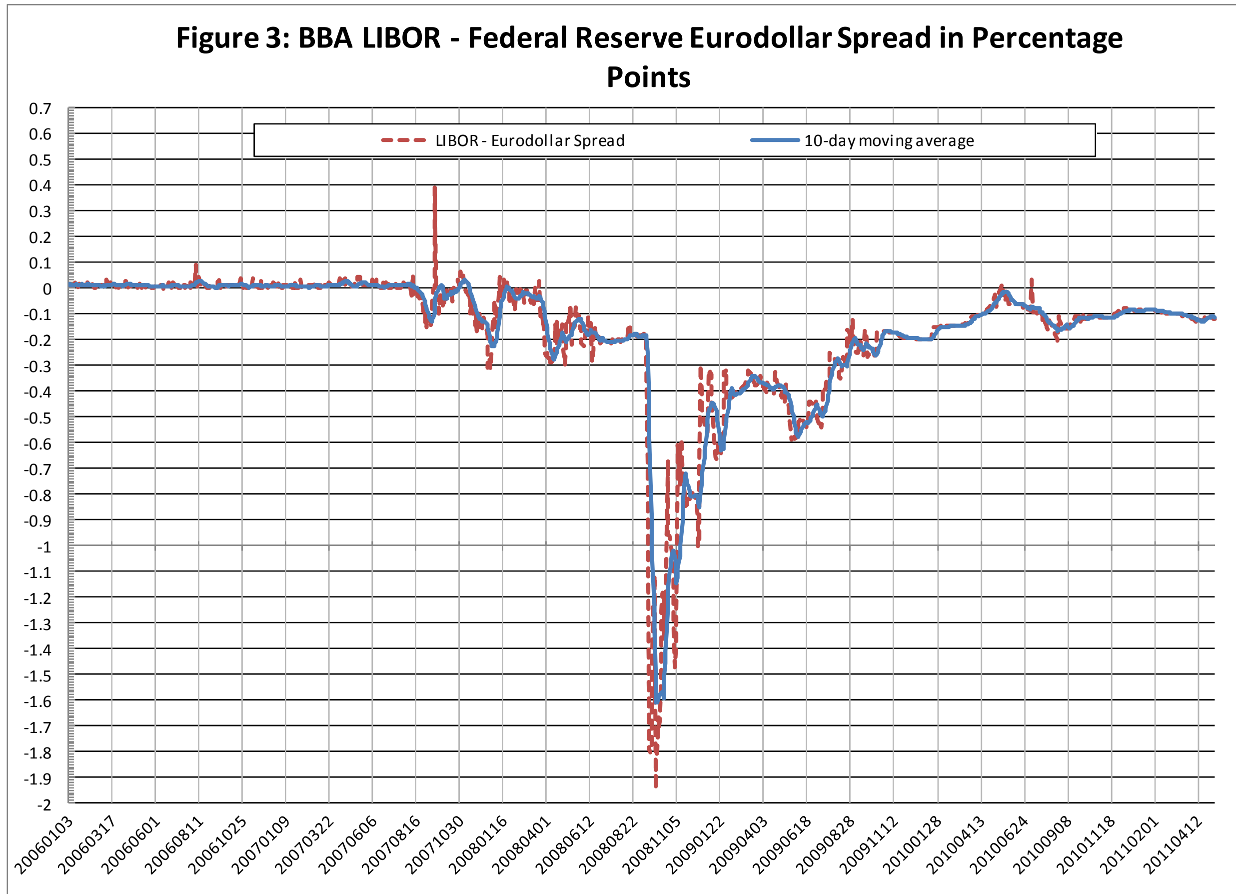



**Figure 1: LIBOR and Federal Reserve Eurodollar Deposit Rate**




45. Figure 3 shows the Spread between 3-month maturity BBA LIBOR and the Federal Reserve Eurodollar Deposit rate (3-month maturity BBA LIBOR – Federal Reserve Eurodollar Deposit rate), from January 2006 through early April 2012.




46. The shorter period between January 3, 2006 and August 7, 2007 demonstrated above contains 393 trading days. In this sub-period, there were only 3 days when the Spread was negative. Furthermore, the magnitude of these negative Spreads were also very small, equaling -0.9 basis point on June 14, 2006, -0.5 basis point on July 27, 2006 and -0.2 basis point on November 2, 2006.[22] This finding again strongly supports that the Federal Reserve Eurodollar Deposit Rate serves as a good benchmark to control for Market Fundamentals that determine LIBOR. The average magnitude of the Spread during this period equaled less than one basis point. This finding also strongly supports that the risks of the banks sampled by BBA and Bloomberg and ICAP were similar.

[22] One basis point is one-hundredth of a percentage point.

47. By August 2007, however, the Spread began to move into negative territory. During the early part of August 2007, the Federal Reserve Eurodollar Deposit Rate stayed around 5.36%. On August 8, the Federal Reserve Eurodollar Deposit Rate increased by 5 basis points to 5.41%, while BBA LIBOR did not keep pace. The Spread turned negative 3 basis points on August 8, 2007. The Spread remained mostly negative after August 7 so that by August 15, 2007, the trailing 10-day moving-average of the Spread also turned negative. By August 31, 2007, the Federal Reserve Eurodollar Deposit rate kept increasing to 5.78%, while LIBOR was lagging. The negative Spread on August 31 grew to -16 basis points.

48. The Spread remained negative over the next year. Between August 31, 2007 and September 15, 2008, the Spread remained negative on 234 of the 255 days, or 91.7% of the days. The magnitude of the negative Spread averaged about -12 basis points. During this approximately one year period, the negative Spread exceeded -25 basis points on 18 days.

49. A big shock to LIBOR (and the Spread) came just after Lehman Brothers filed for bankruptcy on September 15, 2008, leading to significantly increased concerns about the health of all banks. The increased concerns about the health of the banks were reflected in substantial increases in the Federal Reserve Eurodollar Deposit Rate. On September 15, 2008, the Federal Reserve Eurodollar Deposit Rate equaled 3.0%, increasing to 3.2%, 3.75%, and 5% on September 16, 17 and 18, respectively. By September 30, the Federal Reserve Eurodollar Deposit Rate doubled to 6%.

50. In spite of increased risks and worries about the banks after the Lehman bankruptcy filing, LIBOR did not keep pace with the Federal Reserve Eurodollar Deposit Rate during this period of heightened concerns, causing the Spread to become more negative. On September 16, 2008, the negative Spread nearly doubled to -32 basis points. The next day, on September

17, the negative Spread doubled again reaching -69 basis points. On September 18, the negative Spread more than doubled once again reaching -180 basis points. Finally, on September 30, 2008, the negative Spread reached -195 basis points.

51. Thus, between September 15, 2008 and September 30, 2008, the Federal Reserve Eurodollar Deposit Rate increased by 300 basis points to reflect increasing concerns about the banks, while LIBOR increased by less than one-half, or by 123 basis points during the same period. This diversion in the behavior of the two rates strongly supports the finding that the Defendants intensified their collusive suppression of LIBOR, and did so to understate their borrowing costs in the face of increasing concerns about the health of the banks.

52. The Spread remained negative for more than one and a half years following the Lehman filing, until May 17, 2010. As concerns about banks' financial health eased, so did the magnitude of the suppression of LIBOR. As stated earlier, the Federal Reserve Eurodollar Deposit Rate reached 6% on September 30, 2008. With the easing of the financial crisis, the Federal Reserve Eurodollar Deposit Rate fell to 0.45% on May 17, 2010. The average suppression of the LIBOR rate between October 1, 2008 and May 17, 2010 equaled negative 38 basis points. The Spread finally turned positive for the first time during the post-Lehman period on May 17, 2010. Following this date, the Spread again became negative, with the magnitude of the Spread averaging around -10 basis points. The dramatic period of negative Spread during the Class Period, following years of uniform behavior between each individual Defendant Bank's LIBOR quote and the Federal Reserve Eurodollar Deposit Rate, is also graphically demonstrated by Figures 4 to 19 below on a bank by bank basis. Every Spread during the period August 8, 2007 to May 17, 2010 is statistically significant at the extremely high 99% confidence level.

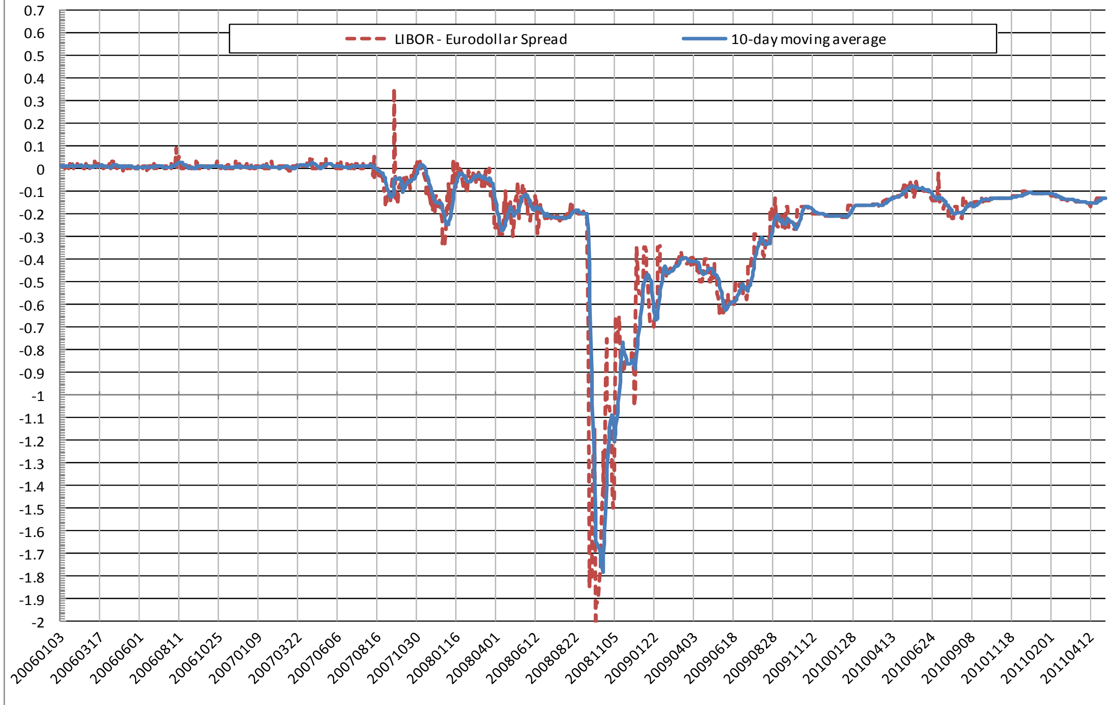


Figure 4: HSBC LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
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20080116
20080401
20080612
20080822
20081105
20090122
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20110412

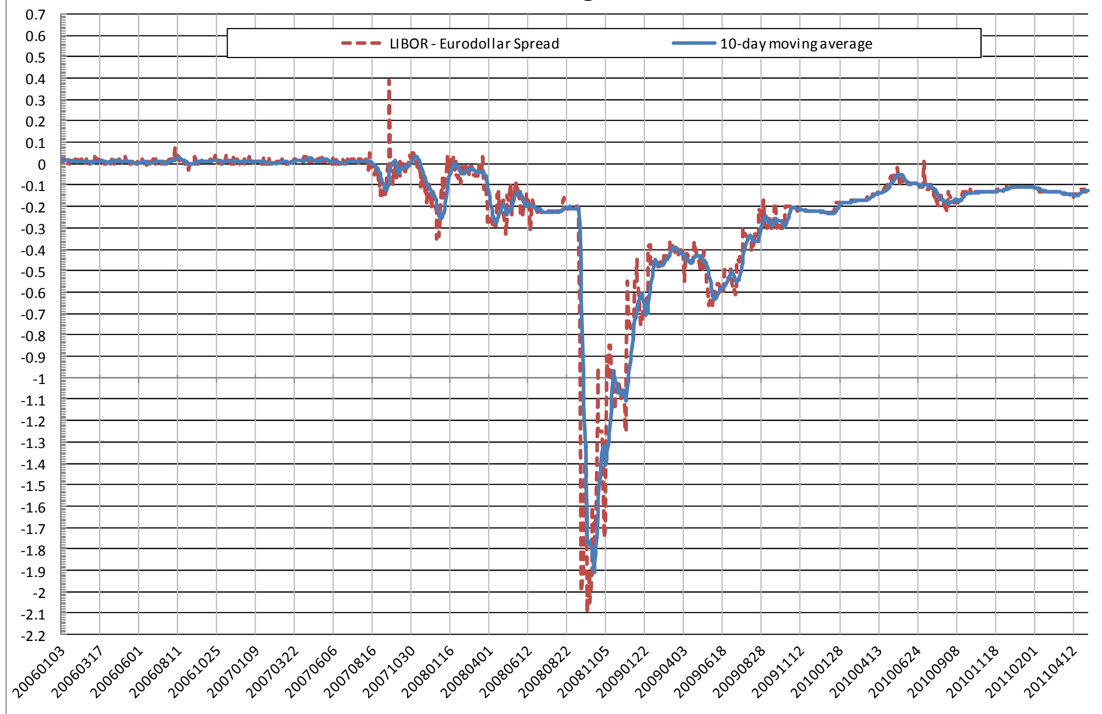
Figure 5: JPMorganChase LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
20080116
20080401
20080612
20080822
20081105
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20100413
20100624
20100908
20101118
20110201
20110412

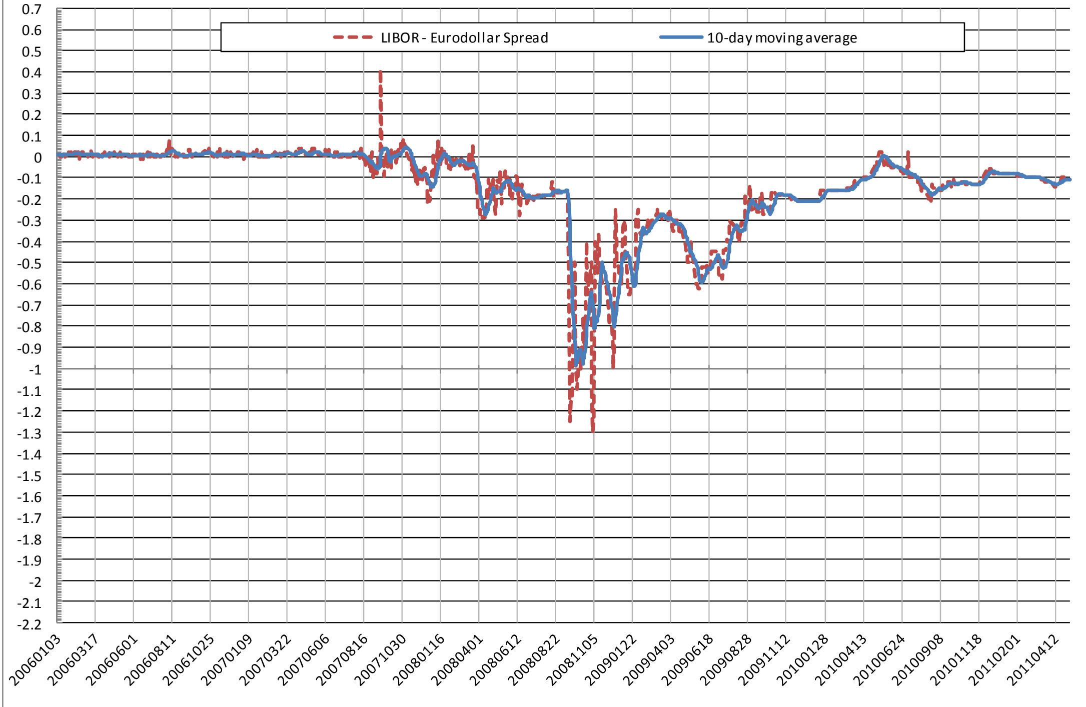
Figure 6: Barclays LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
20080116
20080401
20080612
20080822
20081105
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20091112
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20100413
20100624
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20101118
20110201
20110412

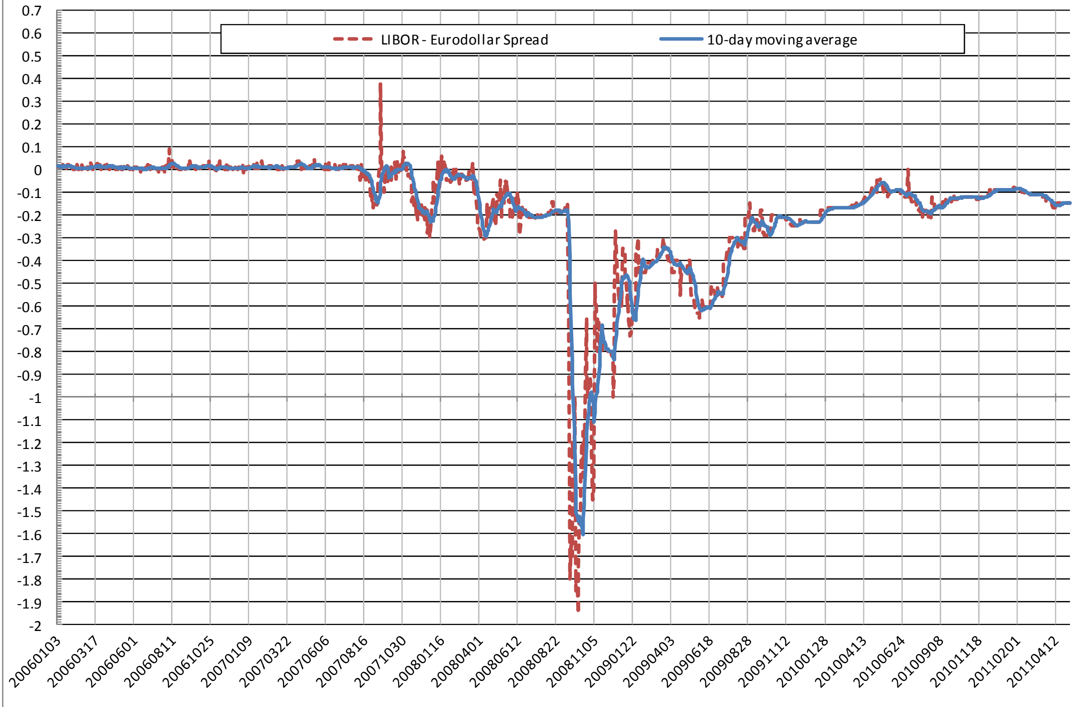
Figure 7: Deutsche Bank LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
20080116
20080401
20080612
20080822
20081105
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20100413
20100624
20100908
20101118
20110201
20110412

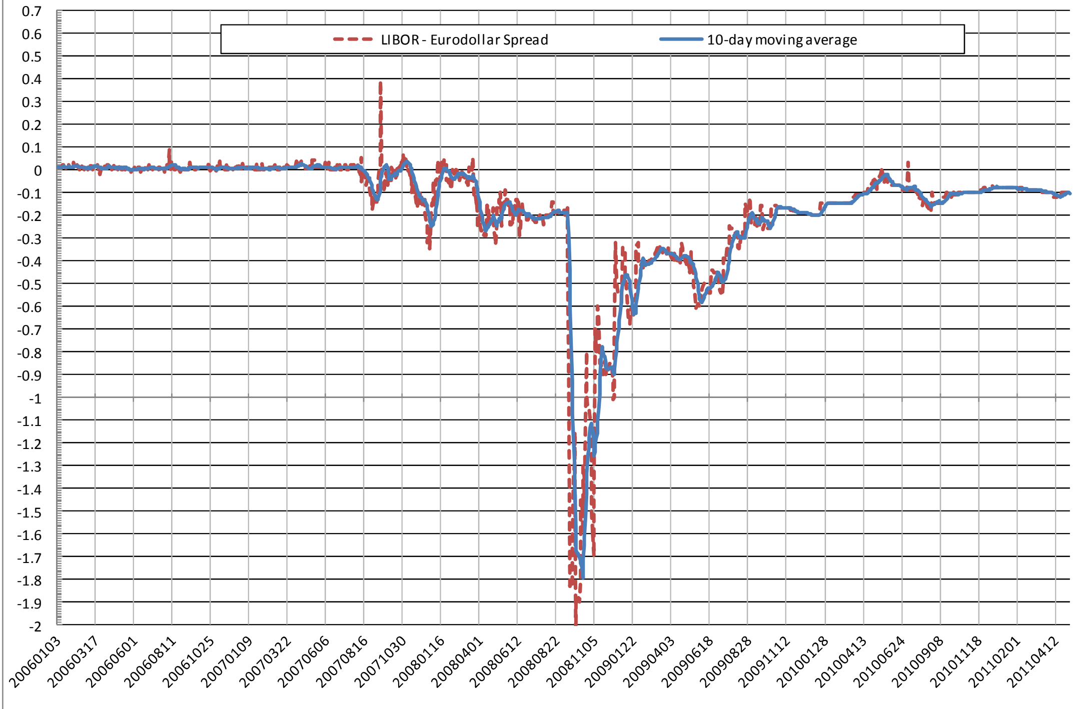
Figure 8: Lloyds LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average

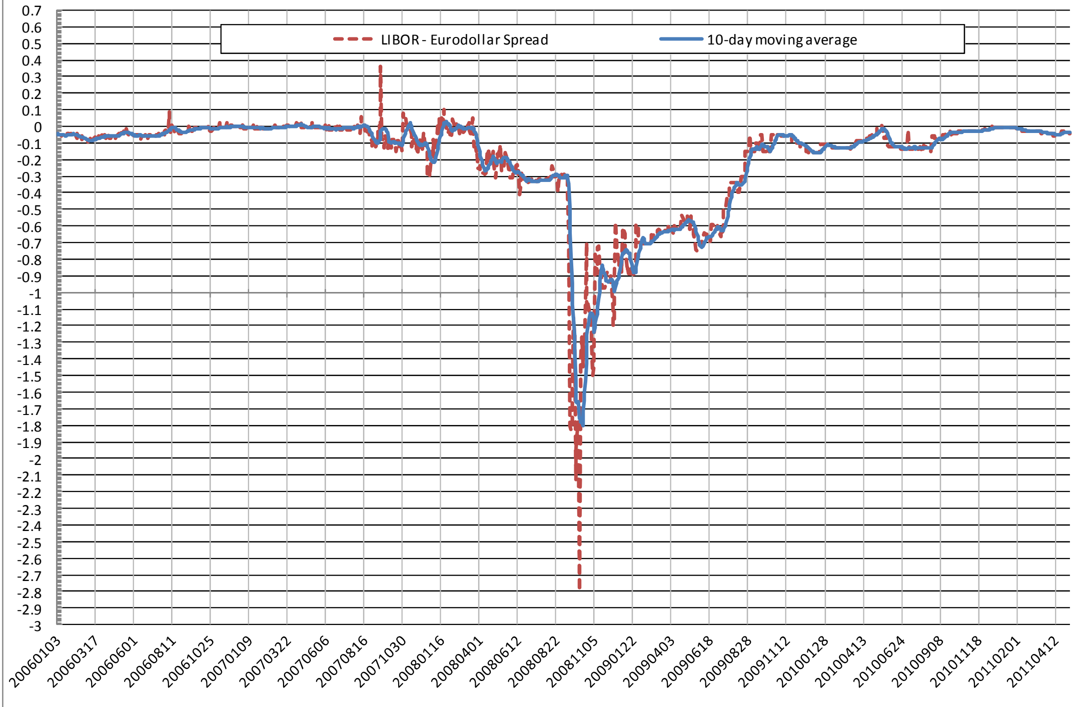
Figure 9: WestLB LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average

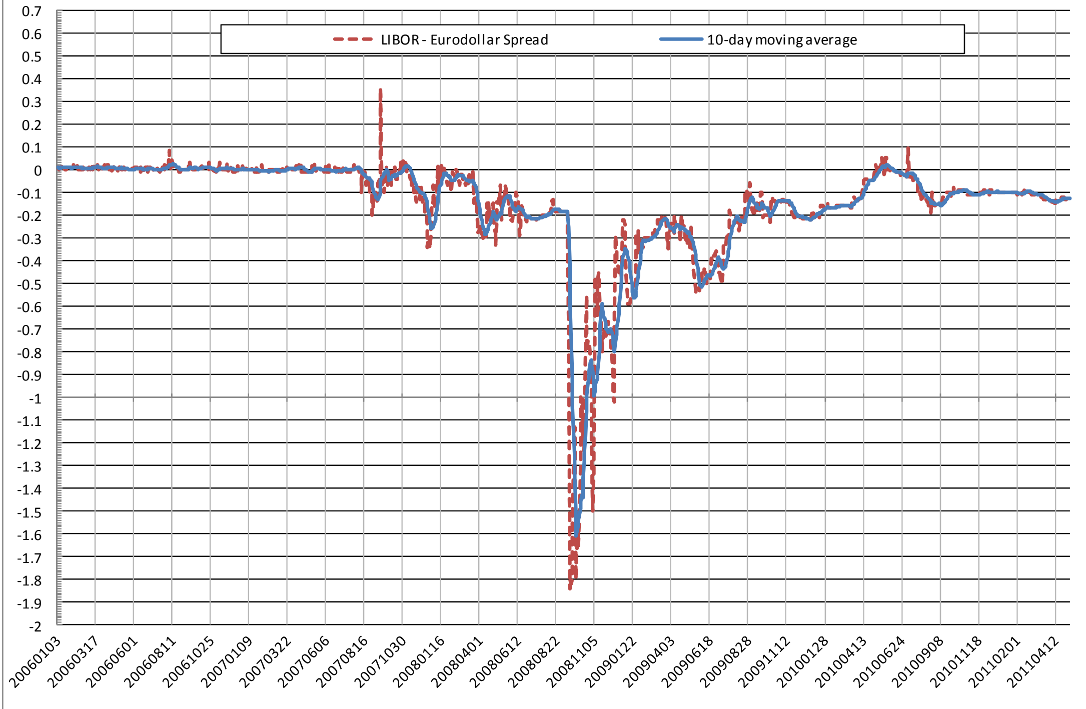
Figure 10: RBS LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
20080116
20080401
20080612
20080822
20081105
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20100413
20100624
20100908
20101118
20110201
20110412

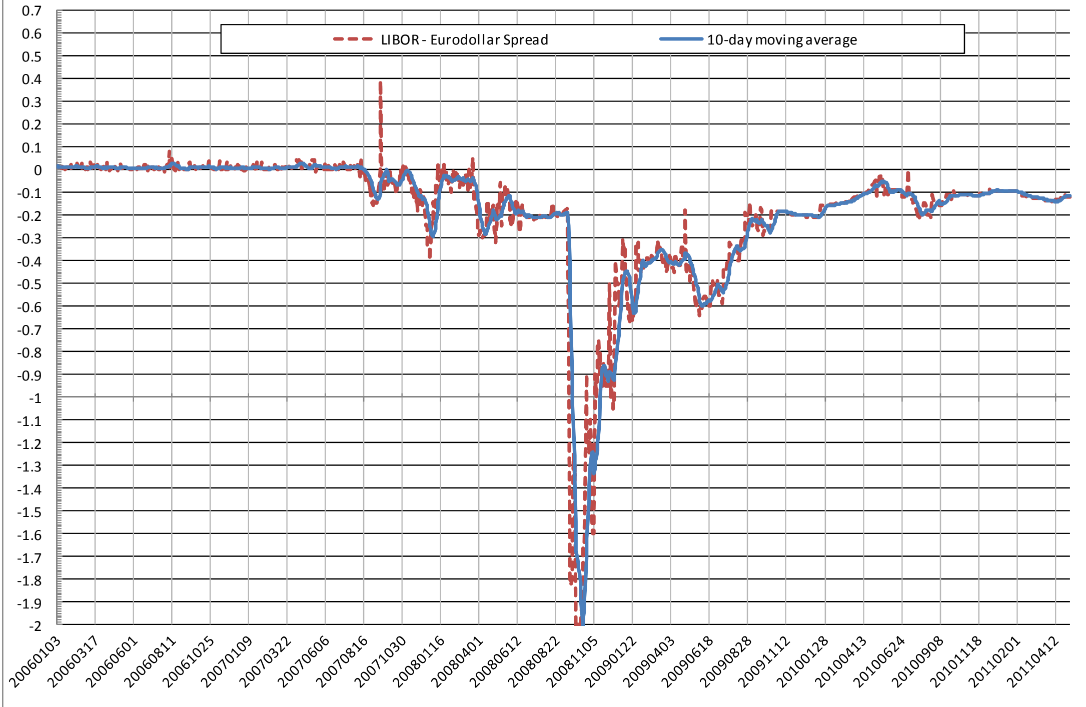
Figure 11: Rabo Bank LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
20080116
20080401
20080612
20080822
20081105
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20101118
20110201
20110412

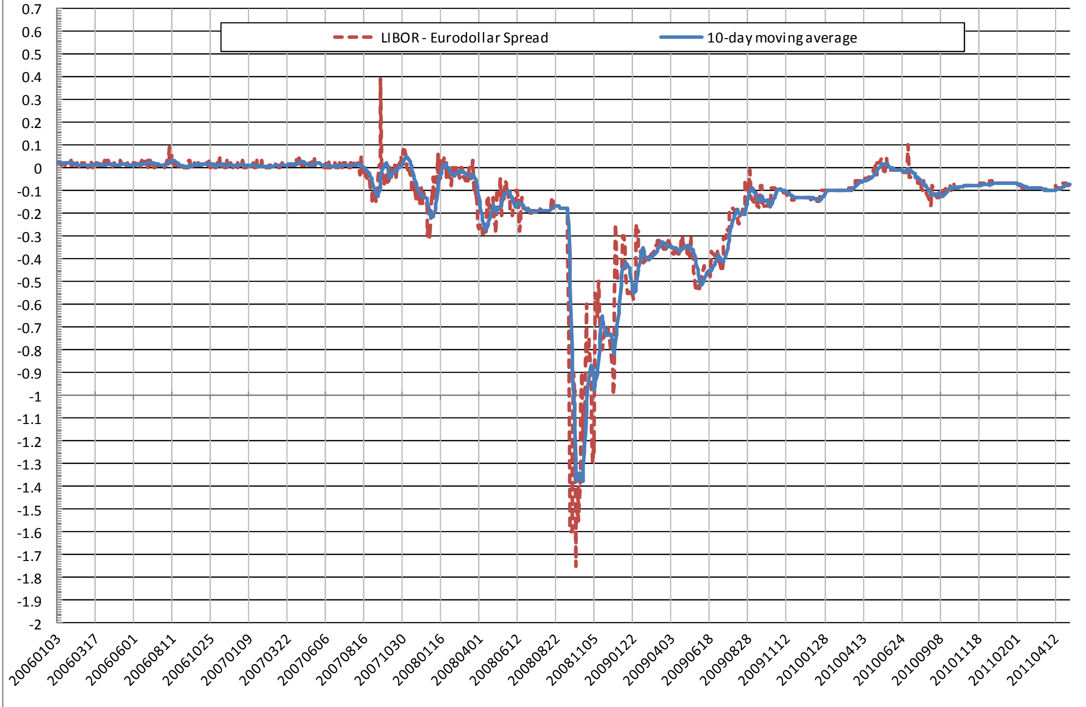
Figure 12: Bank of Tokyo LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average

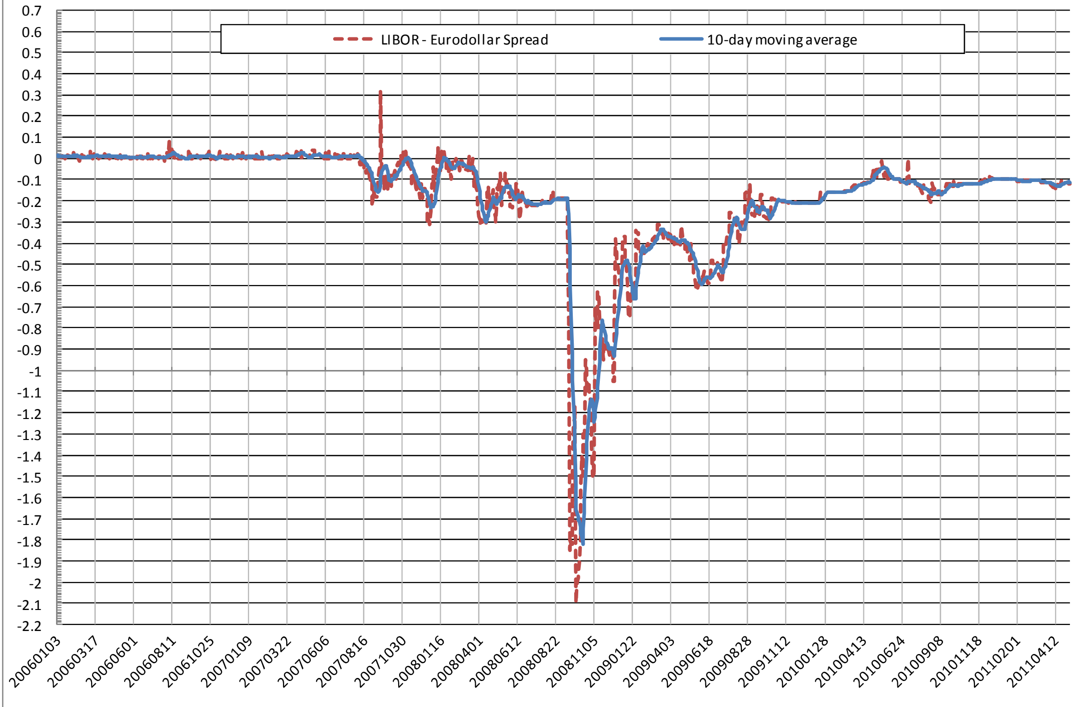
Figure 13: Citi LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average

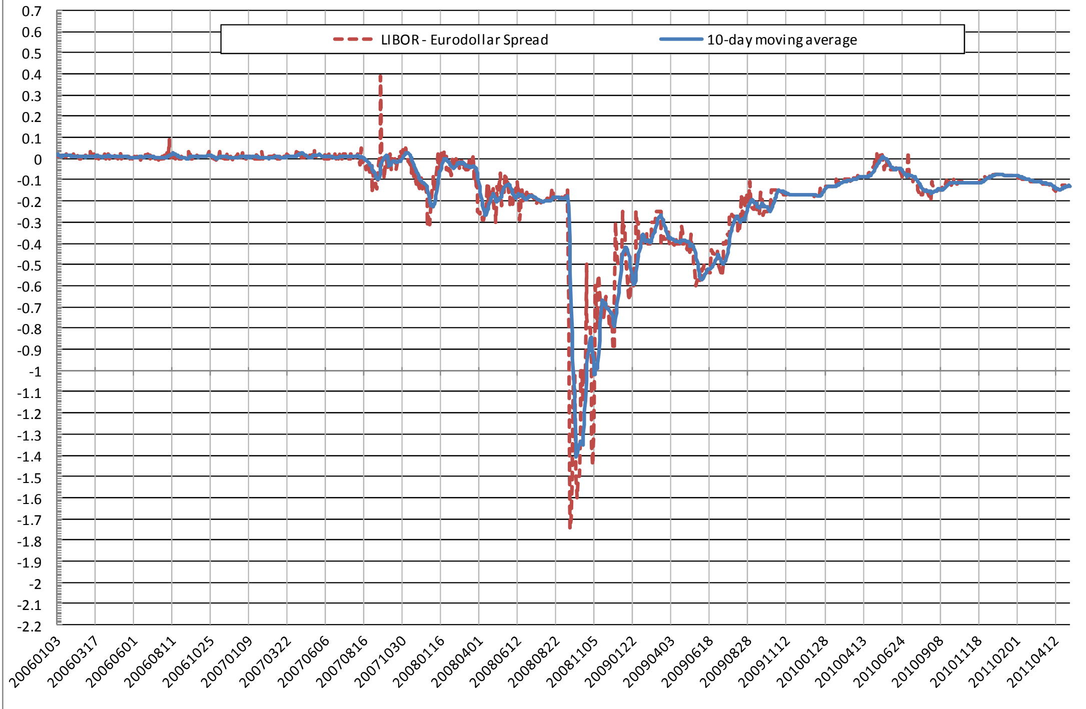
Figure 14: CS LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
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20060601
20060811
20061025
20070109
20070322
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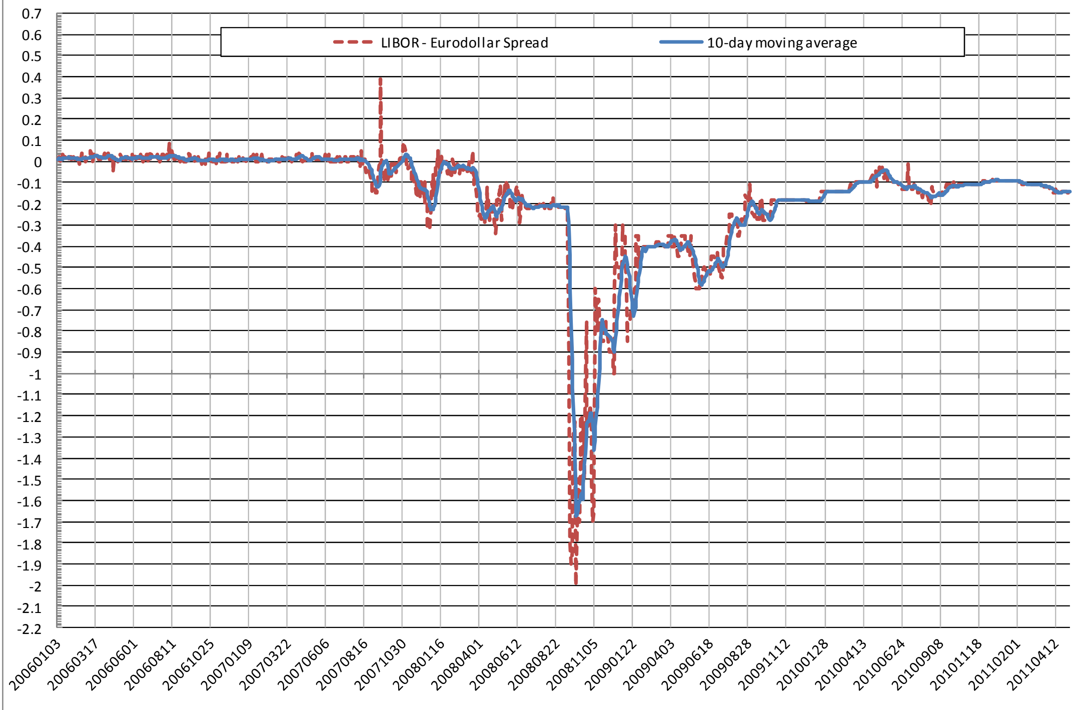
Figure 15: BoA LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
20080116
20080401
20080612
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20081105
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20100413
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20101118
20110201
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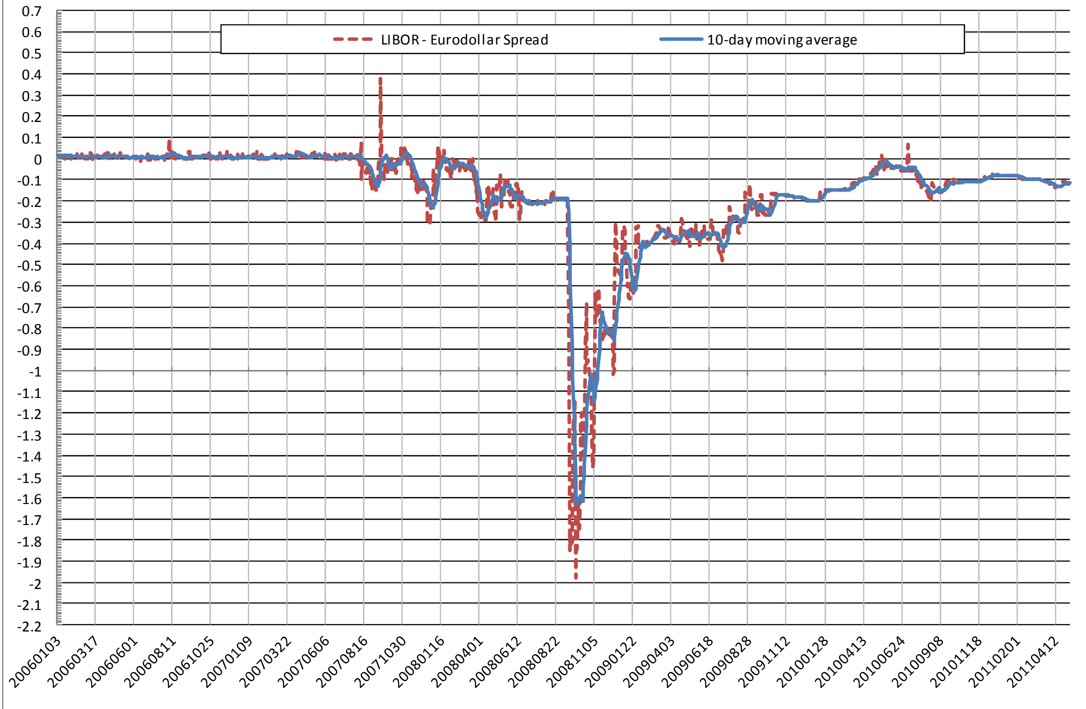
Figure 16: RBC LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
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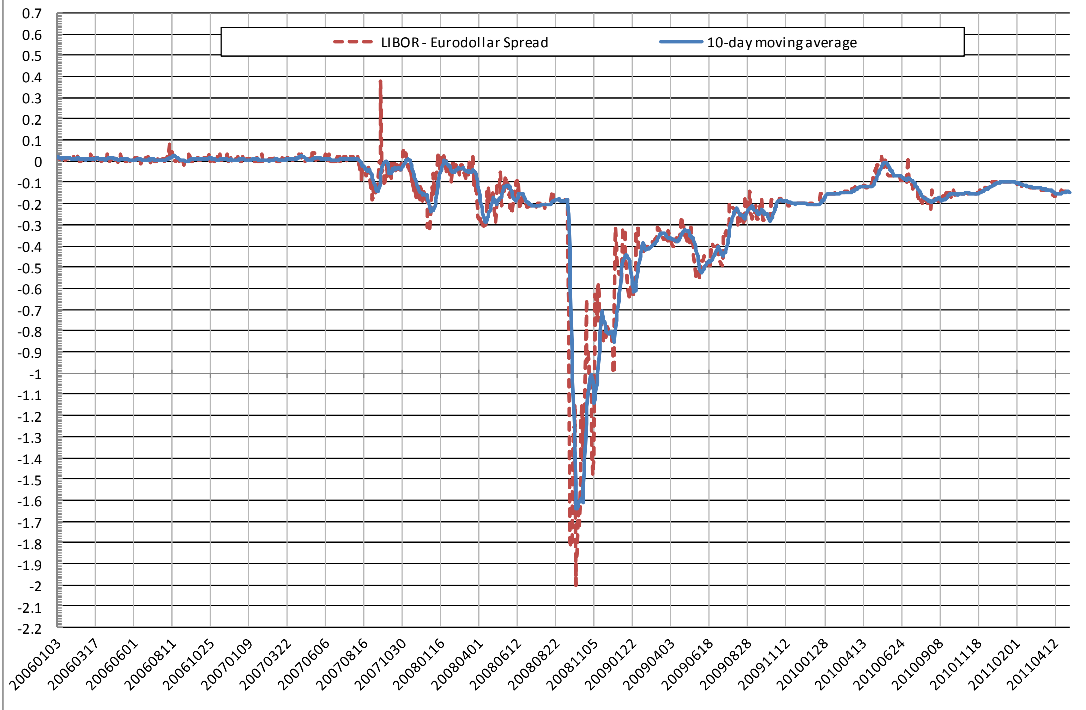
Figure 17: UBS LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
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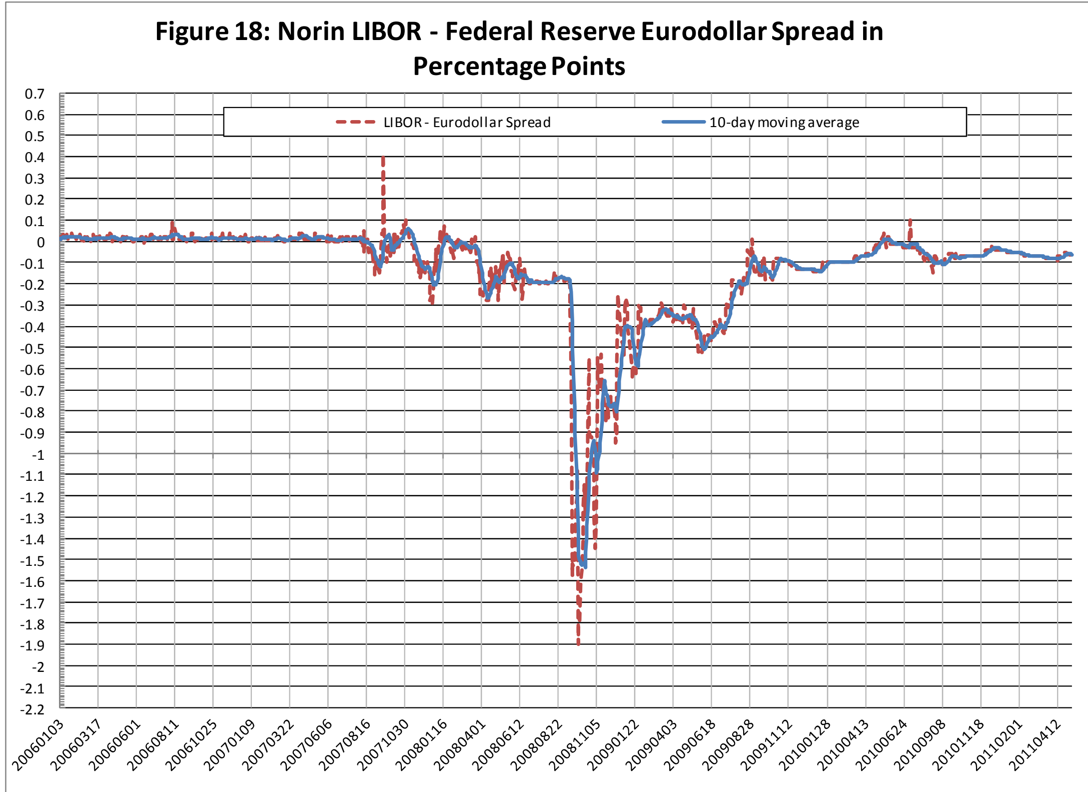
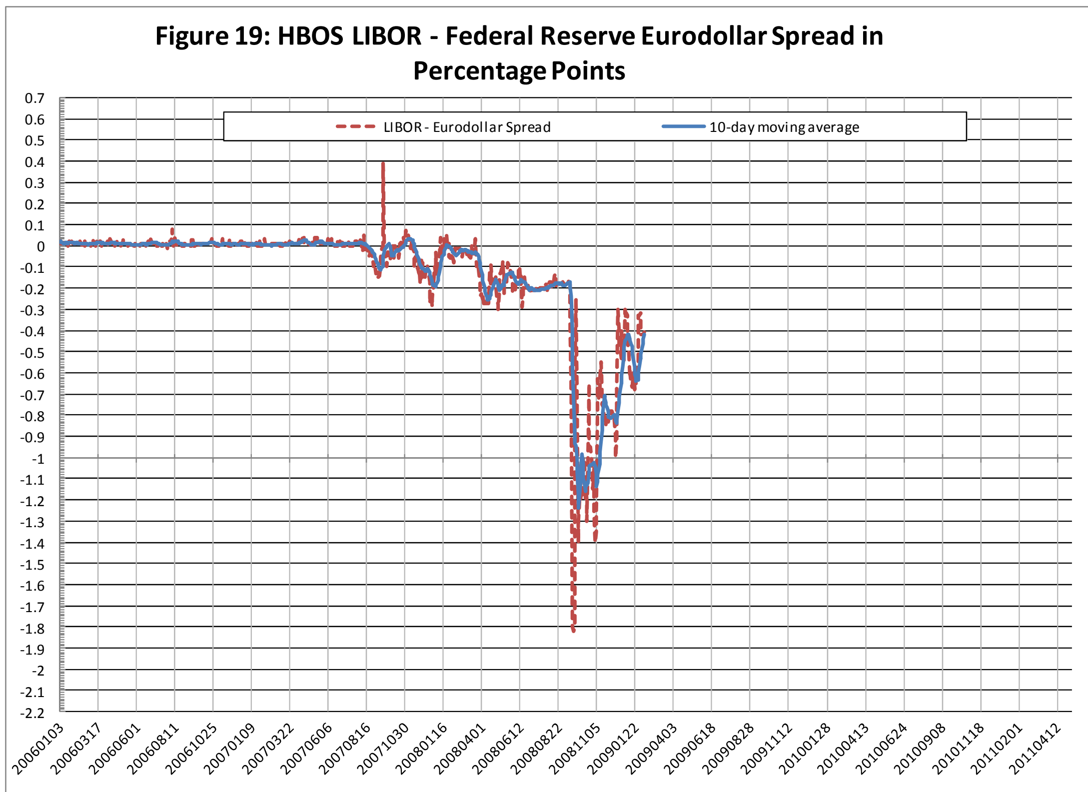



53. As the following chart demonstrates, the average Spread for each of the individual

Defendants was uniformly negative throughout the entire Class Period, strongly supporting that each of these banks was suppressing its LIBOR quotes, and colluding to suppress reported LIBOR rates.

| **BANK NAME** | **Average Spread between August 8, 2007 through May 17, 2010** |
|---|---|
| 1. Bank of Tokyo | -25 basis points |
| 2. Bank of America | -30 basis points |
| 3. Barclays | -25 basis points |
| 4. Citi | -32 basis points |
| 5. Credit Suisse | -27 basis points |
| 6. Deutsche Bank | -31 basis points |
| 7. HBOS | -29 basis points |
| 8. HSBC | -32 basis points |
| 9. JP Morgan | -35 basis points |
| 10. Lloyds | -30 basis points |
| 11. Norinchukin | -25 basis points |
| 12. RaboBank | -32 basis points |
| 13. Royal Bank of Canada | -28 basis points |
| 14. Royal Bank of Scotland | -26 basis points |
| 15. UBS | -29 basis points |
| 16. West | -35 basis points |

54. Moreover, as set forth in the following chart, during the critical two week period following the bankruptcy of Lehman Brothers, each of the Defendants dramatically increased its collusive suppression of LIBOR.

| **BANK NAME** | **Average Spread between September 16, 2008 and September 30, 2008** |
|---|---|
| 1. Bank of Tokyo | -120 basis points |
| 2. Bank of America | -144 basis points |
| 3. Barclays | -87 basis points |
| 4. Citi | -142 basis points |
| 5. Credit Suisse | -122 basis points |
| 6. Deutsche Bank | -129 basis points |
| 7. HBOS | -110 basis points |
| 8. HSBC | -141 basis points |
| 9. JP Morgan | -153 basis points |
| 10. Lloyds | -146 basis points |
| 11. Norinchukin | -126 basis points |
| 12. RaboBank | -143 basis points |
| 13. Royal Bank of Canada | -140 basis points |
| 14. Royal Bank of Scotland | -140 basis points |
| 15. UBS | -141 basis points |
| 16. West | -138 basis points |

55. Every Spread during the period from September 16, 2008 to September 30, 2008 is statistically significant at the extremely high 99% confidence level.

56. Plaintiffs' consulting expert finds the results reflected in these two tables to be powerful and statistically significant evidence of the Defendants' collusive suppression of LIBOR during the Class Period.

57. As detailed above, analysis based on well accepted statistical methodologies strongly supports that suppression of LIBOR occurred during the Class Period, accomplished through the collusive conduct of the Defendants. The sustained period during which the Federal Reserve Eurodollar Deposit – LIBOR Spread fell and remained starkly negative, as seen in Figure 2 above, accounting as it does for Market Fundamentals, is not plausibly achievable absent collusion among Defendants. The intensified suppression from September 16, 2008 to September 30, 2008 (following the Lehman bankruptcy), in defiance of economic expectations, provides further powerful support for the suppression of LIBOR achieved through collusion by the Defendants. Because no Defendant Bank – absent collusive conduct – could know what LIBOR quote another panel bank actually intended to submit prior to those numbers being made public after 11:00 in the morning, the fact that all Defendants submitted LIBOR quotes below the Federal Reserve Eurodollar Deposit Rate over the Class Period further strongly supports the participation of each Defendant Bank in the suppressive and collusive scheme.

### B. PROBABILITY OF DEFAULT ANALYSIS SUPPORTS COLLUSION DURING THE CLASS PERIOD.

58. Assessing the likelihood that LIBOR was suppressed during the Class Period, the Schwab Plaintiffs' expert consultants compared US$ LIBOR panel members' quotes from 2007 through 2008 to the daily default probability estimates for each of those banks—as determined, and updated daily for each maturity (term), by Kamakura Risk Information Services ("KRIS").[23] The study focused on identifying any periods of severe discrepancy between each bank's probabilities of default ("PDs") and the LIBOR quotes the bank submitted to the BBA.

59. The KRIS reduced-form model estimates each bank's default risk on a daily basis by analyzing each bank's equity and bond prices, accounting information, and general economic

[23] KRIS did not have PDs for Defendants West, Rabobank, or Norinchukin, because those companies were not publicly traded. This PD analysis therefore does not include those banks.

conditions, such as the level of interest rates, unemployment rates, inflation rates, etc. On its website, KRIS states it "provides a full term structure of default for both corporate and sovereign credit names based upon a multiple models approach" and its default probabilities "are updated daily and cover more than 29,000 companies in 36 countries."[24]

60. PD provides a measure of a bank's credit (default) risk exposure, essentially the likelihood that the bank will default within a specified time period. PD can be estimated using statistical models, whereas LIBOR is a rate of return required by investors lending short-term funds to the bank. A finding of a statistically significant negative correlation coefficient between daily LIBOR quotes and PDs for a given bank over a given term period violates the fundamental relationship between risk and return that is the cornerstone of finance. That is, investors require a higher required rate of return as a premium for taking on additional risk exposure. This results in a positive relationship (correlation) between risk and return. An increase in the bank's PD indicates that the risk of default has increased, thereby causing investors to require a higher rate of return for loans to the bank—which should correspond with a higher LIBOR quote.

61. Accordingly, a finding of a statistically significant negative coefficient (of any size) between a bank's daily LIBOR quotes and its PDs shows that increases in PDs correspond with decreases in LIBOR quotes—which violates fundamental finance theory. This would indicate that banks are suppressing their LIBOR quotes to avoid revealing the higher rates that reflect their true (higher) probabilities of default. In other words, any finding of negative, statistically significant correlation coefficients between a bank's PDs and its LIBOR quotes suggests LIBOR suppression by the bank over the analysis period.

62. The magnitude of the correlation coefficient is impacted by the volatility of both

[24] *See* http://www.kris-online.com/, last accessed on April 23, 2012.

PD and LIBOR for each bank during the time period. Thus, for example, if a bank has high volatility in its PDs, the absolute value of the correlation coefficient will tend to be lower (i.e., less negative) as compared to an identical bank with low PD volatility. However, both may be equally engaged in LIBOR suppression if their correlation coefficients are statistically significant and negative.

63. The Schwab Plaintiffs' consulting experts used the KRIS database to test whether, for the period under study, each bank's daily sealed LIBOR quote correlates with the bank's estimated PD that day for the same maturity term (provided by KRIS). For example, the consultants examined the correlation between Bank of America's sealed quote for three-month LIBOR on each date with the three-month PD for Bank of America, as provided by the KRIS database on that same day. As explained above, standard finance theory implies that a positive correlation between a bank's PD and its LIBOR quote should exist—i.e., as the bank's default risk (PD) increases, its borrowing rate (LIBOR quote) should increase, and *vice versa*. That is, using the above example, standard finance theory predicts a positive correlation between Bank of America's three-month PD and its three-month LIBOR quote. A finding of either a zero or negative correlation between a bank's PD and its LIBOR quote indicates the latter does not reflect the bank's default-risk probability, which evidences LIBOR suppression. A negative correlation means the two values have an inverse relationship; as one goes up, the other tends to go down. A statistically significant negative correlation between a bank's LIBOR quote and its PD is consistent with the bank's reducing its LIBOR quote in order to mask its higher risk exposure during a period of financial crisis, such as during the 2007-2008 period. By submitting an artificially low LIBOR quote, the bank sends a false signal that it is less risky than it truly is.

64. The Schwab Plaintiffs' consulting experts found suppression over the 2007-2008

period for one-month, three-month, six-month, and 12-month LIBOR.

65. The LIBOR quotes for all the reporting banks (except HSBC) during 2007 were *negatively correlated* with their daily updated PDs (for the same maturity term) to a statistically significant degree. For example, the correlation between Bank of America's daily LIBOR quotes and its daily PDs, for example, was negative and statistically significant at a very high level for the one-month, three-month, six-month and 12-month terms, i.e., between -0.5857 and -0.6093.[25] In other words, the data indicate that, contrary to fundamental finance theory, the higher a Panel Bank's PD was, the *lower* its LIBOR quote was.

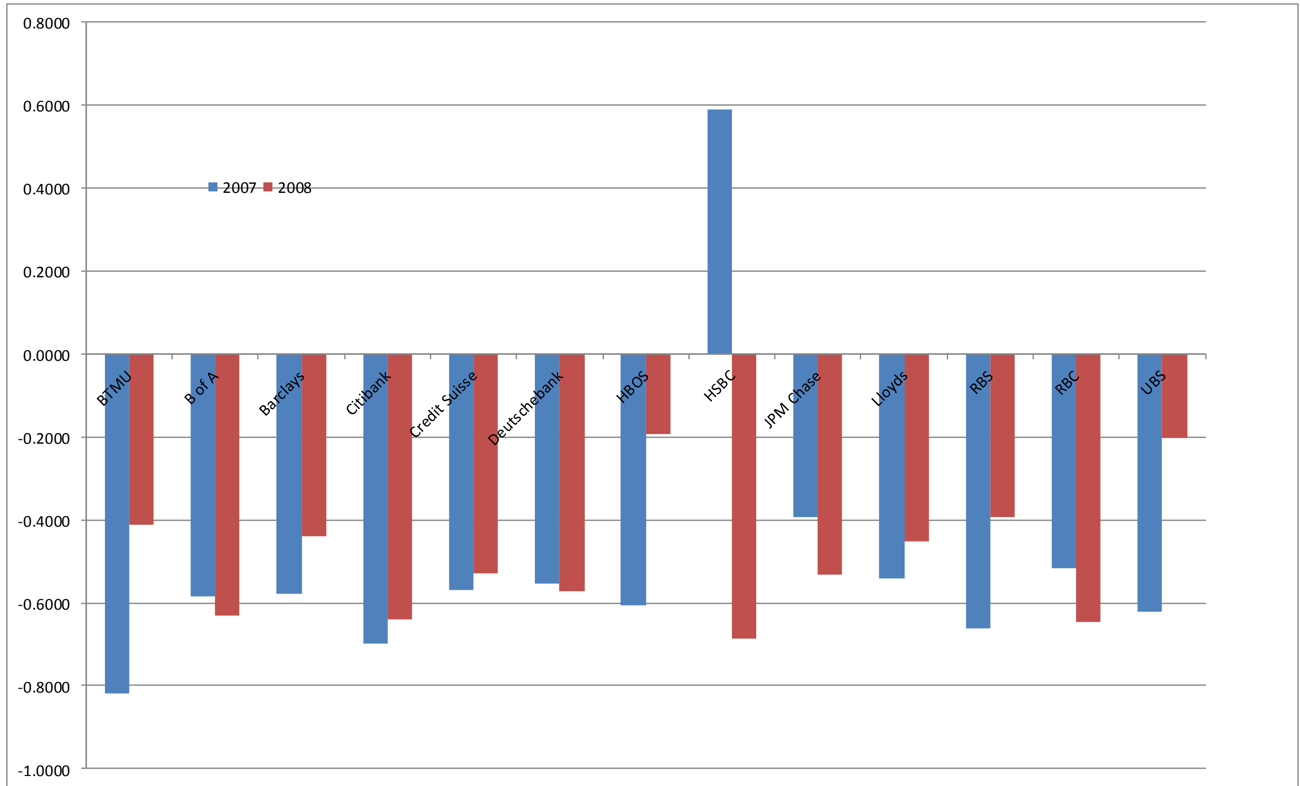
66. Performing the same analysis with respect to the LIBOR panel banks' daily LIBOR quotes and PDs during 2008, the expert consultants found that for all of the banks, the submitted LIBOR quotes were negatively correlated with their PDs at the one-month and three-month maturities. Indeed, all of the banks were submitting unduly low LIBOR quotes at all maturities during the time period from August 9, 2007 until September 12, 2008, and, with only one exception, from September 15 through December 31, 2008, the period following the Lehman bankruptcy.

67. The following graphs illustrate the findings of this expert analysis—which demonstrates a striking negative correlation between US$ LIBOR panel banks' LIBOR quotes and PDs during 2007 and 2008, indicating they severely depressed LIBOR during that time.

[25] Correlation coefficients range from a value of -1 to 1. A correlation coefficient of -0.50, for example, would imply that a 1% increase in PD would result in a 50-basis point decline in the bank's LIBOR quote.

## Graph 1

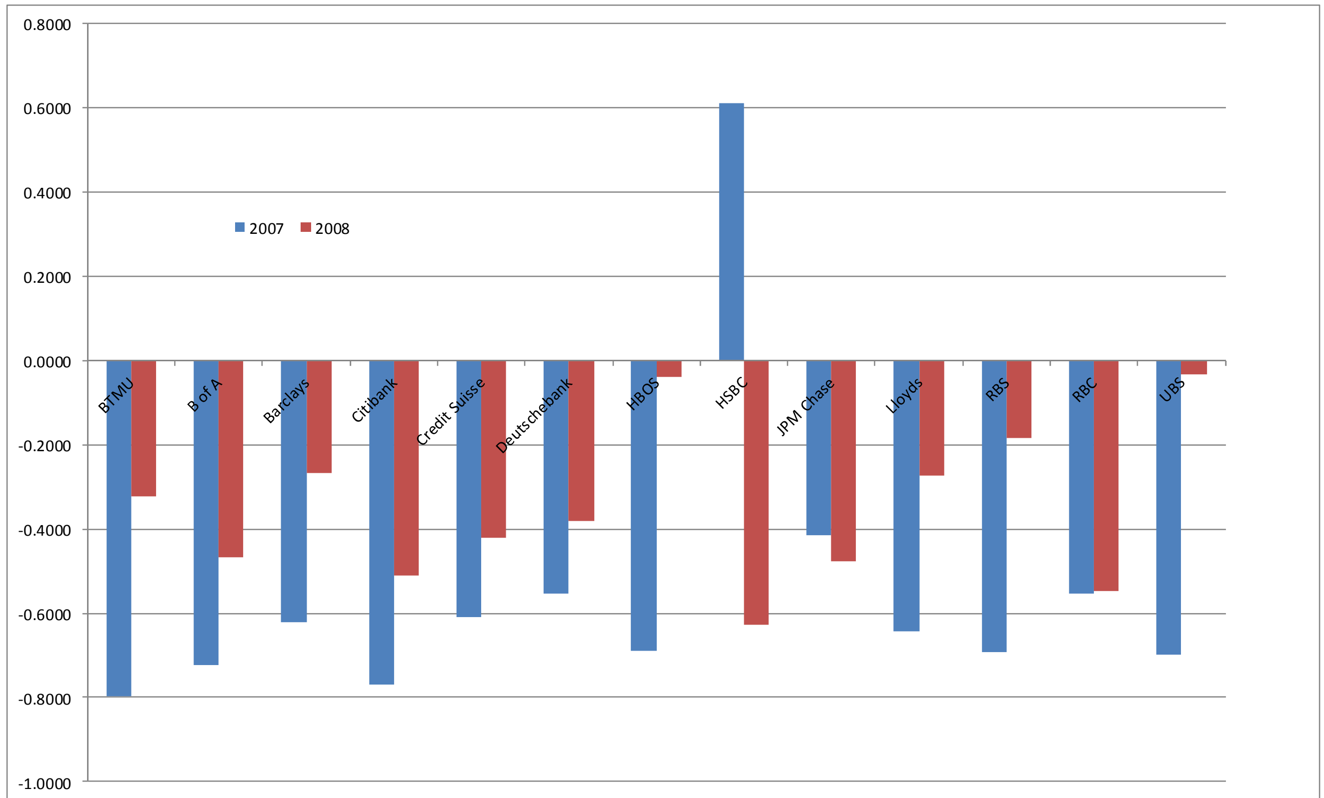
### Correlation Coefficients
### Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)
### One-Month Term




(Note: PDs are estimated daily using the reduced form model of Kamakura Risk Information Services.)

**Graph 2**

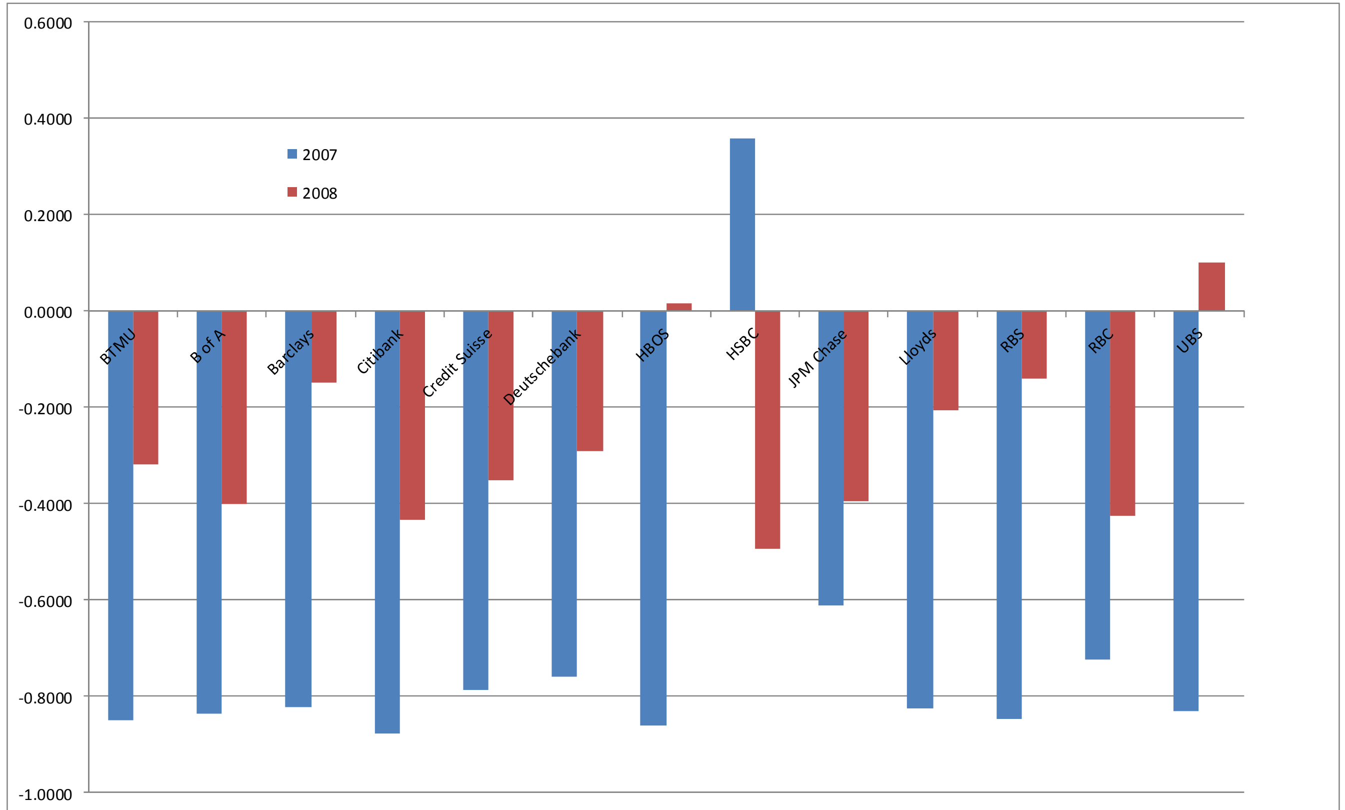
**Correlation Coefficients**
**Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)**
**Three-Month Term**




(Note: PDs are estimated daily using the reduced form model of Kamakura Risk Information Services.)

## Graph 3

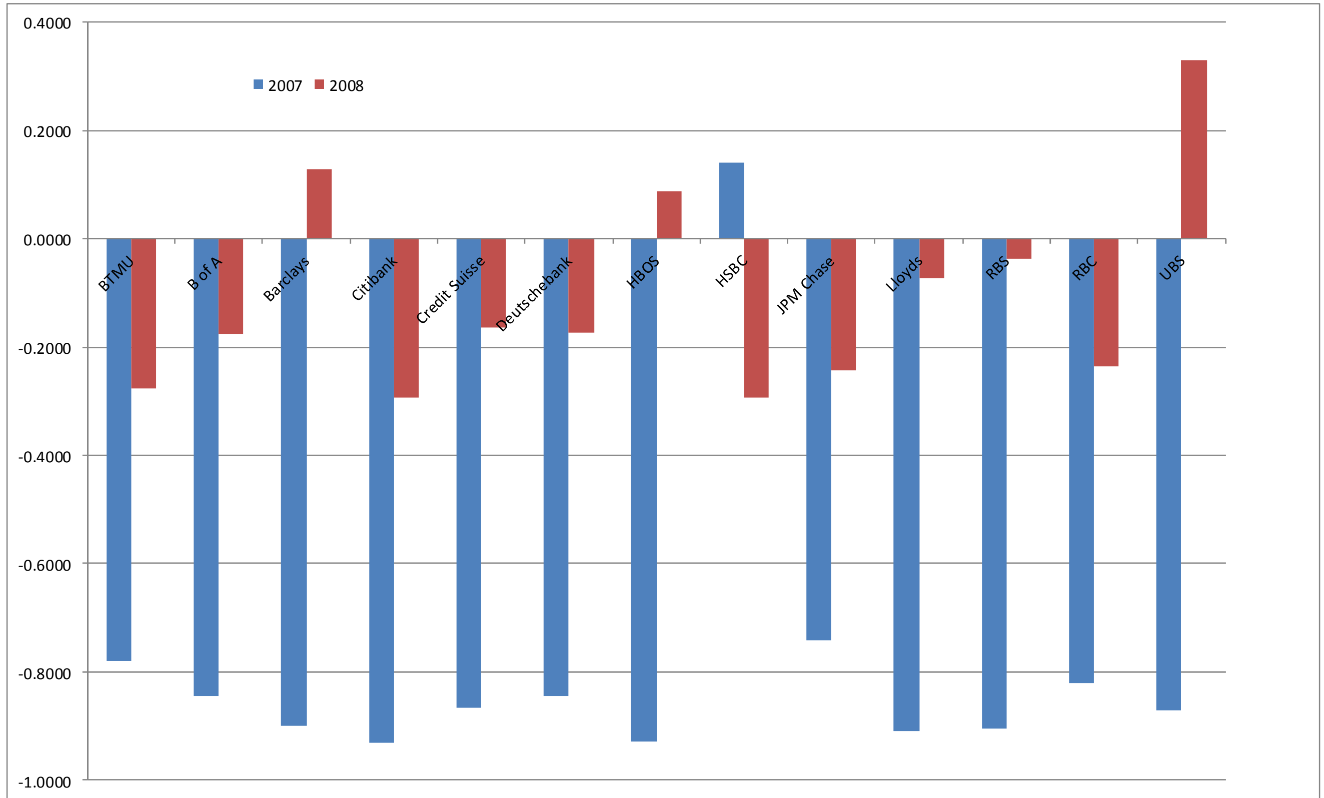
**Correlation Coefficients**
**Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)**
**Six-Month Term**




(Note: PDs are estimated daily using the reduced form model of Kamakura Risk Information Services.)

**Graph 4**

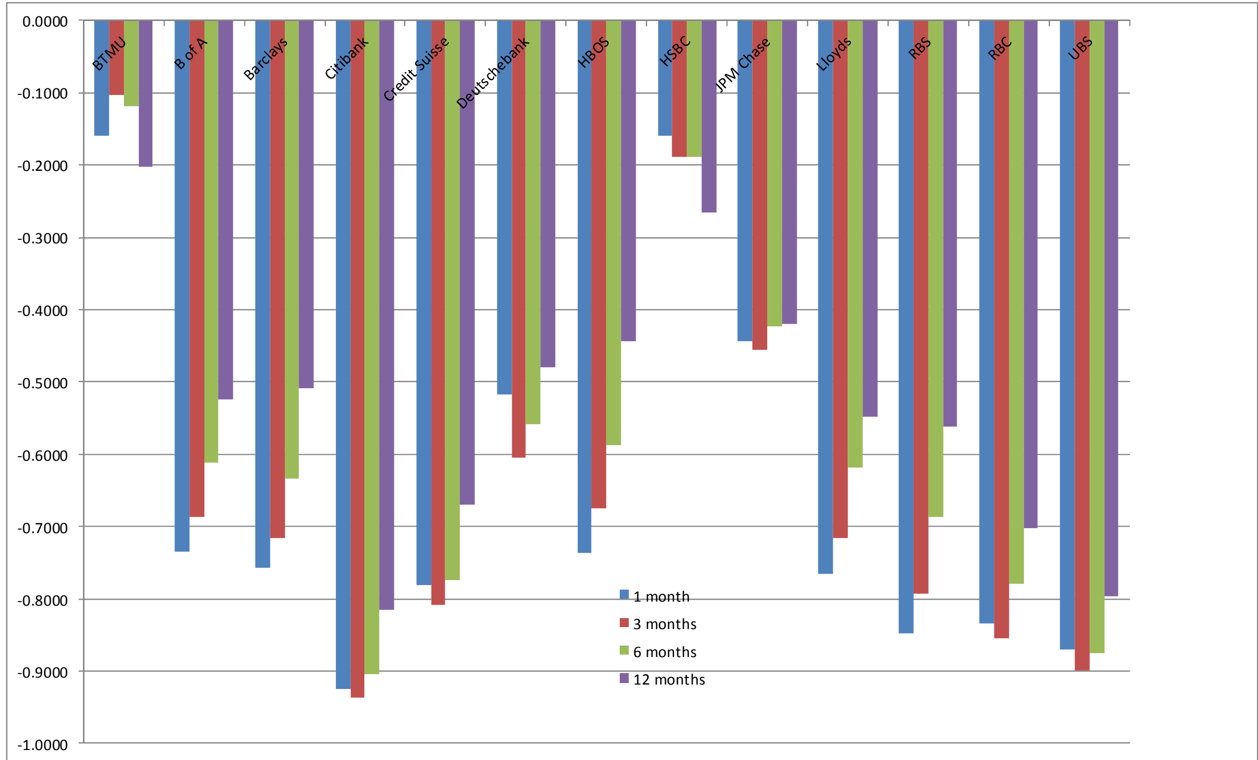
**Correlation Coefficients**
**Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)**
**Twelve-Month Term**




(Note: PDs are estimated daily using the reduced form model of Kamakura Risk Information Services.)

## Graph 5

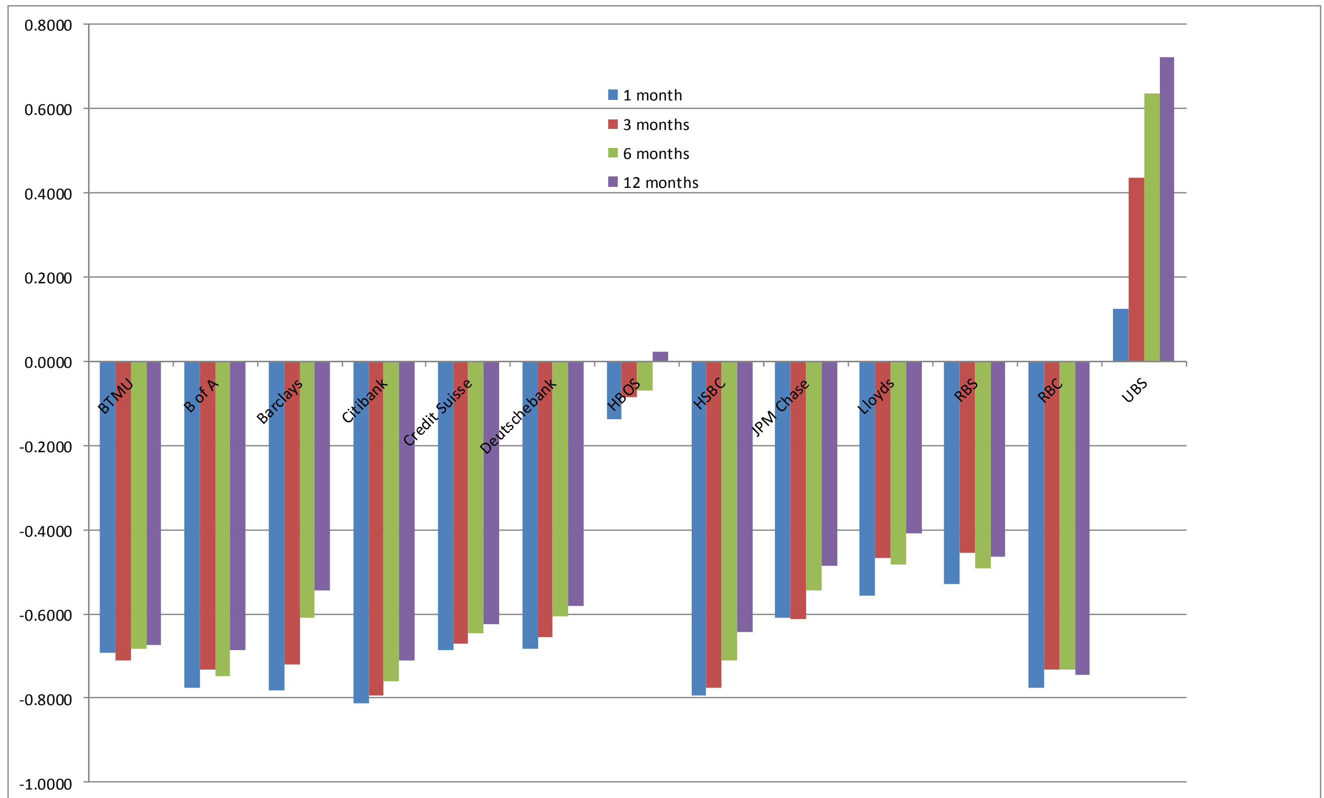
**Correlation Coefficients**
**Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)**
**9 August 2007 – 12 September 2008 Period**




(Note: PDs are estimated daily using the reduced form model of Kamakura Risk Information Services.)

**Graph 6**

**Correlation Coefficients**
**Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)**
**15 September 2008 – 31 December 2008 Period**




(Note: PDs are estimated daily using the reduced form model of Kamakura Risk Information Services.)

## C. DEFENDANTS POSSESSED STRONG FINANCIAL MOTIVES TO SUPPRESS LIBOR.

68. Defendants each had substantial financial incentives to suppress LIBOR. First, Defendants were motivated, particularly given investors' serious concerns over the stability of the market in the wake of the financial crisis that emerged in 2007, to understate their borrowing costs—and thus the level of risk associated with the banks. Moreover, because no one bank would want to stand out as bearing a higher degree of risk than its fellow banks, each Defendant shared a powerful incentive to collude with the other Defendants to ensure it was not the "odd

man out." Indeed, analysts at Citigroup Global Markets—a subsidiary of Defendant Citigroup—acknowledged in an April 10, 2008 report:

> [T]he most obvious explanation for LIBOR being set so low is the prevailing fear of being perceived as a weak hand in this fragile market environment. If a bank is not held to transact at its posted LIBOR level, there is little incentive for it to post a rate that is more reflective of real lending levels, let alone one higher than its competitors. Because all LIBOR postings are publicly disclosed, any bank posting a high LIBOR level runs the risk of being perceived as needing funding. With markets in such a fragile state, this kind of perception could have dangerous consequences.[26]

Strategists at entities affiliated with other Defendants likewise confirmed that banks suppressed LIBOR. Echoing the sentiment of the above analysts, William Porter, credit strategist at Defendant Credit Suisse, said in April 2008 that he believed the three-month LIBOR was 0.4 percentage points—or 40 basis points—below where it should be.[27] And the next month, Tim Bond, head of asset-allocation research of Barclays Capital—a subsidiary of Defendant Barclays—observed that banks routinely misstated borrowing costs to the BBA to avoid the perception that they faced difficulty raising funds as credit markets seized up.[28] Bond explained that when the Barclays treasurer resolved to "quote the right rates," Barclays faced "a series of media articles saying that we were having difficulty financing."

69. Second, by artificially suppressing LIBOR, Defendants paid lower interest rates on LIBOR-based financial instruments they sold to investors during the Class Period. Illustrating Defendants' motive to artificially depress LIBOR, in 2009 Citibank reported it would make $936 million in net interest revenue if rates would fall by 25 bps per quarter over the next year

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[26] Scott Peng, Chintan (Monty) Gandhi, & Alexander Tyo, "Special Topic: Is LIBOR Broken?," April 10, 2008.

[27] Carrick Mollenkamp, "Libor Surges After Scrutiny Does, Too," *The Wall Street Journal*, April 18, 2008.

[28] Gavin Finch and Elliott Gotkine, "Libor Banks Misstated Rates, Bond at Barclays Says," *Bloomberg*, May 29, 2008.

and $1.935 billion if they fell 1% instantaneously. JPMorgan Chase likewise reported significant exposure to interest rates in 2009: The bank stated that if interest rates increased by 1%, it would lose over $500 million. HSBC and Lloyds also estimated they would earn hundreds of millions of additional dollars in 2008-2009 in response to lower interest rates and would lose comparable amounts in response to higher rates. These banks collectively earned billions in net interest revenues during the Class Period.

70. Defendants thus possessed reputational and financial incentives to manipulate LIBOR—which, as detailed below, they did.

## D. EMPIRICAL ANALYSES BY ACADEMICS AND OTHER COMMENTATORS FURTHER INDICATE LIBOR SUPPRESSION OCCURRED.

71. In addition to the independent expert work detailed above, publicly available analyses by academics and other commentators likewise support Plaintiffs' allegations. While those studies used various comparative benchmarks and did not employ uniform methodologies, they collectively indicate LIBOR was artificially suppressed during the Class Period.

### 1. The discrepancy between Defendants' reported LIBOR quotes and their CDS spreads indicates the banks misrepresented their borrowing costs to the BBA.

72. One economic indicator that Defendants suppressed LIBOR during the Class Period is the variance between their LIBOR quotes and their contemporaneous cost of buying default insurance—i.e., a credit-default swap ("CDS")—on debt they issued during that period. A CDS—"the most common form of credit derivative, *i.e.*, [a] contract which transfers credit risk from a protection buyer to a credit protection seller"[29]—constitutes an agreement by which one party, the protection buyer, seeks financial protection in the event of a default on an underlying

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[29] *Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co. of N.Y.*, 375 F.3d 168, 171-72 (2d Cir. 2004) (alteration in original) (citation and internal quotation marks omitted).

credit instrument (typically a bond or loan). Typically, a CDS buyer makes a series of payments (often referred to as the CDS "fee" or "spread") to the CDS seller in exchange for a payment if the underlying credit instrument experiences an adverse credit event.

73. The spread serves as a measure of the perceived risk of default by the entity issuing the underlying bond or receiving the loan—the greater the risk of default the underlying bond or loan bears, the greater the CDS spread. In the case of a CDS for which the underlying instrument consists of an interbank loan where a LIBOR panel bank is the borrower, the greater the perceived risk the panel bank will default on the loan, the higher the applicable CDS spread, as this higher spread represents the cost of insuring against the increased risk of a default on the underlying loan.

74. As one commentator has observed, "The cost of bank default insurance has generally been positively correlated with LIBOR. That is, in times when banks were thought to be healthy, both the cost of bank insurance and LIBOR decreased or remained low, but when banks were thought to be in poor condition, both increased."[30] During the Class Period, however, those historically-correlated indicia of banks' borrowing costs diverged significantly.

75. That discrepancy was detailed in a May 29, 2008 *Wall Street Journal* article reporting the results of a study it had commissioned. The *Journal*'s analysis indicated numerous banks had caused LIBOR, "which is supposed to reflect the average rate at which banks lend to each other," to "act as if the banking system was doing better than it was at critical junctures in the financial crisis."[31] The *Journal* found that beginning in January 2008, "the two measures began to diverge, with reported LIBOR rates failing to reflect rising default-insurance costs."

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[30] Justin Wong, "LIBOR Left in Limbo; A Call for More Reform," 13 *North Carolina Banking Institute* 365, 371 (2009) (footnotes omitted).
[31] *See* Carrick Mollenkamp and Mark Whitehouse, "Study Casts Doubt on Key Rate --- WSJ Analysis Suggests Banks May Have Reported Flawed Interest Data for Libor."

76. The *Journal* observed that the widest gaps existed with respect to the LIBOR quotes of Defendants Citibank, West, JPMorgan, and UBS, as well as HBOS. According to the *Journal*'s analysis, Citibank's LIBOR rates differed the most from what the CDS market suggested the bank's borrowing cost was. On average, the rates at which Citibank reported it could borrow dollars for three months (i.e., its three-month LIBOR rates) were about 87 basis points *lower* than the rates calculated using CDS data. West, HBOS, JPMorgan, and UBS likewise exhibited significant LIBOR-CDS discrepancies—of 70, 57, 43, and 42 basis points, respectively—while Defendants Credit Suisse, Deutsche Bank, Barclays, HSBC, Lloyds, and RBS each exhibited discrepancies of about 30 basis points. The study's authors concluded "one possible explanation for this gap is that banks understated their borrowing rates."

77. Citing another example of suspicious conduct, the *Journal* observed that on the afternoon of March 10, 2008, investors in the CDS market were betting that West—hit especially hard by the credit crisis—was nearly twice as likely to renege on its debts as Credit Suisse, which was perceived to be in better shape, yet the next morning the two banks submitted identical LIBOR quotes.

78. Additionally, having compared the banks' LIBOR quotes to their actual costs of borrowing in the commercial-paper market, the *Journal* reported, for example, that in mid-April 2008, UBS paid 2.85% to borrow dollars for three months, but on April 16, 2008, the bank quoted a borrowing cost of 2.73% to the BBA.

79. The *Journal* further noted an uncanny equivalence between the LIBOR panel banks' quotes: the three-month borrowing rates the banks reported remained within a range of only 0.06 of a percentage point, even though at the time their CDS insurance costs (premiums) varied far more widely, reflecting the market's differing views as to the banks' creditworthiness.

According to Stanford University professor Darrell Duffie, with whom the authors of the *Journal* article consulted, the unity of the banks' LIBOR quotes was "far too similar to be believed."

80. David Juran, a statistics professor at Columbia University who reviewed the *Journal*'s methodology, similarly concluded that the *Journal's* calculations demonstrate "very convincingly" that reported LIBOR rates are lower, to a statistically significant degree, than what the market thinks they should be.

81. Calculating an alternate borrowing rate incorporating CDS spreads, the *Journal* estimated that underreporting of LIBOR had a $45 billion effect on the market, representing the amount borrowers (the banks) did not pay to lenders (investors in debt instruments issued by the banks) that they would otherwise have had to pay.

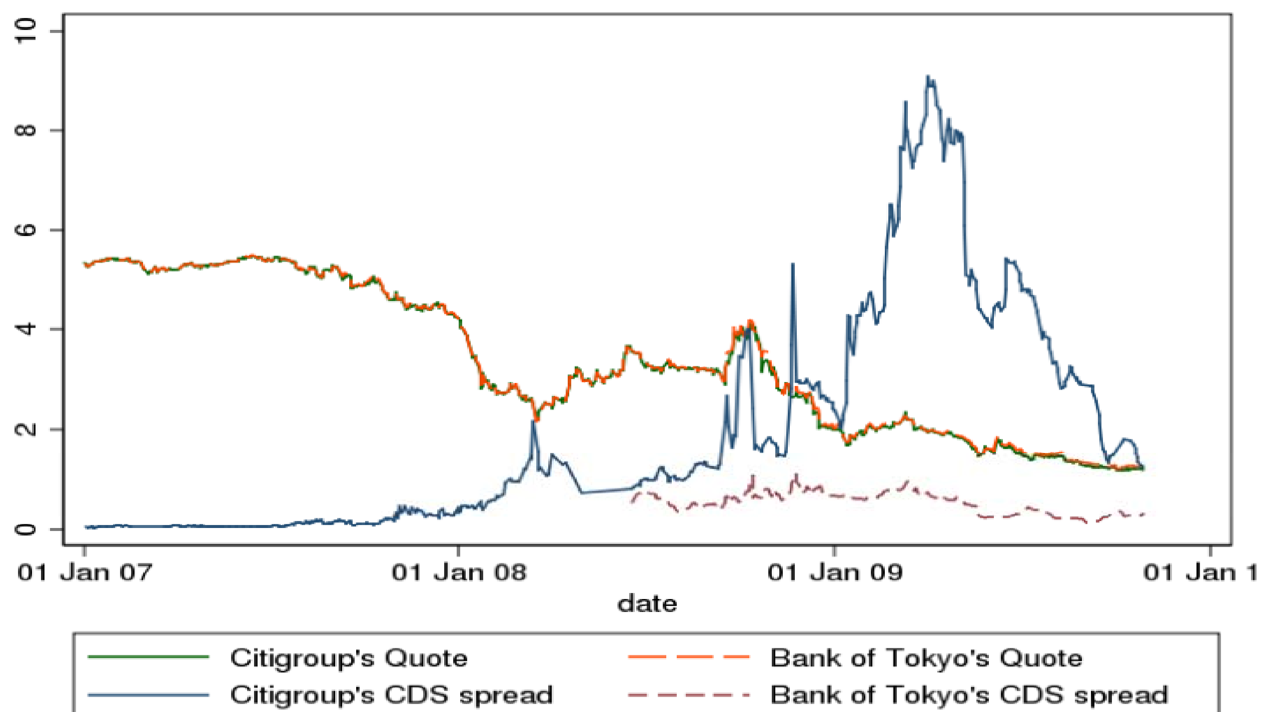
82. According to the *Journal*, three independent academics, including Professor Duffie, reviewed its methodology and findings, at the paper's request. All three deemed the *Journal*'s approach "reasonable."

83. Further economic analysis supports the correlation seen in the *Journal*'s report. A study by Connan Snider and Thomas Youle—of the economics departments at UCLA and the University of Minnesota, respectively—released in April 2010 concluded LIBOR did not accurately reflect average bank borrowing costs, its "ostensible target."[32] Noting that "[i]n a competitive interbank lending market, banks' borrowing costs should be significantly related to their perceived credit risk," Snider and Youle posited that if LIBOR quotes "express true, competitively determined borrowing costs," they should "be related to measures of credit risks, such as the cost of default insurance." According to Snider and Youle's analysis, however, quotes provided by US$ LIBOR panel banks in fact deviated from their costs of borrowing as reflected in

[32] Connan Snider and Thomas Youle, "Does the LIBOR reflect banks' borrowing costs?", April 2, 2010.

CDS spreads.

84. Comparing, for example, the 12-month US$ LIBOR quotes from Citigroup and Bank of Tokyo together with each bank's corresponding one-year senior CDS spreads, Snider and Youle observed (as illustrated in the graph below) "that while Citigroup has a substantially higher CDS spread than [Bank of Tokyo], it submits a slightly lower Libor quote." Accordingly, the authors explain, while the CDS spreads "suggest that the market perceives Citigroup as riskier than [Bank of Tokyo], as it is more expensive to insure against the event of Citigroup's default," the banks' LIBOR quotes "tell the opposite story."

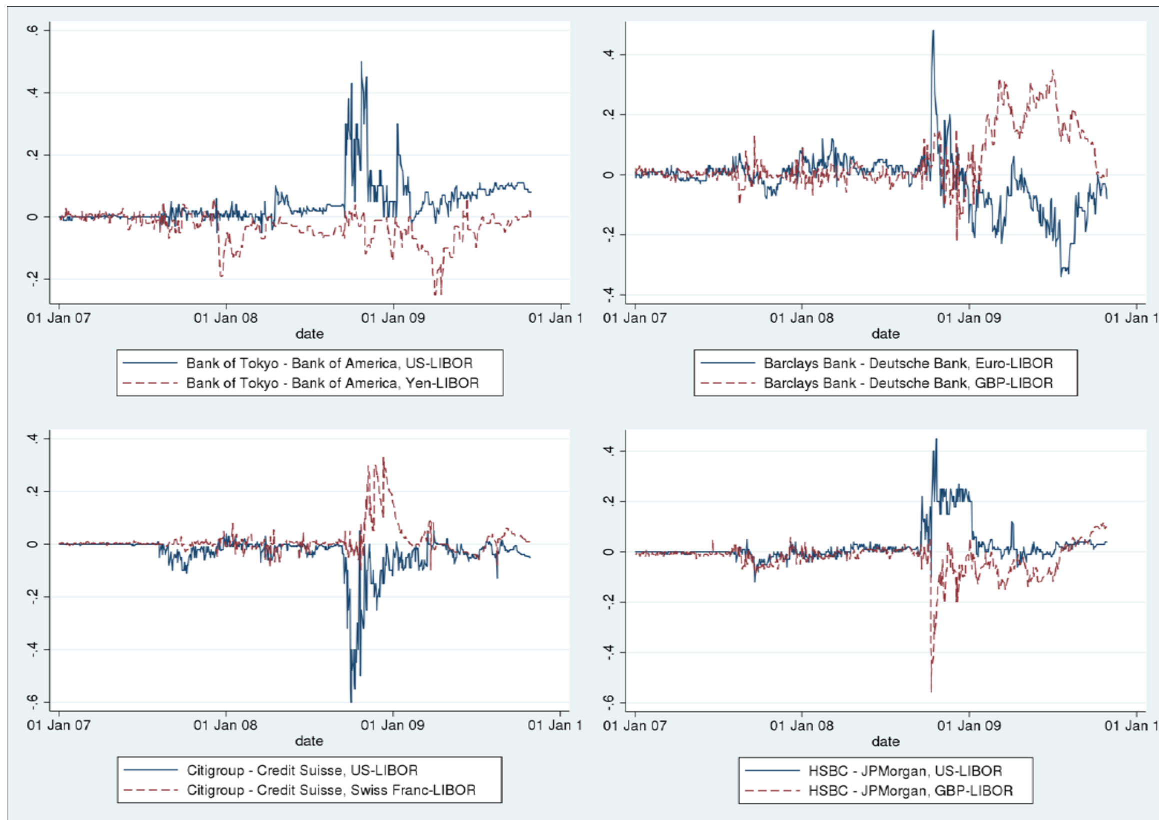



85. Snider and Youle further noted the level of Citigroup's CDS spreads relative to its LIBOR quotes was "puzzling." The authors explained, "Given that purchasing credit protection for a loan makes the loan risk free, one would expect [the] difference between the loan rate and the CDS spread to roughly equal the risk free rate. This corresponds to the idea that a loan's interest rate contains a credit premium, here measured by the CDS spread." But the authors ob-

served that Citigroup's quote was often "significantly below its CDS spread," implying "there were interbank lenders willing to lend to Citigroup at rates which, after purchasing credit protection, would earn them *a guaranteed 5 percent loss*." (Emphasis added). That discrepancy contravenes basic rules of economics and finance, thus indicating Citibank underreported its borrowing costs to the BBA.

### 2. **Cross-currency discrepancies in Defendants' LIBOR quotes indicate they suppressed LIBOR.**

86. Defendants' LIBOR quotes also displayed inexplicable "cross-currency rank reversals." That is, as detailed in Snider and Youle's paper referenced above, at least some Defendants reported lower rates on LIBOR than did other panel members but, for other currencies, provided higher rates than did those same fellow banks. Both Bank of America and Bank of Tokyo, for instance, quoted rates for LIBOR and Yen-LIBOR during the period under study, yet Bank of America quoted a lower rate than Bank of Tokyo for LIBOR and a *higher* rate than Bank of Tokyo for Yen-LIBOR. Other Defendants included in Snider and Youle's analysis—Barclays, Citigroup, and JPMorgan—displayed similar anomalies across currencies, as the graphs below illustrate. Citigroup, for example, often reported rates at the top of the Yen-LIBOR scale while simultaneously quoting rates at the bottom of the LIBOR scale.




87. Snider and Youle explain that because "the same bank is participating in each currency," the credit risk "is the same for loans in either currency"; thus these "rank reversals" demonstrate that differences in the banks' LIBOR quotes "are not primarily due to differences in credit risk, something we would expect of their true borrowing costs." Cross-currency rank reversals are inconsistent with the notion that LIBOR quotes reflect each panel bank's singular "credit and liquidity risk profile."

### 3. **<u>The frequency with which at least certain Defendants' LIBOR quotes "bunched" around the fourth-lowest quote of the day suggests manipulation.</u>**

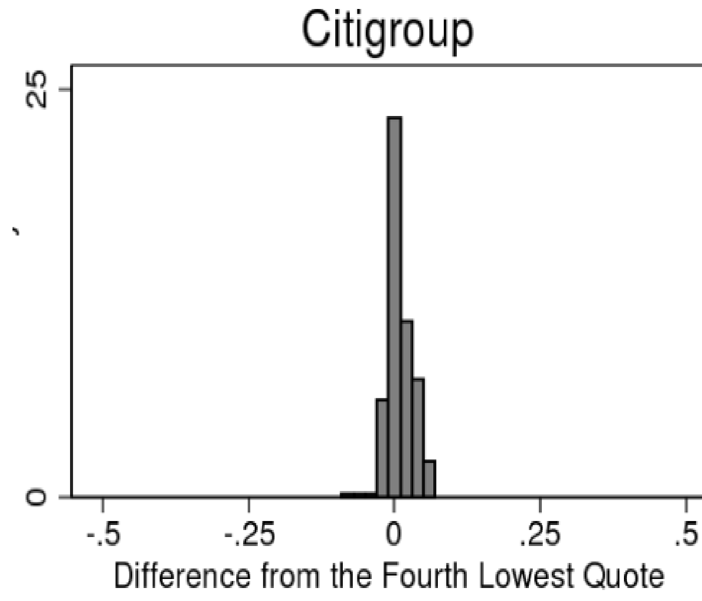
88. During the Class Period, the rates reported by certain Defendants—in particular, Citibank, Bank of America, and JPMorgan—also demonstrated suspicious "bunching" around the fourth lowest quote submitted by the 16 banks to the BBA. Indeed, Citibank's and Bank of America's quotes often tended to be identical to the fourth-lowest quote for the day. Because the

LIBOR calculation involved excluding the lowest (and highest) four reported rates every day, bunching around the fourth-lowest rate suggests Defendants collectively depressed LIBOR by reporting the lowest possible rates that would not be excluded from the calculation of LIBOR on a given day.

89. Bunching among Defendants' respective LIBOR quotes indicates the banks intended to report the same or similar rates, notwithstanding the banks' differing financial conditions, which, as detailed above, reasonably should have resulted in differing LIBOR quotes. Those discrepancies suggest Defendants colluded to suppress LIBOR.

90. The following charts show the frequency with which the LIBOR quotes submitted by Defendants Citigroup, Bank of America, and JPMorgan fell within a given percentage rate from the fourth-lowest quote. A negative difference means the reporting bank was below the fourth-lowest quote, and therefore its rate was not included in the daily LIBOR calculation, while zero difference means that the bank reported the fourth-lowest quote on a given day (either by itself or tied with other reporting banks).[33]

[33] In the event of a tie between two or more banks, one of the banks' quotes, selected at random, was discarded.


Citigroup
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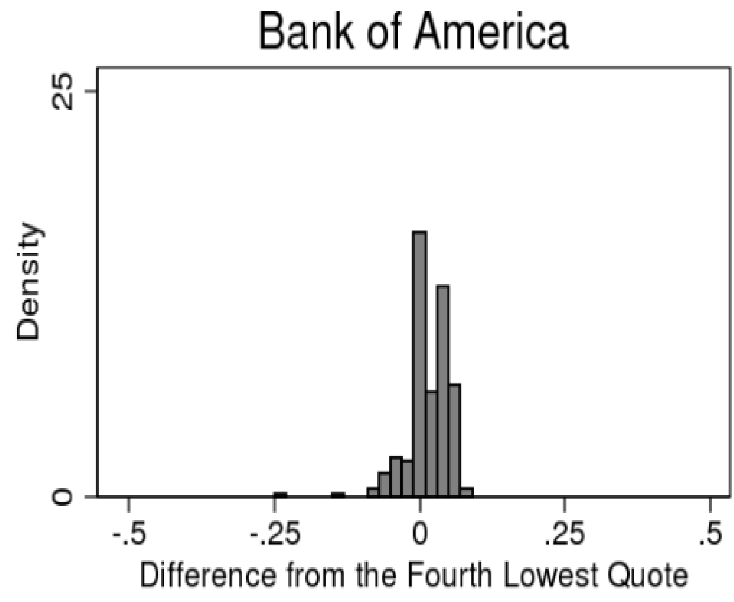
Difference from the Fourth Lowest Quote


Bank of America
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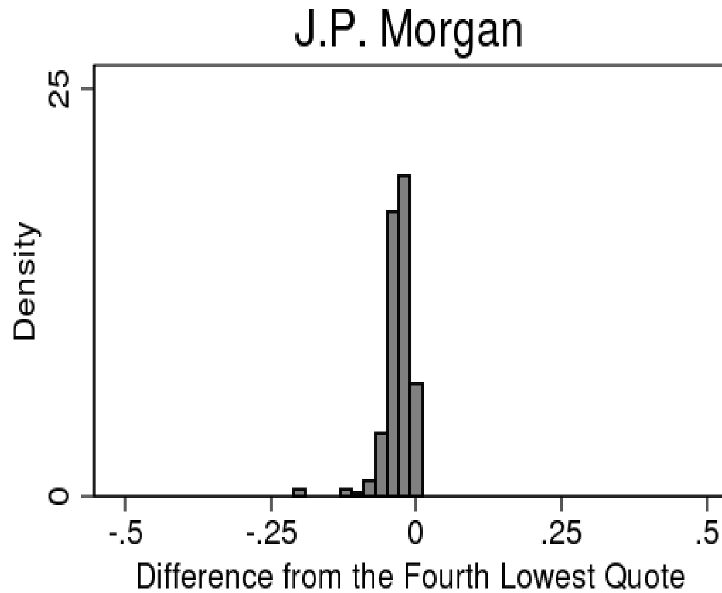
Difference from the Fourth Lowest Quote




91. According to Snider and Youle, the fact that observed bunching occurred around the pivotal fourth-lowest reported rate reflected the reporting banks' intention to ensure the lowest borrowing rates were included in the calculation of LIBOR (which includes only the fifth-lowest through the twelfth-lowest quotes).

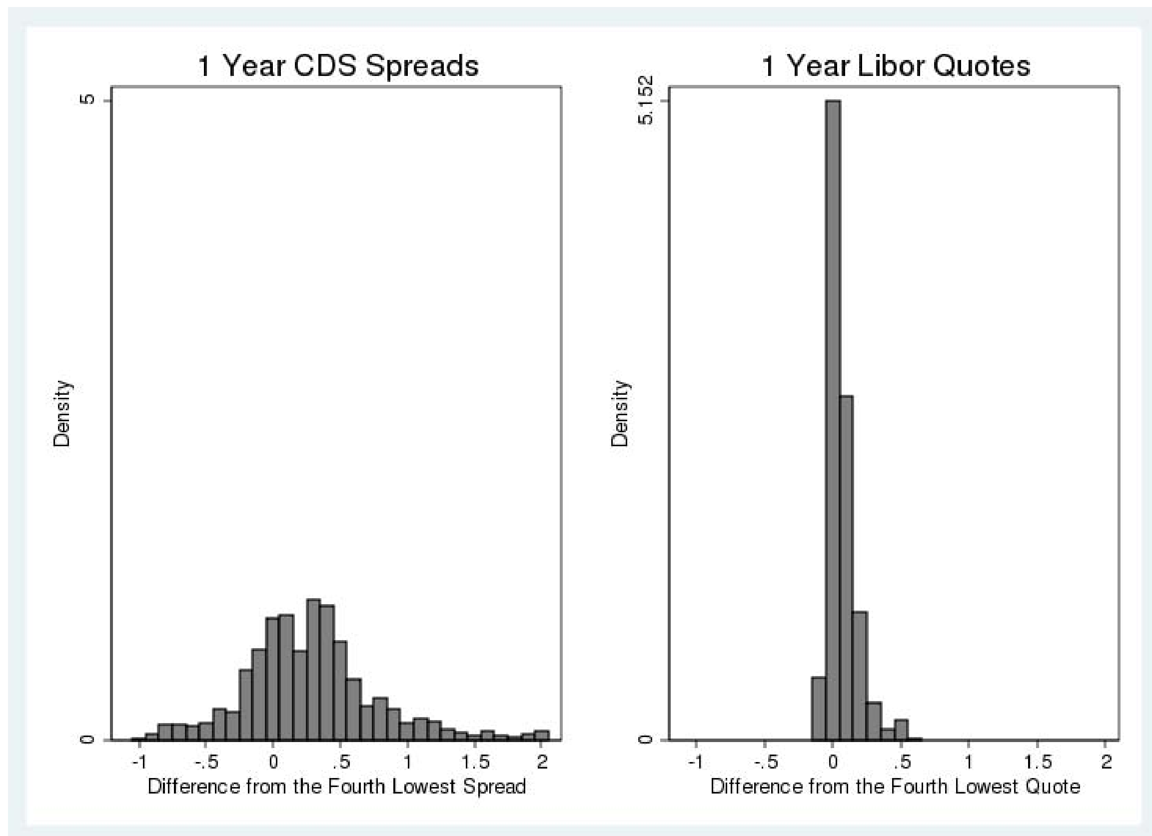
92. In other words, banks that bunched their quotes around the fourth-lowest submission helped ensure the maximum downward manipulation of the resulting rate. Furthermore, that a panel bank reported one of the four lowest quotes (i.e., quotes excluded from the ultimate LIBOR calculation) does not mean the bank did not also participate in the collusion.

93. Further demonstrating the aberrant nature of the observed bunching around the fourth-lowest quote, Snider and Youle noted "the intraday distribution of *other* measures of bank borrowing costs do not exhibit this bunching pattern." (Emphasis added).

94. Additionally, Snider and Youle detailed a discrepancy between LIBOR panel banks' LIBOR quotes and their CDS spreads. The authors found that "with the intra-day variation of both Libor quotes and CDS spreads increasing from their historical levels," the CDS

spreads' intra-day variation "grew considerably larger than that of Libor quotes."[34]

95. Snider and Youle further observed that—as the graphs below, embodying a composite of all the banks, illustrate—during the Class Period Defendants' quotes tended to "bunch" around the fourth-lowest quote much more commonly than those banks' CDS spreads "bunched" around the fourth-lowest spread. The authors concluded, "If banks were truthfully quoting their costs, . . . we would expect these distributions to be similar."




96. Given the method by which the BBA calculates LIBOR—discarding the highest and lowest reported rates and averaging the remainder—that strong concentration around the fourth-lowest rate is exactly what would occur if a number of banks sought in concert to depress LIBOR.

97. The Bank for International Settlements ("BIS"), a Swiss-based international or-

[34] Snider and Youle, "Does the LIBOR reflect banks' borrowing costs?"

ganization that "serve[s] central banks in their pursuit of monetary and financial stability," similarly reported in a study of interbank lending rates that LIBOR quotes were artificially uniform during the second half of 2007. The BIS study cited LIBOR "market participants" who argued that "the rates quoted and paid by banks on their interbank borrowing tended to vary more than usual (and by more than what appears in the Libor panel) during the turbulence."

**4. That LIBOR diverged from its historical relationship with the Federal Reserve auction rate indicates suppression occurred.**

98. A comparison between LIBOR and the Federal Reserve auction rate further suggests Defendants artificially suppressed LIBOR during the Class Period. An April 16, 2008 *Wall Street Journal* article, for example, noted the Federal Reserve had recently auctioned off $50 billion in one-month loans to banks for an average annualized interest rate of 2.82%—10 basis points higher than the comparable LIBOR rate. That differential would make no economic sense if the reported LIBOR rate was accurate, the *Journal* observed: "Because banks put up securities as collateral for the Fed loans, they should get them for a lower rate than Libor, which is riskier because it involves no collateral."

99. A subsequent *Journal* article raised further concerns about LIBOR's accuracy based on the comparison of one-month LIBOR with the rate for the 28-day Federal Reserve auction.[35] According to the *Journal*, because the Federal Reserve requires collateral:

> banks should be able to pay a lower interest rate [to the Fed] than they do when they borrow from each other [e.g., as ostensibly measured by LIBOR] because those loans are unsecured. It is the same reason why rates for a mortgage, which is secured by a house, are lower than those for credit cards, where the borrower doesn't put up any collateral. In other words, the rate for the Fed auction should be lower than Libor.

To the contrary, though, two days before the *Journal* article (September 22, 2008), the

[35] Carrick Mollenkamp, "Libor's Accuracy Becomes Issue Again," *The Wall Street Journal*, September 24, 2008.

rate for the 28-day Fed facility was 3.75%—much higher than one-month LIBOR, which was 3.18% that day[36] and 3.21% the next day.

### 5. <u>LIBOR's divergence from its historical correlation to overnight index swaps also suggests it was artificially suppressed during the Class Period.</u>

100. Yet another example of LIBOR's aberrant behavior with respect to other measures of banks' borrowing costs during the Class Period is its observed deviation from the overnight-index swap ("OIS") rate. In his academic article analyzing LIBOR data for the second half of 2007 and 2008, Justin Wong observed that between 2001 and July 2007, when the global credit crisis began, the spread between LIBOR and the OIS rate "averaged eleven basis points."[37] By July 2008, that gap "approached 100 basis points, a figure significantly higher than the spread from a year prior," and by October 2008, "it peaked at 366 basis points." While the spread "receded somewhat in November 2008 to 209 basis points," that was still "far above the pre-crisis level." Wong's analysis provides further support for Plaintiffs' allegations that Defendants suppressed LIBOR.

### 6. <u>Additional data suggest LIBOR may have been manipulated as early as August 2006.</u>

101. As the empirical evidence in support of LIBOR manipulation continues to develop, at least some of the data point to possible manipulation as early as August 2006. In a recent paper, Rosa Abrantes-Metz (of NYU Stern School of Business's Global Economics Group) and Albert Metz (of Moody's Investors Service) compared one-month LIBOR against the Fed Funds

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[36] The *Journal* initially reported the one-month USD-LIBOR rate for that day as 3.19% but later noted the correct figure.

[37] Justin Wong, "LIBOR Left in Limbo; A Call for More Reform."

effective rate and the one-month Treasury Bill ("T-Bill") rate.[38] Studying the period of early August 2006 through early August 2007, the authors observed the level of one-month LIBOR was "virtually constant," while the Fed Funds effective rate and the one-month T-Bill rate did "not present such striking stability." Spurred by that "highly anomalous" discrepancy, Abrantes-Metz and Metz examined the LIBOR panel members' individual quotes, which showed that during the studied period, the middle eight quotes used to set LIBOR each day were "essentially identical day in and day out"—another "highly anomalous" finding.

102. The authors concluded that "explicit collusion" presented "the most likely explanation" for this anomalous behavior. They explained that because LIBOR quotes are submitted sealed, "the likelihood of banks moving simultaneously to the same value from one day to the next without explicit coordination is extremely low, particularly given that their idiosyncrasies would not imply completely identical quotes under a non-cooperative outcome." They further opined "it is difficult to attribute it to tacit collusion or strategic learning, since the change is abrupt, the quotes are submitted sealed, and the quotes themselves sometimes change from one day to the next in an identical fashion."

103. Abrantes-Metz and Sofia B. Villas-Boas (of UC-Berkeley's Department of Agricultural & Resource Economics) used another methodology—Benford second-digit reference distribution—to track the daily one-month LIBOR rate over the period 2005-2008.[39] Based on this analysis, the authors found that for sustained periods in 2006 and 2007, the empirical standard-deviation distribution differed significantly from the Benford reference distribution for nearly all banks submitting quotes. The authors also observed large deviations from Benford for a

[38] Rosa M. Abrantes-Metz and Albert D. Metz, "How Far Can Screens Go in Distinguishing Explicit from Tacit Collusion? New Evidence from the Libor Setting."
[39] Rosa M. Abrantes-Metz and Sofia B. Villas-Boas, "Tracking the Libor Rate," July 2010.

sustained period in 2008.

104. Those studies indicate at least a possibility that Defendants' suppression of LIBOR goes back even farther than August 2007.

### 7. **Expert Analysis Performed In Connection With These Proceedings Indicates LIBOR's Increase Following Expressions of Concern Over LIBOR's Viability Resulted from Defendants' Reaction to Events Unrelated to Market Factors.**

105. On April 17, 2008, the day after *The Wall Street Journal* initially reported on LIBOR's anomalous behavior and the BBA stated it would conduct an inquiry concerning LIBOR, there was a sudden jump in USD-LIBOR—the three-month borrowing rate hit 2.8175% that day, about eight basis points more than the previous day's rate of 2.735%.

106. Suspiciously, reported LIBOR rates for other currencies fell or remained relatively flat at the time USD-LIBOR rose, a sign that the latter was susceptible to manipulation.

107. A consulting expert engaged by other plaintiffs in these coordinated proceedings has conducted an analysis of the change in LIBOR on the single date of April 17, 2008. The analysis tested the hypothesis that if banks did not manipulate LIBOR, there would be no systematic changes in LIBOR expected on April 17, 2008 relative to typical changes on other days between January 5, 2000 to May 13, 2011, whereas if banks did manipulate LIBOR—and were responding to *The Wall Street Journal* article and BBA announcement—the reporting banks would be likely to reduce or abandon the manipulation immediately in response to these events. An immediate reduction in LIBOR manipulation would result in an increase in LIBOR quotes by the member banks on April 17, 2008.

108. To conduct the analysis, the consulting expert ran a regression using the daily changes in LIBOR. Table 1 below shows the studies' results. As discussed above, LIBOR increased on April 17, 2008 at a statistically significant level. Moreover, the increase in composite

LIBOR as well as of the 11 of the 16 bank quotes were statistically significant. These findings were consistent with the hypothesis that the banks manipulated and suppressed LIBOR.

**Table 1**

**Changes in LIBOR on April 17, 2008 in Percentage Points***

| | **Dependent variable** | **Average change during non-suppression days** | **Change in the dependent variable on April 17, 2008 relative to non-suppresion days' average** | **Statistical Significance at the 1-5% level of the April 17, 2008 move** |
|---|---|---|---|---|
| 1 | BBA LIBOR | -0.000371 | 0.0909* | 5% |
| 2 | HSBC LIBOR | 0.000154 | 0.1273** | 1% |
| 3 | JPMC LIBOR | -0.000333 | 0.0872* | 5% |
| 4 | BARCLAYS LIBOR | -0.000333 | 0.1072* | 5% |
| 5 | WEST LB LIBOR | -0.000314 | 0.0971* | 5% |
| 6 | RBS LIBOR | -0.000352 | 0.0921* | 5% |
| 7 | RABOBANK LIBOR | -0.000364 | 0.0872* | 5% |
| 8 | CITI LIBOR | -0.000344 | 0.1022* | 5% |
| 9 | RBC LIBOR | 0.002067 | 0.1021* | 5% |
| 10 | UBS LIBOR | -0.000777 | 0.1021* | 5% |
| 11 | NORIN LIBOR | -0.00038 | 0.0971* | 5% |
| 12 | HBOS LIBOR | 0.002467 | 0.1111* | 5% |

Statistical significance is assessed using a AR(3) model for the residuals
* While not shown here, an additional dummy variable is used to control for changes during the Relevent Period of August 8, 2007 to May 17, 2010.

109. An alternative hypothesis is that, in addition to reacting to the *Journal*, other confounding effects that are related to the risk of the banking sector or overall Market Fundamentals could have emerged on April 16, 2008 and April 17, 2008. This alternative hypothesis also predicts an increase in LIBOR. To test this alternative hypothesis, instead of looking at daily changes in LIBOR quotes, it is possible to examine daily changes in the difference between banks' LIBOR quotes and the Federal Reserve Eurodollar Deposit Rate (the "Spread"). If risk-related factors or Market Fundamentals played a role, they would affect both the banks' LIBOR quotes as well as the Federal Reserve's Eurodollar Deposit Rate. Thus, if this hypothesis is correct, one should not see any changes to the Spread on April 17, 2008, since these two effects should cancel out. However, if there were no risk-related news and only a reaction to *The Wall Street Journal* article and the BBA announcement played a major role, then only LIBOR would be affected, leaving Federal Reserve's Eurodollar Deposit Rate mostly unaffected. In this case, the Spread would again be expected to increase.

110. The test of this alternative hypothesis showed that the Spreads of all 16 panel banks increased on April 17, 2008 and, as shown in Table 2 below, 11 of the 16 changes were statistically significant at levels ranging from 1% to 5%. Once again, these findings were consistent with the manipulation hypothesis and inconsistent with the hypothesis that other risk factors explained the April 17, 2008 shock to the LIBOR rate.

**Table 2**

**Changes in Spread (BBA LIBOR – Federal Reserve's Eurodollar Deposit Rate) on April 17, 2008 in Percentage Points***

| | **Dependent variable** | **Average change in Spread during non-suppression days** | **Change in the dependent variable on April 17, 2008 relative to non-suppression days' average** | **Statistical Significance at the 1-5% level of the April 17, 2008 move** |
|---|---|---|---|---|
| **1** | BBA LIBOR Spread | -0.000078 | 0.0838 | 5% |
| **2** | HSBC LIBOR Spread | 0.000508 | 0.1205 | 1% |
| **3** | JPMC LIBOR Spread | -0.000103 | 0.0803* | 5% |
| 4 | BARCLAYS LIBOR Spread | -0.000067 | 0.1002** | 1% |
| **5** | RBS LIBOR Spread | -0.0001 | 0.0851* | 5% |
| **6** | TOKYO LIBOR Spread | -0.000092 | 0.0797* | 5% |
| **7** | CITI LIBOR Spread | -0.00012 | 0.0953* | 5% |
| **8** | CS LIBOR Spread | -0.000224 | 0.07* | 5% |
| **9** | RBC LIBOR Spread | -0.000135 | 0.0951* | 5% |
| **10** | UBS LIBOR Spread | -0.000172 | 0.095* | 5% |
| **11** | NORIN LIBOR Spread | -0.000179 | 0.0903** | 1% |
| **12** | HBOS LIBOR Spread | 0 | 0.1007* | 5% |

Statistical significance is assessed using a AR(3) model for the residuals
* While not shown here, an additional dummy variable is used to control for changes during the Relevent Period of August 8, 2007 to May 17, 2010.

111. The conclusions of this study are consistent with the contemporaneous views expressed by high-level employees of various Defendant panel banks recounted above.

**E. THAT AT LEAST SOME DEFENDANTS FACED DIRE FINANCIAL CIRCUMSTANCES DURING THE CLASS PERIOD FURTHER RENDERS THEIR UNDULY LOW LIBOR QUOTES STRIKING.**

112. The independent economic analyses performed in connection with these proceedings, whose findings are corroborated by the publicly available scholarly work detailed above, strongly indicate Defendants' LIBOR quotes during the Class Period did not appropriately reflect those banks' actual borrowing costs at that time—and, indeed, that Defendants *collectively* suppressed LIBOR. Further illustrating the striking discrepancy between Defendants' submissions to the BBA and their actual borrowing costs, during 2008 and 2009 at least some of those banks' LIBOR quotes were too low in light of the dire financial circumstances the banks faced, which were described in numerous news articles from the Class Period.

**1. Citigroup**

113. On November 21, 2008, *The Wall Street Journal* reported that Citigroup executives "began weighing the possibility of auctioning off pieces of the financial giant or even selling the company outright" after the company faced a plunging stock price. The article noted Citigroup executives and directors "rushing to bolster the confidence of investors, clients and employees" in response to uncertainty about Citigroup's exposure to risk concerning mortgage-related holdings.[40] Similarly, on November 24, 2008, *CNNMoney* observed:

> If you combine opaque structured-finance products with current fair-value accounting rules, almost none of the big banks are solvent because that system equates solvency with asset liquidity. So

[40] *See* http://online.wsj.com/article/SB122722907151946371.html?mod=testMod

> at this moment Citi isn't solvent. Some argue that liquidity, not solvency, is the problem. But in the end it doesn't matter. Fear will drive illiquidity to such a point that Citi could be rendered insolvent under the current fair-value accounting system.[41]

114. On January 20, 2009, *Bloomberg* reported that Citigroup "posted an $8.29 billion fourth-quarter loss, completing its worst year, and plans to split in two under Chief Executive Officer Vikram Pandit's plan to rebuild a capital base eroded by the credit crisis. The article further stated, "*The problems of Citi, Bank of America and others suggest the system is bankrupt*." (Emphasis added).[42]

**2. RBS, Lloyds, and HBOS**

115. An April 23, 2008 analyst report from Société Générale reported, with respect to RBS's financial condition in the midst of its attempt to raise capital:

> Given the magnitude and change in direction in a mere eight weeks, we believe that management credibility has been tarnished. We also remain unconvinced that the capital being raised is in support of growth rather than merely to rebase and recapitalise a bank that overstretched itself at the wrong point in the cycle in its pursuit of an overpriced asset.
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> [I]n our eyes, RBS has not presented a rock solid business case that warrants investor support and the bank has left itself almost no capital headroom to support further material deterioration in either its assets or its major operating environments. We believe £16bn (7% core tier I ratio) would have provided a solid capital buffer.

The analysts also opined, "[W]e are not of the belief that all of RBS' problems are convincingly behind it." They further explained, "When faced with the facts and the events leading up to yesterday's request for a £12bn capital injection, we believe shareholders are being asked to invest further in order to address an expensive mishap in H2 07 rather than capitalise on growth oppor-

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[41] *See* http://money.cnn.com/2008/11/21/news/companies/benner_citi.fortune/

[42] *See* http://www.bloomberg.com/apps/news?pid=21070001&sid=aS0yBnMR3USk

tunities."

116. On October 14, 2008, *Herald Scotland* reported a £37 billion injection of state capital into three leading banks, including RBS and HBOS. The article observed, "Without such near-nationalisations, . . . Royal Bank of Scotland and HBOS, would almost certainly have suffered a run on their remaining reserves and been plunged into insolvency. Their share prices could scarcely have taken much more of their recent hammering."[43]

117. On December 12, 2008, *Bloomberg* reported that shareholders approved HBOS's takeover by Lloyds TSB Group plc following bad-loan charges in 2008 rising to £5 billion and an increase in corporate delinquencies. The article also quoted analysts characterizing HBOS's loan portfolio as "'generally of a lower quality than its peers.'" *Bloomberg* further observed that HBOS suffered substantial losses on its bond investments, which totaled £2.2 billion, and losses on investments increased from £100 million to £800 million for the year.[44]

116. A January 20, 2009 analyst report from Société Générale stated: "We would note that given the 67% drop in the share price following [RBS]'s announcements yesterday [relating to capital restructuring due to greater-than-expected credit-market related write downs and bad debt impairments in Q4], the loss of confidence in the bank's ability to continue to operate as a private sector player and concern over the potential ineffectiveness of the Asset Protection Scheme may prompt the UK government to fully nationalise the bank. In this instance, the shares could have very limited value, if at all."[45]

117. On March 9, 2009, *Bloomberg* reported that Lloyds "will cede control to the Brit-

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[43] *See* http://www.heraldscotland.com/reckless-banks-brought-this-financial-firestorm-down-upon-their-own-heads-1.891981.
[44] *See* http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a4BTqdgwhPTc&refer=uk.
[45] *See* January 20, 2009 Société Générale analyst report on Royal Bank of Scotland titled "Little value left for shareholders."

ish Government in return for state guarantees covering £260 billion ($A572 billion of risky assets)." The article further observed that in September 2008, Lloyds agreed to buy HBOS for roughly £7.5 billion as the British Government sought to prevent HBOS from collapsing after credit markets froze. The HBOS loan book was described as "more toxic than anyone ever dreamed."[46]

118. On November 24, 2009, *Bloomberg* reported the Bank of England provided £62 billion ($102 billion) of "taxpayer-backed emergency financing" to RBS and HBOS at the height of the financial crisis in October 2008 and that "[t]he [financing] operations were kept secret until now to prevent unnerving markets." The Bank's Deputy Governor Paul Tucker was quoted as stating in evidence to the Treasury Committee in London that "'[h]ad we not done it, the cycle would have been a lot worse…[and that] [t]his was tough stuff, a classic lender of last resort operation.'"[47]

**3. <u>West</u>**

119. A September 9, 2008 article in *Spiegel Online* reported West was "heavily hit as a result of the US sub-prime crisis and the resulting credit crunch. Ill-advised speculation resulted in a 2007 loss of €1.6 billion — leading the bank to the very brink of insolvency." The article reported that in early 2008, a special investment vehicle was set by West's primary shareholders to "guarantee €5 billion worth of risky investments." The European Commissioner approved the public guarantee but demanded that the bank be "completely restructured to avoid failing afoul of competition regulations." The European Commissioner for Competition later warned that if West did not significantly improve its restructuring package, Brussels would not approve the public assistance that European Union had already provided to the bank. Further, if

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[46] *See* http://www.businessday.com.au/business/lloyds-the-latest-uk-bank-to-be-rescued-20090308-8sfd.html.
[47] *See* http://www.bloomberg.com/apps/news?pid=21070001&sid=a9MjQj6MNTeA

that occurred, West would have to pay back €12 billion to the EU.[48]

120. On November 24, 2009, *Bloomberg* reported that BNP Paribas SA said "[i]nvestors should buy the euro [ ] on speculation that capital will need to be repatriated to support German bank WestLB AG." Furthermore, two German regional savings bank groups that hold a majority stake in West were "prepared to let the Dusseldorf-based lender become insolvent" and that "the prospect of insolvency may force state-owned banks and savings banks outside North Rhine-Westphalia, West's home state, to contribute to capital injections." Moreover, West needed "as much as 5 billion euros ($7.5 billion) in capital and may be shut by Nov. 30 unless a solution for its capital needs can be found."[49]

### F. DEFENDANTS' IMPROPER ACTIVITIES HAVE INCITED NUMEROUS GOVERNMENTAL INVESTIGATIONS LEGAL PROCEEDINGS AND DISCIPLINARY ACTION WORLDWIDE.

121. As described in more detail below, investigations regarding LIBOR are ongoing in the United States, Switzerland, Japan, United Kingdom, Canada, the European Union, and Singapore by nine different governmental agencies, including the DOJ, the SEC, and the CFTC.

122. Indeed, on February 27, 2012, the DOJ represented to the Court overseeing these multidistrict proceedings that the Justice Department "is conducting a criminal investigation into alleged manipulation of certain benchmark interest rates, including LIBORs of several currencies." The investigation represents an unprecedented joint investigation by both the criminal and antitrust divisions of the DOJ.

123. Authorities are attempting to determine, among other things, "whether banks whose funding costs were rising as the financial crisis intensified tried to mask that trend by

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[48] *See* Anne Seith, Germany's WestLB under Attack from Brussels, SPIEGEL ONLINE, Sept. 9, 2008, http://www.spiegel.de/international/business/0,1518,druck-577142,00.html.

[49] See Matthew Brown, BNP Says Buy Euro on Speculation WestLB to Be Rescued (Update 1), BLOOMBERG, Nov. 24, 2009, http://www.bloomberg.com/apps/news?pid=21070001&sid=aI9ZPZShrjWI.

submitting artificially low readings of their daily borrowing costs."[50] Though the proceedings are ongoing, several Defendants have admitted that regulators—including the DOJ, SEC, and CFTC—have targeted them in seeking information about potential misconduct.

124. Moreover, documents submitted in connection with legal proceedings in Canada and Singapore reveal that at least certain Defendants underreported their borrowing costs to artificially suppress Yen-LIBOR.

**1. News reports and Defendants' regulatory filings indicate U.S. government and foreign regulatory bodies are engaged in expansive investigations of possible LIBOR manipulation.**

125. The first public revelation regarding government investigations into possible LIBOR manipulation occurred on March 15, 2011, when UBS disclosed in a Form 20-F (annual report) filed with the SEC that the bank had "received subpoenas" from the SEC, the CFTC, and the DOJ "in connection with investigations regarding submissions to the [BBA]." UBS stated it understood "that the investigations focus on whether there were improper attempts by UBS, either acting on its own or together with others, to manipulate LIBOR rates at certain times." The bank further disclosed that it had "received an order to provide information to the Japan Financial Supervisory Agency concerning similar matters." UBS stated it was "conducting an internal review" and was "cooperating with the investigations."

126. On March 16, 2011, the *Financial Times* reported that UBS, Bank of America, Citigroup, and Barclays received subpoenas from U.S. regulators "probing the setting of" LIBOR "between 2006 and 2008." The *Times* further noted investigators had "demanded information from" West, and that the previous fall, "all 16 members of the committee that helped the

[50] David Enrich, Carrick Mollenkamp, & Jean Eaglesham, "U.S. Libor Probe Includes BofA, Citi, UBS." The Wall Street Journal, March 18, 2011

[BBA] set the dollar Libor rate during 2006-08 received informal requests for information."[51]

127. The same day, *MarketWatch* similarly reported "[m]ultiple U.S. and European banks, which provide borrowing costs to calculate Libor every day, have been contacted by investigators," including the DOJ, the SEC, and the CFTC.[52]

128. The next day, *Bloomberg* reported that Barclays and Citigroup had received subpoenas from U.S. regulators and that Defendants West, Lloyds, and Bank of America had been contacted by regulators. The article specified Bank of America had received subpoenas from the SEC and the DOJ.[53]

129. On March 23, 2011, *Bloomberg* revealed that Citigroup Inc., Deutsche Bank, Bank of America, and JPMorgan Chase were asked by U.S. regulators "to make employees available to testify as witnesses" in connection with the regulators' ongoing investigation.[54]

130. The next day, the *Financial Times* reported that Defendant Barclays was "emerging as a key focus of the US and UK regulatory probe into alleged rigging of [LIBOR]." According to the *Times*, investigators were "probing whether communications between the bank's traders and its treasury arm," which helps set LIBOR, "violated 'Chinese wall' rules that prevent information-sharing between different parts of the bank." The *Times* further stated investigators were "said to be looking at whether there was any improper influence on Barclays'

[51] Brooke Masters, Patrick Jenkins & Justin Baer, "Banks served subpoenas in Libor case," FT.com, available at http://www.ft.com/cms/s/0/52958d66-501f-11e0-9ad1-00144feab49a.html#axzz1sJNEDIiI, last accessed on April 17, 2012.
[52] Carrick Mollenkamp and David Enrich, "Banks Probed in Libor Manipulation Case," *MarketWatch*, March 16, 2011.
[53] Gavin Finch and Jon Menon, "Barclays, Citigroup Said to Be Subpoenaed in Libor Probe," *Bloomberg*, March 17, 2011.
[54] Joshua Gallu and Donal Griffin, "Libor Probe Spurs Witness Call-up at Citigroup, Deutsche Bank," *Bloomberg*, March 23, 2011.

submissions" during 2006-2008 for the BBA's daily survey used to set LIBOR.[55]

131. Additional information regarding the regulatory probes emerged during the next few months, including revelations about other banks' possible—or actual—misconduct.

132. In an "Interim Management Statement" filed on April 27, 2011, for example, Barclays stated it was "cooperating with" the investigations by the UK Financial Services Authority, the CFTC, the SEC, and the DOJ "relating to certain past submissions made by Barclays to the [BBA], which sets LIBOR rates."

133. RBS similarly disclosed, in a Form 6-K filed with the SEC on May 6, 2011, the bank was "co-operating with" the investigations being conducted by the CFTC, the SEC, and the European Commission "into the submission of various LIBOR rates by relevant panel banks."

134. Soon after, on May 16, 2011, Lloyds disclosed that it too "had received requests for information as part of the Libor investigation and that it was co-operating with regulators, including the [CFTC] and the European Commission."[56] Britain's *Daily Telegraph* further reported that HBOS, which merged with Lloyds TSB in January 2009 to form Lloyds Banking Group, "was the main target given its near collapse in late 2008 as it lost access to wholesale funding markets."

135. On May 23, 2011, the *Telegraph* reported that the Federal Bureau of Investigation ("FBI") was working with regulators in connection with the LIBOR investigations, and the FBI's British counterpart, the Serious Fraud Office, "revealed it is also taking an active interest."

136. In a Form 6-K filed with the SEC on July 26, 2011, UBS disclosed that it had

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[55] Brooke Masters and Megan Murphy, "Barclays at centre of Libor inquiry," FT.com, March 24, 2011, available at http://www.ft.com/intl/cms/s/0/1c3228f6-5646-11e0-82aa-00144feab49a.html#axzz1sJNEDIiI, last accessed on April 17, 2012.

[56] Harry Wilson, "Lloyds Banking Group in Libor investigation," *The Daily Telegraph*, May 17, 2011.

"been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ, in connection with potential antitrust or competition law violations related to submissions for Yen LIBOR and Euroyen TIBOR (Tokyo Interbank Offered Rate)." Accordingly, the company continued, it would "not be subject to prosecutions, fines or other sanctions for antitrust or competition law violations in connection with the matters [UBS] reported to those authorities, subject to [UBS's] continuing cooperation." The conditional leniency UBS received derives from the Antitrust Criminal Penalties Enhancement and Reform Act and the DOJ's Corporate Leniency Policy, under which the DOJ only grants leniency to corporations reporting *actual illegal activity*. UBS later disclosed (on February 7, 2012) that the Swiss Competition Commission had granted the bank conditional immunity regarding submissions for Yen LIBOR, TIBOR, and Swiss franc LIBOR.

137. Similar to the other Defendants discussed above, HSBC, in an interim report filed on August 1, 2011, disclosed that it and/or its subsidiaries had "received requests" from various regulators to provide information and were "cooperating with their enquiries."

138. On or about the same day, Barclays—which several months earlier had referenced its "cooperation" with governmental entities investigating potential misconduct relating to LIBOR—specified the investigations involved "submissions made by Barclays" and other LIBOR panel members. Barclays further stated it was engaged in discussions with those authorities about potential resolution of these matters before proceedings are brought against the bank.

139. On September 7, 2011, the *Financial Times* reported that as part of their LIBOR investigation, the DOJ and the CFTC—in assessing whether banks violated the Commodity Exchange Act, which can result in criminal liability—were examining "whether traders placed bets on future yen and dollar rates and colluded with bank treasury departments, who help set the Li-

bor index, to move the rates in their direction," as well as "whether some banks lowballed their Libor submissions to make themselves appear stronger."[57]

140. On October 19, 2011, *The Wall Street Journal* reported that the European Commission "seized documents from several major banks" the previous day, "marking the escalation of a worldwide law-enforcement probe" regarding the Euro Interbank Offered Rate, or Euribor—a benchmark, set by more than 40 banks, used to determine interest rates on trillions of euros' worth of euro-denominated loans and debt instruments. The Euribor inquiry, the *Journal* explained, constitutes "an offshoot" of the broader LIBOR investigation that had been ongoing for more than a year. According to the *Journal*, while the list of financial firms raided by the European Commission was not available, people familiar with the situation had counted "a large French bank and a large German bank" among the targets, and the coordinated raids "occurred in London and other European cities."

141. On October 31, 2011, the *Financial News* observed that "[a]n investigation into price fixing, first ordered by the [SEC] in 2008, focused on whether banks, including UBS, Citigroup, and Bank of America, had been quoting deliberately low rates."[58]

142. On December 9, 2011, *Law360* reported that the Japanese Securities and Exchange Surveillance Commission ("SESC") alleged that Citigroup Global Markets Japan Inc. and UBS Securities Japan Ltd. "employed staffers who attempted to influence" TIBOR "to gain advantage on derivative trades." The SESC recommended that the Japanese prime minister and the head of Japan's Financial Services Agency ("JFSA") take action against the companies. The Commission specified that Citigroup's head of G-10 rates and a Citigroup trader, as well as a

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[57] Brooke Masters and Kara Scannell, "Libor inquiry looks at criminal angle," FT.com, September 7, 2011, available at http://www.ft.com/cms/s/0/c8ed4248-d962-11e0-b52f-00144feabdc0.html#axzz1sRxAdyPS, last accessed on April 18, 2012.
[58] Tom Osborn, "Is Libor in its death throes?", *Financial News*, October 31, 2011.

UBS trader, were involved in the misconduct, further stating, "[t]he actions of Director A and Trader B are acknowledged to be seriously unjust and malicious, and could undermine the fairness of the markets." Moreover, the Commission added, "[i]n spite of recognizing these actions, the president and CEO . . . who was also responsible for the G-10 rates, overlooked these actions and the company did not take appropriate measures, therefore, the company's internal control system is acknowledged to have a serious problem."[59] *Law360* reported that the SESC released "a similar statement" about UBS's alleged conduct.

143. Citigroup and UBS did not deny the SESC's findings. A Citigroup spokesperson stated, "Citigroup Global Markets Japan takes the matter very seriously and sincerely apologizes to clients and all parties concerned for the issues that led to the recommendation. The company has started working diligently to address the issues raised." A UBS spokesperson similarly stated the bank was taking the findings "very seriously" and had been "working closely with" the SESC and the JFSA "to ensure all issues are fully addressed and resolved." She added, "We have taken appropriate personnel action against the employee involved in the conduct at issue."

144. Citigroup later disclosed that on December 16, 2011, the JFSA took administrative action against Citigroup Global Markets Japan, Inc. ("CGMJ") for, among other things, certain communications made by two CGMJ traders about the Euroyen Tokyo InterBank Offered Rate ("TIBOR"). The JFSA issued a business improvement order and suspended CGMJ's trading in derivatives related to Yen-LIBOR, as well as Euroyen and Yen-TIBOR from January 10 to January 23, 2012. On the same day, the JFSA also took administrative action against Citibank Japan Ltd. for conduct arising out of Citibank Japan's retail business and also noted that the

[59] Juan Carlos Rodriguez, "Japan Accuses Citi, UBS Of Market Trickery," *Law360*, December 9, 2011.

communications made by the CGMJ traders to employees of Citibank Japan about Euroyen TIBOR had not been properly reported to Citibank Japan's management team.

145. UBS likewise recently revealed further details regarding the Japanese regulators' findings and the resulting disciplinary action. Specifically, the bank announced that on December 16, 2011, the JFSA commenced an administrative action against UBS Securities Japan Ltd. ("UBS Securities Japan") based on findings by the SESC that:

> (i) a trader of UBS Securities Japan engaged in inappropriate conduct relating to Euroyen TIBOR and Yen LIBOR, including approaching UBS AG, Tokyo Branch, and other banks to ask them to submit TIBOR rates taking into account requests from the trader for the purpose of benefiting trading positions; and (ii) serious problems in the internal controls of UBS Securities Japan resulted in its failure to detect this conduct.

Based on those findings, the JFSA "issued a Business Suspension Order requiring UBS Securities Japan to suspend trading in derivatives transactions related to Yen LIBOR and Euroyen TIBOR" from January 10 to January 16, 2012 (excluding transactions required to perform existing contracts). The JFSA also issued a "Business Improvement Order" requiring UBS Securities Japan to enhance "compliance with its legal and regulatory obligations" and to establish a "control framework" designed to prevent similar improper conduct.

146. Other news accounts in recent months have confirmed—based at least in part on information from people familiar with the ongoing investigations—that investigators are examining potential improper collusion by traders and bankers to manipulate LIBOR or other rates. On February 3, 2012, for instance, Credit Suisse disclosed that the Swiss Competition Commission commenced an investigation involving twelve banks and certain other financial intermediaries, including Credit Suisse, concerning alleged collusive behavior among traders to affect the bid-ask spread for derivatives tied to the LIBOR and TIBOR reference rates fixed with respect to certain currencies, and collusive agreements to influence these rates.

147. Additionally, on February 14, 2012, *Bloomberg* reported that two people with knowledge of the ongoing LIBOR probe said global regulators "have exposed flaws in banks' internal controls that may have allowed traders to manipulate interest rates around the world." The same people, who were not identified by name (as they were not authorized to speak publicly about those matters), stated investigators also had "received e-mail evidence of potential collusion" between firms setting LIBOR. Those sources further noted Britain's Financial Services Authority was "probing whether banks' proprietary-trading desks exploited information they had about the direction of Libor to trade interest-rate derivatives, potentially defrauding their firms' counterparties."[60]

148. *Bloomberg* further reported that RBS had "dismissed at least four employees in connection with the probes," and Citigroup and Deutsche Bank "also have dismissed, put on leave or suspended traders as part of the investigations."

149. *Bloomberg* also reported that European Union antitrust regulators are also investigating whether banks effectively formed a global cartel and coordinated how to report borrowing costs between 2006 and 2008.

150. In March 2012, the Monetary Authority of Singapore disclosed that it has been approached by regulators in other countries to help in investigations over the possible manipulation of interbank interest rates.[61]

151. According to the *Daily Mail*, investigations by the SEC, Britain's Financial Services Authority, the Swiss Competition Commission, and regulators in Japan focus on three concerns: First, whether banks artificially suppressed LIBOR during the financial crisis, making

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[60] Lindsay Fortado and Joshua Gallu, "Libor Probe Said to Expose Collusion, Lack of Internal Controls," *Bloomberg*, February 14, 2012.
[61] *Business Times*, March 9, 2012.

banks appear more secure than they actually were; second, whether bankers setting LIBOR leaked their data to traders before officially submitting the banks' LIBOR quotes to the BBA; third, whether traders at the banks, and at other organizations (such as hedge funds), may have tried to influence LIBOR by making suggestions or demands on the bankers providing LIBOR quotes.

### 2. Evidence that Defendants manipulated Yen-LIBOR further demonstrates the plausibility of Plaintiffs' allegations that Defendants suppressed LIBOR.

#### a. Canadian Action

152. Brian Elliott, a Competition Law Officer in the Criminal Matters Branch of the Canadian Competition Bureau, submitted an affidavit in May 2011 (the "May 2011 Elliott Affidavit") in support of "an Ex Parte Application for Orders to Produce Records Pursuant to Section 11 of the Competition Act and for Sealing Orders" in the Court of Ontario, Superior Court of Justice, East Region. Specifically, the May 2011 Elliott Affidavit sought orders requiring HSBC Bank Canada, Royal Bank of Scotland N.V., Canada Branch, Deutsche Bank, J.P. Morgan Bank Canada, and Citibank Canada (referenced collectively in the Affidavit as the "Participant Banks") to produce documents in connection with an inquiry concerning whether those banks conspired to "enhance unreasonably the price of interest rate derivatives from 2007 to March 11, 2010; to prevent or lessen, unduly, competition in the purchase, sale or supply of interest derivatives from 2007 to March 11, 2010; to restrain or injure competition unduly from 2007 to March 11, 2010; and to fix, maintain, increase or control the price for the supply of interest rate derivatives from March 12, 2010 to June 25, 2010."

153. The May 2011 Elliott Affidavit further states the Competition Bureau "became aware of this matter" after one of the banks (referenced in the affidavit as the "Cooperating Party") "approached the Bureau pursuant to the Immunity Program" and, in connection with that

bank's application for immunity, its counsel "orally proffered information on the Alleged Offences" to officers of the Competition Bureau on numerous occasions in April and May 2011. Furthermore, according to the Affidavit, counsel for the Cooperating Party "stated that they have conducted an internal investigation of the Cooperating Party that included interviews of employees of the Cooperating Party who had knowledge of or participated in the conduct in question, as well as a review of relevant internal documents." The Affidavit also notes that on May 17, 2011, counsel for the Cooperating Party provided the Competition Bureau with "electronic records," which Elliot "believe[s] to be records of some of the communications involving the Cooperating Party that were read out as part of the orally proffered information by counsel for the Cooperating Party."

154. The Affidavit recounted that, according to the Cooperating Party's counsel, the Participant Banks—at pertinent times "facilitated" by "Cash Brokers"—"entered into agreements to submit artificially high or artificially low London Inter-Bank Offered Rate ('LIBOR') submissions in order to impact the Yen LIBOR interest rates published by the [BBA]." Those entities engaged in that misconduct to "adjust[] the prices of financial instruments that use Yen LIBOR rates as a basis." The Affidavit further states the Cooperating Party's counsel "indicated the Participant Banks submitted rates consistent with the agreements and were able to move Yen LIBOR rates to the overall net benefit of the Participants."

155. More specifically, counsel proffered that the Participant Banks "communicated with each other and through the Cash Brokers to form agreements to fix the setting of Yen LIBOR," which "was done for the purpose of benefiting trading positions, held by the Participant Banks, on IRDs [interest rate derivatives]." By manipulating Yen LIBOR, the Affidavit continues, "the Participant Banks affected all IRDs that use Yen LIBOR as a basis for their price." The

misconduct was carried out "through e-mails and Bloomberg instant messages between IRD traders at the Participant Banks and employees of Cash Brokers (who had influence in the setting of Yen LIBOR rates)." The Affidavit details:

> IRD traders at the Participant Banks communicated with each other their desire to see a higher or lower Yen LIBOR to aid their trading position(s). These requests for changes in Yen LIBOR were often initiated by one trader and subsequently acknowledged by the trader to whom the communication was sent. The information provided by counsel for the Cooperating Party showed that the traders at Participant Banks would indicate their intention to, or that they had already done so, communicate internally to their colleagues who were involved in submitting rates for Yen LIBOR. The traders would then communicate to each other confirming that the agreed up rates were submitted. However, not all attempts to affect LIBOR submissions were successful.
>
> The Cash Brokers were asked by IRD traders at the Participant Banks to use their influence with Yen LIBOR submitters to affect what rates were submitted by other Yen LIBOR panel banks, including the Participant Banks.

156. The Affidavit indicates the Cooperating Party's counsel further proffered that at least one of the Cooperating Party's IRD traders ("Trader A" or "Trader B") communicated with an IRD trader at HSBC, Deutsche Bank, RBS, JPMorgan (two traders), and Citibank. In that regard, the Affidavit specifies:

> Trader A communicated his trading positions, his desire for a certain movement in Yen LIBOR and instructions for the HSBC trader to get HSBC to make Yen LIBOR submissions consistent with his wishes. Attempts through the HSBC trader to influence Yen LIBOR were not always successful. Trader A also communicated his desire for a certain movement in the Yen LIBOR rate with the Cash Brokers. He instructed them to influence the Yen LIBOR submitters of HSBC. The Cash Brokers acknowledged making these attempts.
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> * * *
>
> Trader A communicated his trading positions, his desire for certain movement in Yen LIBOR and asked for the Deutsche IRD trader's assistance to get Deutsche to make Yen LIBOR submissions con-

sistent with his wishes. The Deutsche IRD trader also shared his trading positions with Trader A. The Deutsche IRD trader acknowledged these requests. Trader A also aligned his trading positions with the Deutsche IRD trader to align their interests in respect of Yen LIBOR. The Deutsche IRD trader communicated with Trader A considerably during the period of time, mentioned previously, when Trader A told a Cash Broker of a plan involving the Cooperating Party, HSBC and Deutsche to change Yen LIBOR in a staggered and coordinated fashion by the Cooperating Party, HSBC and Deutsche. Not all attempts to change the LIBOR rate were successful.

* * *

Trader A explained to RBS IRD trader who his collusive contacts were and how he had and was going to manipulate Yen LIBOR. Trader A also communicated his trading positions, his desire for certain movement in Yen LIBOR and gave instructions for the RBS IRD trader to get RBS to make Yen LIBOR submissions consistent with Trader A's wishes. The RBS IRD trader acknowledged these communications and confirmed that he would follow through. Trader A and the RBS IRD trader also entered into transactions that aligned their trading interest in regards to Yen LIBOR. Trader A also communicated to another RBS IRD trader his trading positions, his desire for a certain movement in Yen LIBOR and instructions to get RBS to make Yen LIBOR submissions consistent with his wishes. The second RBS IRD trader agreed to do this.

* * *

Trader A communicated his trading positions, his desire for a certain movement in Yen LIBOR and gave instructions for them [two JPM IRD traders] to get JPMorgan to make Yen LIBOR submissions consistent with his wishes. Trader A also asked if the IRD traders at JPMorgan required certain Yen LIBOR submissions to aid their trading positions. The JPMorgan IRD traders acknowledged these requests and said that they would act on them. On another occasion, one of the JPMorgan IRD traders asked Trader A for a certain Yen LIBOR submission, which Trader A agreed to help with. Trader A admitted to an IRD trader at RBS that he colluded with IRD traders at JPMorgan.

* * *

Trader B of the Cooperating Party communicated with an IRD trader at Citi. They discussed their trading positions, advanced

> knowledge of Yen LIBOR submissions by their banks and others, and aligned their trading positions. They also acknowledged efforts to get their banks to submit the rates they wanted.

157. On May 18, 2011, the Ontario Superior Court signed the orders directing the production of the records sought by the May 2011 Elliott Affidavit. But to Plaintiffs'' knowledge, the Affidavit was not publicly available until February 2012.

158. Elliott submitted another affidavit in June 2011 (the "June 2011 Elliott Affidavit"), which sought an order requiring ICAP Capital Markets (Canada) Inc., believed to be one of the "Cash Brokers" referenced in the May 2011 Elliott Affidavit, to "produce records in the possession of its affiliates, ICAP PLC and ICAP New Zealand Ltd." The June 2011 Elliott Affidavit primarily detailed communications between "Trader A" (an IRD trader) of the previously-referenced "Cooperating Party" and an ICAP broker (referenced in the June 2011 Elliott Affidavit as "Broker X") during the Class Period.

159. The Affidavit specifies that Trader A "discussed his current trading positions with Broker X and where he would like to see various maturities of Yen LIBOR move." Trader A "asked Broker X for Yen LIBOR submissions that were advantageous to Trader A's trading positions," and Broker X, in turn, "acknowledged these requests and advised Trader A about his efforts to make them happen." The Affidavit further states:

> Counsel for the Cooperating Party has proffered that the expectation was for Broker X, directly or through other brokers at ICAP, to influence the Yen LIBOR submissions of Panel Banks. Broker X communicated to Trader A his efforts to get brokers at ICAP in London to influence Yen LIBOR Panel Banks in line with Trader A's requests. The efforts of Broker X included contacting a broker at ICAP in London who issued daily LIBOR expectations to the market. Trader A also communicated to Broker X his dealings with traders at other Participant Banks and a broker at another Cash Broker. Not all efforts to influence Yen LIBOR panel banks were successful. Broker X had additional discussions around the setting of Yen LIBOR with another trader of the Cooperating Party ("Trader B").

160. On June 14, 2011, the Ontario Superior Court issued an order allowing the document requests concerning ICAP.

161. The press has reported that UBS was the "Cooperating Party" referred to in the Elliott Affidavits.

**b. <u>Singapore Proceedings</u>**

162. In a pending legal action in Singapore's High Court, Tan Chi Min, former head of delta trading for RBS's global banking and markets division in Singapore (who worked for RBS from August 12, 2006 to November 9, 2011), alleges in his Writ of Summons and Statement of Claim that the bank condoned collusion between its traders and LIBOR rate-setters to set LIBOR at levels to maximize profits. In the same filing, Tan stated RBS commenced an internal probe following inquiries by European and U.S. authorities about potential LIBOR manipulation.

163. Tan—whom RBS terminated, asserting he engaged in "gross misconduct"—alleges that RBS's internal investigations "were intended to create the impression that such conduct was the conduct not of the defendant itself but the conduct of specific employees who the defendant has sought to make scapegoats through summary dismissals." Tan further alleges that it was "part of his responsibilities to provide input and submit requests to the rate setter and there is no regulation, policy, guideline or law that he has infringed in doing this," and that "it was common practice among [RBS]'s senior employees to make requests to [RBS]'s rate setters as to the appropriate LIBOR rate." Those requests, Tan specified, "were made by, among others, Neil Danziger, Jezri Mohideen (a senior manager), Robert Brennan (a senior manager), Kevin Liddy (a senior manager) and Jeremy Martin," and the practice "was known to other members of [RBS]'s senior management including Scott Nygaard, Todd Morakis and Lee Knight." Tan added that RBS employees "also took requests from clients (such as Brevan Howard) in relation to

the fixing of LIBOR."

164. Indeed, in responding to Tan's allegations, RBS admitted he had tried to improperly influence RBS rate-setters from 2007 to 2011 to submit LIBOR rates at levels that would benefit him.

165. In his complaint, however, Tan alleged that he could not have influenced the rate on his own. He also stated it was "common practice" among RBS's senior employees to make requests as to the appropriate LIBOR rate.

**DEFENDANTS' UNDERWRITING OF RELEVANT LIBOR-BASED DEBT SECURITIES DURING THE CLASS PERIOD**

166. One or more of Defendants, exclusively or with others, directly or through affiliated corporate entities, acted as underwriters of Relevant LIBOR-Based Debt Securities. In their role as underwriters, such Defendants were responsible for, *inter alia*, initially purchasing the debt securities from their respective issuers, and then re-selling the securities in private or public transactions.

167. As underwriters of Relevant LIBOR-Based Debt Securities, Defendants were intimately familiar with all major terms and conditions of the Relevant LIBOR-Based Debt Securities, including the fact that the interest rates to be paid on the securities were directly tied to the LIBOR rate.

**INTERSTATE COMMERCE AND ANTITRUST INJURY TO PLAINTIFF AND THE CLASS**

168. An essential component in the pricing of debt transactions is the interest rate to be paid.

169. At all relevant times, LIBOR was a key benchmark for determining the applicable interest rate, and hence the pricing, of many debt transactions in the United States.

170. Many hundreds of billions of dollars or more of debt transactions are entered in-

to each year in interstate commerce in the United States.

171. During the Class Period, there were outstanding more than 5,200 Relevant LIBOR-Based Debt Securities issued in the United States by corporate, state and municipal, and foreign sovereign issuers with an outstanding face value as January 1, 2008 of in excess of $500 Billion.

172. Hundreds of millions of dollars of interest, determined by reference to LIBOR as the benchmark, are paid each year in interstate commerce in the United States.

173. By suppressing LIBOR rates, Defendants effectively reduced the amount of interest paid each year on debt obligations in interstate commerce in the United States.

174. Thus, Defendants' unlawful conduct had a direct, substantial, and foreseeable impact on interstate commerce in the United States.

175. At all relevant times, Defendants knew that LIBOR was and is a key benchmark for determining the applicable interest rate of debt securities and other obligations in the United States and that, by suppressing LIBOR rates, Defendants would effectively reduce the amount of interest paid on such debt securities and obligations in the United States.

176. Indeed, both before and during the Class Period, some of Defendants directly or indirectly through affiliated entities underwrote millions of dollars' worth of Relevant LIBOR-Based Debt Securities, knowing that such securities had been or would be sold in interstate commerce in the United States and that the interest payments thereunder would be made in interstate commerce.

177. By conspiring to suppress the LIBOR rates, Defendants intentionally targeted their unlawful conduct to affect commerce, including interstate commerce, within the United States.

178. Defendants' unlawful conduct had a direct and adverse impact on competition in the United States in that, absent Defendants' collusion, LIBOR rates would have been higher, more money would have been paid as interest in U.S. interstate commerce, and Plaintiffs and the members of the Class would have earned more interest.

179. As a direct result of Defendants' unlawful conduct, Plaintiffs and the Class have suffered injury to their business or property.

## PLAINTIFFS DID NOT KNOW, NOR COULD THEY REASONABLY HAVE KNOWN, ABOUT DEFENDANTS' UNLAWFUL CONDUCT UNTIL AT LEAST MARCH 2011

180. Before UBS's March 15, 2011 announcement that it had been subpoenaed in connection with the U.S. government's investigation into possible LIBOR manipulation, Plaintiffs had not discovered, and could not with reasonable diligence have discovered, facts indicating Defendants were engaging in misconduct that caused LIBOR to be artificially depressed during the Class Period.

181. Moreover, though some market participants voiced concerns in late 2007-early 2008 that LIBOR did not reflect banks' true borrowing costs, those concerns were quickly—though, it now turns out, wrongly—dismissed.

### A. DEFENDANTS' UNLAWFUL ACTIVITIES WERE INHERENTLY SELF-CONCEALING.

182. Defendants conspired to share information regarding their LIBOR quotes and to misrepresent their borrowing costs to the BBA. In so doing, Defendants aimed to—and did—depress LIBOR to artificially low levels, which allowed them to pay unduly low interest rates on LIBOR-based financial instruments they or others issued or sold to investors.

183. Defendants' misconduct was, by its very nature, self-concealing. Defendants could not expect to suppress LIBOR if the BBA, or the general public, knew that they were col-

luding to report artificial, depressed borrowing rates. Defendants' conspiracy could only succeed by preventing the public from knowing what they were doing.

184. In addition, the facts surrounding the Defendants' operations were internal to them. First, those banks' actual or reasonably expected costs of borrowing were not publicly disclosed, rendering it impossible for Plaintiffs and others outside the banks to discern (without sophisticated expert analysis) any discrepancies between Defendants' publicly disclosed LIBOR quotes and other measures of those banks' actual or reasonably expected borrowing costs. Second, communications within and among the Defendants likewise were not publicly available, which further precluded Plaintiffs from discovering Defendants' misconduct, even with reasonable diligence.

185. As a result of the self-concealing nature of Defendants' collusive scheme, no person of ordinary intelligence would have discovered, or with reasonable diligence could have discovered before March 15, 2011, facts indicating Defendants were unlawfully suppressing LIBOR during the Class Period.

### B. THE BBA AND DEFENDANTS DEFLECTED CONCERNS RAISED BY SOME MARKET OBSERVERS AND PARTICIPANTS IN LATE 2007 AND EARLY 2008 ABOUT LIBOR'S ACCURACY.

186. Beginning in or about November 2007 and continuing sporadically into early 2008, concerns arose that the members of the LIBOR panel might be understating their true costs of borrowing, thus causing LIBOR to be set artificially low.

187. In response to those concerns, the BBA conducted an inquiry regarding LIBOR.

188. Notably, shortly after the BBA announced its investigation in April 2008, the LIBOR panel banks raised their reported rates, causing LIBOR to log its biggest increase since August 2007. The banks, including the LIBOR Panel Defendants, thus falsely and misleadingly signaled that any improper reporting of false rates that may have previously occurred had ended.

189. Subsequently, the BBA reported (wrongly) that LIBOR had not been manipulated, thus providing further (incorrect) assurance to Plaintiffs and the public that the concerns expressed by some market participants were unfounded.

190. Moreover, Defendants engaged in a media strategy that diffused the speculation that had arisen concerning LIBOR—and further concealed their conduct. On April 21, 2008, for instance, Dominic Konstam of Credit Suisse affirmatively stated the low LIBOR rates were attributable to the fact that U.S. banks, such as Citibank and JPMorgan, had access to large customer deposits and borrowing from the Federal Reserve and did not need more expensive loans from other banks: "Banks are hoarding cash because funding from the asset-backed commercial paper market has fallen sharply while money market funds are lending on a short term basis and are restricting their supply."[62]

191. In an April 28, 2008 interview with the *Financial Times*, Konstam continued to defend LIBOR's reliability:

> Libor has been a barometer of the need for banks to raise capital. The main problem with Libor is the capital strains facing banks … Initially there was some confusion that Libor itself was the problem, with talk of the rate being manipulated and not representative of the true cost of borrowing.[63]

192. On May 16, 2008, in response to a media inquiry, JPMorgan commented, "[t]he Libor interbank rate-setting process is not broken, and recent rate volatility can be blamed largely on reluctance among banks to lend to each other amid the current credit crunch."[64]

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[62] Gillian Tett & Michael Mackenzie, "Doubts Over Libor Widen," FT.com, available at http://www.ft.com/cms/s/0/d1d9a792-0fbd-11dd-8871-0000779fd2ac.html#axzz1szdS58jE, last accessed on April 24, 2012.

[63] Michael Mackenzie, "Talk of quick fix recedes as Libor gap fails to close," FT.com, available at http://www.ft.com/intl/cms/s/0/3da27a46-5d05-11dd-8d38-000077b07658.html#axzz1szdS58jE, last accessed on April 24, 2012.

[64] Kirsten Donovan, Jamie McGeever, Jennifer Ablan, Richard Leong & John Parry, "European, U.S. bankers work on Libor problems," reuters.com, available at

193. The same day, Colin Withers of Citigroup assured the public that LIBOR remained reliable, emphasizing "the measures we are using are historic -- up to 30 to 40 years old."[65]

194. And in May 2008, *The Wall Street Journal* asked numerous Defendants to comment on the media speculation concerning aberrations in LIBOR. Rather than declining or refusing to comment, those Defendants made affirmative representations designed to further conceal their wrongdoing. On May 29, 2008, for instance, Citibank affirmatively claimed innocence and stated it continued to "submit [its] Libor rates at levels that accurately reflect [its] perception of the market." HBOS similarly asserted its LIBOR quotes constituted a "genuine and realistic" indication of the bank's borrowing costs.[66]

### C. PLAINTIFFS CERTAINLY COULD NOT HAVE KNOWN OR REASONABLY DISCOVERED—UNTIL AT LEAST MARCH 2011—FACTS SUGGESTING DEFENDANTS *KNOWINGLY COLLUDED* TO SUPPRESS LIBOR.

195. Notwithstanding the smattering of statements in late 2007-early 2008 questioning LIBOR's viability, Plaintiffs had no reason to suspect—at least until the existence of government investigations was revealed in March 2011—that Defendants were *knowingly colluding* to suppress LIBOR. Indeed, as a result of Defendants' secret conspiracy—and their fraudulent concealment of relevant information—no facts arose before March 2011 to put Plaintiffs on inquiry notice that a conspiracy to manipulate LIBOR existed.

196. Due to the Defendants' fraudulent concealment, any statute of limitations affecting or limiting the rights of action by Plaintiffs or members of the Class was tolled until March 15, 2011.

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http://in.reuters.com/article/2008/05/16/markets-rates-bba-idINL162110020080516, last accessed on April 24, 2012.

[65] *Id.*

[66] Carrick Mollenkamp & Mark Whitehouse, "Study Casts Doubt on Key Rate."

197. The Defendants are equitably estopped from asserting that any otherwise applicable period of limitations has run.

**CLASS ACTION ALLEGATIONS**

198. Plaintiffs bring this action for themselves individually and as a class action pursuant to Rule 23 of the Federal Rules of Civil Procedure on behalf of all others who owned (including beneficially in "street name") any of the Relevant LIBOR-Based Debt Securities during the Class Period. Excluded from "Relevant LIBOR-Based Debt Securities" and the Class are debt securities issued by any Defendant as obligor.

199. The Class is so numerous that the joinder of all members is impracticable. During the Class Period there were outstanding more than 5,200 Relevant LIBOR-Based Debt Securities issued by corporate, state and municipal, and foreign sovereign issuers with an outstanding face value in excess of $500 Billion. While the exact number of Class members is unknown to Plaintiffs at this time, Plaintiffs are informed and believe that there are at least thousands of geographically dispersed Class members who suffered injury, inter alia, by receiving less interest pursuant to their Relevant LIBOR-Based Debt Securities during the Class Period.

200. Plaintiffs' claims are typical of the claims of the other members of the Class. Plaintiffs and the members of the Class sustained damages arising out of Defendants' common course of conduct in violation of law as alleged herein. Defendants' wrongful conduct in violation of the antitrust laws directly caused the injuries and damages of each member of the Class.

201. Plaintiffs will fairly and adequately protect the interests of the members of the Class and have retained counsel competent and experienced in class action litigation, including antitrust class action litigation.

202. Common questions of law and fact exist as to all members of the Class, which

common questions predominate over any questions affecting only individual members of the Class. Among the questions of law and fact common to the Class are:

a. whether Defendants conspired with others to depress artificially LIBOR rates in violation of the Sherman Act;

b. whether Defendants' conduct had an anticompetitive and manipulative effect on LIBOR during the Class Period;

c. whether Defendants' conduct had a direct, substantial, reasonably foreseeable, and adverse impact upon interstate commerce in the United States during the Class Period;

d. whether Defendants' conduct depressed the amounts of interest Plaintiffs and the members of the Class earned on their Relevant LIBOR-Based Debt Securities during the Class Period; and

e. the appropriate measure of damages for the injury sustained by Plaintiffs and the members of the Class as a result of Defendants' unlawful activities.

203. A class action is superior to other available methods for the fair and efficient adjudication of this controversy, because joinder of all Class members is impracticable. The prosecution of separate actions by individual members of the Class would impose heavy burdens upon 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, will achieve substantial economies of time, effort, and expense, and will assure uniformity of decision as to persons similarly situated without sacrificing procedural fairness or bringing about other undesirable results.

204. The interest of members of the Class in individually controlling the prosecution

of separate actions is theoretical rather than practical. The Class has a high degree of cohesion, and prosecution of the action through a representative is not objectionable. The amounts at stake for individual Class members, while substantial in the aggregate, are not necessarily great enough to enable each of them to maintain a separate suit against Defendants. Plaintiffs do not anticipate any difficulty in the management of this action as a class action.

## CLAIM FOR RELIEF
## VIOLATION OF SECTION 1 OF THE SHERMAN ACT

205. Plaintiffs incorporate by reference and reallege the preceding allegations, as though fully set forth herein.

206. The Defendants and their unnamed co-conspirators entered into and engaged in a continuing conspiracy, agreement, understanding, or concerted action in unreasonable restraint of interstate trade and commerce in the United States in violation of Section 1 of the Sherman Act.

207. During the Class Period, the Defendants combined, conspired, and agreed to fix, maintain, and depress the LIBOR rates. Through their positions on the US$ LIBOR panel, Defendants could and did control what LIBOR rates would be reported, and thus controlled the amounts of interest paid on the Relevant LIBOR-Based Debt Securities.

208. In furtherance of the conspiracy, Defendants fixed, maintained, depressed and stabilized LIBOR, a key component in determining the amounts of interest paid on Relevant LIBOR-Based Debt Securities. Accordingly, Defendants' conspiracy is a *per se* violation of Section 1 of the Sherman Act.

209. Defendants' conspiracy, and its resulting impact on the amounts of interest paid on Relevant LIBOR-Based Debt Securities, occurred in or affected interstate commerce.

210. As a direct, reasonably foreseeable, and substantial result of Defendants' unlaw-

ful conduct, Plaintiffs and members of the Class have suffered injury to their business or property.

211. Pursuant to Section 4 of the Clayton Act, Plaintiffs and members of the Class are each entitled to treble damages for the violations of the Sherman Act alleged herein.

## RELIEF SOUGHT

Accordingly, Plaintiffs demand judgment against Defendants and each of them as follows:

A. Determining that this action may be maintained as a class action under Rule 23(b)(3) of the Federal Rules of Civil Procedure, with Plaintiffs as class representatives and Plaintiffs' counsel as counsel for the Class;

B. Adjudging that Defendants have violated Section 1 of the Sherman Act;

C. Awarding to Plaintiffs and the Class three-fold the damages to be proved at trial;

E. Awarding to Plaintiffs and the Class their costs of the suit, including reasonable attorneys' fees; and

F. Affording to Plaintiffs and the Class such other and further relief as may be just and proper.

## DEMAND FOR JURY TRIAL

Pursuant to Rule 38(a) of the Federal Rules of Civil Procedure, Plaintiffs demand a jury trial of all issues triable by a jury.

Dated: April 30, 2012

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**CERTIFICATE OF SERVICE**

I hereby certify that, pending the service of the foregoing First Amended Class Action Complaint through the Court's ECF system, I am this date serving by electronic mail a copy of the foregoing First Amended Class Action Complaint upon counsel for all defendants who have appeared, as follows:

| Defendants | Counsel |
|---|---|
| Credit Suisse Group, AG | Shearman & Sterling (Herb Washer) |
| Bank of America Corporation | Davis Polk (Robert Wise) |
| J.P. Morgan Chase & Co. | Simpson Thatcher (Tom Rice/Juan Arteaga) |
| HSBC Holdings PLC | Locke Lord (Ed DeYoung) |
| Barclays Bank PLC | Sullivan & Cromwell (D. Braff) |
| Lloyds Banking Group PLC | Hogan Lovells (Marc Gottridge) |
| WestLB AG | Hughes Hubbard & Reed (Ethan Litwin) |
| UBS AG | Gibson Dunn & Crutcher (Peter Sullivan) |
| The Royal Bank of Scotland Group PLC | Clifford Chance (Rob Houck) |
| Deutsche Bank AG | Paul Weiss (Moses Silverman) |
| Citibank NA | Covington & Burling (Alan Wiseman/Andrew Ruffino) |
| Rabobank Group | Milbank (D. Gelfand, S. Murphy, M. Westover) |
| The Norinchukin Bank | Sidley & Austin (Andrew Stern) |
| Societe Generale | Mayer Brown (Steve Wolowitz) |
| Royal Bank of Canada | Katten (Arthur Hahn) |

Dated: April 30, 2012

David H. Weinstein