Appendix

Notes on Analytical Methodology

To estimate the Enterprises' potential losses due to LIBOR manipulation, FHFA-OIG drew on two principal sources of information.

LIBOR Benchmarks

First, FHFA-OIG drew from Federal Reserve Bank of St. Louis repositories of daily historical data for the following data series:

- 1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar (USD1MTD156N). According to the Federal Reserve, this information is provided by the British Bankers' Association. The Federal Reserve describes LIBOR as "the most widely used 'benchmark' or reference rate for short term interest rates."
- 1-Month Eurodollar Deposit Rate (London)(DED1). This information is compiled by the Federal Reserve itself, working with Bloomberg and ICAP Plc, a bond brokerage firm.

FHFA-OIG also compiled similar samples for 3-month rates in each case. Comparisons of both the 1-month and 3-month indices revealed significant rate discrepancies between LIBOR and the Federal Reserve index, beginning in 2007. The Bloomberg story cited in the body of the report includes the former Federal Reserve economist's quote that "effectively, these two rates should be the same as they are the same instrument." Several civil lawsuits, including those brought by Charles Schwab and the City of Baltimore, cite the emergence of these discrepancies as evidence of malfeasance.

Notably, other commentators have also cited additional market indicators as evidence of potential LIBOR manipulation. For example, in a recent speech to the European Parliament's Economic and Monetary Affairs Committee, Gary Gensler, head of the US Commodity Futures Trading Commission, cited persistent anomalies compared to other short-term interest rate indexes, such as Euribor and non-dollar indexes, along with pricing in derivatives such as interest rate options and credit default swaps in questioning the recent behavior of the LIBOR index.

However, because of differences in currency or maturity of the other indicators compared to the Federal Reserve Eurodollar deposit rate, FHFA-OIG chose the Federal Reserve index as the simplest and best benchmark for comparison. For the purposes of this analysis, it served as a proxy for the appropriate LIBOR setting. Thus, FHFA-OIG assumed that observed differences between LIBOR and the Federal Reserve Eurodollar deposit rate could indicate the timing and extent of potential manipulation by LIBOR poll participants.

Calculation of Enterprise Losses

Second, FHFA-OIG assembled Fannie Mae and Freddie Mac balance sheet data for the relevant period from the Enterprises' published financial statements. For example, Freddie Mac data for 4Q08 are drawn from the 2008 10-K, including:

- Data on derivatives investments from Table 38, page 109. FHFA-OIG calculated Freddie Mac's net receive-LIBOR interest rate swap investment as:
    - Pay-fixed (i.e. Freddie Mac receives LIBOR), *plus*
    - Basis (i.e. Freddie Mac and its counterparty exchange different sets of floating rate interest payments. Generally, these involve the Enterprise's payments of frequently-used ARM indices, such as the Cost of Funds Index or the 12-month Constant Maturity Treasury rate, in exchange for LIBOR-based payments); *less*
    - Receive-fixed (i.e. Freddie Mac pays LIBOR).
- Data on Freddie Mac's variable-rate mortgage-related securities from information on the Enterprise's Mortgage-Related Investments Portfolio, Table 24, page 93.
    - FHFA-OIG assumed that essentially all variable-rate MBS holdings calculated interest payments by reference to LIBOR.
    - Fannie Mae did not publish explicit information on its variable rate MBS, but did provide figures for all MBS held by its Capital Markets Group. To estimate Fannie Mae's variable-rate MBS investment holdings, FHFA-OIG assumed that Fannie Mae's Capital Markets Group held the same proportion of variable rate securities held by Freddie Mac in its Mortgage-Related Investments Portfolio.
- Data on Freddie Mac's long-term debt liabilities, including variable-rate liabilities, in Table 8.3, page 224.
    - FHFA-OIG assumed that essentially all long-term floating-rate debt obligations of the Enterprises calculated interest payments by reference to LIBOR.
    - Fannie Mae explicitly discloses floating-rate obligations in its financial statements.
    - Freddie Mac's reporting of floating-rate obligations for the time period under review is intermittent. Long-term variable-rate debt obligations are totaled as of December 31, 2009 and subsequently, but not for the 10Qs as of 1Q09, 2Q09, and 3Q09. Within the time period examined, the highest proportion of long-term variable-rate obligations to other long-term debt (i.e. direct obligations not brought onto the balance sheet by the requirements of SFAS 167) was 24.7%, reported as of 2Q10. FHFA-OIG used that proportion to estimate Freddie Mac's variable-rate debt obligations when no other information was available.
    - Except where explicitly disclosed, short-term variable rate obligations of the Enterprises were excluded from the analysis as a relatively minor component.

FHFA-OIG calculated cash flow shortfalls to the Enterprises as equivalent to (a) the difference between 1-month LIBOR and the 1-month Federal Reserve Eurodollar deposit rate, multiplied by (b) (i) the notional amount of net receive-LIBOR swaps investments held by the Enterprises, plus (ii) the face value of Enterprise variable-rate mortgage-related securities net of their variable-rate liabilities. Cash flow shortfalls were calculated on a quarterly basis. FHFA-OIG assumed reported figures remained constant within each quarter. FHFA-OIG included a portion of the indicated cash flow shortfalls for 3Q08, prorated for the final 24 days of September.

FHFA-OIG believes that direct cash flow shortfalls, due to reduced interest and swap payments on LIBOR-based investments held by the Enterprises, are likely to constitute the great majority of Enterprise financial losses resulting from any LIBOR manipulation. However, additional secondary effects of LIBOR manipulation may also affect the amount of such losses. These include, but are not limited to:

- Distortions in the volatility measures used to benchmark pricing of the Enterprises' interest rate options
- Effects on the interest rate futures market used to value interest rate swaps
- Effects on prepayment valuation models used to value MBS, which rely on short-term interest rate data as an input

However, FHFA-OIG did not incorporate such factors into this analysis.

Limitations of FHFA-OIG's Analysis

The goal of this report is not to provide a definitive accounting of the Enterprises' losses, nor to demonstrate conclusively the culpability of specific organizations or individuals. FHFA-OIG acknowledges the limitations inherent in any corporate financial analysis developed exclusively from public reports. However, this "rough and ready" analysis does indicate that the accusations of LIBOR manipulation raise legitimate concerns about their impact on the Enterprises. Accordingly, they warrant closer examination by FHFA and the Enterprises, which have access to the detailed asset-level records and information needed to generate a more accurate and precise figure for potential losses and provide guidance for any future action that may be required to protect the taxpayers.

For more details about this analysis, please contact Timothy Lee, Senior Policy Advisor, at (202) 730-2821 or timothy.lee@fhfaoig.gov.

Updated December 19, 2012, 3:29 p.m. ET

Report Says L bor-Tied Losses at Fannie, Freddie May Top $3 Billion

JEANNETTE NEUMANN And NICK TIMIRAOS

Fannie Mae and Freddie Mac may have lost more than $3 billion as a result of banks' alleged manipulation of a key interest rate, according to an internal report by a federal watchdog sent to the mortgage companies' regulator and reviewed by The Wall Street Journal.

The unpublished report urges Fannie and Freddie to consider suing the banks involved in setting the London interbank offered rate, which would add to the mounting legal headaches financial firms such as UBS AG and Barclays PLC face from cities, insurers, investors and lenders over claims tied to the benchmark rate.

The report was written by the inspector general for Freddie and Fannie's regulator, the Federal Housing Finance Agency. In response to the report, the FHFA said the companies had begun exploring potential legal options, according to a letter sent from the FHFA to the inspector general last month.

Analysts from the inspector general's office said in the internal report, dated Oct. 26, that Fannie and Freddie likely lost more than $3 billion on their holdings of more than $1 trillion in mortgage-linked securities, interest-rate swaps, floating-rate bonds and other assets tied to Libor from September 2008 through the second quarter of 2010, which the report says was the height of banks' alleged false reporting of the interest rate.

That figure is among the largest potential losses reported amid the unfolding Libor scandal and comes as federal officials remain mum on how the alleged manipulation cost the government.

An FHFA spokeswoman said the regulator "has not substantiated any particular L bor related losses for Fannie Mae and Freddie Mac. We continue to evaluate issues associated with Libor."

Fannie Mae and Freddie Mac were seized by the U.S. government and placed into conservatorship in September 2008 as rising mortgage losses threatened to wipe out thin capital reserves. The firms have cost taxpayers $137 billion. The vast majority of their losses have come from guaranteeing mortgages that defaulted as the housing bust deepened.

Any potential L bor losses by Fannie or Freddie would also be a cost to taxpayers.

The 14-page draft report, written on the FHFA's Office of Inspector General letterhead, is addressed to Inspector General Steve A. Linick from Timothy Lee, a senior policy adviser; David P. Bloch, director of the Division of Mortgages, and chief economist Simon Z. Wu.

The analysts said their loss estimate was based on an analysis of Fannie and Freddie's public financial statements. The memo called on the FHFA to require the mortgage companies to conduct or commission their own analysis.

Work on the report began this summer, and the inspector general's office shared its preliminary findings with officials at Fannie, Freddie, and the FHFA in September, according to documents reviewed by the Journal. Mr. Linick forwarded the draft report to Edward DeMarco, the FHFA's acting director, on Nov. 2, documents show.

Meanwhile, Fannie and Freddie were asked by the FHFA in October to provide initial estimates of the financial impact of alleged Libor manipulation and to provide a cost-benefit analysis about any potential responses, documents show.

Both companies have hired the law firm of Dickstein Shapiro to help with such an analysis, according to a letter sent from the FHFA to the inspector general on Nov. 15. Freddie Mac identified potential class-action lawsuits that could be joined, the letter said, and the FHFA's general counsel has consulted with the Department of Justice.

A spokeswoman for the inspector general's office said: "We conducted a preliminary analysis of potential Libor-related losses at Fannie and Freddie and shared that with FHFA, recommending that they conduct a thorough review."

Republican Sens. Chuck Grassley of Iowa and Mark Kirk of Illinois sent an email on Friday to the FHFA's inspector general, requesting that the watchdog report to lawmakers whether it has explored Fannie and Freddie's potential L bor losses, a spokeswoman for Mr. Grassley said. The inspector general responded Tuesday afternoon about its "preliminary review of issues concerning manipulation" of L bor, documents show.

The senators' inquiry builds on their earlier questioning of federal agencies' handling of alleged manipulation of the benchmark rate.

Messrs. Grassley and Kirk held up the nomination of a Treasury Department official for several weeks in November and early December amid frustration the department hadn't responded in full to the lawmakers' questions about Libor, including whether Treasury officials considered the risks to U.S. local governments when it raised concerns about the interest rate with British central bankers several years ago.

The FHFA hasn't been shy in filing suits against banks since the financial crisis. In 2011, it sued 18 of the world's largest lenders over $200 billion in mortgage investments bought by Fannie and Freddie between 2005 and 2008 that the regulator said had contained misleading disclosures. Those lawsuits are still wending their way through courts.

To estimate how much Fannie and Freddie could have lost, inspector general analysts wrote in the report that they took the difference between L bor and the Eurodollar deposit rate compiled by the Federal Reserve and applied that to the companies' investments tied to Libor. Before the financial crisis, L bor and the Eurodollar deposit rate were essentially the same, the report said.

Fannie and Freddie would have lost money if L bor were manipulated lower due to mortgage assets they own that are pegged to the rate. So as Libor fell, their portfolios of securities tied to variable-rate mortgages paid less interest.

They also would have been shortchanged on certain interest-rate derivatives used to hedge risks in their mortgage portfolios. As the benchmark fell, the costs associated with these swaps went up.

On the other hand, they would have saved money on other derivatives if Libor had been manipulated lower, and they would have had lower debt-funding costs.

Still, analysts say the companies stood to lose more money than they would save if L bor had been manipulated lower. That's because their mortgage bonds, swaps and other assets tied to Libor exceeded what they owed in L bor-linked debt.

The inspector general analysts said their rough estimates of those losses accounted for the lower borrowing costs on Fannie and Freddie's liabilities tied to Libor.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IN RE LIBOR-BASED FINANCIAL INSTRUMENTS ANTITRUST LITIGATION	MDL No. 2262
THIS DOCUMENT RELATES TO:	Master File No. 1:11-md-2262-NRB ECF Case
SCHWAB SHORT-TERM BOND MARKET FUND; SCHWAB TOTAL BOND MARKET FUND; AND SCHWAB U.S. DOLLAR LIQUID ASSETS FUND, Plaintiffs, v. BANK OF AMERICA CORPORATION; BANK OF AMERICA, N.A.; BANK OF TOKYO-MITSUBISHI UFJ LTD.; BARCLAYS BANK PLC; CITIGROUP, INC.; CITIBANK, N.A.; COÖPERATIEVE CENTRALE RAIFFEISEN-BOERENLEENBANK B.A.; CREDIT SUISSE GROUP AG; DEUTSCHE BANK AG; HSBC HOLDINGS PLC; HSBC BANK PLC; JPMORGAN CHASE & CO.; JPMORGAN CHASE BANK, NATIONAL ASSOCIATION; LLOYDS BANKING GROUP PLC; HBOS PLC; ROYAL BANK OF CANADA; THE NORINCHUKIN BANK; THE ROYAL BANK OF SCOTLAND GROUP PLC; UBS AG; WESTLB AG; and WESTDEUTSCHE IMMOBILIENBANK AG, Defendants. [Initially filed in the United States District Court for the Northern District of California, Case No. 11-cv-4271-MEJ]	**AMENDED COMPLAINT** **JURY TRIAL DEMANDED**

1. Plaintiffs Schwab Short-Term Bond Market Fund, Schwab Total Bond Market Fund, and Schwab U.S. Dollar Liquid Assets Fund (collectively, the "Schwab Funds" or the

"Funds"), by their counsel, assert claims for violations of federal antitrust law, the Racketeer Influenced and Corrupt Organization Act ("RICO"), and California statutory and common law against the defendants identified below (collectively, "Defendants") arising from their suppression of the London InterBank Offered Rate ("LIBOR") from August 2007 to May 2010 (the "Relevant Period").

2. The Schwab Funds' claims are made on information and belief (except as to allegations specifically pertaining to the Funds and their counsel, which are made on personal knowledge) based on the investigation conducted by and under the supervision of the Funds' counsel. That investigation included reviewing and analyzing information concerning Defendants and LIBOR, which the Funds (through their counsel) obtained from, among other sources:

(i) analyses by consulting experts engaged by Schwab Funds and other plaintiffs in these coordinated proceedings, which show that, contrary to fundamental principles of economics and finance, during the Relevant Period LIBOR deviated from other well-established benchmarks of Defendants' costs of borrowing, namely (a) those banks' respective probabilities of default and (b) the Federal Reserve Eurodollar Deposit Rate;

(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 Relevant Period.

3. Those sources, considered collectively, support the Schwab Funds' allegations that Defendants collusively and systematically suppressed LIBOR during the Relevant Period, so that the interest rates or returns on (i) LIBOR-based floating-rate notes and (ii) fixed-rate notes with a remaining maturity of 5-365 days that were affected by LIBOR (collectively, "LIBOR-based financial instruments") were lower than they otherwise would have been absent Defendants' misconduct, thus the Funds did not receive their rightful payments on those instruments.

4. Except as alleged in this Complaint, neither the Schwab Funds 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, custody, or control of Defendants and other insiders, which prevents the Funds 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 Funds' 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."[1] The Schwab Funds thus believe further evidentiary support for their allegations will come to light after a reasonable opportunity for discovery.

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

NATURE OF THE ACTION

5. This case arises from the manipulation of LIBOR for the U.S. dollar ("USD-LIBOR" or simply "LIBOR")[2]—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 associated 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 that occurred during part of the Relevant Period. Indeed, in an April 10, 2008 report, analysts at Citigroup Global Markets Inc. 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]."[3] Second, artificially suppressing LIBOR allowed Defendants to pay lower interest rates on LIBOR-based financial instruments that Defendants sold to investors, including the Schwab Funds, during the Relevant Period.

6. 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

[2] While the term "LIBOR" generally encompasses rates with respect to numerous currencies (which are separately referred to as, for example, USD-LIBOR or Yen-LIBOR), for convenience the Schwab Funds use the term "LIBOR" to reference USD-LIBOR.

[3] Scott Peng, Chintan (Monty) Gandhi, & Alexander Tyo, "Special Topic: Is LIBOR Broken?", April 10, 2008 (published by Citigroup Global Markets Inc.)

1, 1986. During most of the Relevant Period, the BBA established LIBOR based on the rates 16 major banks, including Defendants, reported as their costs of borrowing.[4] 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?" On its website, the BBA explains "a bank will know what its 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.

7. As "the primary benchmark for short term interest rates globally,"[5] LIBOR 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")[6] 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

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[4] On February 9, 2009, Société Générale replaced Defendant HBOS on the BBA's USD-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 WestLB, at its request, was removed from the panel. As of December 2011, the USD-LIBOR panel consisted of 18 banks.

[5] http://www.bbalibor.com/bbalibor-explained/the-basics, last accessed on April 19, 2012.

[6] The term "bps" stands for basis points. 100 basis points equal 1%.

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."[7]

8. Accordingly, it is well-established among market participants that, as *The Wall Street Journal* has observed, confidence in LIBOR "matters, because the rate system plays a vital role in the economy."[8] 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."[9]

9. Throughout the Relevant Period, Defendants betrayed investors' confidence in LIBOR, as these financial institutions conspired to, and did, suppress LIBOR by underreporting to the BBA the actual interest rates at which the Defendant banks 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.

10. Defendants' suppression of LIBOR allowed them to pay unduly low interest rates to investors, including the Schwab Funds, on LIBOR-based financial instruments sold during the Relevant 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 USD-LIBOR panel members' honest and

[7] 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.

[8] 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.

[9] 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.

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.

11. Defendants' manipulation depressed returns on various types of financial instruments, including notes Defendants issued to raise capital during the Relevant Period. In addition to floating-rate notes, whose interest rates are specifically set as a variable amount over LIBOR, market participants use LIBOR as the starting point for negotiating rates of return on short-term fixed-rate instruments, such as fixed-rate notes maturing in one year or less. Thus, by suppressing LIBOR, Defendants ensured that artificially low interest rates would attach to fixed-rate and variable notes.

12. During the Relevant Period, the Schwab Funds acquired billions of dollars' worth of LIBOR-based financial instruments from Defendants and other issuers, which paid artificially low returns to the Funds due to Defendants' suppression of LIBOR.

13. The Schwab Funds now seek relief for the damages they have suffered as a result of Defendants' violations of federal and state law. The Funds assert claims under the Sherman Act, 15 U.S.C. §§ 1 *et seq.*; the Clayton Act, 15 U.S.C. §§ 12 *et seq.*; RICO, 18 U.S.C. §§ 1961 *et seq.*; and the statutory and common law of California.

JURISDICTION AND VENUE

14. This Court has jurisdiction over the subject matter of this action under Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 & 26(a), as well as under 28 U.S.C. §§ 1331 and 1337. The Court may exercise supplemental jurisdiction, in accordance with 28 U.S.C. § 1367,

over the Schwab Funds' state-law claims.

15. This Court has personal jurisdiction over all of the Defendants by virtue of their business activities in this jurisdiction.

16. The Northern District of California, where the Schwab Funds commenced suit, was a proper venue under Section 1965 of RICO (18 U.S.C. § 1965) and under 28 U.S.C. § 1391(b), (c), and (d), as each Defendant transacted business in that District and a substantial part of the events or omissions giving rise to the Funds' claims occurred in that District. Venue is also proper in the Southern District of New York, as the Schwab Funds' case was transferred here by order of the Judicial Panel on Multidistrict Litigation.

THE PARTIES

Plaintiffs

17. Plaintiff Schwab Short-Term Bond Market Fund is a series of Schwab Investments, an open-end, management investment company organized under Massachusetts law on October 26, 1990. Plaintiff Schwab Short-Term Bond Market Fund purchased or held LIBOR-based financial instruments during the Relevant Period and has been damaged by Defendants' misconduct.

18. Plaintiff Schwab Total Bond Market Fund, which is also a series of Schwab Investments, purchased or held LIBOR-based financial instruments during the Relevant Period and has been damaged by Defendants' misconduct.

19. Plaintiff Schwab U.S. Dollar Liquid Assets Fund is a series of Charles Schwab Worldwide Funds plc, an investment company with variable capital, incorporated in Ireland as a public limited company on February 8, 1999. Plaintiff Schwab U.S. Dollar Liquid Assets Fund is managed in San Francisco, California. Plaintiff purchased or held LIBOR-based financial instruments during the Relevant Period and has been damaged by Defendants' misconduct.

Defendants

20. Defendant Bank of America Corporation is a Delaware corporation headquartered in Charlotte, North Carolina. Defendant Bank of America, N.A.—a federally-chartered national banking association headquartered in Charlotte, North Carolina—is an indirect, wholly-owned subsidiary of Defendant Bank of America Corporation. Defendants Bank of America Corporation and Bank of America, N.A. are referenced collectively in this Complaint as "Bank of America."

21. Defendant Bank of Tokyo-Mitsubishi UFJ Ltd. ("BTMU") is a Japan company headquartered in Tokyo, Japan.

22. Defendant Barclays Bank plc ("Barclays") is a British public limited company headquartered in London, England.

23. Defendant Citigroup, Inc. is a Delaware corporation headquartered in New York, New York. Defendant Citibank, N.A.—a federally-chartered national banking association headquartered in New York, New York—is a wholly-owned subsidiary of Defendant Citigroup, Inc. Defendants Citigroup, Inc. and Citibank, N.A. are referenced collectively in this Complaint as "Citibank."

24. Defendant Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A. ("Rabobank") is a financial services provider headquartered in Utrecht, the Netherlands.

25. Defendant Credit Suisse Group AG ("Credit Suisse") is a Swiss company headquartered in Zurich, Switzerland.

26. Defendant Deutsche Bank AG ("Deutsche Bank") is a German financial services company headquartered in Frankfurt, Germany.

27. Defendant HSBC Holdings plc is a United Kingdom public limited company headquartered in London, England. Defendant HSBC Bank plc—a United Kingdom public

limited company headquartered in London, England—is a wholly-owned subsidiary of Defendant HSBC Holdings plc. Defendants HSBC Holdings plc and HSBC Bank plc are referenced collectively in this Complaint as "HSBC."

28. Defendant JPMorgan Chase & Co. is a Delaware corporation headquartered in New York, New York. Defendant JPMorgan Chase Bank, National Association—a federally-chartered national banking association headquartered in New York, New York—is a wholly-owned subsidiary of Defendant JPMorgan Chase & Co. Defendants JPMorgan Chase & Co. and JPMorgan Chase Bank, National Association are referenced collectively in this Complaint as "JPMorgan Chase."

29. Defendant Lloyds Banking Group plc ("Lloyds") is a United Kingdom public limited company headquartered in London, England. Defendant Lloyds was formed in 2009 through the acquisition of Defendant HBOS plc ("HBOS")—a United Kingdom banking and insurance company headquartered in Edinburgh, Scotland—by Lloyds TSB Bank plc.

30. Defendant Royal Bank of Canada ("RBC") is a Canada company headquartered in Toronto, Canada.

31. Defendant The Norinchukin Bank ("Norinchukin") is a Japanese cooperative bank headquartered in Tokyo, Japan.

32. Defendant The Royal Bank of Scotland Group plc ("RBS") is a United Kingdom public limited company headquartered in Edinburgh, Scotland.

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

34. Defendant WestLB AG is a German joint stock company headquartered in Dusseldorf, Germany. Defendant Westdeutsche ImmobilienBank AG—a German company

headquartered in Mainz, Germany—is a wholly-owned subsidiary of WestLB AG. Defendants WestLB AG and Westdeutsche ImmobilienBank AG are referenced collectively in this Complaint as "WestLB."

35. Defendants Bank of America, BTMU, Barclays, Citibank, Rabobank, Credit Suisse, Deutsche Bank, HSBC, JPMorgan Chase, Lloyds, HBOS, RBC, Norinchukin, RBS, UBS, and WestLB (collectively, "Defendants") were members of the BBA's USD-LIBOR panel during the Relevant Period.

DEFENDANTS SUPPRESSED LIBOR DURING THE RELEVANT PERIOD

36. Throughout the Relevant Period, Defendants conspired to suppress LIBOR below the levels it would have been set had Defendants accurately reported their borrowing costs to the BBA. The Schwab Funds' allegations that Defendants suppressed LIBOR are supported by (i) Defendants' powerful incentives to mask their true borrowing costs and to reap unjustified revenues by setting artificially low interest rates on LIBOR-based financial instruments the Funds and other investors purchased; (ii) independent analysis by the Funds' consulting experts comparing LIBOR panel banks' daily individual quotes with the banks' probability of default (as measured by Kamakura Risk Information Services) and by other plaintiffs' consulting experts showing a discrepancy between LIBOR and the Federal Reserve Eurodollar Deposit Rate; (iii) publicly available economic analyses, by prominent academics and other commentators, of LIBOR's behavior during the Relevant Period compared with other well-accepted, contemporaneous measures of Defendants' borrowing costs, as well as the notable tendency of Defendants' daily submitted LIBOR quotes to "bunch" near the bottom quartile of the collection of reported rates used to determine LIBOR; and (iv) revelations in connection with the numerous domestic and foreign governmental investigations into potential manipulation of USD-LIBOR and LIBOR for other currencies, most prominently Yen-LIBOR.

A. Defendants Possessed Strong Motives To Suppress LIBOR.

37. 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 its co-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.[10]

Strategists at entities affiliated with other Defendants likewise confirmed that banks suppressed LIBOR. Echoing the sentiments expressed by Citigroup Global Markets' analysts, William Porter, credit strategist at Credit Suisse, said in April 2008 that he believed the three-month USD-LIBOR was 0.4 percentage points (40 basis points) below where it should be.[11] And the next month, Tim Bond, head of asset-allocation research of Barclays Capital—a division of Defendant Barclays—observed that banks routinely misstated borrowing costs to the BBA to

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

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

avoid the perception that they faced difficulty raising funds as credit markets seized up.[12]

38. Second, by artificially suppressing LIBOR, Defendants paid lower interest rates on LIBOR-based financial instruments they sold to investors, including the Schwab Funds, during the Relevant 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 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 Relevant Period.

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

B. Independent Analyses By Consulting Experts Engaged By the Schwab Funds and Other Plaintiffs In These Coordinated Proceedings Strongly Indicate Defendants Artificially Suppressed LIBOR During the Relevant Period.

40. The Schwab Funds' consulting experts, as well as consulting experts engaged by other plaintiffs in these coordinated proceedings, have measured LIBOR against other recognized benchmarks for determining banks' borrowing costs. Employing well-reasoned methodologies, these consultants have provided analyses indicating Defendants artificially suppressed LIBOR during the Relevant Period, as LIBOR did not appropriately correspond with other measures of Defendants' borrowing costs. Specifically, the consulting experts have observed (i) the difference between Defendants' respective LIBOR quotes and their probabilities

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

of default (which measure the banks' respective levels of credit risk); and (ii) the spread between LIBOR and the Federal Reserve Eurodollar Deposit Rate. Those analyses, considered collectively, strongly indicate Defendants suppressed LIBOR throughout the Relevant Period.

1. **An independent analysis by the Schwab Funds' consulting experts—showing the discrepancy between Defendants' LIBOR quotes and their respective probabilities of default—strongly indicates LIBOR was suppressed during the Relevant Period.**

41. Assessing the likelihood that LIBOR was suppressed during the Relevant Period, the Schwab Funds' expert consultants compared USD-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").[13] 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.

42. 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 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."[14]

43. 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

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

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

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.

44. 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.

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

46. The Schwab Funds' 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 indicates 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.

47. The Schwab Funds' consulting experts found suppression over the 2007-2008 period for one-month, three-month, six-month, and 12-month LIBOR.

48. 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 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.[15] In

[15] 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.

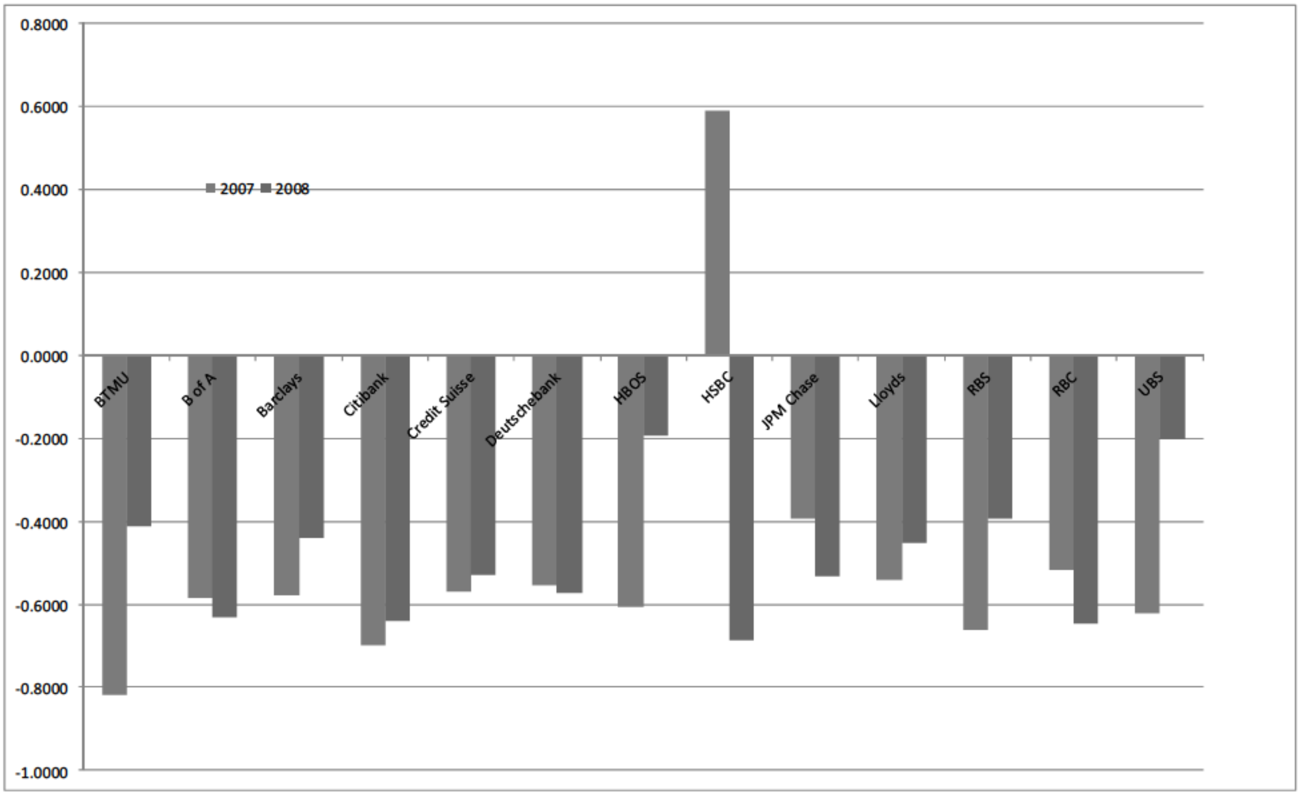
other words, the data indicate that, contrary to fundamental finance theory, the higher a panel bank's PD was, the *lower* its LIBOR quote was.

49. 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.

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

Graph 1

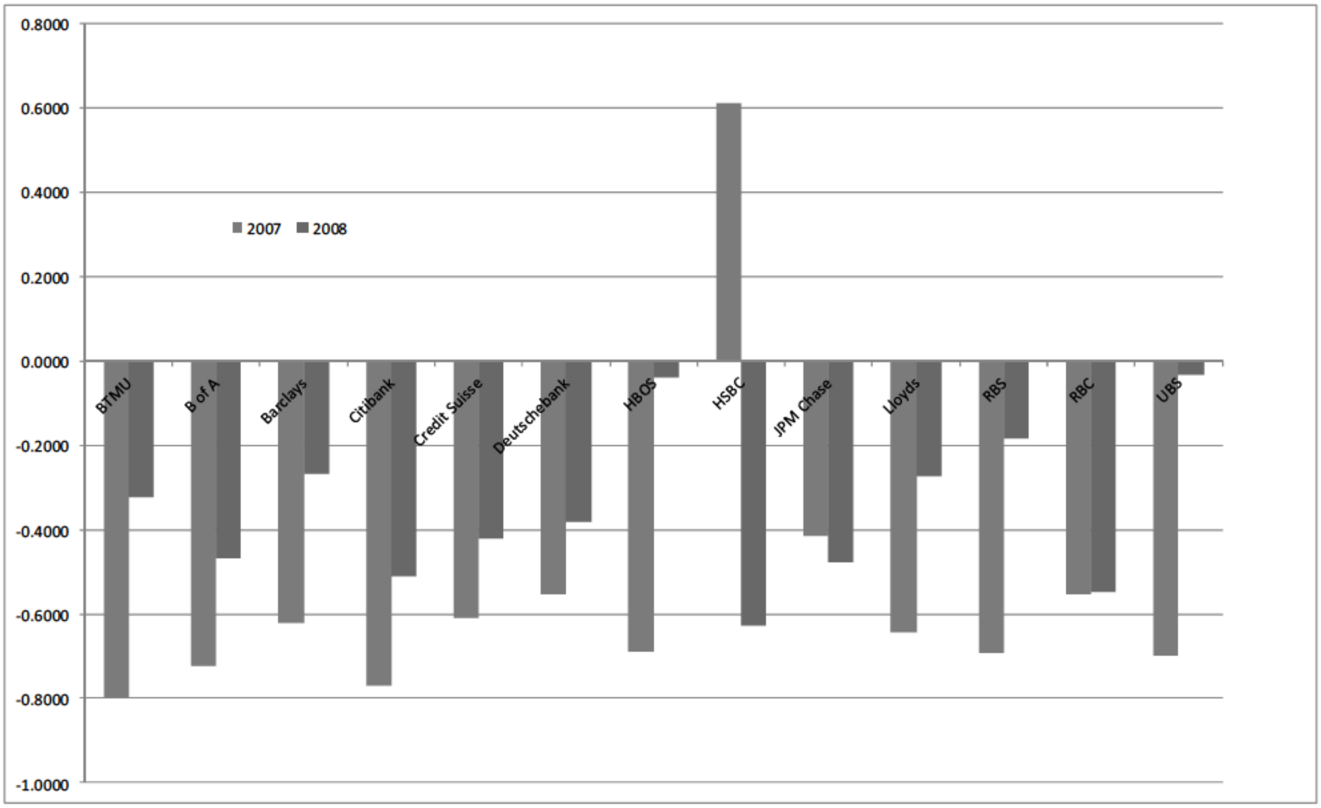
Correlation Coefficients
Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)
One-Month Term



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

Graph 2

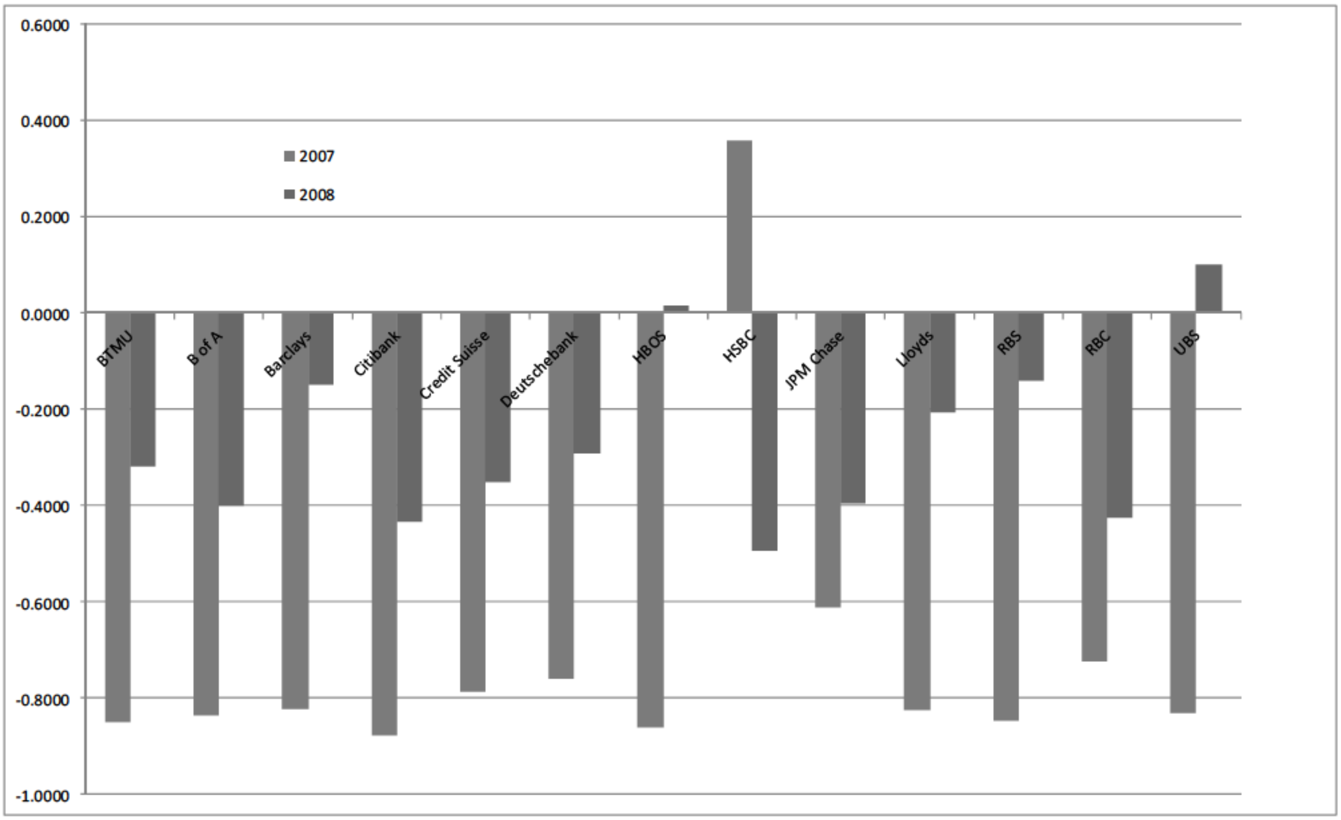
Correlation Coefficients
Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)
Three-Month Term



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

Graph 3

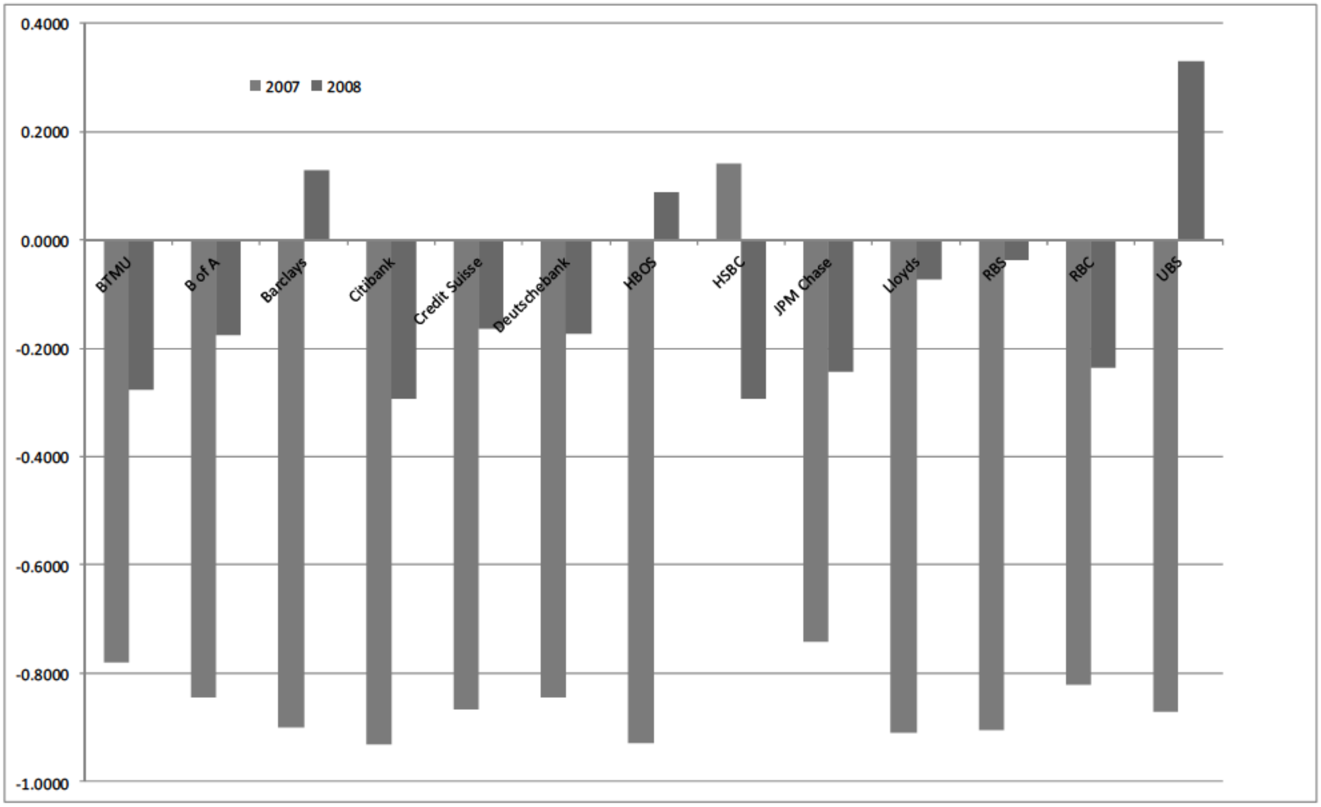
Correlation Coefficients
Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)
Six-Month Term



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

Graph 4

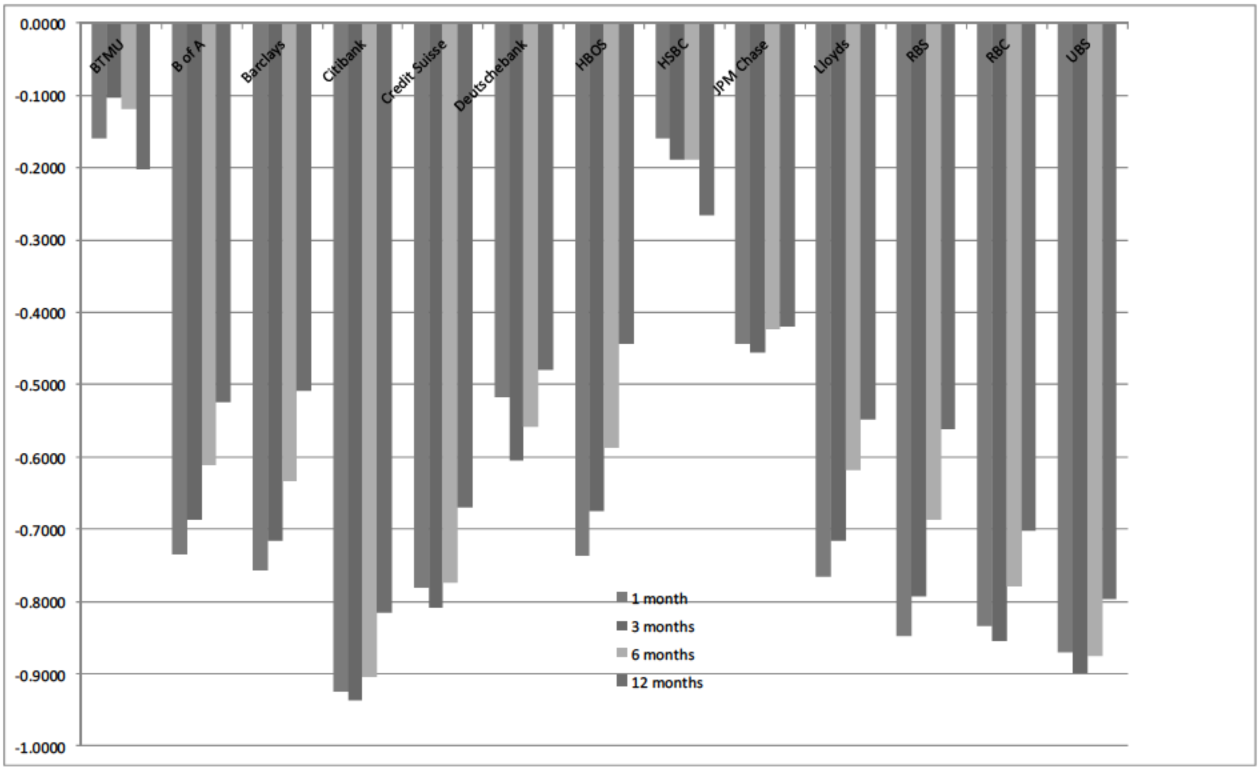
Correlation Coefficients
Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)
Twelve-Month Term



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

Graph 5

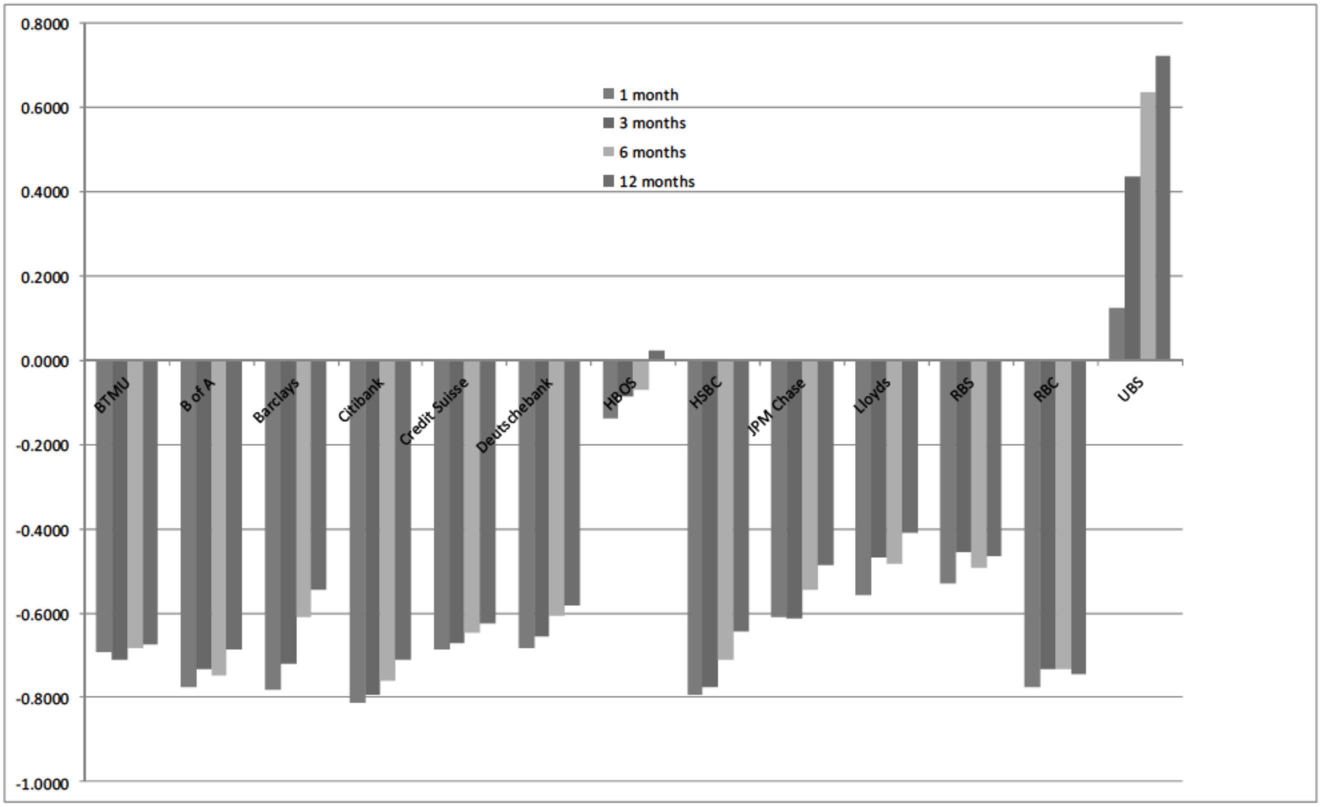
Correlation Coefficients
Between Each Bank's Daily LIBOR Bid and Probability of Default (PD)
9 August 2007 – 12 September 2008 Period



(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.)

2. **<u>The discrepancy between LIBOR and the Federal Reserve Eurodollar Deposit Rate during the Relevant Period suggests Defendants collusively suppressed LIBOR.</u>**

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

52. 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.[16] 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.[17] ICAP surveys its client banks and updates its Eurodollar deposit rates about 9:30 AM each morning.

53. While 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.

54. The consulting expert determined that because of the nature of the relationship between 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's Eurodollar

[16] See http://federalreserve.gov/releases/h15/data.htm, footnote 8. Last visited on April 23, 2012.

[17] "ICAP is the world's premier 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, energy, 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." *See* http://www.icapenergy.com/company/, last accessed on April 30, 2012.

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.

55. 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.

56. 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.

57. 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 Deposit 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.

58. 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 Defendants suppressed and colluded to artificially suppress LIBOR.[18]

59. 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.[19]

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[18] 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.

[19] 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

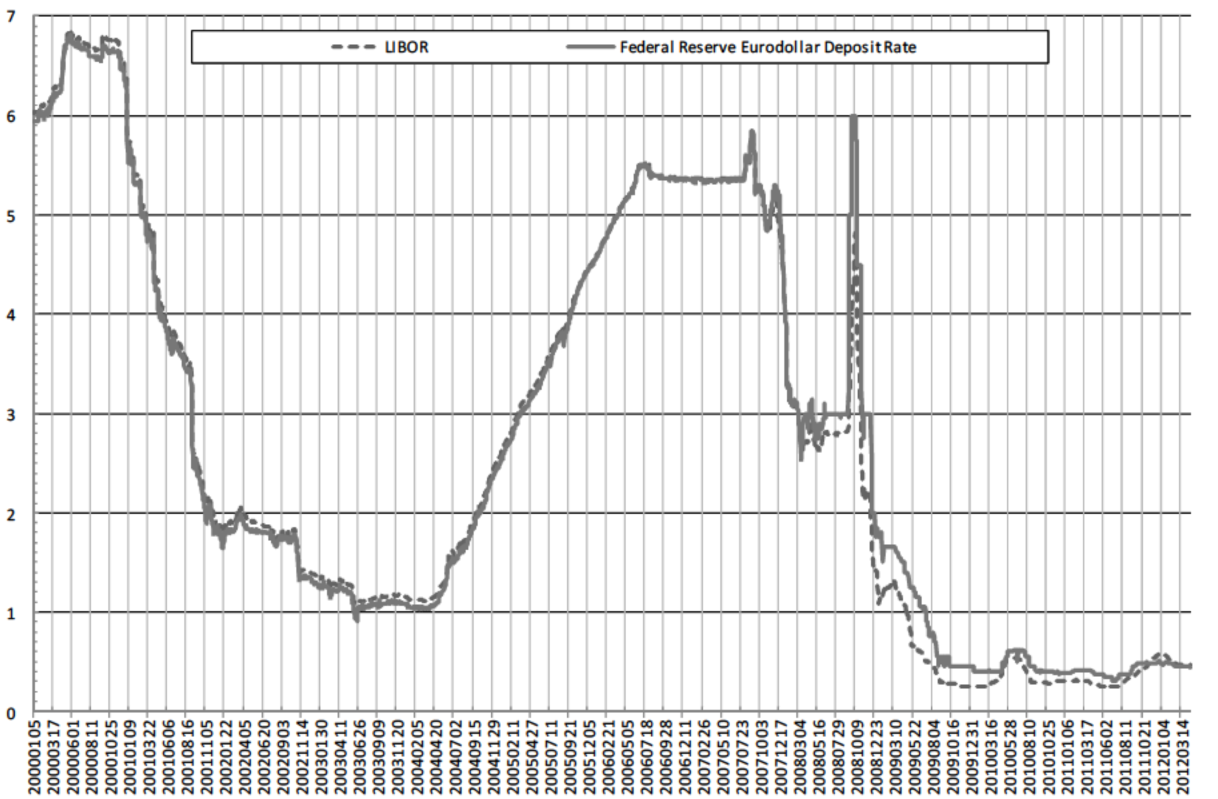
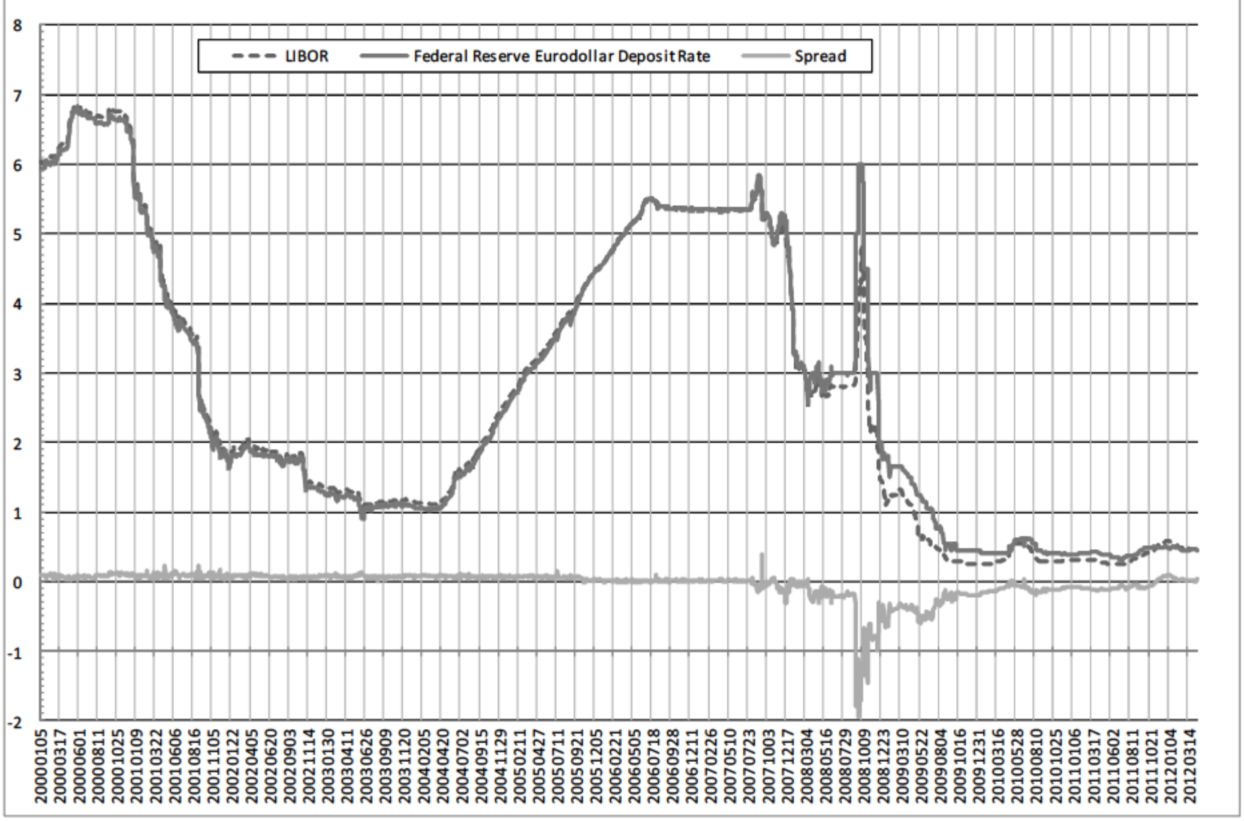
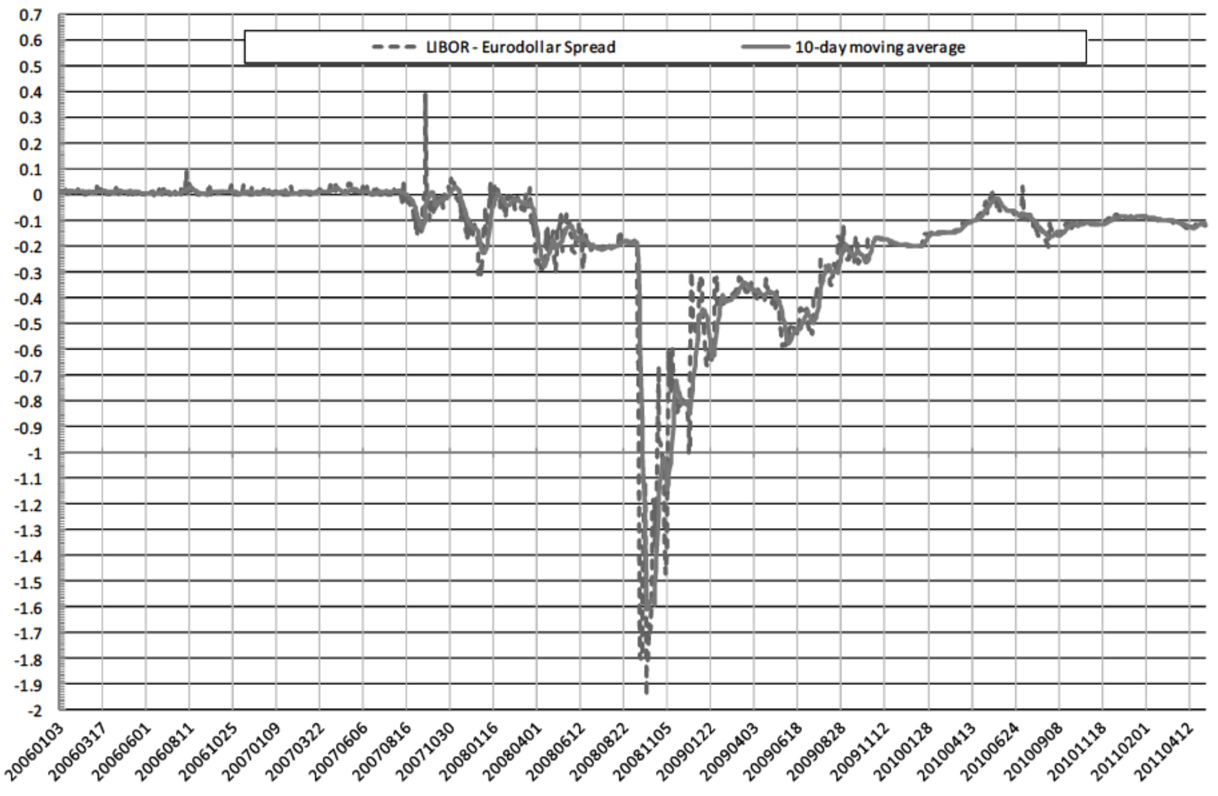


Figure 2: LIBOR and Federal Reserve Eurodollar Deposit Rate



60. 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.

Figure 3: BBA LIBOR - Federal Reserve Eurodollar Spread in Percentage Points



61. 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.[20] 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.

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

62. 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.

63. 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.

64. 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%.

65. 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.

66. 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 Defendants intensified their collusive suppression of the LIBOR, and did so to understate their borrowing costs in the face of increasing concerns about the health of the banks.

67. 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, Federal Reserve's Eurodollar Deposit Rate reached 6% on September 30, 2008. With the easing of the financial crisis, Federal Reserve's 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 Relevant 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

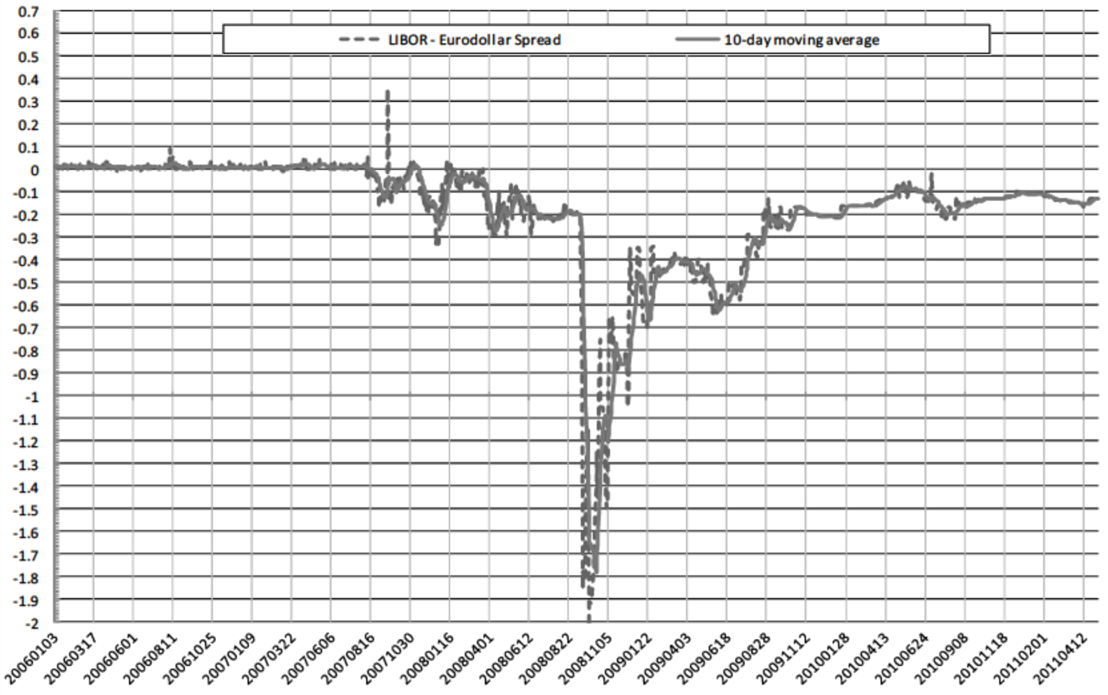


Figure 5: JPMorganChase LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

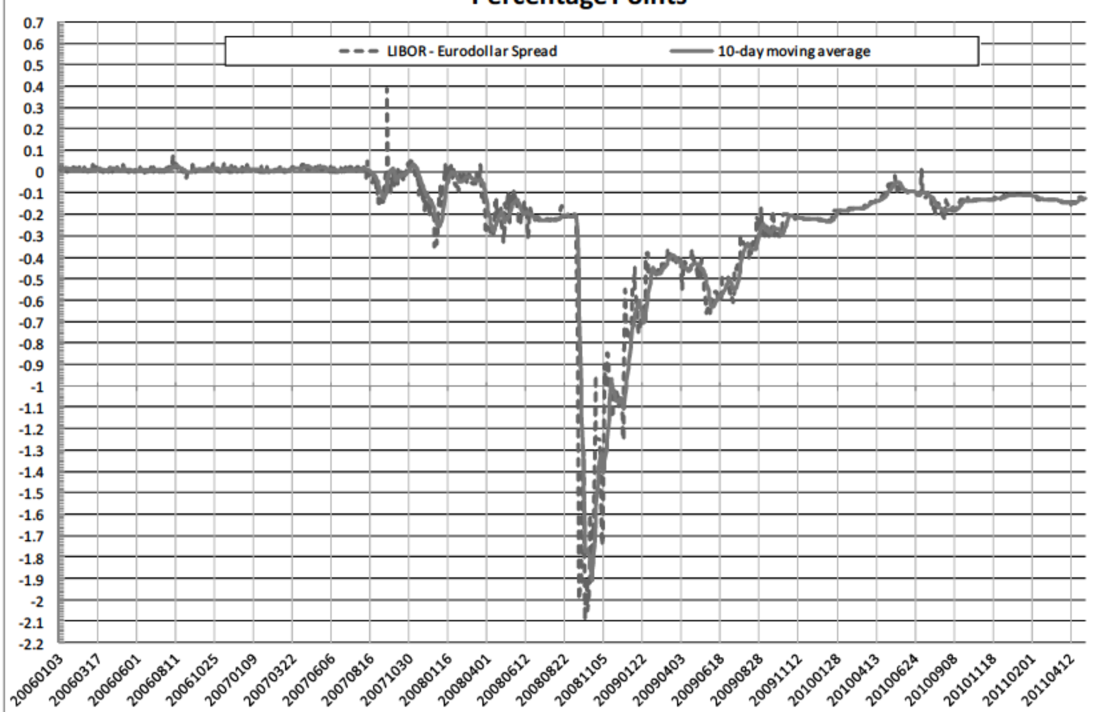


Figure 6: Barclays LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

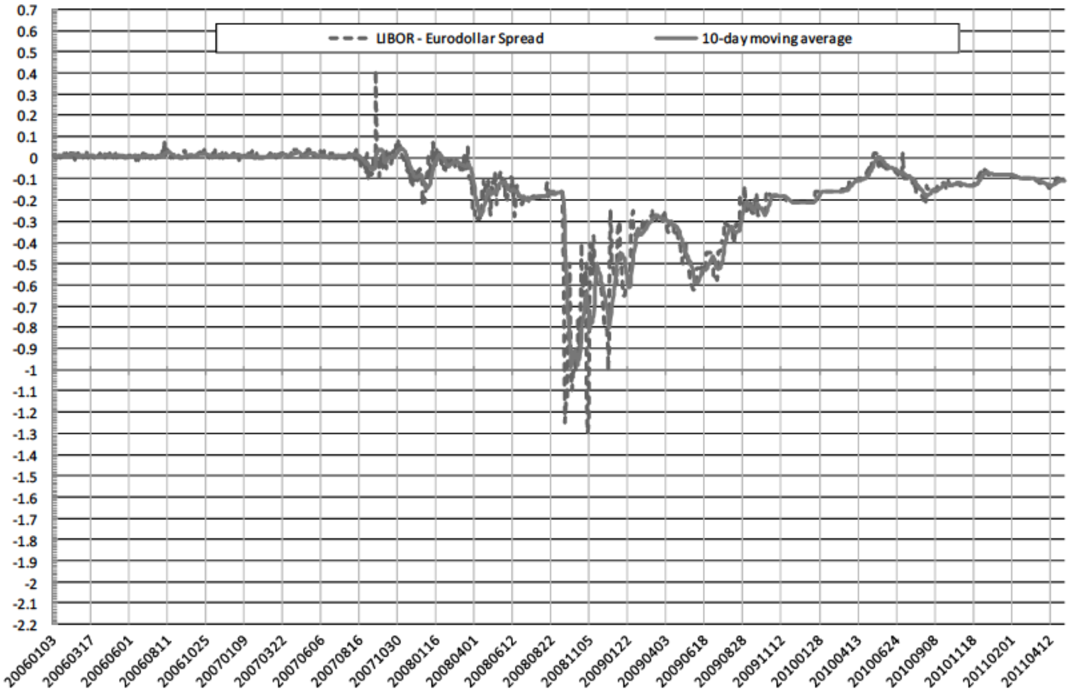


Figure 7: Deutsche Bank LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

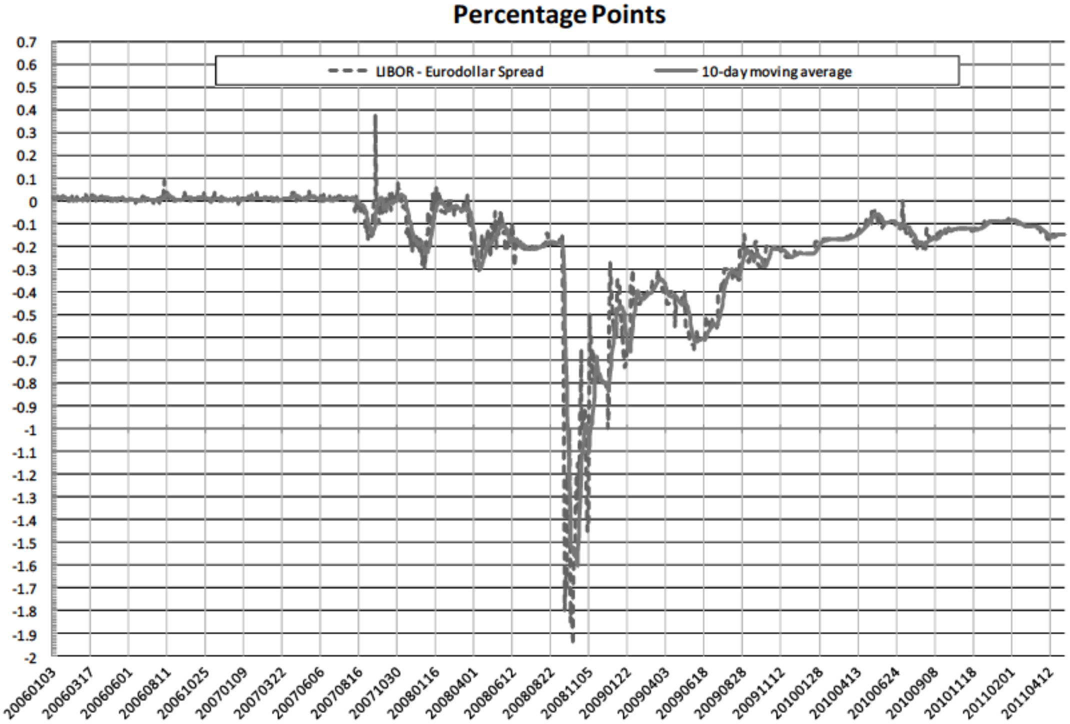


Figure 8: Lloyds LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

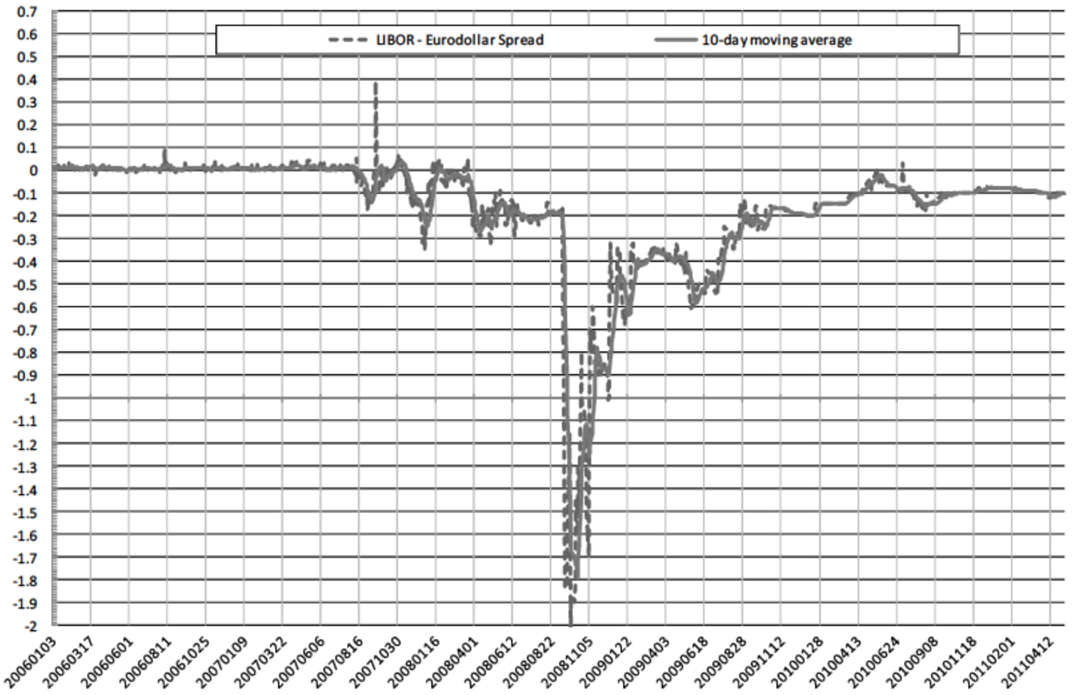


Figure 9: WestLB LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

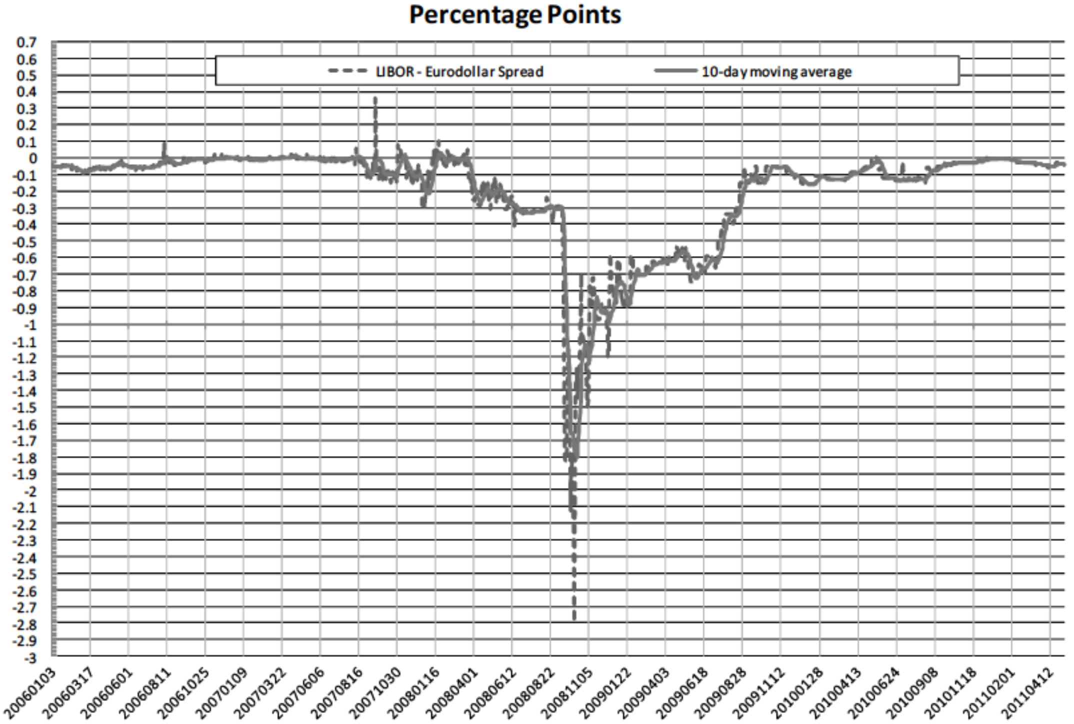


Figure 10: RBS LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

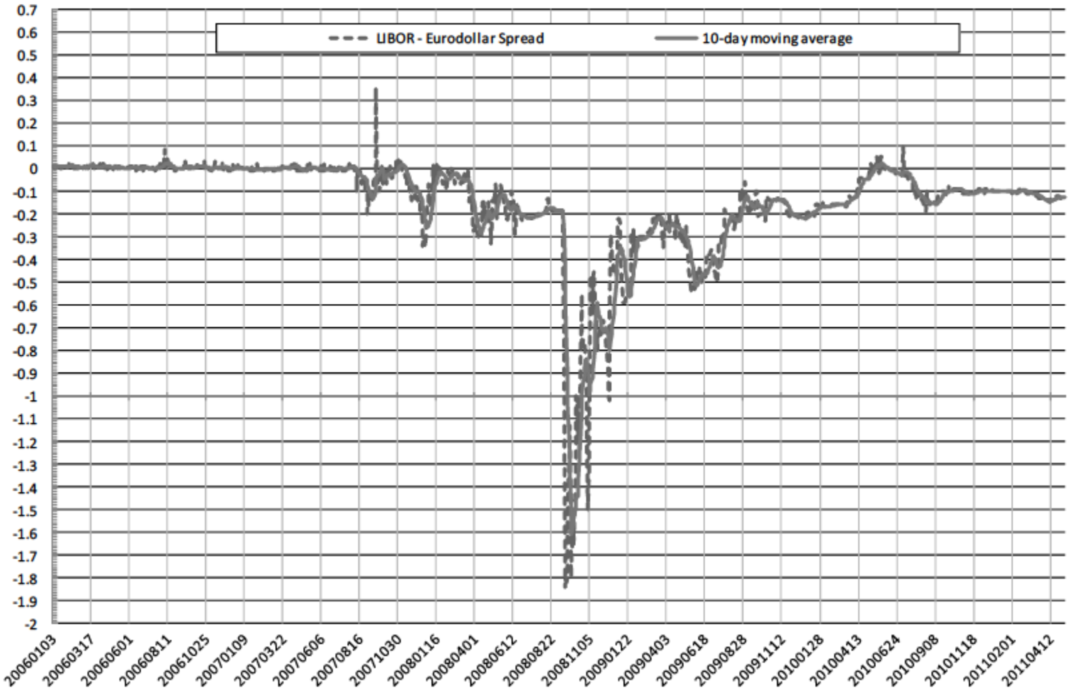


Figure 11: Rabo Bank LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

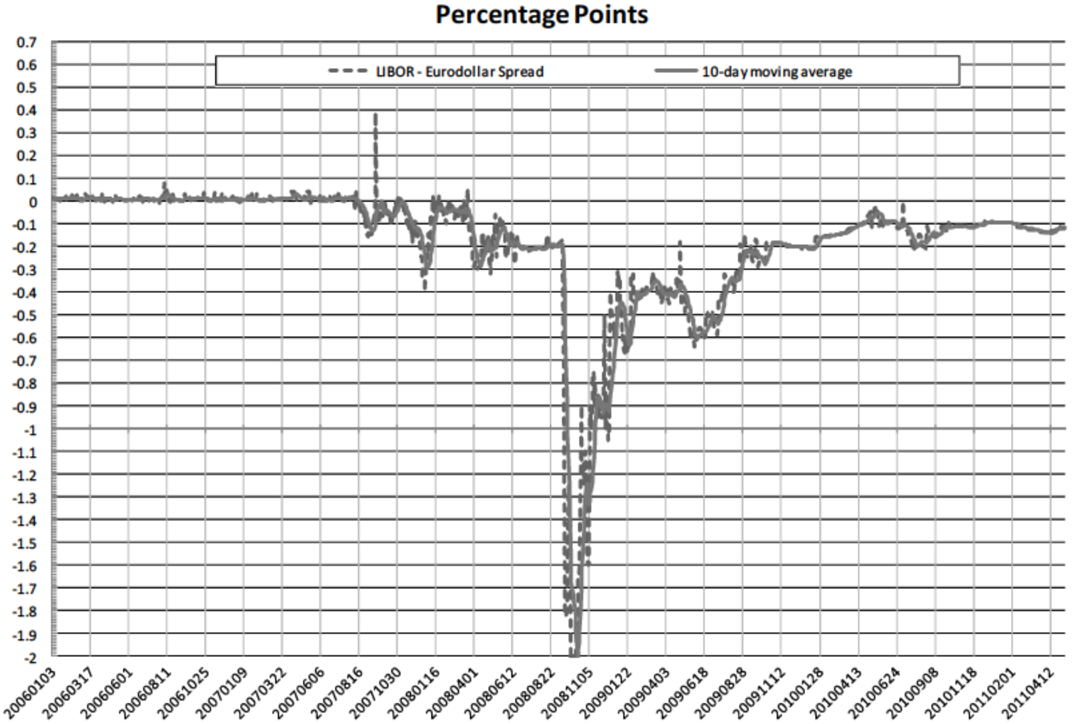


Figure 12: Bank of Tokyo LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

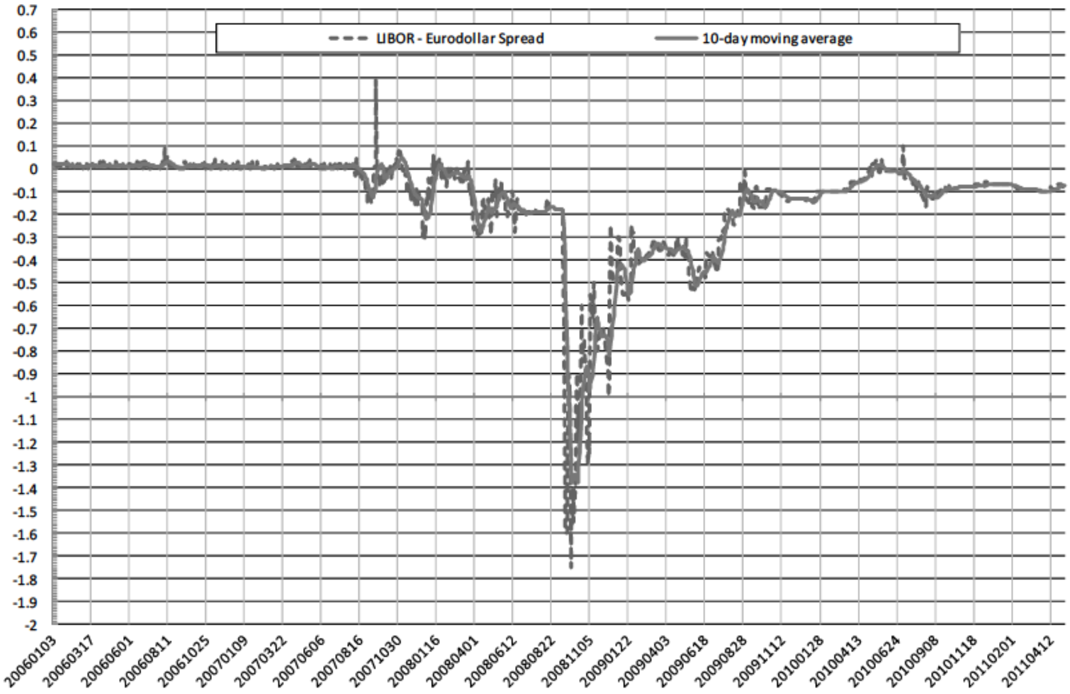


Figure 13: Citi LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

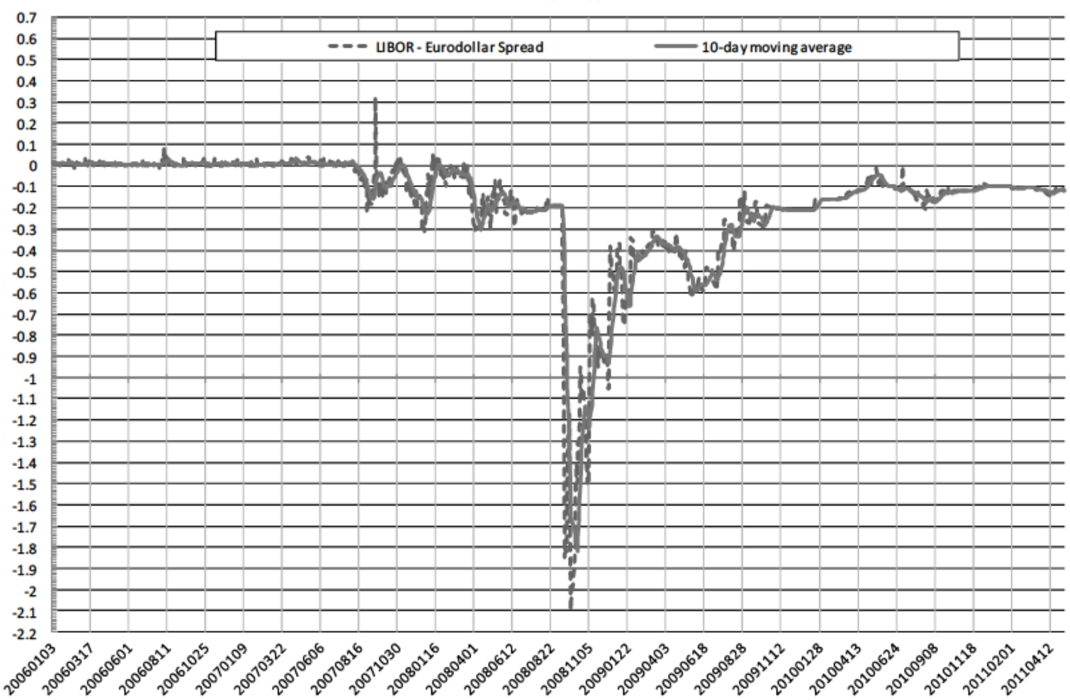


Figure 14: CS LIBOR - Federal Reserve Eurodollar Spread in Percentage Points

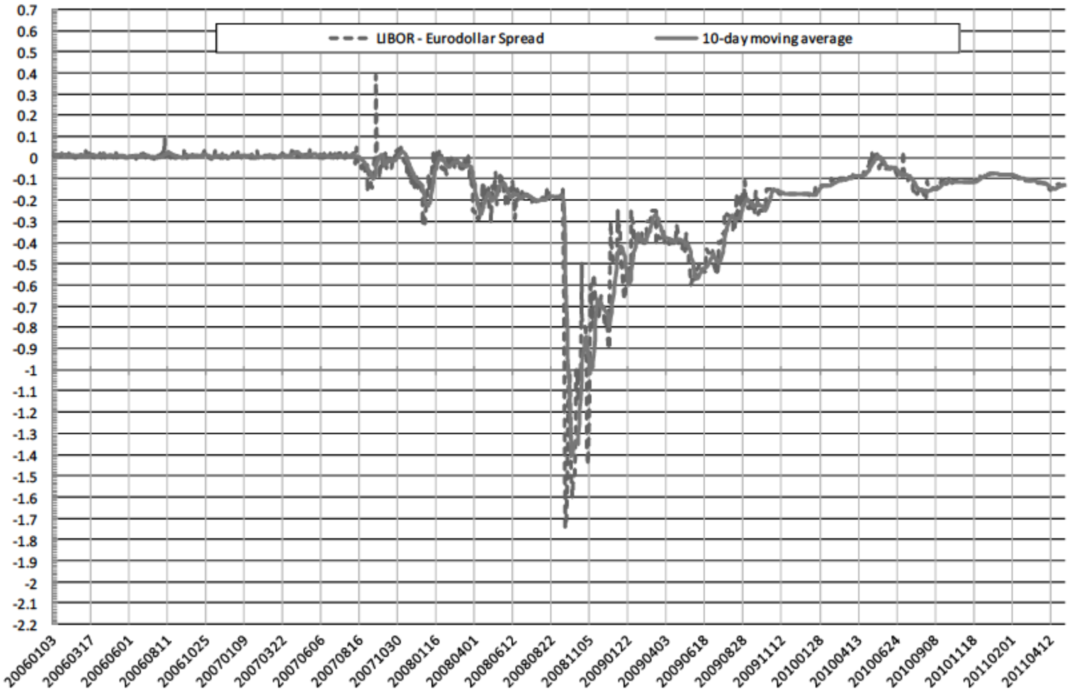
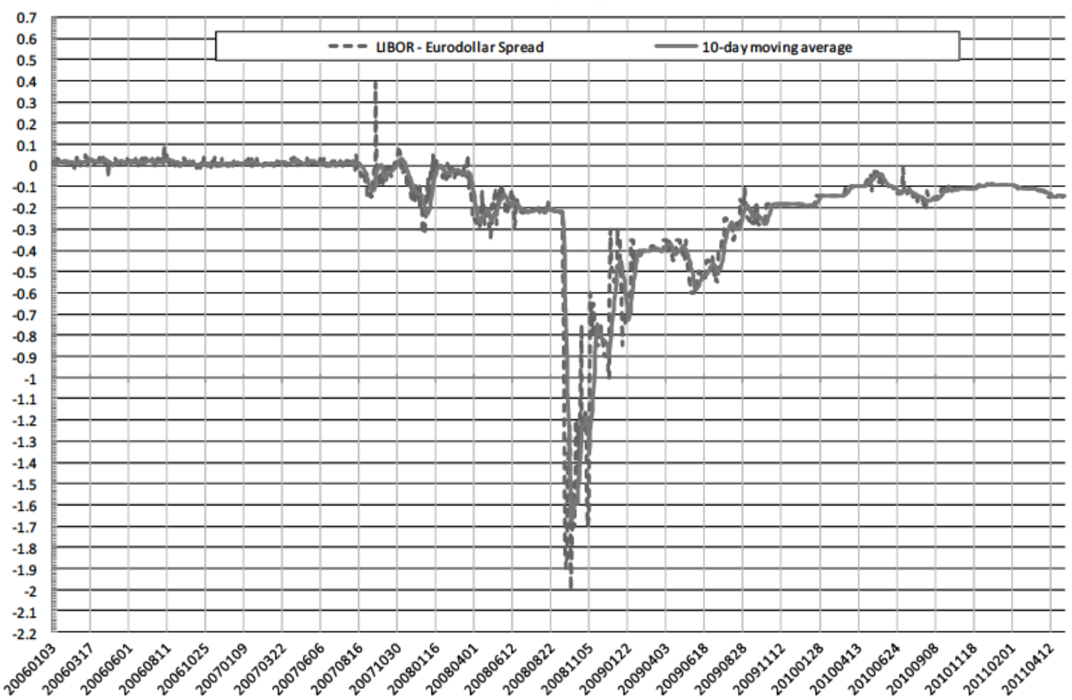


Figure 15: BoA LIBOR - Federal Reserve Eurodollar Spread in Percentage Points



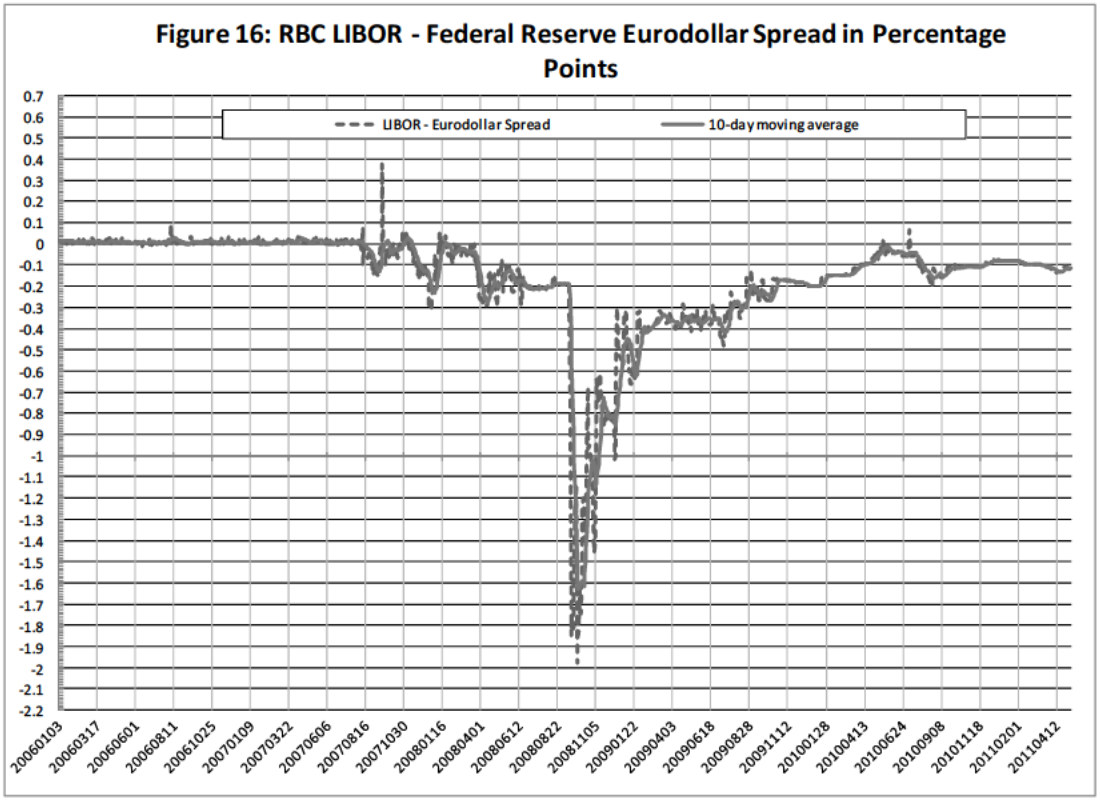


Figure 16: RBC LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
20080116
20080401
20080612
20080822
20081105
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20110412

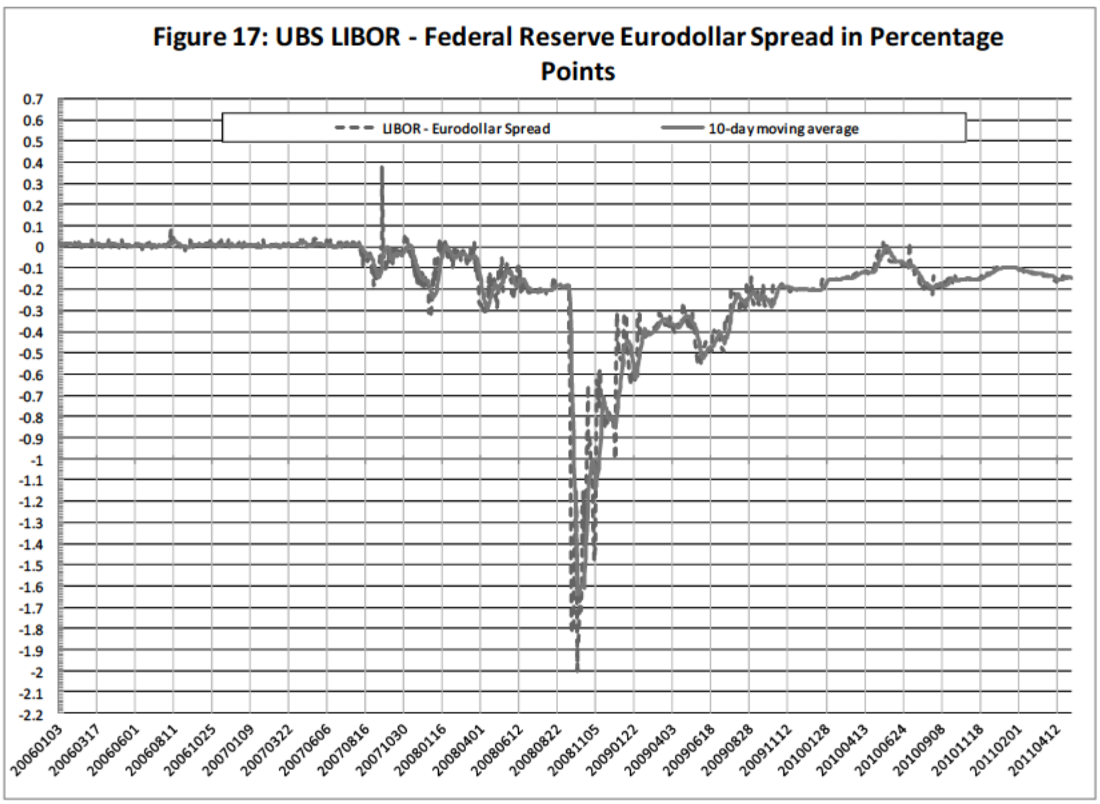
Figure 17: UBS LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
-1.7
-1.8
-1.9
-2
-2.1
-2.2
20060103
20060317
20060601
20060811
20061025
20070109
20070322
20070606
20070816
20071030
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20090403
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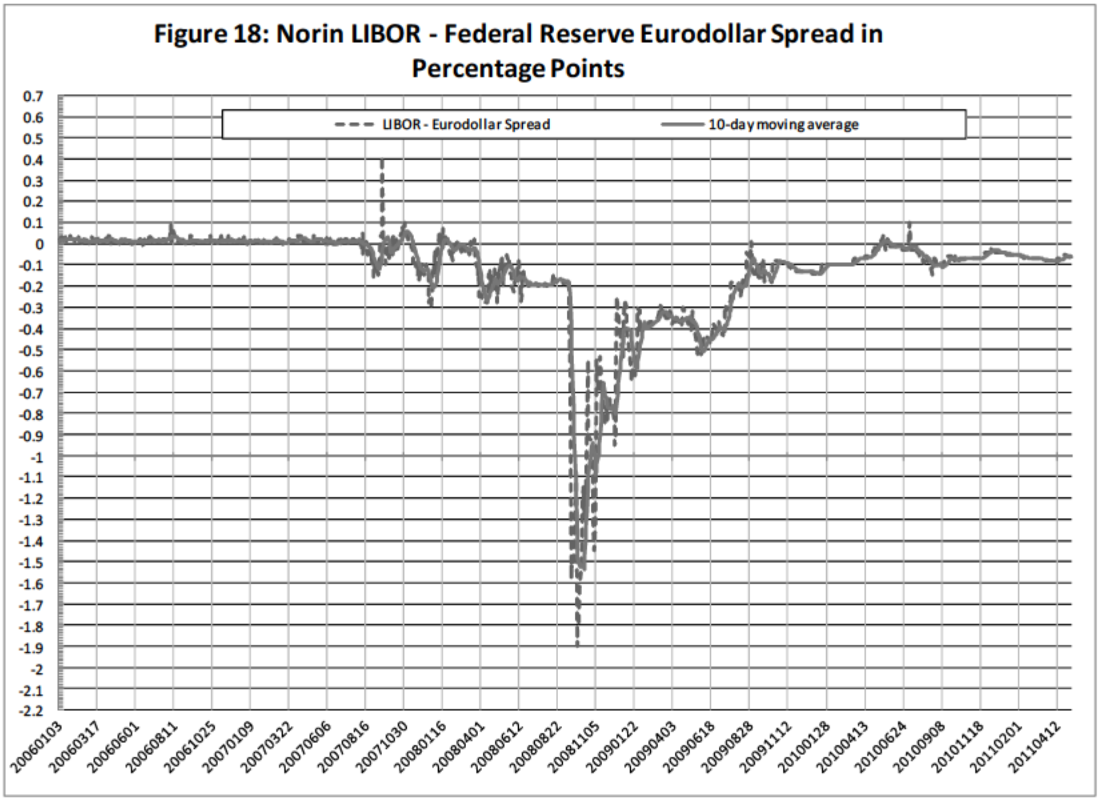
Figure 18: Norin LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average

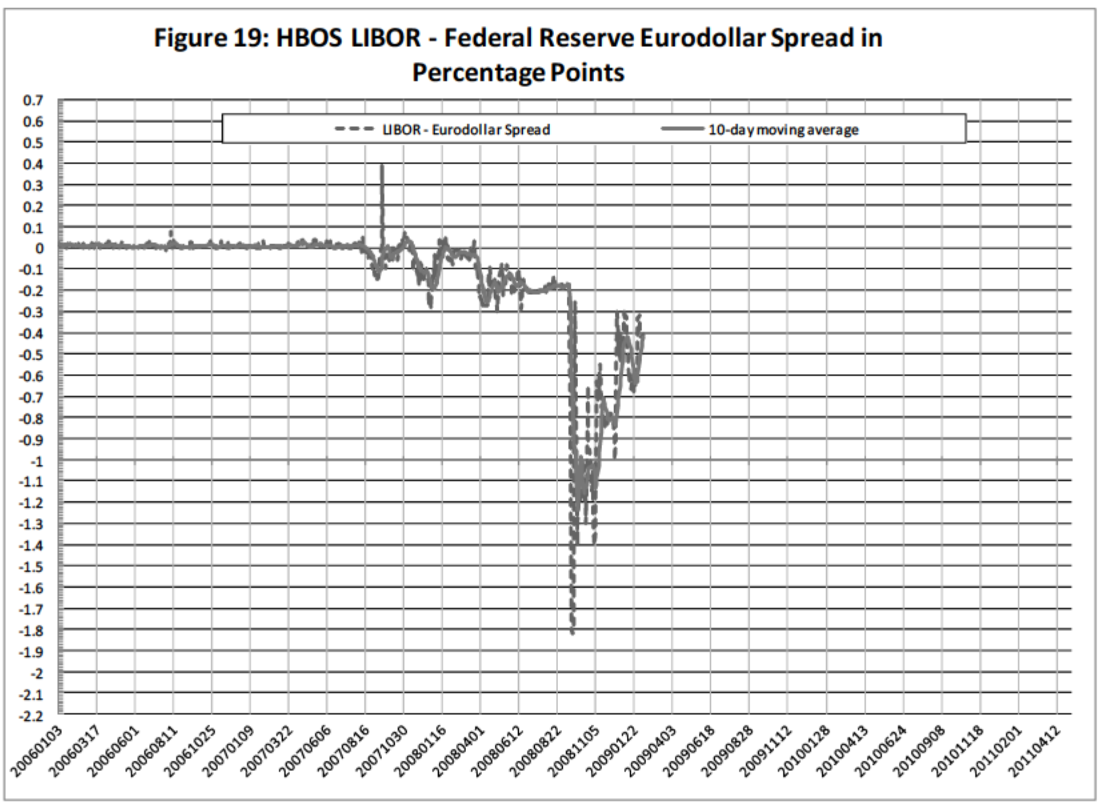
Figure 19: HBOS LIBOR - Federal Reserve Eurodollar Spread in Percentage Points
LIBOR - Eurodollar Spread
10-day moving average

68. As the following chart demonstrates, the average Spread for each of the individual Defendants was uniformly negative throughout the entire Relevant 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-Mitsb.	-25 basis points
2. Bank of America	-30 basis points
3. Barclays	-25 basis points
4. Citi	-32 basis points
5. CSFB	-27 basis points
6. Deutsche Bank	-31 basis points
7. HBOS	-29 basis points
8. HSBC	-32 basis points
9. JP Morgan Chase	-35 basis points
10. Lloyds	-30 basis points
11. Norin Bank	-25 basis points
12. Rabo Bank	-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

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

BANK NAME	**Average Spread between September 16, 2008 and September 30, 2008**
1. Bank of Tokyo-Mitsb.	-120 basis points
2. Bank of America	-144 basis points
3. Barclays	-87 basis points
4. Citi	-142 basis points
5. CS	-122 basis points
6. Deutsche Bank	-129 basis points
7. HBOS	-110 basis points
8. HSBC	-141 basis points
9. JP Morgan Chase	-153 basis points
10. Lloyds	-146 basis points
11. Norin Bank	-126 basis points
12. Rabo Bank	-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

70. Every Spread during the period from September 16, 2008 to September 30, 2008

is statistically significant at the extremely high 99% confidence level.

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

72. As detailed above, analysis based on well accepted statistical methodologies strongly supports that suppression of LIBOR occurred during the Relevant Period, accomplished through the collusive conduct of 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 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 Relevant Period further strongly supports the participation of each Defendant Bank in the suppressive and collusive scheme.

C. **Empirical Analyses By Academics and Other Commentators Further Indicate LIBOR Suppression Occurred.**

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

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

74. One economic indicator that Defendants suppressed USD-LIBOR during the Relevant 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"[21]—constitutes an agreement by which one party, the protection buyer, seeks financial protection in the event of a default on an underlying 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.

75. 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 USD-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.

76. 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

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[21] *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).

banks were thought to be in poor condition, both increased."[22] During the Relevant Period, however, those historically-correlated indicia of banks' borrowing costs diverged significantly.

77. 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 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."[23] 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."

78. The *Journal* observed that the widest gaps existed with respect to the LIBOR quotes of Defendants Citibank, WestLB, HBOS, JPMorgan Chase, and UBS. 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. WestLB, HBOS, JPMorgan Chase, 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."

79. 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 WestLB—hit

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[22] Justin Wong, "LIBOR Left in Limbo; A Call for More Reform," 13 *North Carolina Banking Institute* 365, 371 (2009) (footnotes omitted).

[23] *See* Carrick Mollenkamp and Mark Whitehouse, "Study Casts Doubt on Key Rate --- WSJ Analysis Suggests Banks May Have Reported Flawed Interest Data for Libor."

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.

80. 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.

81. 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."

82. 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.

83. 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.

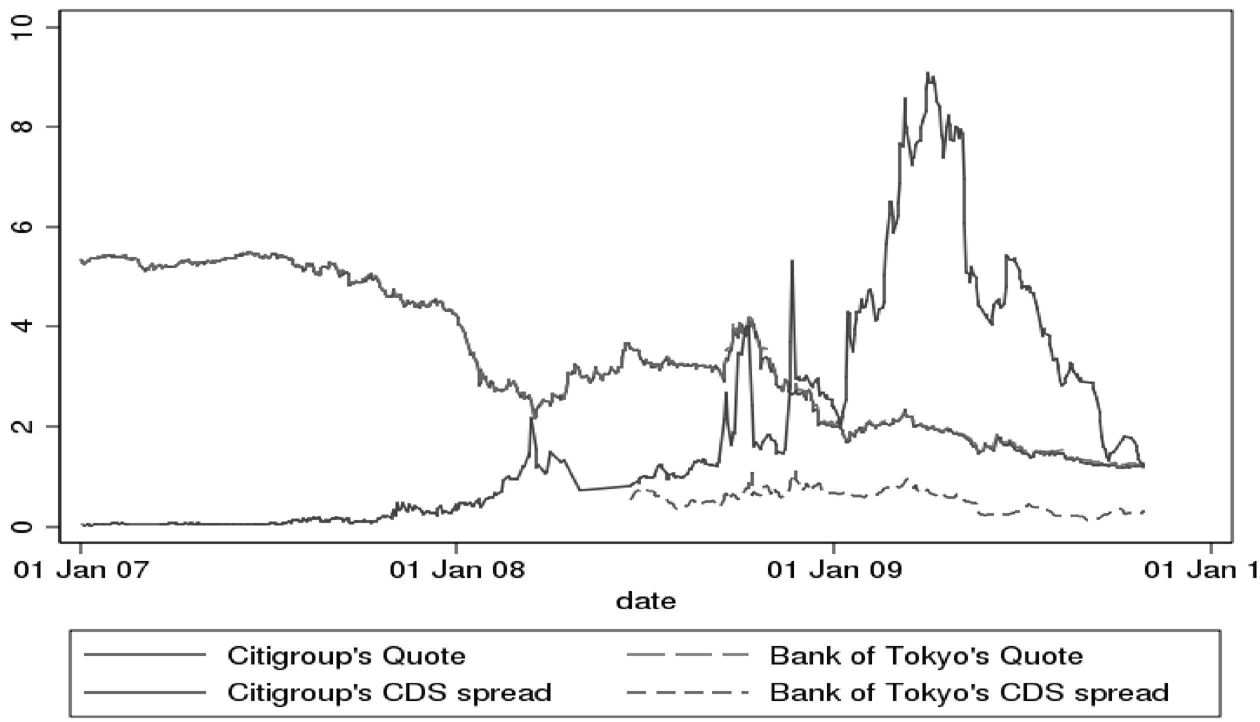
84. According to the *Journal*, three independent academics, including Professor Duffie, reviewed its methodology and findings, at the paper's request. All three deemed the

Journal's approach "reasonable."

85. 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."[24] 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 USD-LIBOR panel banks in fact deviated from their costs of borrowing as reflected in CDS spreads.

86. Comparing, for example, the 12-month USD-LIBOR quotes from Citigroup and Bank of Tokyo together with the banks' respective 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."

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

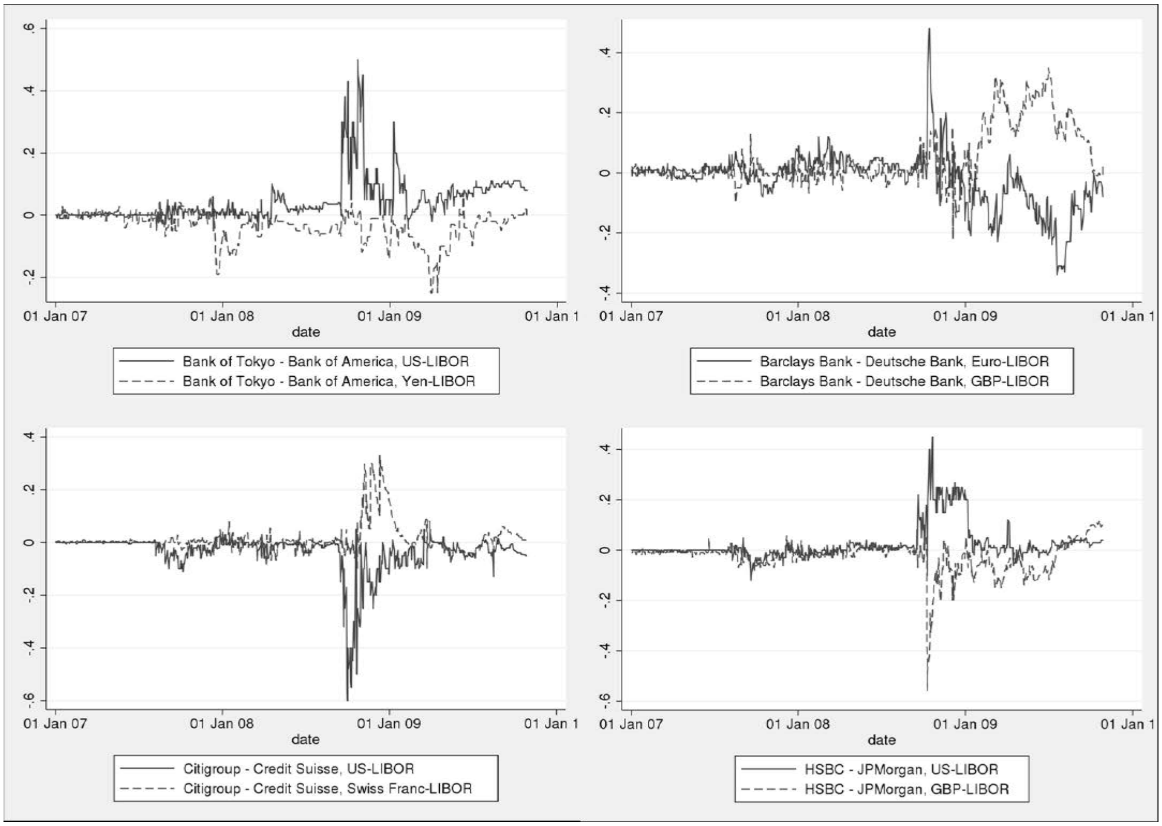


87. Snider and Youle further noted the level of Citigroup's CDS spreads relative to its LIBOR quotes was "puzzling." The authors explained, "Given that purchasing credit protection for a loan makes the loan risk free, one would expect [the] difference between the loan rate and the CDS spread to roughly 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 observed 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 USD-LIBOR.

88. 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 USD-LIBOR than did other panel members but, for other currencies, provided higher rates than did those same fellow banks. Both BAC and BTMU, for instance, quoted rates for USD-LIBOR and Yen-LIBOR during the period under study, yet BAC quoted a lower rate than BTMU for USD-LIBOR and a *higher* rate than BTMU for Yen-LIBOR. Other Defendants included in Snider and Youle's analysis—Barclays, Citigroup, and JPMorgan Chase—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 USD-LIBOR scale. Because, Snider and Youle explain, "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."



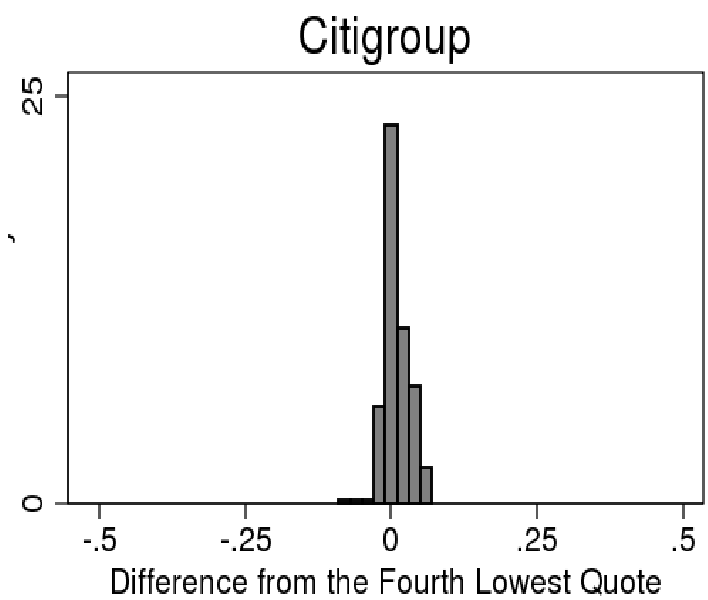
3. **<u>The frequency with which at least certain Defendants' LIBOR quotes "bunched" around the fourth-lowest quote of the day suggests manipulation.</u>**

89. During the Relevant Period, the rates reported by certain Defendants—in particular, Citibank, BAC, and JPMorgan Chase—also demonstrated suspicious "bunching" around the fourth lowest quote submitted by the 16 banks to the BBA. Indeed, Citibank's and BAC'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.

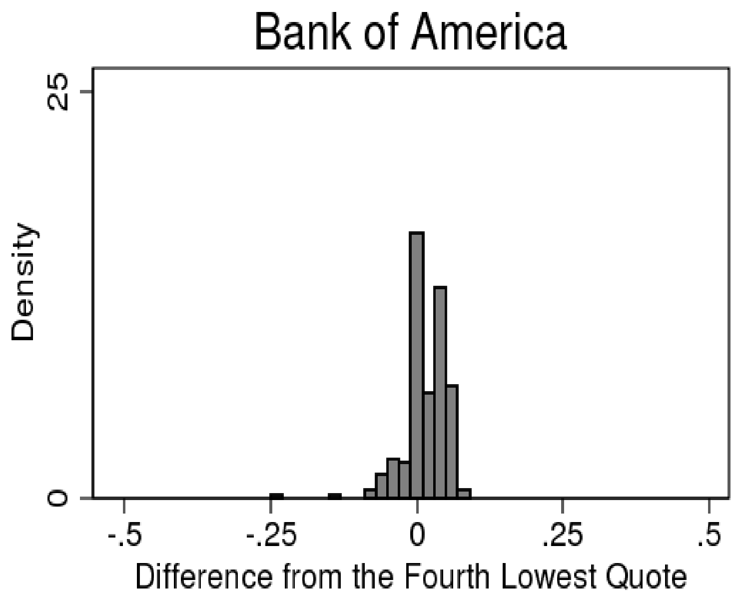
90. Bunching among Defendants' respective LIBOR quotes indicates the banks intended to report the same or similar rates, notwithstanding the banks' differing financial

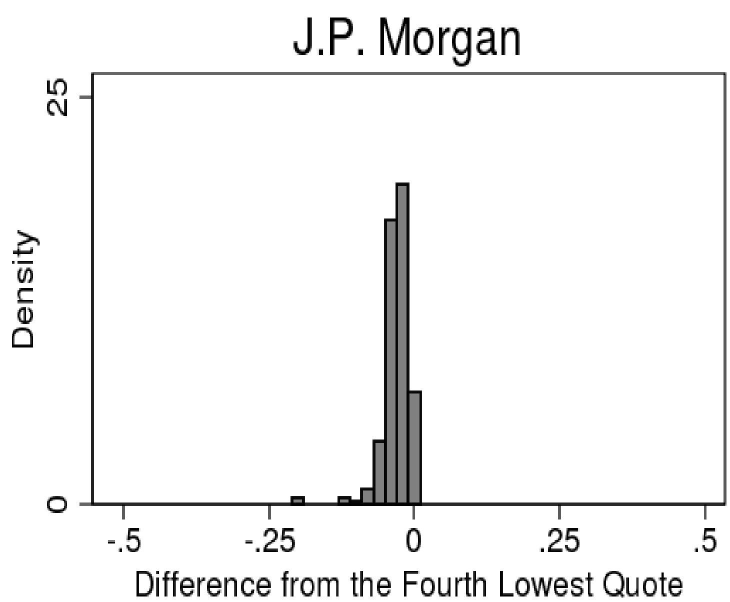
conditions, which, as detailed below (¶¶ 105-15), reasonably should have resulted in differing LIBOR quotes. Those discrepancies suggest Defendants colluded to suppress LIBOR.

91. The following charts show the frequency with which the USD-LIBOR quotes submitted by Defendants Citigroup, BAC, and JPMorgan Chase 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).[25]



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





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

93. In other words, banks that bunched their quotes around the fourth-lowest

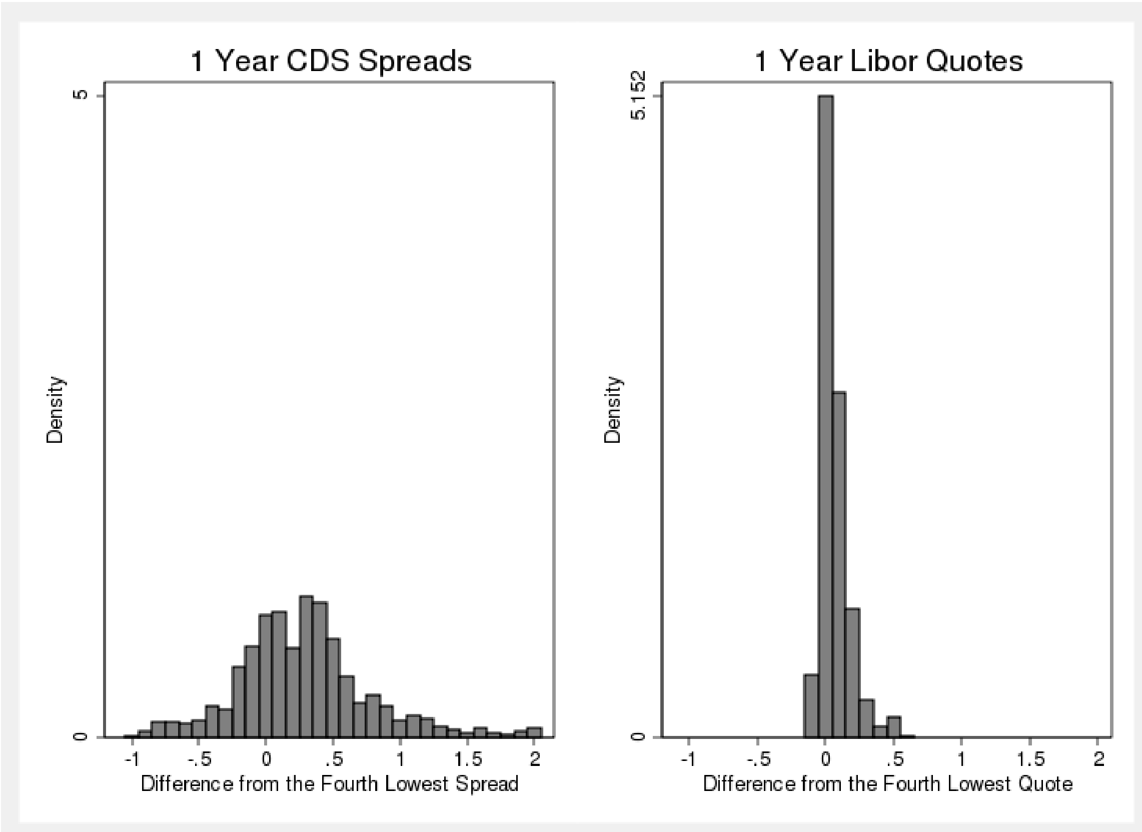
submission helped ensure the maximum downward manipulation of the resulting rate. Furthermore, that a panel bank reported one of the four lowest quotes (i.e., quotes excluded from the ultimate LIBOR calculation) does not mean the bank did not also participate in the collusion.

94. 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).

95. Additionally, Snider and Youle detailed a discrepancy between USD-LIBOR panel banks' LIBOR quotes and their CDS spreads, i.e., 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."[26]

96. Snider and Youle further observed that—as the graphs below, embodying a composite of all the banks, illustrate—during the Relevant 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."

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



97. 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.

4. <u>That LIBOR diverged from its historical relationship with the Federal Reserve auction rate indicates suppression occurred.</u>

98. A comparison between LIBOR and the Federal Reserve auction rate further suggests Defendants artificially suppressed LIBOR during the Relevant 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 USD-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.[27] 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 rate for the 28-day Fed facility was 3.75%—much higher than one-month USD-LIBOR, which was 3.18% that day[28] 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 Relevant Period.**</u>

100. Yet another measure of LIBOR's aberrant behavior with respect to other measures of banks' borrowing costs during the Relevant 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."[29] By July 2008, on the other hand, that gap approached 100 basis points—a figure significantly

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

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

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

higher than the spread from a year earlier—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 the Schwab Funds' 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 effective rate and the one-month Treasury Bill ("T-Bill") rate.[30] Studying the period spanning 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."

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[30] 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."

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.[31] 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 sustained period in 2008.

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

D. <u>That At Least Some Defendants Faced Dire Financial Circumstances During the Relevant Period Further Renders Their Unduly Low LIBOR Quotes Striking.</u>

105. 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 Relevant 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

[31] Rosa M. Abrantes-Metz and Sofia B. Villas-Boas, "Tracking the Libor Rate," July 2010.

Relevant Period.

1. <u>Citibank</u>

106. 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.[32] 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 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.[33]

107. 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).[34]

2. <u>RBS, Lloyds, and HBOS</u>

108. 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.

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

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

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

> 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.
>
> * * *
>
> [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 opportunities."

109. 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."[35]

110. 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

[35] *See* http://www.heraldscotland.com/reckless-banks-brought-this-financial-firestorm-down-upon-their-own-heads-1.891981.

on investments increased from £100 million to £800 million for the year.[36]

111. 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."[37]

112. On March 9, 2009, *Bloomberg* reported that Lloyds "will cede control to the British 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."[38]

113. 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

[36] *See* http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a4BTqdgwhPTc&refer=uk.

[37] *See* January 20, 2009 Société Générale analyst report on Royal Bank of Scotland titled "Little value left for shareholders."

[38] *See* http://www.businessday.com.au/business/lloyds-the-latest-uk-bank-to-be-rescued-20090308-8sfd.html.

operation.'"[39]

3. **WestLB**

114. A September 9, 2008 article in *Spiegel Online* reported WestLB 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 WestLB'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 WestLB 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 that occurred, WestLB would have to pay back €12 billion to the EU.[40]

115. 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 WestLB 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, WestLB's home state, to contribute to capital injections." Moreover, WestLB 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."[41]

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[39] *See* http://www.bloomberg.com/apps/news?pid=21070001&sid=a9MjQj6MNTeA.

[40] *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.

[41] *See* Matthew Brown, BNP Says Buy Euro on Speculation WestLB to Be Rescued (Update 1),

Footnote continued on next page

E. <u>Defendants' Improper Activities Are the Focus of Governmental Investigations, Legal Proceedings, and Disciplinary Actions Worldwide.</u>

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

117. 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 consists of a joint effort by the DOJ's criminal and antitrust divisions.

118. 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 submitting artificially low readings of their daily borrowing costs."[42] Though the proceedings are ongoing, several Defendants have admitted that government entities—including the DOJ, the SEC, and the CFTC—have targeted them in seeking information about potential misconduct.

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

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

120. The first public revelation regarding government investigations into possible

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Footnote continued from previous page
BLOOMBERG, Nov. 24, 2009,
<u>http://www.bloomberg.com/apps/news?pid=21070001&sid=aI9ZPZShrjWI</u>.

[42] Enrich, Mollenkamp, & Eaglesham, "U.S. Libor Probe Includes BofA, Citi, UBS."

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."

121. On March 16, 2011, the *Financial Times* reported that UBS, BAC, Citigroup, and Barclays received subpoenas from U.S. regulators "probing the setting of" USD-LIBOR "between 2006 and 2008." The *Times* further noted investigators had "demanded information from" WestLB, and that the previous fall, "all 16 members of the committee that helped the [BBA] set the dollar Libor rate during 2006-08 received informal requests for information."[43]

122. 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.[44]

123. The next day, *Bloomberg* reported that Barclays and Citigroup had received subpoenas from U.S. regulators and that Defendants WestLB, Lloyds, and BAC had been contacted by regulators. The article specified BAC had received subpoenas from the SEC and

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[43] 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.

[44] Carrick Mollenkamp and David Enrich, "Banks Probed in Libor Manipulation Case," *MarketWatch*, March 16, 2011.

the DOJ.[45]

124. On March 23, 2011, *Bloomberg* revealed that Citigroup Inc., Deutsche Bank, BAC, and JPMorgan Chase were asked by U.S. regulators "to make employees available to testify as witnesses" in connection with the regulators' ongoing investigation.[46]

125. 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' submissions" during 2006-2008 for the BBA's daily survey used to set LIBOR.[47]

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

127. 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."

128. 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

[45] Gavin Finch and Jon Menon, "Barclays, Citigroup Said to Be Subpoenaed in Libor Probe," *Bloomberg*, March 17, 2011.

[46] Joshua Gallu and Donal Griffin, "Libor Probe Spurs Witness Call-up at Citigroup, Deutsche Bank," *Bloomberg*, March 23, 2011.

[47] 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.

European Commission "into the submission of various LIBOR rates by relevant panel banks."

129. 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."[48] Britain's *Daily Telegraph* further reported that Defendant 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."

130. 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."

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

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

immunity regarding submissions for Yen LIBOR, TIBOR, and Swiss franc LIBOR.

132. 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."

133. 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.

134. 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 Libor index, to move the rates in their direction," as well as "whether some banks lowballed their Libor submissions to make themselves appear stronger."[49]

135. 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*

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[49] 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.

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."

136. 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."[50]

137. 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 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."[51] *Law360* reported that the SESC released "a similar statement" about UBS's alleged conduct.

[50] Tom Osborn, "Is Libor in its death throes?", *Financial News*, October 31, 2011.

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

138. 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."

139. 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 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.

140. 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.

141. *The Wall Street Journal* has since cited people familiar with the UBS matter as identifying the trader as Thomas Hayes, who joined UBS Securities Japan in 2006 "and traded products linked to the pricing of short-term yen-denominated borrowings"; he worked at UBS for about three years.[52]

142. In the same article, the *Journal* more broadly reported that investigators in the U.S. and foreign LIBOR probes "are focusing on a small number of traders suspected of trying to influence other bank employees to manipulate the rates."

143. 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

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[52] Jean Eaglesham, Atsuko Fukase, & Sam Holmes, "Rate Probe Keys On Traders: Investigators Suspect Employees at Some Banks Tried to Manipulate Rates," *The Wall Street Journal*, February 7, 2012.

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.

144. 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."[53]

145. *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."

146. *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.

147. 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.[54]

148. According to the *Daily Mail*, investigations by the SEC, Britain's Financial

[53] Lindsay Fortado and Joshua Gallu, "Libor Probe Said to Expose Collusion, Lack of Internal Controls," *Bloomberg*, February 14, 2012.

[54] *Business Times*, March 9, 2012.

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 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 disclosed to date in proceedings in Canada and Singapore confirms that certain Defendants conspired to manipulate Yen-LIBOR.

149. Documents submitted in pending legal proceedings in Canada and Singapore strongly indicate some Defendants manipulated Yen-LIBOR, the Yen-based rate set by a 15-member BBA panel that, during the Relevant Period consisted of (and still consists of) many of the same banks whose borrowing-cost quotes determine USD-LIBOR, including Barclays, Citibank, Deutsche Bank, HSBC, JPMorgan Chase, Lloyds, RBS, and UBS. The facts (some provided by Defendants themselves) demonstrating Defendants' misconduct with respect to Yen-LIBOR illustrate both their desire and ability to manipulate interest rates, and the method by which they have done so.

a. Canadian Proceedings

150. In the Canadian action, Brian Elliott, a Competition Law Officer in the Criminal Matters Branch of the 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."

151. 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."

152. The Affidavit recounted that, the Cooperating Party's counsel, during the relevant period the Participant Banks—at 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."

153. More specifically, counsel proffered that during the relevant period, 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.

154. 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.
>
> 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 consistent 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 JPMorgan 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.

155. 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 the Schwab Funds' knowledge, the Affidavit was not publicly available until February 2012.

156. 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 relevant period.

157. 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").

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

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

b. <u>Singapore Action</u>

160. In addition to UBS's admissions in the Canadian proceedings, 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, Min stated RBS commenced an internal probe following inquiries by European and U.S. authorities about potential LIBOR manipulation.

161. Min—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." Min 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, Min 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." Min added that RBS employees "also took requests from clients (such as Brevan Howard) in relation to the fixing of LIBOR."

162. Indeed, in responding to Min'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.

163. In his complaint, however, Min 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.

THE SCHWAB FUNDS DID NOT KNOW, NOR COULD THEY REASONABLY HAVE KNOWN, ABOUT DEFENDANTS' MISCONDUCT UNTIL AT LEAST MARCH 2011

164. 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, the Schwab Funds 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 Relevant Period.

165. 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.

166. 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, including the Schwab Funds.

167. Defendants' misconduct was, by its very nature, self-concealing. First, those banks' actual or reasonably expected costs of borrowing were not publicly disclosed, rendering it impossible for investors, including the Schwab Funds, 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 banks likewise were not publicly available, which further precluded investors, including the Schwab Funds, from discovering Defendants' misconduct, even with reasonable diligence.

168. 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, facts indicating Defendants were unlawfully suppressing LIBOR during the Relevant 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.

169. In November 2007, a concern arose among some in the U.K. banking community that the members of the USD-LIBOR panel might be understating their true costs of borrowing, thus causing LIBOR to be set artificially low. Some U.K. banks raised their concerns at a meeting of the Bank of England that month.

170. In response to those concerns, specifically "anecdotal evidence gathered from conversation with market participants . . . 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," the Bank for International Settlements ("BIS") in Spring 2008 produced a study of USD-LIBOR. The BIS examined the difference, or "spread," between USD-LIBOR and OISs, which are viewed as virtually risk-free, thus the positive difference between LIBOR and interest rates on those swaps should reflect the credit risk of the quoting banks. The BIS then compared the LIBOR-OIS spread to the cost of CDS insurance on the BBA panel banks' debt. Absent manipulation, those two values should exhibit a stable relationship, because they both depend on the same thing: the credit risk of the quoting banks.

171. Contrary to that expectation, the BIS found an unusually "loose" relationship between CDS premiums and the LIBOR-OIS spread, beginning in August 2007 and continuing at least into 2008, when the BIS published its findings. During that time, CDS premiums led the LIBOR-OIS spread in an upward trend. In other words, the cost of CDS insurance on the panel banks' debt increased more swiftly than the difference between LIBOR and interest rates on OIS, when the two values should have behaved similarly.

172. In May 2008, after *The Wall Street Journal* reported its LIBOR analysis (detailed above), strategist Tim Bond of Barclays, admitted "the rates the banks were posting to the BBA became a little divorced from reality" during 2007-2008, adding:

> We had one week in September where our treasurer, who takes his responsibilities pretty seriously, said, "Right, I've had enough of this, I'm going to quote the right rates". All we got for our pains was a series of media articles saying that we were having difficulty financing.[55]

[55] http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/2790833/Libor-credibility-

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173. Additionally, in a report published mid-April 2008 entitled "Is LIBOR Broken?", Citigroup's Scott Peng wrote "Libor at times no longer represents the level at which banks extend loans to others." He concluded that LIBOR was suppressed by 30 basis points. Peng resigned approximately one year later. Reports of his resignation referenced his disclosures about LIBOR. On April 18, 2008, Credit Suisse's William Porter, a credit strategist, estimated an even greater suppression: 40 bps (as reported that day by *The Wall Street Journal*).

174. On April 3, 2008, the Bank of England money-market committee held a meeting of U.K. banks. The minutes of that meeting state: "U.S. Dollar Libor rates had at times appeared lower than actual traded interbank rates."

175. As a result of the concerns and statements recounted above, the BBA conducted an inquiry regarding LIBOR. Notably, shortly after the BBA announced its investigation, the LIBOR panel banks raised their quotes, 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.

176. Additionally, the BBA ultimately determined (wrongly) that LIBOR had not been manipulated, thus providing further (incorrect) assurance to investors that the concerns expressed by some market participants were unfounded.

177. 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

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questioned-by-Barclays-strategist.html.

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."[56]

178. 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.[57]

179. 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."[58]

180. 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."[59]

181. 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

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[56] 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.

[57] 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.

[58] Kirsten Donovan, Jamie McGeever, Jennifer Ablan, Richard Leong & John Parry, "European, U.S. bankers work on Libor problems," reuters.com, available at http://in.reuters.com/article/2008/05/16/markets-rates-bba-idINL162110020080516, last accessed on April 24, 2012.

[59] *Id.*

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.[60]

C. <u>Expert Analysis Performed In Connection With These Proceedings Indicates LIBOR's Increase Following Expressions of Concern Over LIBOR's Viability Resulted from Defendants' Attempt to Conceal Their Misconduct.</u>

182. 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%.

183. 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.

184. A consulting expert engaged by other plaintiffs in these coordinated proceedings has conducted an analysis of the change in LIBOR on 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, whereas if banks did manipulate LIBOR—and were responding to *The Wall Street Journal* article and the BBA's announcement following it—the reporting banks would be likely to reduce or abandon the manipulation immediately in response to those events. An immediate reduction in LIBOR manipulation would result in an increase in LIBOR quotes by the member banks on April 17, 2008.

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

185. To conduct the analysis, the consulting expert ran a regression using the daily changes in LIBOR. Table 1 below shows the study results. As discussed above, LIBOR increased on April 17, 2008 at a statistically significant level. Moreover, 10 of the 16 bank quote increases 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*			
	Dependent variable	**Average change in LIBOR during the period 1/5/2000 – 5/13/2011**	**April 17, 2008 Reported Increase**	**Statistical Significance at the 1-5% level of the April 17, 2008 move**
1	BBA LIBOR	-0.00203	0.08578	5%
2	HSBC LIBOR	-0.00167	0.12167	1%
3	JPMC LIBOR	-0.00203	0.08203	5%
4	BARCLAYS LIBOR	-0.00202	0.10202	5%
5	WEST LB LIBOR	-0.00199	0.09199	5%
6	RBS LIBOR	-0.00201	0.08701	5%
7	RABOBANK LIBOR	-0.00206	0.08206	5%
8	CITI LIBOR	-0.00203	0.09703	5%
9	UBS LIBOR	-0.00245	0.09745	5%
10	NORIN LIBOR	-0.00204	0.09204	5%
	*Statistical significance is assessed using a AR(3) model for the residuals.			

186. An alternative hypothesis is that, in addition to reacting to the *Journal*, other confounding effects that are related to the risk of the banks 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 see daily changes in the difference between banks' LIBOR quotes and the Federal

Reserve Eurodollar Deposit Rate (the "Spread"). If risk related factors 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 *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.

187. 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 finding 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 on April 17, 2008*				
	Dependent variable	**Average change in LIBOR during the period 1/5/2000 – 5/13/2011**	**April 17, 2008 Reported Increase**	**Statistical Significance at the 1-5% level of the April 17, 2008 move**
1	BBA LIBOR Spread	-0.00007507	0.08383	5%
2	HSBC LIBOR Spread	0.00024665	0.11975	1%
3	JPMC LIBOR Spread	-0.00016117	0.08016	5%
4	BARCLAYS LIBOR Spread	-0.00010337	0.1001	1%
5	RBS LIBOR Spread	-0.00010924	0.08511	5%
6	TOKYO LIBOR Spread	0.00001534	0.07998	5%
7	CITI LIBOR Spread	-0.00016073	0.09516	5%
8	CS LIBOR Spread	-0.0001738	0.07017	5%

9	RBC LIBOR Spread	-0.00010722	0.09511	5%
10	UBS LIBOR Spread	-0.00011816	0.09512	5%
11	NORIN LIBOR Spread	-0.00020698	0.09021	1%
	* Statistical significance is assessed using a AR(3) model for the residuals.			

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

D. <u>Investors, Including the Schwab Funds, Certainly Could Not Have Known Or Reasonably Discovered—Until At Least March 2011—Facts Suggesting Defendants *Knowingly Colluded* To Suppress LIBOR.</u>

189. Notwithstanding the smattering of statements in late 2007-early 2008 questioning LIBOR's viability, the Schwab Funds 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 the Schwab Funds on inquiry notice that a conspiracy to manipulate LIBOR existed.

<u>THE SCHWAB FUNDS HAVE SUFFERED SIGNIFICANT HARM AS A RESULT OF DEFENDANTS' MISCONDUCT</u>

A. <u>Defendants' Suppression of LIBOR Broadly Impacted LIBOR-Based Financial Instruments.</u>

190. Throughout the Relevant Period, Defendants' manipulation of LIBOR caused damage to the Schwab Funds by artificially depressing the value of tens of billions of dollars in LIBOR-based financial instruments the Funds held or purchased. Most of those instruments fall into one of the following categories.

191. <u>Floating-rate instruments.</u> Throughout the Relevant Period, the Schwab Funds bought and usually held to maturity floating-rate instruments indexed to LIBOR. These obligations paid a rate of return based on LIBOR; specifically, they paid LIBOR plus an

additional fixed rate of return. These floating-rate instruments included, among others, commercial paper and certificates of deposit. "Commercial paper" refers to an unsecured promissory obligation with a fixed maturity typically of up to nine months. Such obligations are issued and sold by large corporations and banks in order to raise short-term funds. "Certificates of deposit" are time deposits with a financial institution such as a credit union or bank. Defendants' suppression of LIBOR caused the Schwab Funds to receive lower returns on these obligations than they would have if LIBOR had been properly set, which was a foreseeable result of Defendants' misconduct. The Funds relied on the accuracy of LIBOR in undertaking these transactions.

192. The floating-rate instruments affected by Defendants' misconduct include those (i) issued or sold to the Schwab Funds by Defendants, (ii) sold to the Funds by subsidiaries or other affiliates of Defendants, and (iii) issued or sold to the Funds by third parties.

193. Fixed-rate instruments. Throughout the Relevant Period, the Schwab Funds bought, and usually held to maturity, fixed-rate instruments such as commercial paper and certificates of deposit, which paid a fixed rate of return. When considering whether to purchase a fixed-rate instrument, the Funds always evaluated the difference (or "spread") between the offered rate and LIBOR. A large positive spread to LIBOR might make the offering "rich," depending on the credit risk of the issuer. A lower positive spread or a negative spread might make the offering less attractive, again depending on the quality of the issuer. This is a common analysis undertaken by participants in these markets. Thus, suppressing LIBOR would always, and obviously, tend to suppress the rates of return on fixed-rate instruments by making lower rates of return relatively more attractive. Defendants' suppression of LIBOR caused the Schwab Funds to receive lower returns on these obligations than they would have if LIBOR had been

properly set. The Funds relied on the accuracy of LIBOR in undertaking these transactions, which was a foreseeable result of Defendants' misconduct.

194. The fixed-rate instruments affected by Defendants' misconduct include those (i) issued or sold to the Schwab Funds by Defendants, (ii) sold to the Funds by subsidiaries or other affiliates of Defendants, and (iii) issued or sold to the Funds by third parties.

B. <u>The Schwab Funds Collectively Purchased Billions of Dollars In LIBOR-Based Financial Instruments That Paid Unduly Low Interest Rates.</u>

195. During the Relevant Period, the Schwab Funds purchased billions of dollars in LIBOR-based financial instruments impacted by Defendants' misconduct, including instruments issued or sold by Defendants or sold by dealer entities that were subsidiaries of, or otherwise affiliated with, Defendants, including, among others: (i) Deutsche Bank Securities; (ii) Banc of America Securities, LLC; (iii) Barclays Capital Inc.; (iv) Credit Suisse Securities (USA) LLC; (v) UBS Financial Services Inc.; (vi) Citigroup Global Markets Inc.; (vii) Citigroup Funding, Inc.; (viii) RBS Securities, Inc. (f/k/a Greenwich Capital Markets, Inc.); (ix) Bank of Scotland plc; (x) JPMorgan Chase Bank, N.A.; (xi) J.P. Morgan Securities Inc. (f/k/a Bear Stearns & Co.); (xii) JP Morgan Securities LLC; (xiii) HSBC Bank USA, N.A.; (xiv) HSBC Finance Corporation; (xv) HSBC Securities (USA) Inc.

1. <u>Schwab Short-Term Bond Market Fund</u>

196. As of July 1, 2007, Plaintiff Schwab Short-Term Bond Market Fund held an aggregate of \$46 million of floating-rate instruments—including corporate debt and financial institutions funding notes—affected by Defendants' suppression of LIBOR.

197. During the Relevant Period, Plaintiff Schwab Short-Term Bond Market Fund purchased an aggregate of \$167 million of fixed-rate instruments with a remaining maturity of between five and 365 days at the time of purchase—including corporate debt and financial

institutions funding debt—that were affected by Defendants' suppression of LIBOR. Of those, Plaintiff purchased more than $57 million of instruments from Defendant JPMorgan Chase and purchased more than $43 million of instruments from dealer entities that were subsidiaries or other affiliates of Defendants.

2. Schwab Total Bond Market Fund

198. As of July 1, 2007, Plaintiff Schwab Total Bond Market Fund held an aggregate of $110 million of floating-rate instruments—including corporate debt and financial institutions funding notes—affected by Defendants' suppression of LIBOR.

199. During the Relevant Period, Plaintiff Schwab Total Bond Market Fund purchased an aggregate of $3.5 billion of fixed-rate instruments with a remaining maturity of between five and 365 days at the time of purchase—including corporate debt, bank funding notes financial institutions funding debt, mortgage discount notes, mortgage loans, and other mortgage-related instruments—that were affected by Defendants' suppression of LIBOR. Of those, Plaintiff purchased more than $433 million of instruments from Defendant JPMorgan Chase and purchased more than $1.8 billion of instruments from dealer entities that were subsidiaries or other affiliates of Defendants.

3. Schwab U.S. Dollar Liquid Assets Fund

200. During the Relevant Period, Plaintiff Schwab U.S. Dollar Liquid Assets Fund purchased an aggregate of $95 million of floating-rate instruments—including bank and financial institutions certificates of deposit—that were affected by Defendants' suppression of LIBOR.

201. During the Relevant Period, Plaintiff Schwab Retirement Advantage Money Fund purchased an aggregate of $5.4 billion of fixed-rate instruments with a remaining maturity of between five and 365 days at the time of purchase—including bank certificates of deposit, commercial paper and mortgage discount notes—that were affected by Defendants' suppression

of LIBOR.

CLAIMS FOR RELIEF

(Against All Defendants)

FIRST CLAIM FOR RELIEF

Violation of Section 1 of the Sherman Act, 15 U.S.C. § 1

202. The Schwab Funds incorporate by reference and reallege the preceding allegations as though fully set forth herein.

203. Defendants entered into and engaged in a conspiracy in unreasonable restraint of trade in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1.

204. During the Relevant Period, Defendants controlled what LIBOR rate would be reported and therefore controlled prices in the market for LIBOR-based financial instruments. Defendants competed in this market.

205. The conspiracy consisted of a continuing agreement, understanding or concerted action between and among Defendants and their co-conspirators in furtherance of which Defendants fixed, maintained or made artificial prices for LIBOR-based financial instruments. Defendants' conspiracy constitutes a *per se* violation of the federal antitrust laws and is, in any event, an unreasonable and unlawful restraint of trade.

206. Defendants' conspiracy, and the resulting impact on the market for LIBOR-based financial instruments, occurred in and affected interstate and international commerce.

207. As a proximate result of Defendants' unlawful conduct, the Schwab Funds have suffered injury to their business or property.

208. The Schwab Funds are entitled to treble damages for the violations of the Sherman Act alleged herein.

SECOND CLAIM FOR RELIEF

Violation of the Racketeer Influenced and Corrupt Organizations Act (RICO), 18 U.S.C. §§ 1961 *et seq.*

209. The Schwab Funds incorporate by reference and reallege the preceding allegations as though fully set forth herein.

Defendants Engaged In Conduct Actionable Under RICO.

210. 18 U.S.C. § 1962(c) makes it illegal for "any person employed by or associated with any enterprise engaged in, or the activities of which affect, interstate or foreign commerce, to conduct or participate, directly or indirectly, in the conduct of such enterprise's affairs through a pattern of racketeering activity or collection of unlawful debt."

211. 18 U.S.C. § 1962(d), in turn, makes it "unlawful for any person to conspire to violate any of the provisions of subsection (a), (b), or (c) of this section."

212. Under 18 U.S.C. § 1961(1), and as applicable to Section 1962, "racketeering activity" means (among other things) acts indictable under certain sections of Title 18, including 18 U.S.C. § 1341 (relating to mail fraud), 18 U.S.C. § 1343 (relating to wire fraud), and 18 U.S.C. § 1344 (relating to financial institution fraud).

213. 18 U.S.C. § 1961(5) provides that, to constitute a "pattern of racketeering activity," conduct "requires at least two acts of racketeering activity, one of which occurred after the effective date of this chapter and the last of which occurred within ten years (excluding any period of imprisonment) after the commission of a prior act of racketeering activity."

214. 18 U.S.C. § 1961(3) defines "person" as "any individual or entity capable of holding a legal or beneficial interest in property," and 18 U.S.C. § 1961(4) defines "enterprise" as "any individual, partnership, corporation, association, or other legal entity, and any union or group of individuals associated in fact although not a legal entity."

215. 18 U.S.C. § 1341, the mail fraud statute invoked by 18 U.S.C. § 1961(1) as a predicate act, makes it unlawful to have "devised or intend[ed] to devise any scheme or artifice to defraud, or for obtaining money or property by means of false or fraudulent pretenses, representations, or promises, or to sell, dispose of, loan, exchange, alter, give away, distribute, supply, or furnish or procure for unlawful use any counterfeit or spurious coin, obligation, security, or other article, or anything represented to be or intimated or held out to be such counterfeit or spurious article, for the purpose of executing such scheme or artifice or attempting so to do, places in any post office or authorized depository for mail matter, any matter or thing whatever to be sent or delivered by the Postal Service, or deposits or causes to be deposited any matter or thing whatever to be sent or delivered by any private or commercial interstate carrier, or takes or receives therefrom, any such matter or thing, or knowingly causes to be delivered by mail or such carrier according to the direction thereon, or at the place at which it is directed to be delivered by the person to whom it is addressed, any such matter or thing, shall be fined under this title or imprisoned not more than 20 years, or both. If the violation affects a financial institution, such person shall be fined not more than $1,000,000 or imprisoned not more than 30 years, or both."

216. 18 U.S.C. § 1343, the wire fraud statute invoked by 18 U.S.C. § 1961(1) as a predicate act, provides that "[w]hoever, having devised or intending to devise any scheme or artifice to defraud, or for obtaining money or property by means of false or fraudulent pretenses, representations, or promises, transmits or causes to be transmitted by means of wire, radio, or television communication in interstate or foreign commerce, any writings, signs, signals, pictures, or sounds for the purpose of executing such scheme or artifice, shall be fined under this title or imprisoned not more than 20 years, or both."

217. 18 U.S.C. § 1344, the federal bank fraud statute invoked by 18 U.S.C. § 1961(1) as a predicate act, states:

> Whoever knowingly executes, or attempts to execute, a scheme or artifice –
>
> 1. to defraud a financial institution, or
>
> 2. to obtain any of the moneys, funds, credits, assets, securities, or other property owned by, or under the custody or control of, a financial institution, by means of false or fraudulent pretenses, representations, or promises shall be fined not more than $1,000,000 or imprisoned for not more than 30 years, or both.

218. At all relevant times, Defendants, including the employees who conducted Defendants' affairs through illegal acts (including by communicating false LIBOR quotes to the BBA or directing other employees to do so) were "person[s]" within the meaning of 18 U.S.C. § 1961(4), with a definable corporate structure and a hierarchy of corporate direction and control.

219. At all relevant times, the Schwab Funds were "person[s]" within the meaning of 18 U.S.C. § 1961(3).

<u>Defendants Formed A RICO Enterprise.</u>

220. Defendants' collective association, including through their participation together as members of the BBA's USD-LIBOR panel, constitutes the RICO enterprise in this case. Every member of the enterprise participated in the process of misrepresenting their costs of borrowing to the BBA. Using those false quotes to cause the BBA to set LIBOR artificially low, thereby allowing Defendants to increase their net interest revenues by making artificially low payments to investors such as the Schwab Funds, constitutes the common purpose of the enterprise.

<u>The Enterprise Has Perpetrated A Continuing Practice Of Racketeering.</u>

221. For at least four years before this Complaint was filed, Defendants, in concert,

made false statements to the BBA for the purpose and with the effect of manipulating LIBOR to be lower than it otherwise would have been. Defendants did so for the purpose and with the effect of decreasing their payments to investors such as the Schwab Funds and increasing their net interest revenues. Defendants earned hundreds of millions, if not billions, of dollars in wrongful profits as a result, which they shared with the employees who perpetrated the scheme. The conduct of every party involved in the scheme is hardly an isolated occurrence that resulted in one fraudulent charge.

222. In perpetrating the fraudulent scheme, each Defendant directly or indirectly through its corporate structure has designed and implemented a uniform scheme to manipulate LIBOR. Defendants' daily making and communicating of quotes to the BBA comprise one common, uniform nearly identical system of procedures used in virtually an identical way every day.

223. For at least the past four years, Defendants have knowingly, intentionally, or recklessly engaged in an ongoing pattern of racketeering under 18 U.S.C. § 1962(c) by committing the predicate acts of mail fraud within the meaning of 18 U.S.C. § 1341, wire fraud within the meaning of 18 U.S.C. § 1343, and bank fraud within the meaning of 18 U.S.C. § 1344(2), by knowingly and intentionally implementing the scheme to make false statements about their costs of borrowing, to manipulate LIBOR, which allowed Defendants to reap unlawful profits.

224. Defendants have committed the predicate act of mail fraud under 18 U.S.C. § 1341, thus triggering Section 1962(c) liability, by devising or intending to "devise a scheme or artifice to defraud" purchasers and holders of LIBOR-based financial instruments, and "for the purpose of executing such scheme or artifice or attempting so to do," placed or knowingly

caused to be placed in a post office or authorized depository for mail matter, documents or packages to be sent or delivered by the Postal Service or a private or commercial interstate carrier, or received from those entities such documents or packages, including: (i) documents offering for sale LIBOR-based financial instruments and (ii) correspondence regarding offerings of LIBOR-based financial instruments (the conduct described in this paragraph is referred to as the "Mail Fraud").

225. On information and belief, the Mail Fraud is the result of Defendants "having devised or intended to devise a scheme or artifice to defraud" holders of LIBOR-based financial instruments, for the purpose of obtaining money from those holders through "false or fraudulent pretenses, representations, or promises."

226. By devising the scheme or artifice to defraud consumers as described herein, and for obtaining money from holders of LIBOR-based financial instruments through "false or fraudulent pretenses, representations, or promises" about LIBOR-based financial instruments, Defendants transmitted or caused to be transmitted by means of "wire communication in interstate or foreign commerce, . . . writings, signs, signals, [and] pictures," "for the purpose of executing such scheme or artifice," including by: (i) transmitting documents offering LIBOR-based financial instruments for sale; (ii) transmitting phony statements about their costs of borrowing; (iii) transmitting e-mail communications relating to the process of determining, making, or transmitting phony statements about their borrowing costs; (iv) collecting funds from the Schwab Funds via electronic fund transfers or electronic communication with the Funds' bank or credit card institution; or (v) transmitting payments to the Funds.

227. In addition to that conduct, the Schwab Funds are informed and believe Defendants used the mails and wires in conjunction with reaching their agreement to make false

statements about their costs of borrowing, to manipulate LIBOR.

228. The Schwab Funds do not base their RICO claims on any conduct that would have been actionable as fraud in the purchase or sale of securities.

The Racketeering Scheme Affected Interstate Commerce.

229. Through the racketeering scheme described above, Defendants used the enterprise to improperly increase their profits to the detriment of holders of LIBOR-based financial instruments, who resided in different states.

230. The Schwab Funds' allegations satisfy RICO's "interstate commerce" element because the racketeering claims alleged herein arise out of, and are based on, Defendants' use of the Internet or the mails across state lines as well as agreements between entities in different states to manipulate LIBOR. Using those interstate channels to coordinate the scheme and transmit fraudulent statements to the Schwab Funds across state lines satisfies RICO's requirement of an effect on interstate commerce.

Defendants Conspired To Violate RICO.

231. Apart from constructing and carrying out the racketeering scheme detailed above, Defendants conspired to violate RICO, constituting a separate violation of RICO under 18 U.S.C. § 1962(d).

232. The fraudulent scheme, as set forth above, alleges a violation of RICO in and of itself.

233. Defendants organized and implemented the scheme, and ensured it continued uninterrupted by concealing their manipulation of LIBOR from investors, including the Schwab Funds.

234. Defendants knew the scheme would defraud purchasers and holders of LIBOR-based financial instruments of millions of dollars of interest, yet each Defendant remained a

participant despite the fraudulent nature of the enterprise. At any point while the scheme has been in place, any of the participants could have ended the scheme by abandoning the conspiracy and notifying the public and law enforcement authorities of its existence. Rather than stopping the scheme, however, the members of the enterprise deliberately chose to continue it, to the direct detriment of investors such as the Schwab Funds.

The Schwab Funds Suffered Injury Resulting From The Pattern of Racketeering Activity.

235. Because the Schwab Funds unknowingly paid money to Defendants for LIBOR-based financial instruments that paid interest at a manipulated rate, and in fact collected less interest than they would have absent the conspiracy, the Funds are direct victims of Defendants' wrongful and unlawful conduct. The Funds' injuries were direct, proximate, foreseeable, and natural consequences of Defendants' conspiracy; indeed, those effects were precisely why the scheme was concocted. In making payments to Defendants, the Funds gave money in the custody or control of financial institutions. There are no independent factors that account for the Funds' economic injuries, and the loss of money satisfies RICO's injury requirement.

236. The pattern of racketeering activity, as described in this Complaint, is continuous, ongoing and will continue unless Defendants are enjoined from continuing their racketeering practices. Defendants have consistently demonstrated their unwillingness to discontinue the illegal practices described herein, and they continue their pattern of racketeering as of the filing of this Complaint.

237. The Schwab Funds are entitled to recover treble damages for the injuries they have sustained, according to proof, as well as restitution and costs of suit and reasonable attorneys' fees in accordance with 18 U.S.C. § 1964(c).

238. As a direct and proximate result of the subject racketeering activities, the

Schwab Funds are entitled to an order, in accordance with 18 U.S.C. § 1964(a), enjoining and prohibiting Defendants from further engaging in their unlawful conduct.

THIRD CLAIM FOR RELIEF

Cartwright Act, Cal. Bus. & Prof. Code §§ 16720 *et seq.*

239. The Schwab Funds incorporate by reference and reallege the preceding allegations as though fully set forth herein.

240. Defendants entered into and engaged in an unlawful trust in restraint of the trade and commerce described above in violation of California Business and Professions Code section 16720.

241. During the Relevant Period, Defendants controlled what LIBOR rate would be reported and therefore controlled prices in the market for LIBOR-based financial instruments. Defendants competed in this market.

242. The conspiracy consisted of a continuing agreement, understanding or concerted action between and among Defendants and their co-conspirators in furtherance of which Defendants fixed, maintained, or made artificial prices for LIBOR-based financial instruments. Defendants' conspiracy constitutes a *per se* violation of the federal antitrust laws and is, in any event, an unreasonable and unlawful restraint of trade.

243. Defendants' conspiracy, and the resulting impact on the market for LIBOR-based financial instruments, occurred in and affected interstate and international commerce.

244. As a proximate result of Defendants' unlawful conduct, the Schwab Funds have suffered injury to their business or property.

245. Accordingly, the Schwab Funds seek three times their damages caused by Defendants' violations of the Cartwright Act, the costs of bringing suit, reasonable attorneys' fees, and a permanent injunction enjoining Defendants' from ever again entering into similar

agreements in violation of the Cartwright Act.

FOURTH CLAIM FOR RELIEF

Interference with Economic Advantage (under California Law)

246. The Schwab Funds incorporate by reference and reallege the preceding allegations as though fully set forth herein.

247. As set forth in this Complaint, Defendants manipulated LIBOR in violation of federal and state law.

248. An economic relationship existed between the Schwab Funds and issuers or sellers of LIBOR-based financial instruments, which obligated the issuers or sellers to make payments to the Funds at a rate dependent on LIBOR.

249. Defendants' unlawful manipulation of LIBOR interfered with and disrupted that relationship by defeating the parties' expectations that LIBOR would be set honestly and accurately and would provide a fair benchmark for those LIBOR-based financial instruments. As a result, the Schwab Funds received lower payments on those instruments than they otherwise would have, and overpaid for the instruments, and were damaged thereby.

250. Defendants acted with the knowledge that interference or disruption of the Schwab Funds' relationships with issuers or sellers of LIBOR-based financial instruments were certain or substantially certain to result from Defendants' unlawful manipulation of LIBOR.

FIFTH CLAIM FOR RELIEF

Breach of the Implied Covenant of Good Faith (under California Law)

251. The Schwab Funds incorporate by reference and reallege the preceding allegations as though fully set forth herein.

252. The Schwab Funds contracted to purchase LIBOR-based financial instruments from Defendants or dealer entities that were subsidiaries or other affiliates of Defendants.

253. The Funds performed all of their obligations under the applicable contracts.

254. All conditions required for Defendants' performance of those contracts were satisfied.

255. Defendants unfairly interfered with the Schwab Funds' right to receive the benefits of the subject contracts by secretly manipulating LIBOR to be lower than it otherwise would have been, as alleged in the foregoing paragraphs of this Complaint.

256. The Schwab Funds received less interest and lower returns on the LIBOR-based financial instruments than they would have absent Defendants' manipulation of LIBOR, and were therefore harmed.

SIXTH CLAIM FOR RELIEF

Unjust Enrichment (under California Law)

257. The Schwab Funds incorporate by reference and reallege the preceding allegations as though fully set forth herein.

258. By means of their unlawful conduct set forth in this Complaint—including misrepresenting their costs of borrowing to the BBA to manipulate LIBOR—Defendants knowingly acted in an unfair, unconscionable, and oppressive manner toward the Schwab Funds.

259. Through their unlawful conduct, Defendants knowingly received and retained wrongful benefits and funds from the Schwab Funds. Defendants thereby acted with conscious disregard for the Funds' rights.

260. As a result of their unlawful conduct, Defendants have realized substantial ill-gotten gains. Defendants have unlawfully manipulated LIBOR at the expense of, and to the detriment of, the Schwab Funds, and to Defendants' benefit and enrichment.

261. The Schwab Funds' detriment and Defendants' enrichment are traceable to, and resulted directly and proximately from, the conduct challenged in this Complaint.

262. Under the common law doctrine of unjust enrichment, it is inequitable to permit Defendants to retain the benefits they received, and are still receiving, without justification, from their manipulation of LIBOR in an unfair, unconscionable, and oppressive manner. Defendants' retention of such funds under circumstances making it inequitable to do so constitutes unjust enrichment.

263. The financial benefits Defendants derived rightfully belong to the Schwab Funds. The Court should compel Defendants to disgorge, in a common fund for the Funds' benefit, all unlawful or inequitable proceeds Defendants received. The Court should impose a constructive trust upon all unlawful or inequitable sums Defendants received that are traceable to the Funds.

264. The Schwab Funds have no adequate remedy at law.

PRAYER FOR RELIEF

WHEREFORE, the Schwab Funds pray for relief as follows:

(A) That the Court enter an order declaring that Defendants' actions as set forth in this Complaint, and in other respects, violate the law;

(B) That the Court enter judgment awarding the Schwab Funds damages against Defendants for all economic, monetary, actual, consequential, and compensatory damages the Funds suffered as a result of Defendants' conduct, or rescission, together with pre- and post-judgment interest at the maximum rate allowable by law;

(C) That the Court award the Schwab Funds exemplary or punitive damages against Defendants to the extent allowable by law;

(D) That the Court award the Schwab Funds damages against Defendants for Defendants' violation of the federal antitrust laws and RICO in an amount to be trebled in accordance with those laws;

(E) That the Court issue an injunction prohibiting Defendants from continuing the misconduct alleged in this Complaint, including their ongoing manipulation of LIBOR;

(F) That the Court order the disgorgement of the ill-gotten gains Defendants derived from their misconduct;

(G) That the Court award the Schwab Funds restitution of all amounts they paid to Defendants as consideration for notes and other financial instruments affected by Defendants' misconduct;

(H) That the Court award the Schwab Funds their costs of suit, including reasonable attorneys' fees and expenses; and

(I) That the Court award such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

The Schwab Funds respectfully demand a trial by jury of all issues so triable.

Dated: April 30, 2012

LIEFF, CABRASER, HEIMANN & BERNSTEIN, LLP

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Attorneys for the Schwab Funds

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October ~~22~~26, 2012

Please find attached a staff memorandum that details my concerns about financial losses that Fannie Mae and Freddie Mac (the Enterprises) may have sustained due to alleged manipulation of the London Interbank Offered Rate (LIBOR) by a number of major financial institutions. As you know, on June 27, 2012, the Department of Justice announced an agreement with Barclays Bank Plc. (Barclays) in which the bank admitted to manipulating LIBOR for its own advantage over a period of years. Federal, state, and foreign government investigations into possible LIBOR manipulation at other institutions are ongoing, as are a number of high-profile civil suits predicated upon such manipulation.

FHFA-OIG's interest in the consequences of possible LIBOR manipulation upon the Enterprises stems directly from its core mission to prevent and detect fraud and abuse in FHFA's programs and operations. Members of my staff began their work on this topic within days of the Department of Justice's ~~June 27th~~ announcement of its agreement with Barclays. On September 6~~th~~ and 11~~th~~ they shared their preliminary analysis with members of your senior staff and, at about the same time, with both Enterprises. To date, however, FHFA-OIG remains unaware of any steps taken by the Agency or the Enterprises to investigate the matter further.

The enclosed memorandum outlines in detail my staff's LIBOR loss estimates and offers recommendations for Agency action to recover any such losses on behalf of the Enterprises. M~~In light of the fact that m~~y staff has tentatively~~preliminarily~~ estimated that the Enterprises may have suffered more than $3 billion in such losses. ~~which~~~~that~~Those losses, of course, would have been funded by the Department of the Treasury under the Senior Preferred Stock Purchase Agreements in place with each Enterprise~~.~~ I therefore believe that this matter warrants the Agency's attention. Please do not hesitate to contact me or any of the members of my staff in this regard.

Comment [pam1]: awkward; perhaps rephrase to "preliminary estimates showing"

Agree maybe "Preliminary estimates provided by my staff shows…"? Simon Wu

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Steve A. Linick, Inspector General

From: Timothy Lee, Senior Policy Advisor, Office of Policy, Oversight and Review
David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis, Office of Evaluations
Simon Z. Wu, Chief Economist, Office of Policy, Oversight and Review

Through: Richard Parker, Director, Office of Policy, Oversight and Review, and
George P. Grob, Deputy Inspector General, Office of Evaluations

Subject: Potential losses to Fannie Mae and Freddie Mac due to LIBOR manipulation

Date: October 26, 2012

The London Interbank Offered Rate ~~(“~~(LIBOR~~”)~~) is a market-standard interest rate index used extensively by participants in the global financial markets.[1] It is used to calculate payments on over $300 trillion of financial instruments~~,~~ and has been described as “the most important figure in finance.”[2] LIBOR is determined by daily polls of 18 leading financial institutions (16 firms through 2010), which are asked to estimate their own short-term borrowing costs. The highest four and lowest four submissions are eliminated, and LIBOR is calculated by averaging the remaining ones.[3]

In a June 2012 settlement with British and ~~US~~U.S. authorities, including the Department of Justice ~~(“~~(DOJ~~”),~~), Barclays Bank Plc ~~(“~~(Barclays~~”)~~) admitted to submitting falsified borrowing cost data in an effort to manipulate LIBOR to its own advantage.[4] According to subsequent media reports, further LIBOR-related state and federal government investigations remain ongoing.[5] Additionally, several parties have filed civil damage claims seeking compensation for financial losses related to LIBOR manipulation.[6] These civil suits incorporate allegations that banks contributing to the determination of LIBOR strove to depress the published rates.[a]

Fannie Mae and Freddie Mac (collectively, the Enterprises) rely upon LIBOR in the determination of interest payments on their sizable investments in floating-rate financial instruments, such as mortgage-backed securities and interest rate swaps. Many of the banks that contribute to the LIBOR calculation also have existing commitments to pay the Enterprises hundreds of millions of dollars in such LIBOR-based interest payments. As detailed under the "Analysis" portion of this document, our preliminary review of the Enterprises' published financial statements and publicly available historical interest rate data indicates that, during conservatorship, the Enterprises may have suffered $3 billion in cumulative losses from any such manipulation. Those losses would ultimately have been borne by the Department of the Treasury (Treasury), through its Senior Preferred Stock Purchase Agreements (PSPAs) with the Enterprises.

Because of the seriousness of these allegations and the possibility that Treasury and the Enterprises may have suffered significant losses due to LIBOR manipulation, we recommend that FHFA take three steps, outlined in further detail below:

- Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation;
- Promptly consider options for appropriate legal action, if warranted; and
- Coordinate efforts and share information with other federal and state regulatory agencies.

Background

Since September 6, 2008, the Enterprises have operated under FHFA conservatorship.[7] Under the terms of the conservatorship, Treasury has ensured the Enterprises' ability to remain viable entities through PSPAs with each. Under the terms of the PSPAs, Treasury provides capital funding directly to the Enterprises in amounts necessary to ensure their continued solvency.[8] To date, the federal government has provided the Enterprises $187 billion.[9]

As part of their business, the Enterprises have always held substantial quantities of floating-rate assets on which interest is recalculated and paid each month or quarter based on currently prevailing short-term rates. Such investments are popular because, as compared to assets that pay a fixed interest rate throughout their terms, floating-rate assets greatly reduce bondholders'

[a] Market participants deem lower borrowing costs to reflect better creditworthiness. Thus, publicly disclosed borrowing costs became a closely watched indicator of the industry's stability during the financial crisis. As one academic observer noted, "Especially in 2008, the biggest problem was that all the banks wanted to claim they were able to borrow more cheaply than was in fact the case, so as not to heighten concerns about their creditworthiness." University of Pennsylvania, "The LIBOR Mess: How Did It Happen – And What Lies Ahead?", July 18, 2012.

market risk that their investments' value may decline due to adverse interest rate movements. The Enterprises' two primary categories of floating-rate investments include:

- Floating rate bonds. Many securities are structured in this fashion. For example, according to its public financial statements, Freddie Mac alone held approximately $299 billion of floating rate securities upon entering conservatorship.[10]
- Interest rate swaps. Because American homeowners tend to prefer predictable mortgage payments, the Enterprises' mortgage portfolios generally contain more fixed-rate loans than floating-rate loans. As a result, the value of those portfolios may vary as interest rates fluctuate. However, the Enterprises also invest in interest-rate swaps, contracting with large financial institutions for the obligation to pay them fixed-rate interest streams in exchange for the right to receive corresponding floating-rate ones.[b] These swaps effectively offset the mortgage loans' fluctuations in value, resulting in stable combined portfolio valuations even if interest rates rise or fall. We estimate that the Enterprises received floating-rate interest payments on a net total of $373 billion in face, or "notional" amount of interest rate swaps upon entering conservatorship.

The interest due for such floating rate obligations is recalculated for each payment period by reference to the current value of LIBOR.

Analysis

As a first step in our analysis, we compared the historical data on two floating rate indices:

- 1-month[11] LIBOR rates; and
- The Federal Reserve's published Eurodollar deposit rates (Fed ED) for 1-month[12] obligations. Like LIBOR, this data series is designed to measure short-term bank borrowing costs via polling of financial institutions. However, the Federal Reserve measure polls a broader range of institutions~~,~~ and is rarely referenced in floating rate financial obligations.

Our examination of daily records for 1-month Fed ED and 1-month LIBOR indicates that the two rates remained very close from the earliest point we reviewed, the beginning of 2000, until mid-2007. During that period, the largest divergence between the two indexes appeared shortly after September 11, 2001, when LIBOR *exceeded* Fed ED by as much as 0.41%. Indeed, on average the two measures remained within 0.06% of each other during that period, with LIBOR falling below Fed ED on less than one business day of each nine. The close correspondence of

[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

these two measures conformed to the expectations of market observers. As a former Federal Reserve economist said, "effectively, these two rates should be the same as they are the same instrument."[13]

However, beginning in early 2007 emerging declines in home prices had begun to place strains on the financial system. New Century Financial, a leading home loan originator, filed for bankruptcy in April.[14] Adding to the stress were media reports of precipitous decay in two high-profile mortgage-backed securities hedge funds sponsored by Bear Stearns, a leading ~~US~~U.S. investment bank. These began to emerge in mid-June,[15]~~,~~ followed promptly by the funds' bankruptcy filings at the end of July.[16]

As the financial crisis began to metastasize, LIBOR and Fed ED began to diverge substantially, eventually by as much as three percentage points at the end of September 2008. Moreover, in a marked contrast with previous behavior, LIBOR began to fall below Fed ED consistently. Figure 1 illustrates the recent divergence of these two measures, beginning in mid-2007.

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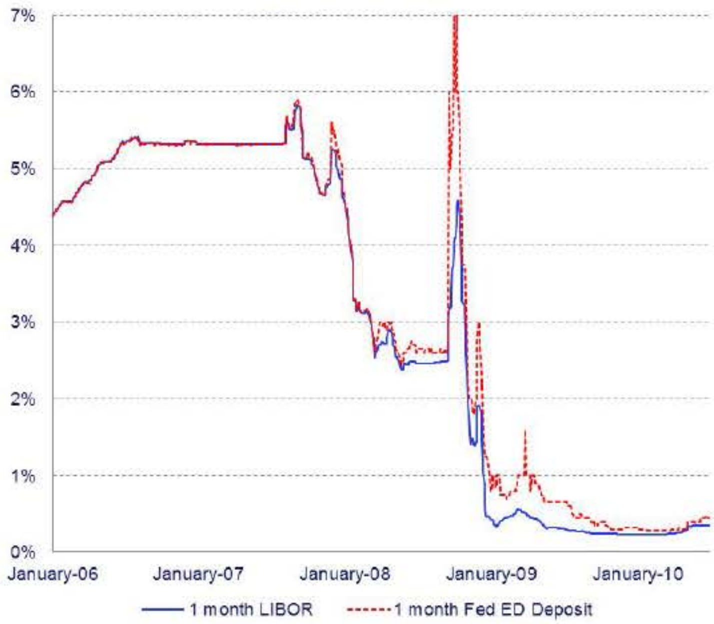
Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10



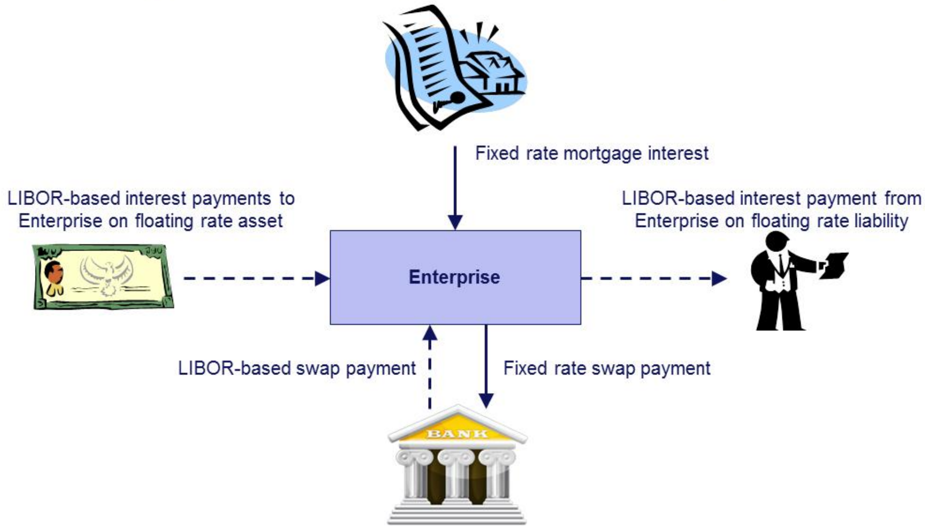
This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

> … between approximately August 2007 and January 2009, in response to initial and ongoing press speculation that Barclays's high U.S. Dollar LIBOR submissions at the time might reflect liquidity problems at Barclays, members of Barclays management directed that Barclays's Dollar LIBOR submissions be

lowered. This management instruction often resulted in Barclays's submission of false rates that did not reflect its perceived cost of obtaining interbank funds.[18]

Because the Enterprises receive LIBOR-based floating rate payments on their floating rate bonds and interest rate swaps, the principal effect on them of any downward manipulation of LIBOR would be reduced interest payments with respect to their holdings of floating rate securities and interest rate swaps. (This is partially offset by lower borrowing costs on the Enterprises' own floating-rate liabilities, a factor we have considered in our estimation of Enterprise losses.)

Figure 2. LIBOR-Based Payments to and From the Enterprises



To the extent that the Enterprises suffered such "short-changing" of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury's investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have inflicted meaningful losses on Treasury and the taxpayers.

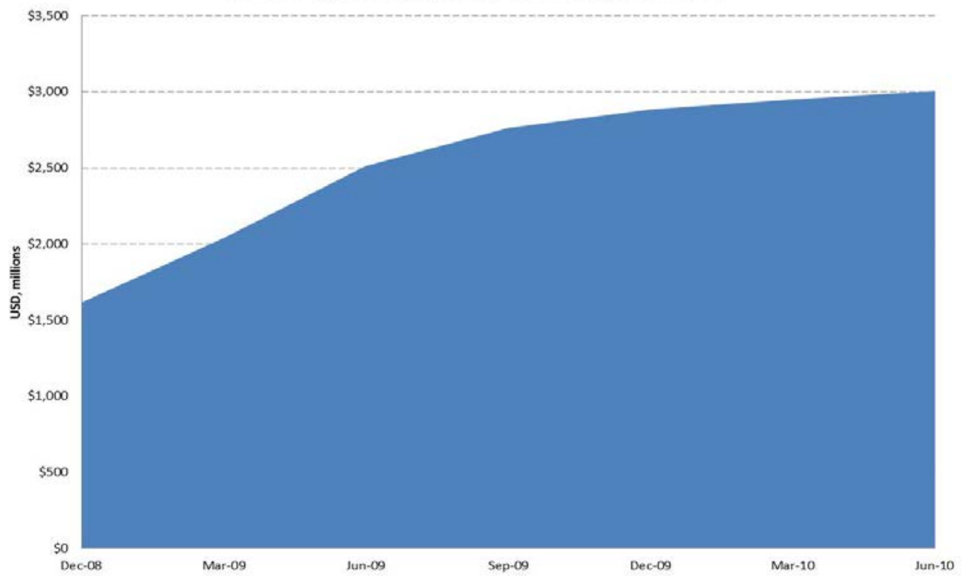
To gauge the effect of possible LIBOR manipulation on the Enterprises, we undertook a three-step analytical process:

- First, we measured the daily divergence between 1-month LIBOR and the corresponding Fed ED rate (essentially treating the latter as the correct benchmark rate), and calculated its average value for each calendar quarter since the Enterprises entered conservatorship.[c]

[c] To simplify our calculations, we assumed that all Enterprise floating rate assets referenced 1-month LIBOR. In practice, mortgage-related bonds and interest rate swaps typically reference either 1-month or 3-month LIBOR.

- Second, we reviewed the Enterprises' publicly available financial statements to develop rough estimates of their holdings of variable rate securities, interest rate swaps, and variable rate liabilities for each quarter.
- Finally, using these figures, we calculated an estimate for the additional quarterly net interest payments that the Enterprises would have received if LIBOR had matched the corresponding Fed ED rate since conservatorship.[d]

Figure 3. Estimated Potential Cumulative Losses to the Enterprises from LIBOR Suppression, 6 Sep 08 through 30 Jun 10



Using this methodology, we estimate that, from the beginning of the Enterprises' conservatorship in 2008 through the second quarter of 2010,[19] net Enterprise losses on their holdings of floating rate bonds and interest rate swaps may have exceeded $3 billion. Over half of those potential losses appear to have taken place in the fourth quarter of 2008 alone.[e]

With respect to the Enterprises' interest rate swaps, it is notable that the leading providers of these instruments are many of the same institutions that contribute to the determination of ~~US~~U.S. dollar LIBOR. Figure 4 presents a table of banks recently identified by the Federal Reserve Bank of New York as major derivatives dealers.[20] Ten of these fourteen major

[d] Further details on our methodology are available in the Appendix.

[e] We also estimate that the Enterprises may have suffered approximately $750 million of net LIBOR-related losses after market turmoil began in mid-2007, but prior to entering conservatorship.

derivatives dealers also contribute to the poll used to determine LIBOR. Collectively, these dealers both set LIBOR and make LIBOR-based payments to their transaction partners, or counterparties, under the terms of their interest rate swaps. If the Enterprises conduct most of their derivatives business with these institutions, the potential for conflicts of interest is readily apparent.

A comparable situation exists in the market for floating-rate securities. For example, of 2007's ten leading underwriters of "private label" mortgage-backed securities,[21] four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.[22] However, our review of a small sample of offering documents for the Enterprises' floating-rate investments in this category failed to uncover any disclosure of risks that the underwriters could manipulate LIBOR for their own advantage, to the detriment of bondholders.

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Figure 4.

Major Derivatives Dealers

	LIBOR Contributor
Bank of America	✓
Barclays	✓
BNP Paribas	
Citibank	✓
Credit Suisse	✓
Deutsche Bank	✓
Goldman Sachs	
HSBC Group	✓
JPMorganChase	✓
Morgan Stanley	
RBS	✓
Societe Generale	✓
UBS	✓
Wachovia	

Top Private Label MBS Underwriters 2007

	LIBOR Contributor
Lehman Brothers	
Bear Stearns	
Deutsche Bank	✓
Countrywide	
RBS	✓
Credit Suisse	✓
JPMorganChase	✓
Morgan Stanley	
Washington Mutual	
Merrill Lynch	

In addition to the Barclays settlement, each LIBOR poll contributor among these dealers has been contacted by federal or state authorities with respect to ongoing investigations~~,~~ and/or is a named defendant in existing civil actions.[23]

Recommendations

In the context of active federal and state investigations into possible LIBOR manipulation, as well as the results of our own preliminary analysis of publicly available information, we believe that further investigation of the potential harm to Fannie Mae and Freddie Mac – and therefore to Treasury and, ultimately, the American taxpayer – of any LIBOR manipulation is firmly warranted. While FHFA-OIG should remain ready to offer advice and assistance, FHFA and the Enterprises themselves possess the detailed information needed to develop precise loss calculations and take any legal action that may prove appropriate. Therefore, we recommend that FHFA:

- **Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation.** The Enterprises should possess detailed records of individual LIBOR-based assets and liabilities. An itemized analysis of these records would produce a better-founded estimate of their losses than is possible from reviewing only the Enterprises' public 10-K and 10-Q filings.
- **Promptly consider options for appropriate legal action, if warranted.** If the existing accusations of LIBOR manipulation prove well founded then, in light of its obligations as their conservator, FHFA should have in place a plan by which to affect full recovery of any Enterprise funds lost and deter further malfeasance of this type. Due to the possibility that the Enterprises' legal options may soon be narrowed by statute of limitations considerations, FHFA should develop this plan promptly.
- **Coordinate efforts and share information with other federal and state regulatory agencies.** FHFA and FHFA-OIG can be valuable and effective partners with other federal and state agencies in their efforts on behalf of the public to recover losses and obtain justice for any wrongdoing that may ultimately be proven.

Appendix
Notes on Analytical Methodology

To estimate the Enterprises' potential losses due to LIBOR manipulation, we drew on two principal sources of information.

LIBOR Benchmarks

First, we referenced Federal Reserve Bank of St. Louis repositories of daily historical data for the following data series:

- 1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar (USD1MTD156N). According to the Federal Reserve, this information is provided by the British Bankers' Association. The Federal Reserve describes LIBOR as "the most widely used 'benchmark' or reference rate for short term interest rates."
- 1-Month Eurodollar Deposit Rate (London)(DED1). This information is compiled by the Federal Reserve itself, working with Bloomberg and ICAP Plc, a bond brokerage firm.

We also compiled similar samples for 3-month rates in each case. Comparisons of both the 1-month and 3-month indices revealed significant rate discrepancies between LIBOR and the Federal Reserve index, beginning in 2007. The Bloomberg story cited in the body of the report includes the former Federal Reserve economist's quote that "effectively, these two rates should be the same as they are the same instrument." Several civil lawsuits, including those brought by Charles Schwab and the City of Baltimore, cite the emergence of these discrepancies as evidence of malfeasance.

Notably, other commentators have also cited additional market indicators as evidence of potential LIBOR manipulation. For example, in a recent speech to the European Parliament's Economic and Monetary Affairs Committee, Gary Gensler, head of the ~~US~~U.S. Commodity Futures Trading Commission, cited persistent anomalies compared to other short-term interest rate indexes, such as Euribor and non-dollar indexes, along with pricing in derivatives such as interest rate options and credit default swaps in questioning the recent behavior of the LIBOR index.

However, because of differences in currency or maturity of the other indicators compared to the Federal Reserve Eurodollar deposit rate, we chose the Federal Reserve index as the simplest and best benchmark for comparison. For the purposes of this analysis, it served as a proxy for the appropriate LIBOR setting. Thus, we assumed that observed differences between LIBOR and the Federal Reserve Eurodollar deposit rate could indicate the timing and extent of potential manipulation by LIBOR poll participants.

Calculation of Enterprise Losses

Second, we assembled Fannie Mae and Freddie Mac balance sheet data for the relevant period from the Enterprises' published financial statements. For example, Freddie Mac data for 4Q08 are drawn from the 2008 10-K, including:

- Data on derivatives investments from Table 38, page 109. We calculated Freddie Mac's net receive-LIBOR interest rate swap investment as:
  - Pay-fixed (i.e. Freddie Mac receives LIBOR), *plus*
  - Basis (i.e. Freddie Mac and its counterparty exchange different sets of floating rate interest payments. Generally, these involve the Enterprise's payments of frequently -used ARM indices, such as the Cost of Funds Index or the 12-month Constant Maturity Treasury rate, in exchange for LIBOR-based payments); *less*
  - Receive-fixed (i.e. Freddie Mac pays LIBOR).
- Data on Freddie Mac's variable-rate mortgage-related securities from information on the Enterprise's Mortgage-Related Investments Portfolio, Table 24, page 93.
  - We assumed that essentially all variable-rate MBS holdings calculated interest payments by reference to LIBOR.
  - Fannie Mae did not publish explicit information on its variable rate MBS, but did provide figures for all MBS held by its Capital Markets Group. To estimate Fannie Mae's variable-rate MBS investment holdings, we assumed that Fannie Mae's Capital Markets Group held the same proportion of variable rate securities held by Freddie Mac in its Mortgage-Related Investments Portfolio.
- Data on Freddie Mac's long-term debt liabilities, including variable-rate liabilities, in Table 8.3, page 224.
  - We assumed that essentially all long-term floating-rate debt obligations of the Enterprises calculated interest payments by reference to LIBOR.
  - Fannie Mae explicitly discloses floating-rate obligations in its financial statements.
  - Freddie Mac's reporting of floating-rate obligations for the time period under review is intermittent. Long-term variable-rate debt obligations are totaled as of December 31, 2009, and subsequently, but not for the 10Qs as of 1Q09, 2Q09, and 3Q09. Within the time period examined, the highest proportion of long-term variable-rate obligations to other long-term debt (i.e~~.~~., direct obligations not brought onto the balance sheet by the requirements of SFAS 167) was 24.7%, reported as of 2Q10. We used that proportion to estimate Freddie Mac's variable-rate debt obligations when no other information was available.

- Except where explicitly disclosed, short-term variable rate obligations of the Enterprises were excluded from the analysis as a relatively minor component.

We calculated cash flow shortfalls to the Enterprises as equivalent to (a) the difference between 1-month LIBOR and the 1-month Federal Reserve Eurodollar deposit rate, multiplied by (b) (i) the notional amount of net receive-LIBOR swaps investments held by the Enterprises, plus (ii) the face value of Enterprise variable-rate mortgage-related securities net of their variable-rate liabilities. Cash flow shortfalls were calculated on a quarterly basis. We assumed reported figures remained constant within each quarter. We included a portion of the indicated cash flow shortfalls for 3Q08, prorated for the final 24 days of September.

We believe that direct cash flow shortfalls, due to reduced interest and swap payments on LIBOR-based investments held by the Enterprises, are likely to constitute the great majority of Enterprise financial losses resulting from any LIBOR manipulation. However, additional secondary effects of LIBOR manipulation may also affect the amount of such losses. These include, but are not limited to:

- Distortions in the volatility measures used to benchmark pricing of the Enterprises' interest rate options
- Effects on the interest rate futures market used to value interest rate swaps
- Effects on prepayment valuation models used to value MBS, which rely on short-term interest rate data as an input

However, we did not incorporate such factors into this analysis.

Limitations of Our Analysis

The goal of this report is not to provide a definitive accounting of the Enterprises' losses, nor to demonstrate conclusively the culpability of specific organizations or individuals. We acknowledge the limitations inherent in any corporate financial analysis developed exclusively from public reports. However, this analysis does indicate that the numerous accusations of LIBOR manipulation raise legitimate concerns about their impact on the Enterprises. Accordingly, they warrant closer examination by FHFA and the Enterprises, which have access to the detailed asset-level records and information needed to generate a more accurate and precise figure for potential losses and provide guidance for any future action that may be required to protect the taxpayers.

For more details about this analysis, please contact Timothy Lee, Senior Policy Advisor, at (202) 730-2821 or timothy.lee@fhfaoig.gov.

Endnotes

[1] British Bankers' Association, "BBA LIBOR Explained."

[2] The Telegraph, "LIBOR Scandal: Martin Wheatley's Speech," September 28, 2012.

[3] Thomson Reuters, "Thomson Reuters Role in the Calculation and Distribution of BBA LIBOR™", July 4, 2012. The number of poll contributors is cited in the Department of Justice's settlement documentation, "Appendix A: Statement of Facts."

[4] ~~US~~U.S. Department of Justice, "Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay $160 Million Penalty," June 27, 2012.

[5] See, inter alia, The New York Times, "State Regulators Widen LIBOR Investigation," August 15, 2012, and BusinessWeek, "US LIBOR Probers Said to Seek London Trader Interviews," September 27, 2012.

[6] The Wall Street Journal, "Suits Mount in Rate Scandal," August 26, 2012.

[7] Federal Housing Finance Agency, "Statement of Director James A. Lockhart", September 7, 2008, p.6.

[8] Federal Housing Finance Agency, "Mortgage Market Note 10-1", January 20, 2010

[9] Federal Housing Finance Agency, "Data as of August 8, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities~~."~~."

[10] Current and historical financial statement data for Freddie Mac can be found at http://www.freddiemac.com/investors/sec_filings/?intcmp=AFIRSF. Data for Fannie Mae can be found at http://www.fanniemae.com/portal/about-us/investor-relations/sec-filings.html.

[11] Federal Reserve Bank of St. Louis, "1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar (USD1MTD156N)". Data obtained October 1, 2012.

[12] Federal Reserve Bank of St. Louis, "1-Month Eurodollar Deposit Rate (London) (DED)". Data obtained October 1, 2012.

[13] Bloomberg News, "Fed's Eurodollar Rates Suggest Dollar LIBOR May Stabilize", April 28, 2008.

[14] See, for example, the *Report of the Financial Crisis Inquiry Commission*. Facts noted here are taken from Chapter 12 of that document, page 233.

[15] BusinessWeek, "Bear Stearns' Subprime Bath", June 12, 2007.

[16] *Report of the Financial Crisis Inquiry Commission*, Chapter 12, page 240.

[17] See, for example, Thomson Reuters, "In re LIBOR-Based Financial Instruments Antitrust Litigation," April 30, 2012, pp. 23-31.

[18] ~~US~~U.S. Department of Justice, "Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay $160 Million Penalty," June 27, 2012.

[19] Media reports cite allegations that LIBOR manipulation continued through at least mid-2010. See, e.g., Washington Post, "Trickle of LIBOR Lawsuits From Rate-Fixing Scandal Likely to Become Deluge", July 30~~.~~, 2012.

[20] Federal Reserve Bank of New York, "An Analysis of OTC Interest Rate Derivatives Transactions: Implications for Public Reporting," March 2012~~.~~, p.2

[21] "Private label" MBS are those not brought to market and guaranteed through the Enterprises. See ~~US~~U.S. Securities and Exchange Commission, "Mortgage-Backed Securities." League table data provided by Inside Mortgage Finance, "Mortgage Market Statistical Annual."

[22] See, for example, Federal Housing Finance Agency, "FHFA Sues 17 Firms to Recover Losses to Fannie Mae and Freddie Mac."

[23] At least two complaints, those of Berkshire Bank and the City of Baltimore, name all 16 contributors to ~~US~~U.S. dollar LIBOR. Wall Street Journal, "New York Lender Files LIBOR Lawsuit", July 30, 2012, and Thomson Reuters, "In re LIBOR-Based Financial Instruments Antitrust Litigation," April 30, 2012. Also see with respect to federal and state investigations, inter alia, The New York Times, "State Regulators Widen LIBOR Investigation," August 15, 2012, and BusinessWeek, "US LIBOR Probers Said to Seek London Trader Interviews," September 27, 2012.

From: Parker, Richard
To: Bloch, David; Wu, Simon; Lee, Timothy
Cc: Grob, George
Subject: RE: See my revised Figure 2 chart
Date: Wednesday, October 10, 2012 1:12:49 PM

Agreed. Figure 2 is better, but we need to rephrase the language in it. Simon, can you pls work with Tim or David on that?

From: Bloch, David
Sent: Wednesday, October 10, 2012 1:11 PM
To: Wu, Simon; Lee, Timothy; Parker, Richard
Cc: Grob, George
Subject: RE: See my revised Figure 2 chart

I think I would leave the "conflcits" language as is.

From: Wu, Simon
Sent: Wednesday, October 10, 2012 10:15 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David; Grob, George
Subject: RE: See my revised Figure 2 chart

I pasted in the revised Figure 2 into the Word doc.

I'd recommend just send them the Word document this round. If they ask for more information and decide to proceed further, we can send them the spreadsheet back-ups.

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: (202) 730-0892

From: Lee, Timothy
Sent: Wednesday, October 10, 2012 10:06 AM
To: Parker, Richard; Wu, Simon
Cc: Bloch, David; Grob, George
Subject: RE: See my revised Figure 2 chart

I would advocate for electronic release. Moreover, my opinion is that the handful of graphs complement the overall presentation – I deliberately kept the number limited. My view is that the JPEG cut-and-paste provides a better visual product, but we could incorporate a linked graph. In fact, if asked, we could release the Excel sheet itself for the real numbers geeks to pore through. My confidence level is such that I would be perfectly content to add notations and my phone number to a public Excel file release.

From: Parker, Richard
Sent: Wednesday, October 10, 2012 10:02 AM
To: Wu, Simon; Lee, Timothy
Cc: Bloch, David; Grob, George
Subject: RE: See my revised Figure 2 chart

If we issue the report to the Acting Director in electronic format couldn't we just link these charts? If we issue in paper, couldn't we include them as an Appendix? Is there a reason not to do so?

From: Wu, Simon
Sent: Wednesday, October 10, 2012 9:53 AM

To: Lee, Timothy; Parker, Richard
Cc: Bloch, David; Grob, George
Subject: See my revised Figure 2 chart

https://sharepoint.fhfaoig.gov/policy_oversight/LIBOR/07.%20Research%20and%20Analysis/LIBOR%20proposal.xlsx

From: Wu, Simon
To: Parker, Richard; Lee, Timothy; Bloch, David
Cc: Phillips, Wesley
Subject: RE: OPOR LIBOR Memo Outline.docx
Date: Wednesday, October 03, 2012 10:37:00 AM

I already spoke to Wes on this. (b) (5) [redacted]

(b) (5) [redacted]

From: Parker, Richard
Sent: Wednesday, October 03, 2012 10:33 AM
To: Lee, Timothy; Wu, Simon; Bloch, David
Cc: Phillips, Wesley
Subject: FW: OPOR LIBOR Memo Outline.docx

Gents,

Two questions from Wes. Can we resolve them? Pls advise. Tx,

Rich

From: Phillips, Wesley
Sent: Wednesday, October 03, 2012 7:50 AM
To: Parker, Richard
Subject: OPOR LIBOR Memo Outline.docx

Rich: (b) (5) [redacted]. Yet the article attached suggests that the misconduct stopped in 2009 (and primarily occurred from 2005 through 2009). (b) (5) [redacted]. Wes

http://dealbook.nytimes.com/2012/06/27/barclays-said-to-settle-regulatory-claims-over-benchmark-manipulation/

From: Lee, Timothy
To: Parker, Richard; Phillips, Wesley; Wu, Simon; Bloch, David
Subject: RE: OPOR LIBOR Memo Outline.docx
Date: Wednesday, October 03, 2012 10:46:35 AM

I'm on the case.

-Emile Zola

From: Parker, Richard
Sent: Wednesday, October 03, 2012 10:45 AM
To: Phillips, Wesley; Lee, Timothy; Wu, Simon; Bloch, David
Subject: RE: OPOR LIBOR Memo Outline.docx

Tim,

This kind of factual background stuff is what will make the story understandable to those of us who do not follow it regularly. The more of these questions we surface now the better off we will be. It took you only two sentences to set us straight. That's progress. - R

From: Phillips, Wesley
Sent: Wednesday, October 03, 2012 10:42 AM
To: Lee, Timothy; Parker, Richard; Wu, Simon; Bloch, David
Subject: RE: OPOR LIBOR Memo Outline.docx

(b) (5)

[redacted]

From: Lee, Timothy
Sent: Wednesday, October 03, 2012 10:39 AM
To: Parker, Richard; Wu, Simon; Bloch, David
Cc: Phillips, Wesley
Subject: RE: OPOR LIBOR Memo Outline.docx

Hi all,

Easy questions. 19 bp actually agrees with my calculations off Federal Reserve data, though you rightly point out that the bulk of what many consider the most suspicious discrepancy is from 2007-2009.

There are two separate accusations related to LIBOR. The first is that traders moved LIBOR by small amounts from 2005-2007, to influence their own trading books. The second is that after the Bear hedge funds blew up, the banks depressed LIBOR by much larger amounts in order to mask their own financial instability. Because of magnitude and timing (i.e. post-conservatorship losses), the second phenomenon is clearly of more concern to us.

I brought a couple bottles of Paso Robles Zinfandel to work and am getting a high-quality buzz on so that I can write. My hope is that I can have a draft for the team to review by end of day.

Tim

From: Parker, Richard
Sent: Wednesday, October 03, 2012 10:33 AM
To: Lee, Timothy; Wu, Simon; Bloch, David
Cc: Phillips, Wesley
Subject: FW: OPOR LIBOR Memo Outline.docx

Gents,

Two questions from Wes. Can we resolve them? Pls advise. Tx,

Rich

From: Phillips, Wesley
Sent: Wednesday, October 03, 2012 7:50 AM
To: Parker, Richard
Subject: OPOR LIBOR Memo Outline.docx

Rich: [redacted] (b) (5) . Yet the article attached suggests that the misconduct stopped in 2009 (and primarily occurred from 2005 through 2009). [redacted] (b) (5) Wes

http://dealbook.nytimes.com/2012/06/27/barclays-said-to-settle-regulatory-claims-over-benchmark-manipulation/

From: Lee, Timothy
To: Wu, Simon; Parker, Richard
Cc: Bloch, David
Subject: RE: LIBOR
Date: Tuesday, October 02, 2012 12:09:29 PM

Hi Simon,

If you look carefully at the raw data, (b) (5) [redacted] (here is a clip of hedge fund managers reacting to their portfolio valuations).

(b) (5) [redacted]

Tim

From: Wu, Simon
Sent: Tuesday, October 02, 2012 12:00 PM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David
Subject: RE: LIBOR

To all of you:

One question on the spreadsheet analysis: (b) (5) [redacted]

From: Wu, Simon
Sent: Tuesday, October 02, 2012 9:27 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David
Subject: RE: LIBOR

Just so you know that I am working on the memo outline this morning. Rich and I agree that we need a bit more information for this afternoon's meeting on the proposal. Stay tuned…

From: Lee, Timothy
Sent: Monday, October 01, 2012 5:42 PM
To: Parker, Richard
Cc: Wu, Simon; Bloch, David
Subject: LIBOR

Hi Old Salt,

Attached is a draft outline for the action memo. I thought this might be helpful in advance of tomorrow's meeting.

I have also attached the most recent version of the loss graph (Excel file). The most important aspect of this is that it combines two analyses.

[redacted]

Happy to discuss.
Tim

[Timothy Lee]
Senior Policy Advisor, FHFA-OIG
202-730-2821

From: Wu, Simon
To: Bloch, David; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR
Date: Wednesday, October 03, 2012 9:20:00 AM

Also, a couple of other suggestions:

(b) (5) [redacted]

Thanks.

From: Bloch, David
Sent: Wednesday, October 03, 2012 8:02 AM
To: Wu, Simon; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

Got it. You are right. We can always aggregate for impact. Thanks.

From: Wu, Simon
Sent: Wednesday, October 03, 2012 7:57 AM
To: Bloch, David; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

I agree with the aggregate graphic presentation, as you laid out below. No need to do two charts.

I was actually referring to the damage analysis. I'd prefer to segregate the two periods for that analysis, so that we know post-conservatorship it's b/w $1.5 and >$4 billion, but pre-conservatorship, it's $X billion.

From: Bloch, David
Sent: Wednesday, October 03, 2012 7:47 AM
To: Wu, Simon; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

(b) (5) [redacted]. Just a thought. D.

From: Wu, Simon
Sent: Wednesday, October 03, 2012 7:40 AM

To: Bloch, David; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

[redacted]

In any case, Tim, [redacted].
Thanks.

Simon Wu
Chief Economist
Office of Inspector General
The Federal Housing Finance Agency

Sent from my Windows Phone

From: Bloch, David
Sent: 10/2/2012 4:10 PM
To: Wu, Simon; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

Nice job Simon. We will work together to build this out for the IG. David

---

From: Wu, Simon
Sent: Tuesday, October 02, 2012 2:15 PM
To: Bloch, David; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

Thank you to you all on answering my question below.

Please see the attached memo of outline. I took Tim's version from yesterday and filled out a lot of information, including our preliminary analysis. Would love to get your comments.

Tim, please use the revised spreadsheet file too, as I've merged in your counterparty sheet, plus some edits on my part. Thanks.

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: [redacted]

From: Bloch, David
Sent: Tuesday, October 02, 2012 1:03 PM
To: Wu, Simon; Lee, Timothy; Parker, Richard

Subject: RE: LIBOR

A fine question Simon. And the answer is "maybe." [redacted]

But one never knows….

From: Wu, Simon
Sent: Tuesday, October 02, 2012 12:00 PM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David
Subject: RE: LIBOR

To all of you:

One question on the spreadsheet analysis: [redacted]

From: Wu, Simon
Sent: Tuesday, October 02, 2012 9:27 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David
Subject: RE: LIBOR

Just so you know that I am working on the memo outline this morning. Rich and I agree that we need a bit more information for this afternoon's meeting on the proposal. Stay tuned…

From: Lee, Timothy
Sent: Monday, October 01, 2012 5:42 PM
To: Parker, Richard
Cc: Wu, Simon; Bloch, David
Subject: LIBOR

Hi Old Salt,

Attached is a draft outline for the action memo. I thought this might be helpful in advance of tomorrow's meeting.

I have also attached the most recent version of the loss graph (Excel file). The most important aspect of this is that it combines two analyses.

[redacted]

[redacted] (b) (5)

Happy to discuss.
Tim

[Timothy Lee]
Senior Policy Advisor, FHFA-OIG
202-730-2821

From:	Wu, Simon
To:	Lee, Timothy; Bloch, David
Subject:	RE: LIBOR memo
Date:	Wednesday, October 03, 2012 10:07:00 AM

(b) (5)

[redacted].

From: Lee, Timothy
Sent: Wednesday, October 03, 2012 9:59 AM
To: Wu, Simon; Bloch, David
Subject: LIBOR memo

Hi gentlemen,

(b) (5)

[redacted]

(b) (5)

[redacted] (b) (5) [redacted]

My hope is to get a draft for you guys to review by end of day today.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

From:	Grob, George
To:	Lee, Timothy; Parker, Richard
Cc:	Wu, Simon; Bloch, David; Phillips, Wesley
Subject:	RE: LIBOR memo
Date:	Tuesday, October 09, 2012 1:07:29 PM

Richard and Tim,

This is very well written, especially for its straightforward clarity of a complex topic. As far as I am concerned, it is fine as is. However, I offer for your consideration a few comments on the last page.
(b) (5) [redacted]

George

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 12:07 PM
To: Phillips, Wesley; Grob, George
Cc: Parker, Richard; Wu, Simon; Bloch, David
Subject: RE: LIBOR memo

I've added "publicly available" to the second bullet point on page 5. My intention had been to make the point about publicly available information by talking about the provenance of our data on pages 4 and 5. But if you still think further detail is needed, let me know.

From: Phillips, Wesley
Sent: Tuesday, October 09, 2012 11:27 AM
To: Lee, Timothy; Grob, George
Cc: Parker, Richard; Wu, Simon; Bloch, David
Subject: RE: LIBOR memo

I think that works well. (b) (5) [redacted]
Wes

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 11:17 AM
To: Grob, George
Cc: Phillips, Wesley; Parker, Richard; Wu, Simon; Bloch, David
Subject: LIBOR memo

Hi all,

Here is the newest Sharepoint draft of the LIBOR memo, which is now the definitive version. We have cleaned up the graphics per Wes' suggestion and [redacted]. We have also rearranged the order of the recommendations. The cleaned-up Excel data sheet is also available.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

From:	Wu, Simon
To:	Parker, Richard
Subject:	RE: Libor Memo
Date:	Monday, December 03, 2012 9:33:00 AM

https://sharepoint.fhfaoig.gov/policy_oversight/LIBOR/08.%20Draft%20Reports

Just added a sentence or two in the Methodology section only. Wouldn't have worried about that if this is just for FHFA as an internal memo, but wanted to make sure we are covered if this is released to the public. It looks good otherwise. Thanks.

From: Wu, Simon
Sent: Friday, November 30, 2012 8:57 AM
To: Parker, Richard
Subject: RE: Libor Memo

Nothing structural nor substantial. But I prefer a paragraph acknowledging that this is a preliminary analysis on losses and OIG understands that in order to substantiate the case, more detailed analysis is needed (such as transaction level data analysis) to assess the damages. Our intention is to further the discussion along that way.

I just feel like we should be a bit cautious because it is a back-of-envelope analysis only, in regard to the damages/loss.

The euro dollar rate comparison chart is very good though, on the other hand.

Simon Wu
Chief Economist
Office of Inspector General
The Federal Housing Finance Agency

Sent from my Windows Phone

From: Parker, Richard
Sent: 11/30/2012 8:48 AM
To: Wu, Simon
Subject: RE: Libor Memo

We haven't changes it since we submitted it to the Agency on the 12th. What are you referring to?

Sent from my Windows Phone

From: Wu, Simon
Sent: 11/30/2012 8:43 AM
To: Parker, Richard
Subject: RE: Libor Memo

Ok. I haven't seen the latest draft but if this is to be published, I may have a few suggestions based on the previous submitted version.

From: Parker, Richard
Sent: Friday, November 30, 2012 8:39 AM
To: Wu, Simon
Subject: RE: Libor Memo

Awaiting Ed's call to Steve post their Wednesday meeting

Sent from my Windows Phone

From: Wu, Simon
Sent: 11/30/2012 7:43 AM
To: Parker, Richard
Subject: Libor Memo

Rich,

Just curious, what's the status on the Libor memo?

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: [redacted]

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Richard Parker, Director of OPOR

From: Timothy Lee, Senior Policy Advisor, and Simon Wu, Chief Economist

Subject: Enterprises' LIBOR Damage Analysis Memorandum Outline

Date: October 5, 2012

(b) (5)

[redacted]

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency
400 7th Street, S.W., Washington DC 20024

(b) (5)

[redacted]

(b) (5)

[redacted]

(b) (5)

[redacted]

[redacted]

(b) (5)

[redacted]

OPOR Monthly Report: January 7, 2013

Reports Published During the Reporting Period:

FHFA's Oversight of the Enterprises' Compensation of Their Executives and Senior Professionals (EVL-2013-001), December 10, 2012

Report Summaries:

***FHFA's Oversight of the Enterprises' Compensation of Their Executives and Senior Professionals* (EVL-2013-001)**

Why FHFA-OIG Did This Report

The Housing and Economic Recovery Act of 2008 (HERA) established the Federal Housing Finance Agency (FHFA or Agency) as the supervisor and regulator of the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) (collectively, the Enterprises). In September 2008, FHFA placed the Enterprises into conservatorships.

In its role as the Enterprises' conservator, FHFA oversees the compensation of their executives, including their Chief Executive Officers (CEOs), but it generally delegates to the Enterprises responsibility for determining the compensation levels of their approximately 11,900 non-executive employees.

There has been considerable Congressional interest in, and public debate about, the compensation paid by the Enterprises. In March 2011, the FHFA Office of Inspector General (FHFA-OIG) issued a report that evaluated the Enterprises' executive compensation programs and specifically examined pay practices for the six most-senior executives at both Fannie Mae and Freddie Mac. This report examines pay practices affecting the Enterprises' approximately 2,100 highest paid employees, including nearly 90 executives (CEOs, Executive Vice Presidents (EVPs), and Senior Vice Presidents (SVPs)) and 2,000 senior professionals (Vice Presidents (VPs) and Directors).

What FHFA-OIG Found

The Enterprises use market data from consulting firms as part of the process to set executive and senior professional target compensation at levels that are competitive with compensation offered by comparable financial firms to facilitate recruitment and retention.

For 2011, the Enterprises' combined median compensation levels for executives and senior professionals were as follows.

Title	Number of Employees	Median Cash Compensation
Executives		
EVP	23	$1,718,200
SVP	62	$723,500
Senior Professionals		
VP	333	$388,000
Director	1,650	$205,300
Total	2,068	

Since FHFA-OIG's March 2011 report, FHFA has taken action to strengthen its control of executive compensation. In March 2012, FHFA implemented a revised compensation program that reduces the annual compensation of the Enterprises' CEOs nearly 90% from about $5 million to $600,000 each. The Agency has also enhanced its oversight of executive compensation by implementing recommendations made by FHFA-OIG in the March 2011 report, such as conducting examinations of the Enterprises' executive compensation procedures.

On the other hand, FHFA's oversight of senior professional compensation is comparatively limited. For example, FHFA has not reviewed, examined, or tested the structures, processes, or controls by which the Enterprises compensate their senior professionals to gain assurance of their effectiveness. FHFA-OIG recognizes that FHFA has delegated non-executive compensation to the Enterprises, having determined that doing so is the best way to manage them in conservatorship. However, FHFA-OIG believes that the Agency's lack of independent assessment limits its capacity to ensure that the costs associated with senior professional compensation are warranted.

What FHFA-OIG Recommends

FHFA-OIG recommends that FHFA develop a plan to strengthen its oversight of the Enterprises' compensation of their senior professionals through reviews or examinations. FHFA agreed with this recommendation.

Report Recommendations:

***FHFA's Oversight of the Federal Home Loan Banks' Unsecured Credit Risk Management Practices* (EVL-2012-005)**

EVL-2012-005-1: As part of FHFA's ongoing horizontal review of unsecured credit practices at the FHLBanks, FHFA-OIG recommends that the Agency follow up on any potential evidence of violation of the existing regulatory limits and take supervisory and enforcement actions as warranted; and determine the extent to which inadequate systems and controls may compromise the FHLBanks' capacity to comply with regulatory limits, and take any supervisory actions necessary to correct such deficiencies as warranted.

Agency Agreement: Yes. *Status:* Open. *Target Closure Date:* December 28, 2012.
Status Update: (Dec. 2012) FHFA has been following up on the horizontal review with respect to compliance with the unsecured lending regulation. FHFA identified 200 plus violations at the Dallas bank and violations at Pitt and Seattle. It also admonished Atlanta for Dexia and found that Cincinnati's credit ratings for unsecured counterparties are stale which could lead to violations.

EVL-2012-005-2: To strengthen the regulatory framework around the extension of unsecured credit by the FHLBanks, FHFA-OIG recommends, as a component of future rulemakings, that FHFA consider the utility of: establishing maximum overall exposure limits, lowering the existing individual counterparty limits, and ensuring that the unsecured exposure limits are consistent with the FHLBank System's housing mission.

Agency Agreement: Yes. *Status:* Open. *Target Closure Date:* December 28, 2012.
Status Update: (Dec. 2012) FHFA will complete its assessments and propose revisions to its rule governing unsecured credit at the FHLBanks by April 15, 2013.

***FHFA's Oversight of the Enterprises' Compensation of Their Executives and Senior Professionals* (EVL-2013-001)**

EVL-2013-001: FHFA should develop a long term plan to strengthen its oversight of the Enterprises' non-executive compensation through reviews or examinations, focusing on senior professional compensation. The plan should set priorities, ensure that available staffing resources are commensurate with them, and establish an appropriate timeframe for its implementation. With respect to the reviews and examinations contemplated by its plan, the Agency should consider including the following items as priorities: the Enterprises' general structures, processes, and cost controls for senior professional compensation; the Enterprises' controls over compensation offers to new hires; and the Enterprises' compliance with the pay freeze with respect to the use of promotions and changes in responsibility.

Agency Agreement: Yes. *Status:* Open. *Target Closure Date:* June 10, 2013.
Status Update: [None.]

ROI:

[None.]

Congressional Questions:

***FHFA's Oversight of the Enterprises' Compensation of Their Executives and Senior Professionals* (EVL-2013-001)**

1. *Would reducing Enterprise employee compensation levels to those of the government pay scales result in high attrition and safety and soundness concerns at the Enterprises?*

The OIG recognizes that attrition among highly skilled staff is a serious concern for FHFA and the Enterprises. Our evaluation team reviewed eight years' worth of attrition data by employee group and found wide fluctuations in recent trends. Due to the wide variability of the data, we could not conclusively discern an impact on attrition from FHFA's imposition of the pay freezes for calendar years 2011 and 2012 or the proposed 10% reductions in senior executive pay under the 2012 pay programs. However, it is a reasonable conclusion that reductions in compensation commensurate with those applied to the Enterprises' CEO, approximately 90%, would lead to a sharp increase in employee attrition.

2. *What steps have FHFA taken to determine that Enterprise executive compensation levels are appropriate and that they are being set in accordance with the applicable performance standards and FHFA's approval?*

As noted in our report, FHFA has developed guidelines that govern its review of executive compensation at the Enterprises. The Division of Enterprise Regulation has also conducted two exams of the practices and controls for the determination of senior executive performance pay. In addition, the Agency has agreed with our recommendation for further review of senior professional pay systems, and they have indicated that they will review adherence to the pay freezes as part of a wider examination of compliance with conservatorship directives.

3. *Why did FHFA eliminate CEO performance pay and reduce their overall compensation by 89%? Do you believe that similar reductions for other executives would be an effective cost-cutting measures?*

Agency staff told us that they worked closely with the Enterprises to determine CEO compensation at a level that would result in substantial overall cuts, including the elimination of bonuses, but would not have a negative impact on Enterprise operations. We note that the Enterprises both replaced their CEOs in 2012 in a reasonable timeframe at a greatly reduced salary level. As FHFA has recognized, the job of leading one of the Enterprises has at its core a strong public service mission, and we have seen voluntary reductions in compensation by CEOs of firms in similar circumstances, such as when AIG CEO Edward Liddy agreed to be paid $1 for his service in 2008. While cuts in CEO compensation under the conservatorships have resulted in significant cost savings, our evaluation team did not review whether similar steep reductions in pay for other executives would be appropriate.

4. *FHFA disagreed with the OIG's methodology for analyzing compensation. Why was the "cash compensation" approach preferable for the OIG, and do you believe that the Agency's oversight of Enterprise employee compensation would benefit from adopting that analysis in addition to reviewing "total direct compensation"?*

The OIG's use of the "cash compensation" methodology allowed the evaluation to team capture all compensation paid to an Enterprise employee in a given calendar year, including pay that would not be considered under a "total direct compensation" approach. For example, in 2009 and 2010, certain Enterprise employees received compensation for a legacy incentive pay program that dated back to 2006. These payments were approved by FHFA, but would not have been calculated as total direct compensation under the 2009 pay programs. Also, we note that similar large-scale compensation analyses, such as the Federal Reserve Board's *Survey of Consumer Finances*, use the "cash compensation" approach.

5. *How do the Enterprises target employee pay to the median of the financial services market? Did you uncover any evidence that supported their assertions?*

In general, the Enterprises use consultant surveys to target employee pay to the median of the market for positions with similar duties and responsibilities at comparable firms. The evaluation team conducted a limited test of the Enterprises' adherence to the median in their hiring of new employees in 2011 and found that one of the Enterprises exceeded the market median for base salaries in 44% of the offers and the other Enterprise in 80% of the offers. When presented with the results of our test, both Enterprises reiterated that they target the aggregate of employee pay to the market median. Further, they provided the results of internal testing of their pay systems which showed that executive and senior professional pay in aggregate equaled the median compensation levels offered by the financial services market. Based on this testing, we recommended that FHFA further examine the controls over compensation offers to new hires.

6. *Why did the median level of senior professional pay increase between 2010 and 2011 even though a pay freeze was in place during this time?*

When asked about this increase in median compensation under the pay freeze, Enterprise officials explained that this increase is largely attributable to the structure of their LTI payments under 2009 compensation packages. LTI payments at both Enterprises were disbursed in installments over the course of two years. For example, in 2010 Enterprise senior professionals would have received only the first portion of their 2009 LTI payments, and in 2011 they would have received the second portion of their 2009 LTI payments and the first portion of their 2010 LTI payments. However, one Enterprise official told us that promotions and changes in responsibility also may have played a role in the increase in median compensation from 2010 to 2011.

7. *Do you consider FHFA's responses to your recommendations to be appropriate?*

We do consider FHFA's response to be appropriate. Our recommendation gave the Agency wide latitude on how they should examine and supervise pay systems for senior professionals. We are pleased that this review will lead to the Agency's first examination of senior professional pay under the conservatorship and increased supervision of the controls and practices involved with compensation of this key group of professionals.

Unpublished LIBOR Memorandum

1. *How did you determine that the Eurodollar is an appropriate benchmark? Is it beyond the kind of manipulation seen with LIBOR?*

Our analysis assumes that the Eurodollar is a fair benchmark and this interpretation has been affirmed in prior litigation, such as in XX and XX….

2. *Could the OIG's damage calculations be taken as an appropriate primer for determining damages to other institutions as the result of LIBOR manipulation?*

The OIG's calculations represent a "first cut" analysis of publicly available information. Propriety information about each financial transaction would need to be reviewed in order to form a more in-depth study of this issue.

3. *How many Enterprise counterparties are alleged to have manipulated the LIBOR rate? What evidence do you have of manipulation affecting these transactions?*

The OIG does not have any evidence of manipulation of LIBOR aside from that confirmed in the settlements with Barclays and other institutions. The key to our analysis is the variation between the LIBOR and the Eurodollar rates. The deviation in these rates since 2007 indicate that damages have been incurred as a result.

4. *What are FHFA and the Enterprises doing in response to the analysis that you have provided them?*

The Agency forwarded our draft memorandum to the Enterprises this fall. Since then they have each retained outside counsel to help with the assessment of potential damages.

5. *What further steps will the OIG take? Have you referred this analysis to the DOJ, SEC, or CFTC?*

During the course of preparing the draft memorandum, we shared our analysis with the appropriate regulatory authorities. Those authorities are aware of our methodology and the preliminary results of our analysis.

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: November 2, 2012

Please find attached a staff memorandum report detailing concerns about financial losses that Fannie Mae and Freddie Mac (the Enterprises) may have sustained due to manipulation of the London Interbank Offered Rate (LIBOR). As you know, the Department of Justice announced on June 27, 2012, an agreement with Barclays Bank Plc (Barclays) in which the bank admitted to manipulating LIBOR for its own advantage over a period of years. Federal, state, and foreign government investigations into possible LIBOR manipulation are ongoing, as are a number of high-profile civil suits predicated upon such manipulation.

FHFA-OIG's interest in the consequences of possible LIBOR manipulation upon the Enterprises stems directly from its core mission to prevent and detect fraud and abuse in FHFA's programs and operations. Members of my staff began their work on this topic within days of the Department of Justice's announcement of its agreement with Barclays. On September 6 and 11, they shared their preliminary analysis with members of your senior staff and, at about the same time, with both Enterprises.

The enclosed memorandum report outlines my staff's LIBOR loss estimates and offers recommendations for Agency action to recover any such losses on behalf of the Enterprises. In light of the fact that my staff has preliminarily estimated that the Enterprises may have suffered more than $3 billion in such losses, I believe this matter warrants the Agency's attention. I would appreciate if the Agency could provide written comments to OIG's recommendations by November 16, 2012. Please do not hesitate to contact me if you have any questions about this matter.

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency
400 7th Street, S.W., Washington DC 20024

To: Steve A. Linick, Inspector General

From: Timothy Lee, Senior Policy Advisor, Office of Policy, Oversight and Review
David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis, Office of Evaluations
Simon Z. Wu, Chief Economist, Office of Policy, Oversight and Review

Through: Richard Parker, Director, Office of Policy, Oversight and Review, and
George P. Grob, Deputy Inspector General, Office of Evaluations

Subject: Potential losses to Fannie Mae and Freddie Mac due to LIBOR manipulation

Date: October 26, 2012

The London Interbank Offered Rate (LIBOR) is a market-standard interest rate index used extensively by participants in the global financial markets.[1] It is used to calculate payments on over $300 trillion of financial instruments and has been described as "the most important figure in finance."[2] LIBOR is determined by daily polls of 18 leading financial institutions (16 firms through 2010), which are asked to estimate their own short-term borrowing costs. The highest four and lowest four submissions are eliminated, and LIBOR is calculated by averaging the remaining ones.[3]

In a June 2012 settlement with British and U.S. authorities, including the Department of Justice (DOJ), Barclays Bank Plc (Barclays) admitted to submitting falsified borrowing cost data in an effort to manipulate LIBOR to its own advantage.[4] According to subsequent media reports, further LIBOR-related state and federal government investigations remain ongoing.[5] Additionally, several parties have filed civil damage claims seeking compensation for financial losses related to LIBOR manipulation.[6] These civil suits incorporate allegations that banks contributing to the determination of LIBOR strove to depress the published rates.[a]

[a] Market participants deem lower borrowing costs to reflect better creditworthiness. Thus, publicly disclosed borrowing costs became a closely watched indicator of the industry's stability during the financial crisis. As one academic observer noted, "Especially in 2008, the biggest problem was that all the banks wanted to claim they were able to borrow more cheaply than was in fact the case, so as not to heighten concerns about their creditworthiness." University of Pennsylvania, "The LIBOR Mess: How Did It Happen – And What Lies Ahead?" July 18, 2012.

Fannie Mae and Freddie Mac (collectively, the Enterprises) rely upon LIBOR in the determination of interest payments on their sizable investments in floating-rate financial instruments, such as mortgage-backed securities and interest rate swaps. Many of the banks that contribute to the LIBOR calculation also have existing commitments to pay the Enterprises hundreds of millions of dollars in such LIBOR-based interest payments. As detailed under the "Analysis" portion of this document, our preliminary review of the Enterprises' published financial statements and publicly available historical interest rate data indicates that, during conservatorship, the Enterprises may have suffered $3 billion in cumulative losses from any such manipulation. Those losses would ultimately have been borne by the Department of the Treasury (Treasury), through its Senior Preferred Stock Purchase Agreements (PSPAs) with the Enterprises.

Because of the seriousness of these allegations and the possibility that Treasury and the Enterprises may have suffered significant losses due to LIBOR manipulation, we recommend that FHFA take three steps, outlined in further detail below:

- Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation;
- Promptly consider options for appropriate legal action, if warranted; and
- Coordinate efforts and share information with other federal and state regulatory agencies.

Background

Since September 6, 2008, the Enterprises have operated under FHFA conservatorship.[7] Under the terms of the conservatorship, Treasury has ensured the Enterprises' ability to remain viable entities through PSPAs with each. Under the terms of the PSPAs, Treasury provides capital funding directly to the Enterprises in amounts necessary to ensure their continued solvency.[8] To date, the federal government has provided the Enterprises over $187 billion.[9]

As part of their business, the Enterprises have always held substantial quantities of floating-rate assets on which interest is recalculated and paid each month or quarter based on currently prevailing short-term rates. Such investments are popular because, as compared to assets that pay a fixed interest rate throughout their terms, floating-rate assets greatly reduce bondholders' market risk that their investments' value may decline due to adverse interest rate movements. The Enterprises' two primary categories of floating-rate investments include:

- Floating rate bonds. Many securities are structured in this fashion. For example, according to its public financial statements, Freddie Mac alone held approximately $299 billion of floating rate securities upon entering conservatorship.[10]
- Interest rate swaps. Because American homeowners tend to prefer predictable mortgage payments, the Enterprises' mortgage portfolios generally contain more fixed-rate loans

than floating-rate loans. As a result, the value of those portfolios may vary as interest rates fluctuate. However, the Enterprises also invest in interest-rate swaps, contracting with large financial institutions for the obligation to pay them fixed-rate interest streams in exchange for the right to receive corresponding floating-rate ones.[b] These swaps effectively offset the mortgage loans' fluctuations in value, resulting in stable combined portfolio valuations even if interest rates rise or fall. We estimate that the Enterprises received floating-rate interest payments on a net total of $373 billion in face, or "notional" amount of interest rate swaps upon entering conservatorship.

The interest due for such floating rate obligations is recalculated for each payment period by reference to the current value of LIBOR.

Analysis

As a first step in our analysis, we compared the historical data on two floating rate indices:

- 1-month[11] LIBOR rates; and
- The Federal Reserve's published Eurodollar deposit rates (Fed ED) for 1-month[12] obligations. Like LIBOR, this data series is designed to measure short-term bank borrowing costs via polling of financial institutions. However, the Federal Reserve measure polls a broader range of institutions and is rarely referenced in floating rate financial obligations.

Our examination of daily records for 1-month Fed ED and 1-month LIBOR indicates that the two rates remained very close from the earliest point we reviewed, the beginning of 2000, until mid-2007. During that period, the largest divergence between the two indexes appeared shortly after September 11, 2001, when LIBOR *exceeded* Fed ED by as much as 0.41%. Indeed, on average the two measures remained within 0.06% of each other during that period, with LIBOR falling below Fed ED on less than one business day of each nine. The close correspondence of these two measures conformed to the expectations of market observers. As a former Federal Reserve economist said, "Effectively, these two rates should be the same as they are the same instrument."[13]

However, beginning in early 2007 emerging declines in home prices had begun to place strains on the financial system. New Century Financial, a leading home loan originator, filed for bankruptcy in April.[14] Adding to the stress were media reports of precipitous decay in two high-profile mortgage-backed securities hedge funds sponsored by Bear Stearns, a leading U.S.

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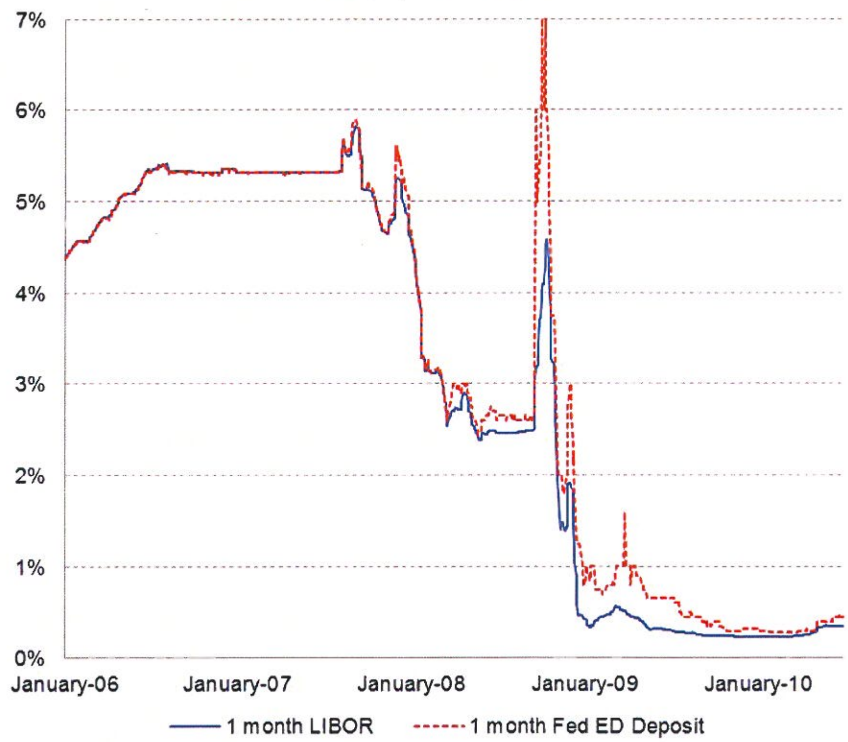
[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

investment bank. These began to emerge in mid-June,[15] followed promptly by the funds' bankruptcy filings at the end of July.[16]

As the financial crisis began to metastasize, LIBOR and Fed ED began to diverge substantially, eventually by as much as three percentage points at the end of September 2008. Moreover, in a marked contrast with previous behavior, LIBOR began to fall below Fed ED consistently. Figure 1 illustrates the recent divergence of these two measures, beginning in mid-2007.

Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10

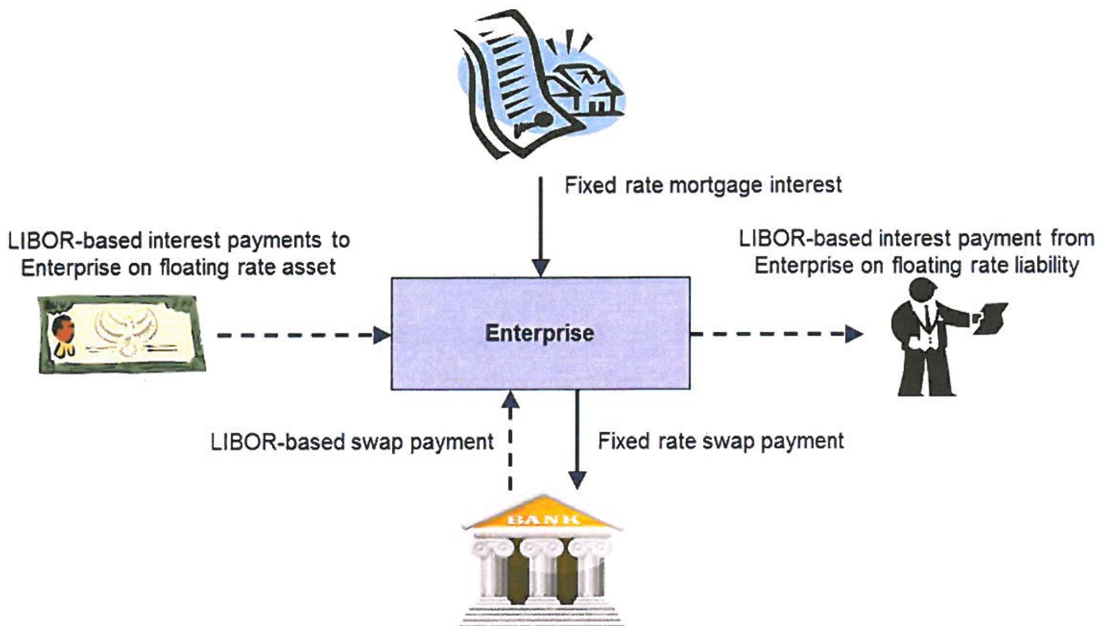


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

> … between approximately August 2007 and January 2009, in response to initial and ongoing press speculation that Barclays's high U.S. Dollar LIBOR submissions at the time might reflect liquidity problems at Barclays, members of Barclays management directed that Barclays's Dollar LIBOR submissions be lowered. This management instruction often resulted in Barclays's submission of false rates that did not reflect its perceived cost of obtaining interbank funds.[18]

Because the Enterprises receive LIBOR-based floating rate payments on their floating rate bonds and interest rate swaps, the principal effect on them of any downward manipulation of LIBOR would be reduced interest payments with respect to their holdings of floating rate securities and interest rate swaps. (This is partially offset by lower borrowing costs on the Enterprises' own floating-rate liabilities, a factor we have considered in our estimation of Enterprise losses.)

Figure 2. LIBOR-Based Payments to and From the Enterprises



To the extent that the Enterprises suffered such "short-changing" of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury's investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have inflicted meaningful losses on Treasury and the taxpayers.

To gauge the effect of possible LIBOR manipulation on the Enterprises, we undertook a three-step analytical process:

- First, we measured the daily divergence between 1-month LIBOR and the corresponding Fed ED rate (essentially treating the latter as the correct benchmark rate), and calculated its average value for each calendar quarter since the Enterprises entered conservatorship.[c]
- Second, we reviewed the Enterprises' publicly available financial statements to develop rough estimates of their holdings of variable rate securities, interest rate swaps, and variable rate liabilities for each quarter.
- Finally, using these figures, we calculated an estimate for the additional quarterly net interest payments that the Enterprises would have received if LIBOR had matched the corresponding Fed ED rate since conservatorship.[d]

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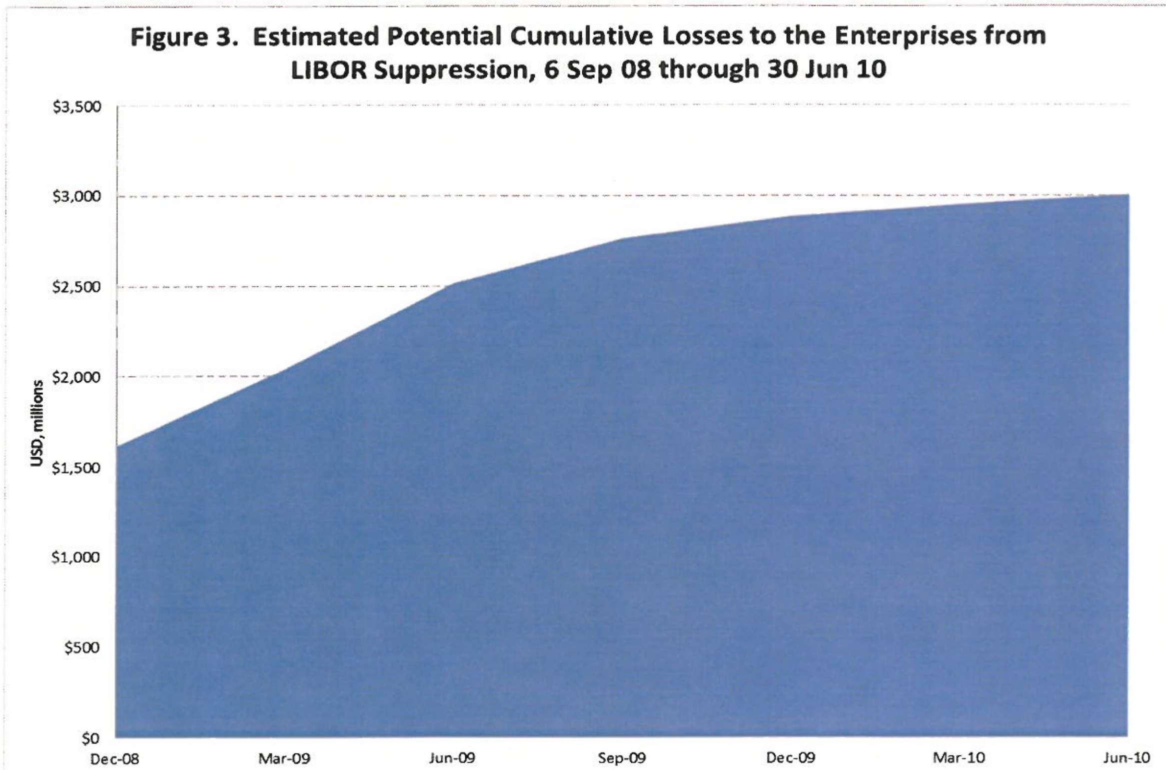
[c] To simplify our calculations, we assumed that all Enterprise floating rate assets referenced 1-month LIBOR. In practice, mortgage-related bonds and interest rate swaps typically reference either 1-month or 3-month LIBOR.

[d] Further details on our methodology are available in the Appendix.



Using this methodology, we estimate that, from the beginning of the Enterprises' conservatorship in 2008 through the second quarter of 2010,[19] net Enterprise losses on their holdings of floating rate bonds and interest rate swaps may have exceeded $3 billion. Over half of those potential losses appear to have taken place in the fourth quarter of 2008 alone.[e]

With respect to the Enterprises' interest rate swaps, it is notable that the leading providers of these instruments are many of the same institutions that contribute to the determination of U.S. dollar LIBOR. Figure 4 presents a table of banks recently identified by the Federal Reserve Bank of New York as major derivatives dealers.[20] Ten of these fourteen major derivatives dealers also contribute to the poll used to determine LIBOR. Collectively, these dealers both participate in setting LIBOR and make LIBOR-based payments to their transaction partners, or counterparties, under the terms of their interest rate swaps. If the Enterprises conduct most of their derivatives business with these institutions, the potential for conflicts of interest is readily apparent.

[e] We also estimate that the Enterprises may have suffered approximately $750 million of net LIBOR-related losses after market turmoil began in mid-2007, but prior to entering conservatorship.

A comparable situation exists in the market for floating-rate securities. For example, of 2007's ten leading underwriters of "private label" mortgage-backed securities,[21] four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.[22] However, our review of a small sample of offering documents for the Enterprises' floating-rate investments in this category failed to uncover any disclosure of risks that the underwriters could manipulate LIBOR for their own advantage, to the detriment of bondholders.

Figure 4.

Major Derivatives Dealers

	LIBOR Contributor
Bank of America	✓
Barclays	✓
BNP Paribas	
Citibank	✓
Credit Suisse	✓
Deutsche Bank	✓
Goldman Sachs	
HSBC Group	✓
JPMorganChase	✓
Morgan Stanley	
RBS	✓
Societe Generale	✓
UBS	✓
Wachovia	

Top Private Label MBS Underwriters 2007

	LIBOR Contributor
Lehman Brothers	
Bear Stearns	
Deutsche Bank	✓
Countrywide	
RBS	✓
Credit Suisse	✓
JPMorganChase	✓
Morgan Stanley	
Washington Mutual	
Merrill Lynch	

In addition to the Barclays settlement, each LIBOR poll contributor among these dealers has been contacted by federal or state authorities with respect to ongoing investigations and/or is a named defendant in existing civil actions.[23]

Recommendations

In the context of active federal and state investigations into possible LIBOR manipulation, as well as the results of our own preliminary analysis of publicly available information, we believe that further investigation of the potential harm to Fannie Mae and Freddie Mac – and therefore to Treasury and, ultimately, the American taxpayer – of any LIBOR manipulation is firmly warranted. While FHFA-OIG should remain ready to offer advice and assistance, FHFA and the Enterprises themselves possess the detailed information needed to develop precise loss calculations and take any legal action that may prove appropriate. Therefore, we recommend that FHFA:

- **Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation.** The Enterprises should possess detailed records of individual LIBOR-based assets and liabilities. An itemized analysis of these records would produce a better-founded estimate of their losses than is possible from reviewing only the Enterprises' public 10-K and 10-Q filings.

- **Promptly consider options for appropriate legal action, if warranted.** If the existing accusations of LIBOR manipulation prove well founded then, in light of its obligations as their conservator, FHFA should have in place a plan by which to affect full recovery of any Enterprise funds lost and deter further malfeasance of this type. Due to the possibility that the Enterprises' legal options may soon be narrowed by statute of limitations considerations, FHFA should develop this plan promptly.
- **Coordinate efforts and share information with other federal and state regulatory agencies.** FHFA and FHFA-OIG can be valuable and effective partners with other federal and state agencies in their efforts on behalf of the public to recover losses and obtain justice for any wrongdoing that may ultimately be proven.

Appendix
Notes on Analytical Methodology

To estimate the Enterprises' potential losses due to LIBOR manipulation, we drew on two principal sources of information.

LIBOR Benchmarks

First, we referenced Federal Reserve Bank of St. Louis repositories of daily historical data for the following data series:

- 1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar (USD1MTD156N). According to the Federal Reserve, this information is provided by the British Bankers' Association. The Federal Reserve describes LIBOR as "the most widely used 'benchmark' or reference rate for short term interest rates."
- 1-Month Eurodollar Deposit Rate (London)(DED1). This information is compiled by the Federal Reserve itself, working with Bloomberg and ICAP Plc, a bond brokerage firm.

We also compiled similar samples for 3-month rates in each case. Comparisons of both the 1-month and 3-month indices revealed significant rate discrepancies between LIBOR and the Federal Reserve index, beginning in 2007. The Bloomberg story cited in the body of the report includes the former Federal Reserve economist's quote that "effectively, these two rates should be the same as they are the same instrument." Several civil lawsuits, including those brought by Charles Schwab and the City of Baltimore, cite the emergence of these discrepancies as evidence of malfeasance.

Notably, other commentators have also cited additional market indicators as evidence of potential LIBOR manipulation. For example, in a recent speech to the European Parliament's Economic and Monetary Affairs Committee, Gary Gensler, head of the U.S. Commodity Futures Trading Commission, cited persistent anomalies compared to other short-term interest rate indexes, such as Euribor and non-dollar indexes, along with pricing in derivatives such as interest rate options and credit default swaps in questioning the recent behavior of LIBOR.

However, because of differences in currency or maturity of the other indicators compared to the Federal Reserve Eurodollar deposit rate, we chose the Federal Reserve index as the simplest and best benchmark for comparison. For the purposes of this analysis, it served as a proxy for the appropriate LIBOR setting. Thus, we assumed that observed differences between LIBOR and the Federal Reserve Eurodollar deposit rate could indicate the timing and extent of potential manipulation by LIBOR poll participants.

Calculation of Enterprise Losses

Second, we assembled Fannie Mae and Freddie Mac balance sheet data for the relevant period from the Enterprises' published financial statements. For example, Freddie Mac data for 4Q08 are drawn from the 2008 10-K, including:

- Data on derivatives investments from Table 38, page 109. We calculated Freddie Mac's net receive-LIBOR interest rate swap investment as:
    - Pay-fixed (i.e. Freddie Mac receives LIBOR), *plus*
    - Basis (i.e. Freddie Mac and its counterparty exchange different sets of floating rate interest payments. Generally, these involve the Enterprise's payments of frequently used ARM indices, such as the Cost of Funds Index or the 12-month Constant Maturity Treasury rate, in exchange for LIBOR-based payments); *less*
    - Receive-fixed (i.e. Freddie Mac pays LIBOR).
- Data on Freddie Mac's variable-rate mortgage-related securities from information on the Enterprise's Mortgage-Related Investments Portfolio, Table 24, page 93.
    - We assumed that essentially all variable-rate MBS holdings calculated interest payments by reference to LIBOR.
    - Fannie Mae did not publish explicit information on its variable rate MBS, but did provide figures for all MBS held by its Capital Markets Group. To estimate Fannie Mae's variable-rate MBS investment holdings, we assumed that Fannie Mae's Capital Markets Group held the same proportion of variable rate securities held by Freddie Mac in its Mortgage-Related Investments Portfolio.
- Data on Freddie Mac's long-term debt liabilities, including variable-rate liabilities, in Table 8.3, page 224.
    - We assumed that essentially all long-term floating-rate debt obligations of the Enterprises calculated interest payments by reference to LIBOR.
    - Fannie Mae explicitly discloses floating-rate obligations in its financial statements.
    - Freddie Mac's reporting of floating-rate obligations for the time period under review is intermittent. Long-term variable-rate debt obligations are totaled as of December 31, 2009, and subsequently, but not for the 10Qs as of 1Q09, 2Q09, and 3Q09. Within the time period examined, the highest proportion of long-term variable-rate obligations to other long-term debt (i.e., direct obligations not brought onto the balance sheet by the requirements of SFAS 167) was 24.7%, reported as of 2Q10. We used that proportion to estimate Freddie Mac's variable-rate debt obligations when no other information was available.

- Except where explicitly disclosed, short-term variable rate obligations of the Enterprises were excluded from the analysis as a relatively minor component.

We calculated cash flow shortfalls to the Enterprises as equivalent to (a) the difference between 1-month LIBOR and the 1-month Federal Reserve Eurodollar deposit rate, multiplied by (b) (i) the notional amount of net receive-LIBOR swaps investments held by the Enterprises, plus (ii) the face value of Enterprise variable-rate mortgage-related securities net of their variable-rate liabilities. Cash flow shortfalls were calculated on a quarterly basis. We assumed reported figures remained constant within each quarter. We included a portion of the indicated cash flow shortfalls for 3Q08, prorated for the final 24 days of September.

We believe that direct cash flow shortfalls, due to reduced interest and swap payments on LIBOR-based investments held by the Enterprises, are likely to constitute the great majority of Enterprise financial losses resulting from any LIBOR manipulation. However, additional secondary effects of LIBOR manipulation may also affect the amount of such losses. These include, but are not limited to:

- Distortions in the volatility measures used to benchmark pricing of the Enterprises' interest rate options
- Effects on the interest rate futures market used to value interest rate swaps
- Effects on prepayment valuation models used to value MBS, which rely on short-term interest rate data as an input

However, we did not incorporate such factors into this analysis.

Limitations of Our Analysis

The goal of this report is not to provide a definitive accounting of the Enterprises' losses, nor to demonstrate conclusively the culpability of specific organizations or individuals. We acknowledge the limitations inherent in any corporate financial analysis developed exclusively from public reports. However, this analysis does indicate that the numerous accusations of LIBOR manipulation raise legitimate concerns about their impact on the Enterprises. Accordingly, they warrant closer examination by FHFA and the Enterprises, which have access to the detailed asset-level records and information needed to generate a more accurate and precise figure for potential losses and provide guidance for any future action that may be required to protect the taxpayers.

For more details about this analysis, please contact Timothy Lee, Senior Policy Advisor, at (202) 730-2821 or timothy.lee@fhfaoig.gov.

Endnotes

[1] British Bankers' Association, "BBA LIBOR Explained."

[2] The Telegraph, "LIBOR Scandal: Martin Wheatley's Speech," September 28, 2012.

[3] Thomson Reuters, "Thomson Reuters Role in the Calculation and Distribution of BBA LIBOR™", July 4, 2012. The number of poll contributors is cited in the Department of Justice's settlement documentation, "Appendix A: Statement of Facts."

[4] U.S. Department of Justice, "Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay $160 Million Penalty," June 27, 2012.

[5] See, inter alia, The New York Times, "State Regulators Widen LIBOR Investigation," August 15, 2012, and BusinessWeek, "US LIBOR Probers Said to Seek London Trader Interviews," September 27, 2012.

[6] The Wall Street Journal, "Suits Mount in Rate Scandal," August 26, 2012.

[7] Federal Housing Finance Agency, "Statement of Director James A. Lockhart", September 7, 2008, p.6.

[8] Federal Housing Finance Agency, "Mortgage Market Note 10-1", January 20, 2010

[9] Federal Housing Finance Agency, "Data as of August 8, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities."

[10] Current and historical financial statement data for Freddie Mac can be found at http://www.freddiemac.com/investors/sec_filings/?intcmp=AFIRSF. Data for Fannie Mae can be found at http://www.fanniemae.com/portal/about-us/investor-relations/sec-filings.html.

[11] Federal Reserve Bank of St. Louis, "1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar (USD1MTD156N)". Data obtained October 1, 2012.

[12] Federal Reserve Bank of St. Louis, "1-Month Eurodollar Deposit Rate (London) (DED)". Data obtained October 1, 2012.

[13] Bloomberg News, "Fed's Eurodollar Rates Suggest Dollar LIBOR May Stabilize", April 28, 2008.

[14] See, for example, the *Report of the Financial Crisis Inquiry Commission*. Facts noted here are taken from Chapter 12 of that document, page 233.

[15] BusinessWeek, "Bear Stearns' Subprime Bath", June 12, 2007.

[16] *Report of the Financial Crisis Inquiry Commission*, Chapter 12, page 240.

[17] See, for example, Thomson Reuters, "In re LIBOR-Based Financial Instruments Antitrust Litigation," April 30, 2012, pp. 23-31.

[18] U.S. Department of Justice, "Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay $160 Million Penalty," June 27, 2012.

[19] Media reports cite allegations that LIBOR manipulation continued through at least mid-2010. See, e.g., Washington Post, "Trickle of LIBOR Lawsuits From Rate-Fixing Scandal Likely to Become Deluge", July 30, 2012.

[20] Federal Reserve Bank of New York, "An Analysis of OTC Interest Rate Derivatives Transactions: Implications for Public Reporting," March 2012, p.2

[21] "Private label" MBS are those not brought to market and guaranteed through the Enterprises. See U.S. Securities and Exchange Commission, "Mortgage-Backed Securities." League table data provided by Inside Mortgage Finance, "Mortgage Market Statistical Annual."

[22] See, for example, Federal Housing Finance Agency, "FHFA Sues 17 Firms to Recover Losses to Fannie Mae and Freddie Mac."

[23] At least two complaints, those of Berkshire Bank and the City of Baltimore, name all 16 contributors to U.S. dollar LIBOR. Wall Street Journal, "New York Lender Files LIBOR Lawsuit", July 30, 2012, and Thomson Reuters, "In re LIBOR-Based Financial Instruments Antitrust Litigation," April 30, 2012. Also see with respect to federal and state investigations, inter alia, The New York Times, "State Regulators Widen LIBOR Investigation," August 15, 2012, and BusinessWeek, "US LIBOR Probers Said to Seek London Trader Interviews," September 27, 2012.

The New York Times
DealB%k
Edited by Andrew Ross Sorkin

DECEMBER 20, 2012, 2:57 PM

Making It Easier to Estimate Libor Losses

By PETER EAVIS

The potential victims of the Libor scandal are starting to estimate the costs to their bottom lines.

In its settlement with Barclays earlier this year, the Justice Department said that those who manipulated interest rates at the bank knew their activities hurt others.

The traders who rigged the London interbank offered rate "understood that to the extent they increased their profits or decreased their losses in certain transactions from their efforts to manipulate rates, their counterparties would suffer corresponding adverse financial consequences with respect to those particular transactions," the Justice Department said.

Now, a new report indicates that Fannie Mae and Freddie Mac, the mortgage entities that the government bailed out and now controls, may have suffered big losses related to the manipulation.

Rate-rigging may have cost the two firms more than $3 billion over almost two years, according to a preliminary study from the inspector general's office that oversees the Federal Housing Finance Agency, Fannie and Freddie's regulator. The study was first reported by The Wall Street Journal.

What is especially interesting about the watchdog's report is that it lays out an easy-to-follow road map for calculating potential Libor losses.

It starts on the assumption that the overall effect of Libor manipulation was to make the interest rate lower than it would otherwise have been.

When markets were declining from 2007 to 2010, banks benefited from a lower Libor because it made it look as if they could borrow cheaply from each other. The banks faked Libor to increase confidence in themselves. In addition, the banks' own individual trades often benefited from an artificially low Libor, though the manipulators also made money by fixing Libor higher.

The study by the inspector general's office starts out by estimating how much lower Libor would have been without rigging. It does that by comparing Libor with a very similar interest rate, called the Eurodollar deposit rate.

Before the market turbulence, the two rates had been very close, the study says. But then, during the financial stress, Libor became lower than the other rate, a lot lower for a short period in 2008.

In the report, the inspector general's office then tries to work out what Fannie and Freddie's cash flows would have been if Libor had continued to be in line with the Eurodollar rate. A low Libor meant that Fannie and Freddie were effectively underpaid on certain swaps and overpaid on others. They would also have been underpaid on Libor-linked bonds. The net result was that Fannie and Freddie experienced a cash shortfall of over $3 billion, according to the inspector general's office.

The office acknowledges the exercise is not exhaustive, and suggests other financial instruments owned by Fannie and Freddie that could have been affected by Libor manipulation.

Clearly, in this exercise, so much depends on whether the Eurodollar deposit rate is a strong proxy for Libor that was not manipulated. The comparison between the rates has been made in Libor-related lawsuits, the inspector general's office notes. "It's a perfectly good place to start out," said John Sprow, chief risk officer at Smith Breeden Associates, an asset management firm.

Of course, financial firms may have balance sheets that don't look like those of Fannie and Freddie. An overly low Libor may have meant they were overpaid.

Still, the inspector general has done the financial sector a favor. It now has a rough-and-ready template for assessing Libor losses.

Federal Housing Finance Agency's Office of the Inspector General memo on Libor

From:	Lee, Timothy
To:	Wu, Simon
Cc:	Parker, Richard
Subject:	LIBOR table
Date:	Tuesday, October 02, 2012 11:07:41 AM

Hi Simon,

This is the table I mentioned. It should point out clearly that there is a LOT of overlap between institutions accused of LIBOR bid rigging and the Enterprises' derivatives counterparties. Though the information is harder to come by, a listing of the Enterprises' variable rate bond underwriters would tell much the same story.

Please note that the bank info comes off the OFA monthly metrics, which are labeled confidential. I have combined the Enterprises' derivatives books for purposes of this table. My gut tells me that we could make a strong argument that such a combined table is appropriate for public release if we decide to go that route. However, for now, keep this file within OIG/FHFA.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

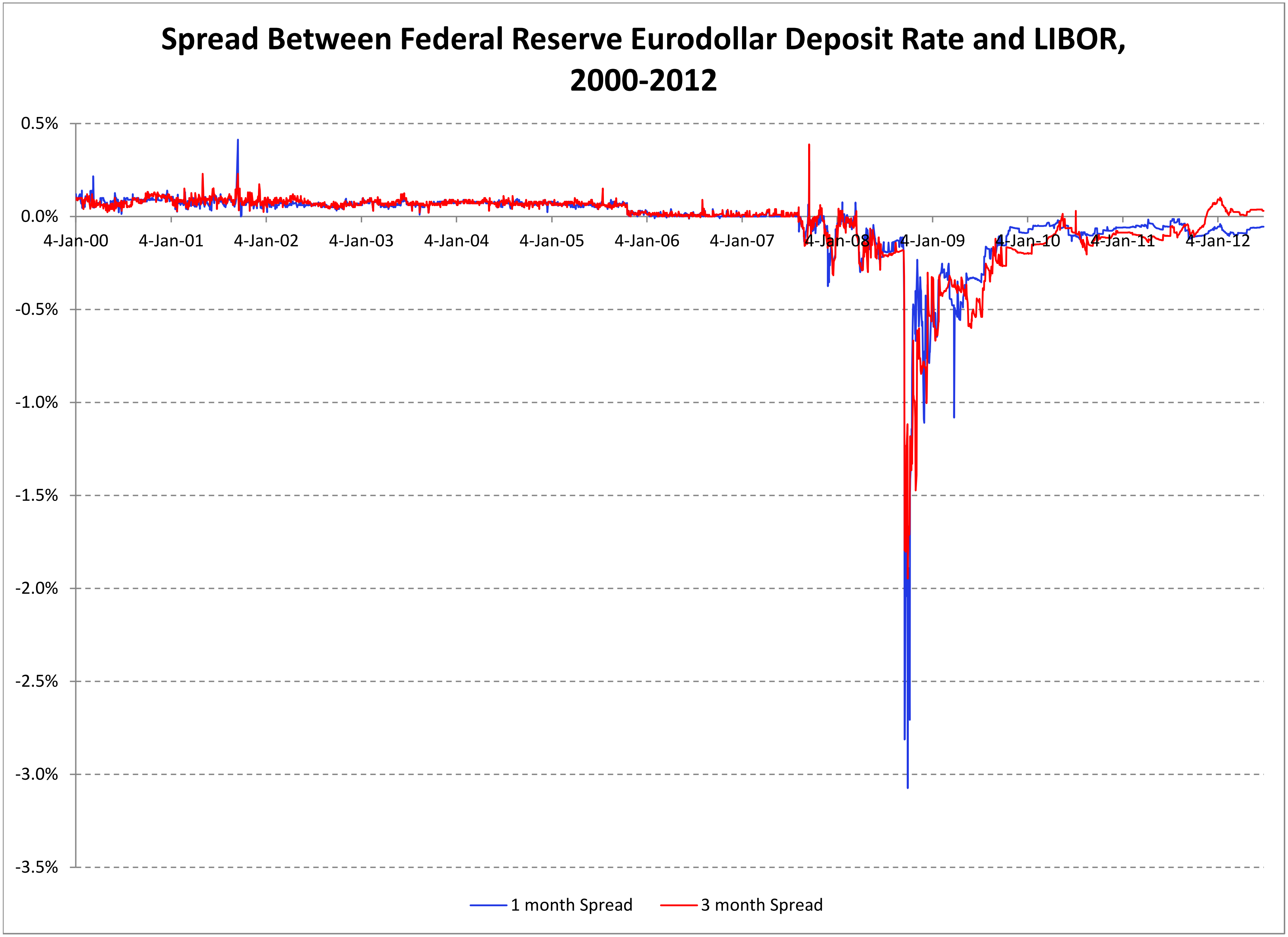
Cash Flow Shortfall from LIBOR Suppression

Enterprises Variable Rate Mortgage Assets and Interest Rate Swaps

dollars in millions

Column verified?		TL	TL	TL	TL	TL	TL	TL	TL
	31-Mar-07	30-Sep-08	31-Dec-08	31-Mar-09	30-Jun-09	30-Sep-09	31-Dec-09	31-Mar-10	30-Jun-10
Swap Notional Amounts									
Fannie Mae									
Pay Fixed Swaps		515,853	546,916	620,850	650,447	435,693	382,600	315,857	317,259
Less: Receive Fixed Swaps		372,555	451,081	549,823	571,802	340,384	275,417	229,293	234,901
Plus: Basis Swaps		24,761	24,560	19,815	22,200	11,000	3,225	3,220	3,020
Net Receive LIBOR Swaps		168,059	120,395	90,842	100,845	106,309	110,408	89,784	85,378
Freddie Mac									
Less: Receive Fixed Swaps		329,828	279,609	336,207	284,244	320,458	271,403	255,940	349,545
Plus: Pay Fixed Swaps		452,633	404,359	342,747	401,901	414,776	382,259	382,145	386,194
Plus: Basis Swaps		82,205	82,190	82,090	51,065	51,615	52,045	54,070	53,910
Net Receive LIBOR Swaps		205,010	206,940	88,630	168,722	145,933	162,901	180,275	90,559
Enterprises									
Net Receive LIBOR Swaps		373,069	327,335	179,472	269,567	252,242	273,309	270,059	175,937
Mortgage Related Securities on Balance Sheet									
Fannie Mae									
Capital Markets group's mortgage-related securities		359,495	362,703	353,172	369,546	368,389	352,709	434,532	391,615
Estimated Freddie Mac Variable Rate Securities Ratio		41%	37%	33%	34%	34%	40%	52%	52%
Estimated Fannie Mae Variable Rate Securities		146,025	132,796	116,457	124,378	125,616	139,775	224,780	204,120
Freddie Mac									
Fixed Rate Securities		437,560	510,116	581,180	550,539	516,778	372,160	159,278	148,851
Variable Rate Securities		299,316	294,646	285,924	279,298	267,393	244,296	170,690	162,049
Variable Rate Securities Ratio		41%	37%	33%	34%	34%	40%	52%	52%
Floating Rate Liabilities on Balance Sheet									
Fannie Mae									
Floating Rate Short Term Debt		4,495	7,585	3,132	3,102	3,069	50	-	-
Senior Floating Rate Long Term Debt		47,087	46,611	58,770	68,766	51,142	42,952	46,170	45,144
Freddie Mac									
Long-Term Debt, Variable Rate		24,708	13,664	118,160	126,647	113,775	65,875	126,036	144,833
Total Other Long-Term Debt		494,168	433,954	478,379	512,742	460,626	461,051	593,174	585,630
Ratio: Variable Rate Long-Term Debt to Other Long-Term Debt		5%	3%	25%	25%	25%	14 3%	21%	25%
Enterprises									
Estimated Variable Rate Assets Net of Obligations		369,051	359,582	222,319	205,161	225,024	275,194	223,264	176,192
Fed ED-LIBOR spread, 1 month		-0.16%	-0.87%	-0.42%	-0.40%	-0.20%	-0.09%	-0.05%	-0 06%
Estimated Damages									
LIBOR Cash Flow Shortfall - Quarterly Totals		312.3	1,535.0	424.0	474.0	249.1	121.9	65.7	55 0
LIBOR Cash Flow Shortfall - Cumulative		**750.6**	**1,616.5**	2,040.5	2,514.5	2,763.6	2,885.6	2,951.3	3,006 3
Prorated LIBOR Cash Flow Shortfall - 9/6/08 thru 9/30/08		**81.5**							

Underwriter	Security purchased by the Enterprises	LIBOR-Based Interest Rate	CUSIP	Risk Factors language: Underwriters may rip you off by fucking with your reference index	Reviewer
Bank of America	BAFC 2007-A 1A1	1mL + 16	05952DAA6	FALSE	Timothy Lee
Barclays Capital	FHLT 2005-D	1mL + 26	35729PMA5	FALSE	Timothy Lee
Citibank	CMLTI 2007-AR7 A2A	Tied to mortgage rates, which are keyed inter alia to 6m and 12m LIBOR	17312YAB8	FALSE	Timothy Lee
Deutsche Bank	DBALT 2007-OA4 IIIA1	1mL + 19	25151XAE1	FALSE	Timothy Lee
JPMorgan	JPMAC 2006-WMC4	1mL + 13	46630BAA4	FALSE	Timothy Lee
RBS	OOMLT 2007-CP1 1A1	1mL + 14	68402YAA4	FALSE	Timothy Lee
UBS	MABS 2005-WF1 A-1A	1mL + 25	57643LJR8	FALSE	Timothy Lee
HSBC	FFML 2006-FF11 1A1	1mL + 13	32028PAA3	FALSE	Timothy Lee


Spread Between Federal Reserve Eurodollar Deposit Rate and LIBOR, 2000-2012
0.5%
0.0%
-0.5%
-1.0%
-1.5%
-2.0%
-2.5%
-3.0%
-3.5%
4-Jan-00
4-Jan-01
4-Jan-02
4-Jan-03
4-Jan-04
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4-Jan-12
1 month Spread
3 month Spread

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

1625 Eye Street, N.W., Washington DC 20006

5 July 2012

To Richard Parker

From Timothy Lee

Subject Effect of LIBOR Bid-Rigging Investigation on Fannie Mae and Freddie Mac

Cc [redacted] Peter Emerzian Wesley Phillips
[redacted]
Alan Rhinesmith Simon Wu

On June 27, the news media reported that Barclays had agreed to pay $453 million to US and British authorities to resolve allegations that the bank had manipulated its submissions for the calculation of Libor.[i] This amount included a $160 million penalty to the US Justice Department.[ii] The Justice Department characterized the episode, in part, as follows:

> [B]etween approximately August 2007 and January 2009, in response to initial and ongoing press speculation that Barclays's high U.S. Dollar Libor submissions at the time might reflect liquidity problems at Barclays, members of Barclays management directed that Barclays's Dollar Libor submissions be lowered. This management instruction often resulted in Barclays's submission of false rates that did not reflect its perceived cost of obtaining interbank funds. While the purpose of this particular conduct was to influence Barclays's rate submissions, as opposed to the resulting fixes, there were some occasions when Barclays's submissions affected the fixed rates.[iii]

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OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: November 1, 2012

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OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Steve A. Linick, Inspector General

From: Timothy Lee, Senior Policy Advisor, Office of Policy, Oversight and Review

David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis, Office of Evaluations

Simon Z. Wu, Chief Economist, Office of Policy, Oversight and Review

Through: Richard Parker, Director, Office of Policy, Oversight and Review, and

George P. Grob, Deputy Inspector General, Office of Evaluations

Subject: Potential losses to Fannie Mae and Freddie Mac due to LIBOR manipulation

Date: October 26, 2012

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OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October XX, 2012

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Enterprises' LIBOR Damage Analysis Memorandum Outline

FHFA-OIG

Executive Summary: One page

Background

- Discussion of the Enterprises in conservatorship since 9/08: Recipients of public assistance under terms of PSPAs.
- Enterprises' capital market business operation
- Brief summary of public reports to
- LIBOR
- Focus on allegations that LIBOR was systematically suppressed after the onset of the financial crisis
    - Several outstanding lawsuits

Potential Issue

- The Enterprises own trillions of dollars of assets whose returns are directly tied to LIBOR
    - Variable rate securities
    - Interest rate swaps book
    - Lay out amounts in table
- Accused institutions also have extensive, direct business relationships with the Enterprises as swap counterparties, bond underwriters, and broker-dealers
- LIBOR suppression would effectively result in swap counterparties and bond obligors short-changing the Enterprises
- Such "short-changing", if proven, contributed to the losses ultimately made whole by the taxpayers under the PSPAs

Analysis

- Comparison of historical LIBOR rate versus closely comparable Fed Eurodollar rate suggests that LIBOR may have been suppressed systematically during the Enterprises' conservatorship
- Review of balance sheets suggests that the Enterprises may have lost over $1.5 billion due to LIBOR suppression
- More detailed Enterprise information will yield more refined loss estimates
- Potential for Enterprises claims against institutions found to have manipulated LIBOR
    - Fraud
    - 1933 Act
    - False Claims Act

Recommendations

- FHFA should require the Enterprises to conduct or commission more detailed analysis to determine possible losses
- FHFA should consider possible methods of recourse (have Enterprises discussed potential action with legal counsel?) against firms found to manipulate LIBOR
- FHFA should coordinate efforts and share information with other Federal agencies so that appropriate action can be taken

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October XX, 2012

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OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October XX, 2012

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From: Phillips, Wesley
To: Parker, Richard; Wu, Simon
Subject: LIBOR action memorandum draft for Steve.docx
Date: Tuesday, October 09, 2012 8:01:01 AM
Attachments: LIBOR action memorandum draft for Steve.docx

See my comments on pp. 4 and 5. [redacted] (b) (5) [redacted] Wes

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October 9, 2012

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OFFICE OF INSPECTOR GENERAL

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To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October 9, 2012

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From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

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OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Steve A. Linick, Inspector General

From: Timothy Lee, Senior Policy Advisor, Office of Policy, Oversight and Review

David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis, Office of Evaluations

Simon Z. Wu, Chief Economist, Office of Policy, Oversight and Review

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October 19, 2012

Cc: Richard Parker, Deputy Inspector General, Office of Policy, Oversight and Review

George P. Grob, Deputy Inspector General, Office of Evaluations

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Date: October 9, 2012

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Date: October 9, 2012

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400 7th Street, S.W., Washington DC 20024

To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October XX, 2012

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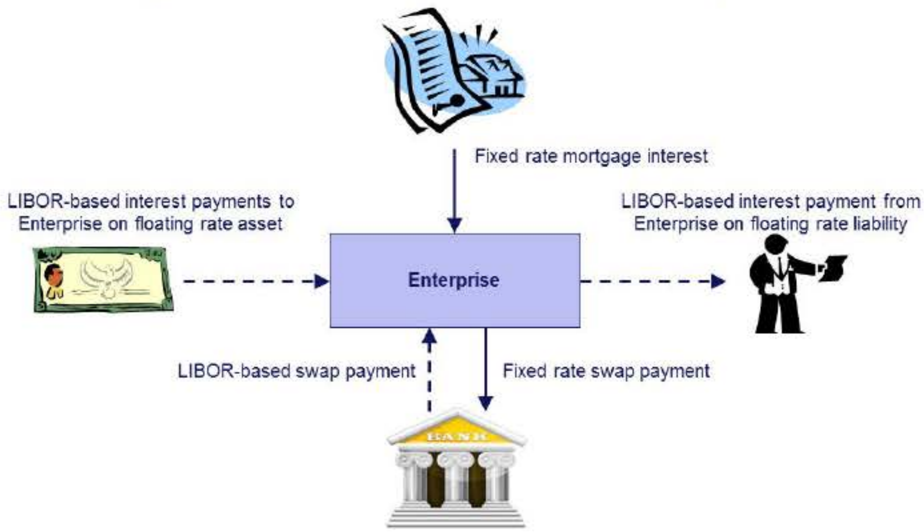
Figure 1. LIBOR-Based Payments to and From the Enterprises



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From: Linick, Steve
To: Bloch, David; Wu, Simon; Lee, Timothy
Cc: Grob, George; Frost, David; Parker, Richard; Stephens, Michael; DiSanto, Emilia
Subject: FW: Message from Shared-Printer-1
Date: Monday, November 05, 2012 5:24:10 PM

Folks
Very nice job on this memo. I forwarded to the Director and asked for written comments by Nov. 16. Please do not disseminate the memo to anyone outside the agency until further notice from me.
tx

From: Linick, Steve
Sent: Friday, November 02, 2012 5:50 PM
To: 'DeMarco, Edward'
Subject: FW: Message from Shared-Printer-1

Hi Ed
As promised, I am forwarding the memo report that my team produced regarding LIBOR. As indicated in my cover memo, we are treating this like any other report insofar as we are requesting written comments from the Agency regarding our recommendations to study the issue. Let me know if you have any questions or concerns. Have a great weekend. Steve

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From: [redacted] (b) (6)
Sent: Friday, November 02, 2012 3:19 PM
To: Linick, Steve
Subject: Message from Shared-Printer-1

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Federal Housing Finance Agency
Office of Inspector General
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ain line

From: Lee, Timothy
To: Parker, Richard
Cc: Phillips, Wesley; Bloch, David; Wu, Simon
Subject: FW: LIBOR action memorandum draft for Steve.docx
Date: Tuesday, October 09, 2012 10:08:53 AM
Attachments: image003.png

Hi Old Salt,

Wes walked me through his comments, which can be summarized as follows:

[redacted] (b) (5)

I plan to go ahead and swap out graphics and stats to stop them through 2Q10. Let me know if we need to discuss.

Tim

From: Phillips, Wesley
Sent: Tuesday, October 09, 2012 9:48 AM
To: Lee, Timothy
Cc: Parker, Richard; Wu, Simon
Subject: LIBOR action memorandum draft for Steve.docx

Tim: Here are my comments as discussed. See pp. 4 and 5. Wes

From: DiSanto, Emilia
To: Parker, Richard; Lee, Timothy; Wu, Simon; Rhinesmith, Alan; Phillips, Wesley
Subject: FW: FYI, Updated WSJ - with more detail: Report Says Libor-Tied Losses at Fannie, Freddie May Top $3 Billion
Date: Wednesday, December 19, 2012 3:57:27 PM

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fyi

From: Seide, David
Sent: Wednesday, December 19, 2012 3:53 PM
To: Linick, Steve; Linick, Steve; DiSanto, Emilia
Cc: [redacted] (b) (6); Seide, David
Subject: FYI, Updated WSJ - with more detail: Report Says Libor-Tied Losses at Fannie, Freddie May Top $3 Billion

WSJ

Updated December 19, 2012, 3:29 p.m. ET
Report Says L bor-Tied Losses at Fannie, Freddie May Top $3 Billion

JEANNETTE NEUMANN And NICK TIMIRAOS

Fannie Mae and Freddie Mac may have lost more than $3 billion as a result of banks' alleged manipulation of a key interest rate, according to an internal report by a federal watchdog sent to the mortgage companies' regulator and reviewed by The Wall Street Journal.

The unpublished report urges Fannie and Freddie to consider suing the banks involved in setting the London interbank offered rate, which would add to the mounting legal headaches financial firms such as UBS AG and Barclays PLC face from cities, insurers, investors and lenders over claims tied to the benchmark rate.

The report was written by the inspector general for Freddie and Fannie's regulator, the Federal Housing Finance Agency. In response to the report, the FHFA said the companies had begun exploring potential legal options, according to a letter sent from the FHFA to the inspector general last month.

Analysts from the inspector general's office said in the internal report, dated Oct. 26, that Fannie and Freddie likely lost more than $3 billion on their holdings of more than $1 trillion in mortgage-linked securities, interest-rate swaps, floating-rate bonds and other assets tied to L bor from September 2008 through the second quarter of 2010, which the report says was the height of banks' alleged false reporting of the interest rate.

That figure is among the largest potential losses reported amid the unfolding Libor scandal and comes as federal officials remain mum on how the alleged manipulation cost the government.

An FHFA spokeswoman said the regulator "has not substantiated any particular Libor related losses for Fannie Mae and Freddie Mac. We continue to evaluate issues associated with Libor."

Fannie Mae and Freddie Mac were seized by the U.S. government and placed into conservatorship in September 2008 as rising mortgage losses threatened to wipe out thin capital reserves. The firms have cost taxpayers $137 billion. The vast majority of their losses have come from guaranteeing mortgages that defaulted as the housing bust deepened.

Any potential Libor losses by Fannie or Freddie would also be a cost to taxpayers.

The 14-page draft report, written on the FHFA's Office of Inspector General letterhead, is addressed to Inspector General Steve A. Linick from Timothy Lee, a senior policy adviser; David P. Bloch, director of the Division of Mortgages, and chief economist Simon Z. Wu.

The analysts said their loss estimate was based on an analysis of Fannie and Freddie's public financial statements. The memo called on the FHFA to require the mortgage companies to conduct or commission their own analysis.

Work on the report began this summer, and the inspector general's office shared its preliminary findings with officials at Fannie, Freddie, and the FHFA in September, according to documents reviewed by the Journal. Mr. Linick forwarded the draft report to Edward DeMarco, the FHFA's acting director, on Nov. 2, documents show.

Meanwhile, Fannie and Freddie were asked by the FHFA in October to provide initial estimates of the financial impact of alleged Libor manipulation and to provide a cost-benefit analysis about any potential responses, documents show.

Both companies have hired the law firm of Dickstein Shapiro to help with such an analysis, according to a letter sent from the FHFA to the inspector general on Nov. 15. Freddie Mac identified potential class-action lawsuits that could be joined, the letter said, and the FHFA's general counsel has consulted with the Department of Justice.

A spokeswoman for the inspector general's office said: "We conducted a preliminary analysis of potential Libor-related losses at Fannie and Freddie and shared that with FHFA, recommending that they conduct a thorough review."

Republican Sens. Chuck Grassley of Iowa and Mark Kirk of Illinois sent an email on Friday to the FHFA's inspector general, requesting that the watchdog report to lawmakers whether it has explored Fannie and Freddie's potential Libor losses, a spokeswoman for Mr. Grassley said. The inspector general responded Tuesday afternoon about its "preliminary review of issues concerning manipulation" of L bor, documents show.

The senators' inquiry builds on their earlier questioning of federal agencies' handling of alleged manipulation of the benchmark rate. Messrs. Grassley and Kirk held up the nomination of a Treasury Department official for several weeks in November and early December amid frustration the department hadn't responded in full to the lawmakers' questions about Libor, including whether Treasury officials considered the risks to U.S. local governments when it raised concerns about the interest rate with British central bankers several years ago.

The FHFA hasn't been shy in filing suits against banks since the financial crisis. In 2011, it sued 18 of the world's largest lenders over $200 billion in mortgage investments bought by Fannie and Freddie between 2005 and 2008 that the regulator said had contained misleading disclosures. Those lawsuits are still wending their way through courts.

To estimate how much Fannie and Freddie could have lost, inspector general analysts wrote in the report that they took the difference between Libor and the Eurodollar deposit rate compiled by the Federal Reserve and applied that to the companies' investments tied to L bor. Before the financial crisis, L bor and the Eurodollar deposit rate were essentially the same, the report said.

Fannie and Freddie would have lost money if Libor were manipulated lower due to mortgage assets they own that are pegged to the rate. So as Libor fell, their portfolios of securities tied to variable-rate mortgages paid less interest.

They also would have been shortchanged on certain interest-rate derivatives used to hedge risks in their mortgage portfolios. As the benchmark fell, the costs associated with these swaps went up.

On the other hand, they would have saved money on other derivatives if Libor had been manipulated lower, and they would have had lower debt-funding costs.
Still, analysts say the companies stood to lose more money than they would save if L bor had been manipulated lower. That's because their mortgage bonds, swaps and other assets tied to Libor exceeded what they owed in L bor-linked debt.
The inspector general analysts said their rough estimates of those losses accounted for the lower borrowing costs on Fannie and Freddie's liabilities tied to Libor.

David Z. Seide
Director of Special Projects
Federal Housing Finance Agency-Office of Inspector General

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Federal Housing Finance Agency

MEMORANDUM

TO: George P. Grob, Deputy Inspector General, Office of Evaluations and Richard Parker, Director, Office of Policy, Oversight and Review

FROM: Jon D. Greenlee, Deputy Director for Enterprise Regulation

SUBJECT: FHFA-OIG Memorandum Regarding LIBOR Manipulation

DATE: November 15, 2012

This is a response to the memorandum from Inspector General Linick to Acting Director DeMarco dated November 2, 2012, which describes FHFA-OIG concerns about potential financial losses to the Enterprises resulting from alleged manipulation of the London Interbank Offered Rate. The memorandum included three recommendations and requested the FHFA's response to those recommendations by November 16, 2012. Below are the FHFA-OIG recommendations and FHFA's responses. Please do not hesitate to call if you have any questions.

(1) Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation.

In recent months, DER staff had several conversations with Enterprise staff about the press coverage of allegations of LIBOR manipulation and whether there might be any impact on the Enterprises. In early October 2012, DER staff held conference calls with compliance staff at Fannie Mae and Freddie Mac to discuss the issue in more detail, to learn of steps currently underway at each Enterprise, and to alert the Enterprises to a forthcoming supervisory request for Enterprise action.

DER, with input from FHFA's General Counsel, prepared a letter to each Enterprise, requesting that the Enterprise take appropriate steps to determine whether it should take any legal action relating to LIBOR manipulation. The letter was sent to each Enterprise on October 12, 2012 (see copies attached). Each letter stated, in part, that

> ...it would be prudent for [the Enterprise] to undertake an appropriate process that would result in a basic cost-benefit analysis of whether there may be any action that [the Enterprise] could reasonably pursue. Initial analysis could include a description of what review or monitoring of this issue has been done by [the Enterprise] to date, rough estimates of financial impact, general assessment of

potential legal claims, or other factors that serve as the basis for a conclusion as to advisability of action by [the Enterprise] at this time.

Each Enterprise was requested to submit an initial analysis describing its approach by October 29, 2012.

A written response was received from each Enterprise on November 1, 2012 (see copies attached). The responses indicate that each Enterprise has efforts in process and has dedicated resources to review this issue. Each Enterprise has engaged the law firm of Dickstein Shapiro and additional resources with economic expertise to assist in conducting the assessment requested. Such an assessment is essential to avoid actions that either are misdirected or would not be productive.

(2) Promptly consider options for appropriate legal action, if warranted.

The October 12 letters to the Enterprises noted the questions "whether [the Enterprise] sustained any losses attributable to alleged manipulation of LIBOR and, if so, how such losses could be quantified and whether there would be a viable basis for [the Enterprise] and possibly FHFA in pursuing legal action to recoup such losses." The Enterprises' November 1 submissions indicate that once there is an analysis of damages, options for legal actions will be considered. The Freddie Mac response identifies existing class actions that could be joined. The Enterprise is alert to potential timing considerations, but notes that none of the possible classes has yet been certified.

FHFA has not yet made any determination regarding legal action by the Agency. The General Counsel is involved in the ongoing dialogue on this issue and would take into account the Agency's supervisory responsibilities and its role as conservator in making any recommendation to the Acting Director about Agency legal action.

(3) Coordinate efforts and share information with other federal and state regulatory agencies.

As the Enterprises' efforts proceed and FHFA learns more about the analysis of potential losses and the costs and benefits of legal options, DER will reach out to its counterparts at other supervisory agencies to share information as appropriate. The General Counsel has already, and will continue, to consult with the Department of Justice, as appropriate.

Attachments

(b) (5)

[redacted]

:ounterparties

Counterparty	Notional Amount, $ billions	LIBOR Contributor	Publicly Reported Actions to Date
Bank of America	158.9	TRUE	Subpoena from NYS Attorney General; named defendant in civil action(s)
Deutsche Bank	158.5	TRUE	Subpoena from NYS Attorney General; named defendant in civil action(s)
Barclays	144.6	TRUE	Settlement with US and UK authorities; replacement of CEO; subpoena from NYS Attorney General; named defendant in civil action(s)
Goldman Sachs	123.3	FALSE	
Credit Suisse	114.3	TRUE	named defendant in civil action(s)
UBS	108.3	TRUE	Subpoena from NYS Attorney General; named defendant in civil action(s)
BNP Paribas	100.6	FALSE	
JPMorganChase	97.5	TRUE	Subpoena from NYS Attorney General; named defendant in civil action(s)
Morgan Stanley	76.4	FALSE	
Citibank	61.4	TRUE	Subpoena from NYS Attorney General; named defendant in civil action(s)
TOTAL	**$ 1,143.80**		

Sources:
NYS Attorney General subpoenas
Baltimore civil action
Berkshire Bank civil action
Barclays fine and CEO firing

Cash Flow Shortfall from LIBOR Suppression

Enterprises Variable Rate Mortgage Assets and Interest Rate Swaps

dollars in millions

	30-Jun-07	30-Sep-07	31-Dec-07	31-Mar-08	30-Jun-08	30-Sep-08	31-Dec-08	31-Mar-09	30-Jun-09	30-Sep-09
Swap Notional Amounts										
Fannie Mae										
Pay Fixed Swaps	303 243	329 657	377 738	443 845	526 028	515 853	546 916	620 850	650 447	435 693
Less: Receive Fixed Swaps	248 916	256 902	285 885	408 658	409 181	372 555	451 081	549 823	571 802	340 384
Plus: Basis Swaps	7 601	8 401	7 001	18 026	25 626	24 761	24 560	19 815	22 200	11 000
Net Receive LIBOR Swaps	61 928	81 156	98 854	53 213	142 473	168 059	120 395	90 842	100 845	106 309
Freddie Mac										
Less: Receive Fixed Swaps	214 657	282 070	301 649	326 247	245 054	329 828	266 685	336 207	284 244	320 458
Plus: Pay Fixed Swaps	284 927	380 370	409 682	425 450	411 074	452 633	404 359	342 747	401 904	414 776
Plus: Basis Swaps	473	1 093	498	17 988	32 205	82 205		82 090	51 065	51 615
Net Receive LIBOR Swaps	70 743	99 393	108 531	117 191	198 225	205 010	137 674	88 630	168 725	145 933
Enterprises										
Net Receive LIBOR Swaps	132 671	180 549	207 385	170 404	340 698	373 069	258 069	179 472	269 570	252 242
Mortgage Related Securities on Balance Sheet										
Fannie Mae										
Capital Markets group's mortgage-related securities	333 959	329 158	324 326	314 867	333 124	359 495	362 703	353 172	369 546	368 389
Estimated Freddie Mac Variable Rate Securities Ratio	43%	42%	42%	43%	39%	41%	37%	33%	34%	34%
Estimated Fannie Mae Variable Rate Securities	143 728	139 816	136 268	134 230	130 345	146 025	132 796	116 457	124 378	125 616
Freddie Mac										
Fixed Rate Securities	405 650	410 235	417 959	408 735	481 983	437 560	510 116	581 180	550 539	516 778
Variable Rate Securities	306 486	302 929	302 854	303 727	309 815	299 316	294 646	285 924	279 298	267 393
Variable Rate Securities Ratio	43%	42%	42%	43%	39%	41%	37%	33%	34%	34%
Enterprises										
Estimated Variable Rate Securities Holdings	450 214	442 745	439 122	437 957	440 160	445 341	427 442	402 381	403 676	393 009
	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Fed CP-LIBOR spread 1 month							-0.91%	-0.42%	-0.40%	-0.20%
Estimated Damages										
High Estimate										
LIBOR Cash Flow Shortfa l - Quarterly Totals							(1 567.2)	(614.0)	(664.9)	(329.5)
LIBOR Cash Flow Shortfa l - Cumulative							(1 567.2)	(2 181.2)	(2 846.1)	(3 175.6)
Low Estimate										
LIBOR Cash Flow Shortfa l - Quarterly Totals							(590.0)	(189.4)	(266.2)	(128.8)
LIBOR Cash Flow Shortfa l - Cumulative							(590.0)	(779.4)	(1 045.6)	(1 174.4)

	31-Dec-09	31-Mar-10	30-Jun-10	30-Sep-10	31-Dec-10	31-Mar-11	30-Jun-11	30-Sep-11	31-Dec-11	31-Mar-12	30-Jun-12
Swap Notional Amounts											
Fannie Mae											
Pay Fixed Swaps	382 600	315 857	317 259	296 877	277 227	270 250	205 084	193 882	186 757	206 307	229 227
Less: Receive Fixed Swaps	275 417	229 293	234 901	233 613	224 177	214 777	161 151	179 808	229 695	250 322	265 593
Plus: Basis Swaps	3 225	3 220	3 020	2 485	485	1 565	2 552	6 997	9 622	18 673	20 922
Net Receive LIBOR Swaps	110 408	89 784	85 378	65 749	53 535	57 038	46 485	21 071	(33 316)	(25 342)	(15 444)
Freddie Mac											
Less: Receive Fixed Swaps	271 403	255 940	349 545	316 574	324 590	249 793	215 758	220 668	211 808	248 453	260 428
Plus: Pay Fixed Swaps	382 259	382 145	386 194	363 668	394 294	330 015	321 870	293 683	289 335	296 573	292 660
Plus: Basis Swaps	52 045	54 070	53 910	2 775	2 375	3 375	3 275	2 275	2 750	2 400	2 350
Net Receive LIBOR Swaps	162 901	180 275	90 559	49 869	72 079	83 597	109 387	75 290	80 277	50 520	34 582
Enterprises											
Net Receive LIBOR Swaps	273 309	270 059	175 937	115 618	125 614	140 635	155 872	96 361	46 961	25 178	19 138
Mortgage Related Securities on Balance Sheet											
Fannie Mae											
Capital Markets group's mortgage-related securities	491 566	434 532	391 615	373 018	361 697	335 762	326 384	318 353	310 143	296 886	285 982
Estimated Freddie Mac Variable Rate Securities Ratio	40%	52%	52%	53%	53%	52%	52%	52%	53%	54%	55%
Estimated Fannie Mae Variable Rate Securities	194 803	224 780	204 120	196 789	190 011	174 970	169 673	166 610	165 685	160 482	158 349
Freddie Mac											
Fixed Rate Securities	372 160	159 278	148 851	139 603	137 033	136 725	133 048	128 918	121 676	114 306	106 577
Variable Rate Securities	244 296	170 690	162 049	155 890	151 660	148 780	144 053	141 548	139 556	134 484	132 225
Variable Rate Securities Ratio	40%	52%	52%	53%	53%	52%	52%	52%	53%	54%	55%
Enterprises											
Estimated Variable Rate Securities Holdings	439 099	395 470	366 169	352 679	341 671	323 750	313 726	308 158	305 241	294 966	290 574
	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Fed CP-LIBOR spread 1 month	-0.09%	-0.05%	-0.06%	-0.10%	-0.07%	-0.05%	-0.05%	-0.06%	-0.09%	-0.08%	-0.07%
Estimated Damages											
High Estimate											
LIBOR Cash Flow Shortfa l - Quarterly Totals	(154.9)	(88.6)	(83.7)	(112.9)	(86.3)	(63.3)	(63.0)	(56.3)	(79.7)	(66.3)	(53.0)
LIBOR Cash Flow Shortfa l - Cumulative	(3 330.5)	(3 419.1)	(3 502.9)	(3 615.8)	(3 702.1)	(3 765.4)	(3 828.4)	(3 884.7)	(3 964.4)	(4 030.6)	(4 083.6)
Low Estimate											
LIBOR Cash Flow Shortfa l - Quarterly Totals	(59.4)	(35.9)	(27.2)	(27.9)	(23.2)	(19.2)	(20.9)	(13.4)	(10.6)	(5.2)	(3.3)
LIBOR Cash Flow Shortfa l - Cumulative	(1 233.9)	(1 269.8)	(1 297.0)	(1 324.9)	(1 348.1)	(1 367.2)	(1 388.2)	(1 401.6)	(1 412.2)	(1 417.4)	(1 420.7)

Bloch, David

From: Lee, Timothy
Sent: Wednesday, October 03, 2012 11:19 AM
To: Bloch, David; Phillips, Wesley; Parker, Richard; Wu, Simon
Subject: RE: OPOR LIBOR Memo Outline.docx

(b) (5) [redacted].

From: Bloch, David
Sent: Wednesday, October 03, 2012 11:11 AM
To: Phillips, Wesley; Lee, Timothy; Parker, Richard; Wu, Simon
Subject: RE: OPOR LIBOR Memo Outline.docx

(b) (5) [redacted]. I have seen some articles that claim that was the driver versus a monetary gain motivation.

From: Phillips, Wesley
Sent: Wednesday, October 03, 2012 10:42 AM
To: Lee, Timothy; Parker, Richard; Wu, Simon; Bloch, David
Subject: RE: OPOR LIBOR Memo Outline.docx

(b) (5) [redacted]

From: Lee, Timothy
Sent: Wednesday, October 03, 2012 10:39 AM
To: Parker, Richard; Wu, Simon; Bloch, David
Cc: Phillips, Wesley
Subject: RE: OPOR LIBOR Memo Outline.docx

Hi all,

Easy questions. (b) (5) [redacted]

[redacted]

I brought a couple bottles of Paso Robles Zinfandel to work and am getting a high-quality buzz on so that I can write. My hope is that I can have a draft for the team to review by end of day.

Tim

From: Parker, Richard
Sent: Wednesday, October 03, 2012 10:33 AM
To: Lee, Timothy; Wu, Simon; Bloch, David

Bloch, David

From:	Lee, Timothy
Sent:	Wednesday, October 03, 2012 4:29 PM
To:	Bloch, David; Wu, Simon
Cc:	Parker, Richard
Subject:	LIBOR memo draft

https://sharepoint.fhfaoig.gov/policy_oversight/LIBOR/08.%20Draft%20Reports/LIBOR%20action%20memorandum%20v2.docx

Hi guys,

The wine bottles are drained. Here is my first draft. I know I need one paragraph from a legal eagle in the crowd (I think that's you, David). Other comments welcome too, of course. Let me know what you think – after you take a first glance, perhaps we can schedule a meeting to keep the process moving.

Tim

Linick, Steve

From: Parker, Richard
Sent: Wednesday, December 19, 2012 10:20 AM
To: Linick, Steve
Cc: DiSanto, Emilia; Stephens, Michael
Subject: Geithner was told of Libor fears in 2008

http://fhfa.ewb.dowjones.com/FHFA/Article/default.aspx?an=FTFTA00020121219e8cj0001n

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted] (b) (6)
Cell: [redacted]

Linick, Steve

From:	Parker, Richard
Sent:	Wednesday, December 19, 2012 10:18 AM
To:	Linick, Steve
Cc:	DiSanto, Emilia; Stephens, Michael
Subject:	UBS Settles LIBOR Charges with Regulators

http://fhfa.ewb.dowjones.com/FHFA/Article/default.aspx?an=NS00000020121219e8cj0002x

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell:

Linick, Steve

From: DiSanto, Emilia
Sent: Tuesday, December 18, 2012 3:22 PM
To: Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation
Attachments: Final Memo FHFA-OIG Memo re LIBOR Manipulation dtd Nov 15 2012.pdf; Memo 11022012.pdf; FHLMC LIBOR.pdf; Jardini Letter dtd Oct 12 2012.pdf; Joe Evers' Libor Letter dtd Oct 12, 2012.pdf; LIBOR Deck Nov 2012.ppt

---

From: Linick, Steve
Sent: Thursday, November 15, 2012 12:42 PM
To: Stephens, Michael; DiSanto, Emilia
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

fyi

From: Grob, George
Sent: Thursday, November 15, 2012 12:23 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [mailto:Diane.Williams@fhfa.gov]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

have received this e-mail in error: permanently delete the e-mail and any attachments, and do not save, copy, disclose, or rely on any part of the information contained in this e-mail or its attachments. Please call 202-649-3800 if you have questions.

Linick, Steve

From: Parker, Richard
Sent: Wednesday, December 12, 2012 2:01 PM
To: Linick, Steve; Seide, David
Cc: DiSanto, Emilia
Subject: LIBOR Edits
Attachments: LIBOR Final and Dec 12 comparison (rprev).docx

Steve and David,

Essentially, [redacted] (b) (5)

[redacted]

[redacted]

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted] (b) (6)
Cell: [redacted]

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: November 1, 2012

[redacted]

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Steve A. Linick, Inspector General

From: Timothy Lee, Senior Policy Advisor, Office of Policy, Oversight and Review
David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis, Office of Evaluations
Simon Z. Wu, Chief Economist, Office of Policy, Oversight and Review

Through: Richard Parker, Director, Office of Policy, Oversight and Review, and
George P. Grob, Deputy Inspector General, Office of Evaluations

Subject: Potential losses to Fannie Mae and Freddie Mac due to LIBOR manipulation

Date: October 26, 2012

(b) (5)

[redacted]

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

[redacted]

(b) (5)

[redacted]

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

Linick, Steve

From:	Lee, Timothy
Sent:	Wednesday, December 12, 2012 1:52 PM
To:	Linick, Steve
Cc:	Seide, David
Subject:	FW: Revised LIBOR Memo
Attachments:	LIBOR Final and Dec 12 comparison (rprev)_Edits by Rich and Simon.docx

From: Wu, Simon
Sent: Wednesday, December 12, 2012 11:14 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David
Subject: RE: Revised LIBOR Memo

See edits by Rich and Simon...very minor. All looks good.

From: Lee, Timothy
Sent: Wednesday, December 12, 2012 9:04 AM
To: Parker, Richard
Cc: Wu, Simon; Bloch, David
Subject: Revised LIBOR Memo

Hi Old Salt,

Attached please find the revisions you requested, both clean and blacklined against the previous one. The changes should be self-explanatory; [redacted] (b) (5) (b) (4). Additionally, I stayed with the format of footnoting the body but putting hyperlinked references directly in the appendix.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: November 1, 2012

(b) (5)

[redacted]

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Steve A. Linick, Inspector General

From: Timothy Lee, Senior Policy Advisor, Office of Policy, Oversight and Review

David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis, Office of Evaluations

Simon Z. Wu, Chief Economist, Office of Policy, Oversight and Review

Through: Richard Parker, Director, Office of Policy, Oversight and Review, and

George P. Grob, Deputy Inspector General, Office of Evaluations

Subject: Potential losses to Fannie Mae and Freddie Mac due to LIBOR manipulation

Date: October 26, 2012

(b) (5)

[redacted]

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

[redacted]

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

Linick, Steve

From: Parker, Richard
Sent: Monday, December 10, 2012 2:10 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: FW: LIBOR

Steve,

[redacted] has called me twice, and I've ducked the calls. See the message, below.

Rich

From: [redacted]
Sent: Monday, December 10, 2012 2:05 PM
To: Parker, Richard
Subject: RE: LIBOR

I just wanted to follow up on my question from Thursday.

Could you tell me who outside of FHFA-OIG has received the document and who else you would like to provide it? I don't need names so much as offices.

Thanks,

[redacted]

From: [redacted]
Sent: Thursday, December 06, 2012 5:59 PM
To: Parker, Richard
Subject: RE: LIBOR

But you are talking about folks at FHFA-non-OIG? Folks in the media? What general categories of folks.

From: Parker, Richard [redacted]
Sent: Thursday, December 06, 2012 5:39 PM
To: [redacted]
Subject: RE: LIBOR

[redacted],

Thanks. Message received. WILCO. The EXACT document is enclosed. I'm sure that Steve has addressees in mind, but I can't give you an exhaustive list off the top of my head. Once again, ,many thanks,

Rich

From: [redacted]
Sent: Thursday, December 06, 2012 5:36 PM
To: Parker, Richard

Cc: [redacted]
Subject: RE: LIBOR

[redacted] got off the phone and came by and he asked if you had the EXACT document that you were going to provide (including the addressees). [redacted].

From: Parker, Richard [redacted]
Sent: Thursday, December 06, 2012 4:51 PM
To: [redacted]
Cc: [redacted] Lee, Timothy; Bloch, David
Subject: RE: LIBOR

[redacted]

[redacted] Thanks for taking the time to speak with me about this.

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell:

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:23 PM
To: [redacted]
Cc: '[redacted] Lee, Timothy; Bloch, David
Subject: LIBOR

[redacted]

Enclosed, please find the memorandum that you have been speaking about with Tim for the last few months.

[redacted]. To this end, I would appreciate it greatly if you would you please give me, Tim, or David Bloch a call or drop us a message to this effect. My contact information is below. Tim can be reached at Timothy.lee@fhfaoig.gov; (202) 579-8991; and David can be reached at [redacted].

As you can well imagine, we would like to circulate this analysis immediately, so I'd really appreciate it if you would get back to one of us at your earliest possible convenience.

Many thanks for your collegiality and good help, [redacted]. We really appreciate it.

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell:

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Linick, Steve

From: Parker, Richard
Sent: Friday, December 07, 2012 8:27 AM
To: Linick, Steve
Subject: Background LIBOR

Steve,

After thinking about it a great deal, [redacted] (b) (6) comments last evening leave me with the impression [redacted] (b) (5)

Consider: [redacted] (b) (5)

Just wanted you to know this as you engage on the issue.

Rich

Sent from my Windows Phone

Linick, Steve

From: Parker, Richard
Sent: Thursday, December 06, 2012 7:17 PM
To: Linick, Steve
Subject: RE: LIBOR

Got it. Will do. -R

Sent from my Windows Phone

From: Linick, Steve
Sent: 12/6/2012 6:34 PM
To: Parker, Richard
Subject: RE: LIBOR

Let me handle from here
tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 12/6/2012 6:27 PM
To: Linick, Steve
Subject: FW: LIBOR

I have not answered the below because I don't want to jeapordize your approach to [redacted] Let me know if you'd like me to do otherwise. -R

Sent from my Windows Phone

From: [redacted])
Sent: 12/6/2012 5:59 PM
To: Parker, Richard
Subject: RE: LIBOR

But you are talking about folks at FHFA-non-OIG? Folks in the media? What general categories of folks.

From: Parker, Richar[redacted]
Sent: Thursday, December 06, 2012 5:39 PM
To: [redacted]
Subject: RE: LIBOR

[redacted],

Thanks. Message received. WILCO. The EXACT document is enclosed. I'm sure that Steve has addressees in mind, but I can't give you an exhaustive list off the top of my head. Once again, ,many thanks,

Rich

From: [redacted]
Sent: Thursday, December 06, 2012 5:36 PM

To: Parker, Richard
Cc: [redacted])
Subject: RE: LIBOR

[redacted] got off the phone and came by and he asked if you had the EXACT document that you were going to provide (including the addressees). [redacted].

From: Parker, Richard [redacted]]
Sent: Thursday, December 06, 2012 4:51 PM
To: [redacted]
Cc: [redacted]); Lee, Timothy; Bloch, David
Subject: RE: LIBOR

[redacted]

[redacted]. Thanks for taking the time to speak with me about this.

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell:

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:23 PM
To: [redacted]
Cc: [redacted]'; Lee, Timothy; Bloch, David
Subject: LIBOR

[redacted]

Enclosed, please find the memorandum that you have been speaking about with Tim for the last few months.

[redacted] To this end, I would appreciate it greatly if you would you please give me, Tim, or David Bloch a call or drop us a message to this effect. My contact information is below. Tim can be reached at Timothy.lee@fhfaoig.gov; (202) 579-8991; and David can be reached at [redacted].

As you can well imagine, we would like to circulate this analysis immediately, so I'd really appreciate it if you would get back to one of us at your earliest possible convenience.

Many thanks for your collegiality and good help, Dan. We really appreciate it.

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell:

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Linick, Steve

From:	Parker, Richard
Sent:	Thursday, December 06, 2012 4:51 PM
To:	Linick, Steve
Subject:	FW: LIBOR

FYI - R

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:51 PM
To: [redacted] (b) (6)'
Cc: [redacted] (b) (6)'; Lee, Timothy; Bloch, David
Subject: RE: LIBOR

[redacted] (b) (6)

[redacted] (b) (5). Thanks for taking the time to speak with me about this.

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted] (b) (6)
Cell:

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:23 PM
To: [redacted] (b) (6)
Cc: [redacted] (b) (6)'; Lee, Timothy; Bloch, David
Subject: LIBOR

[redacted] (b) (6)

Enclosed, please find the memorandum that you have been speaking about with Tim for the last few months.

[redacted] (b) (5). To this end, I would appreciate it greatly if you would you please give me, Tim, or David Bloch a call or drop us a message to this effect. My contact information is below. Tim can be reached at Timothy.lee@fhfaoig.gov; (202) 579-8991; and David can be reached at [redacted] (b) (6).

As you can well imagine, we would like to circulate this analysis immediately, so I'd really appreciate it if you would get back to one of us at your earliest possible convenience.

Many thanks for your collegiality and good help, [redacted]. We really appreciate it.

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell:

Linick, Steve

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:24 PM
To: Linick, Steve
Subject: FW: LIBOR
Attachments: Memo 11022012.pdf

FYI - R

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:23 PM
To: [redacted]
Cc: [redacted]'; Lee, Timothy; Bloch, David
Subject: LIBOR

[redacted]

Enclosed, please find the memorandum that you have been speaking about with Tim for the last few months.

[redacted]. To this end, I would appreciate it greatly if you would you please give me, Tim, or David Bloch a call or drop us a message to this effect. My contact information is below. Tim can be reached at Timothy.lee@fhfaoig.gov; (202) 579-8991; and David can be reached at [redacted].

As you can well imagine, we would like to circulate this analysis immediately, so I'd really appreciate it if you would get back to one of us at your earliest possible convenience.

Many thanks for your collegiality and good help, [redacted]. We really appreciate it.

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell:

Linick, Steve

From: Parker, Richard
Sent: Tuesday, November 20, 2012 9:38 AM
To: Linick, Steve; DiSanto, Emilia; Stephens, Michael
Subject: FW: LIBOR

Steve, Em, and Mike,

FYI

Rich

Sent from my Windows Phone

From: Parker, Richard
Sent: 11/20/2012 9:36 AM
To: Greenlee, Jon
Cc: Grob, George; Nichols, Nina
Subject: RE: LIBOR

Jon,

I understand. Pls schedule George and I for some time early next week with a view toward finding a way forward on the issue of publication.

I wish you and yours a happy and healthy Thanksgiving.

Rich

Sent from my Windows Phone

From: Greenlee, Jon
Sent: 11/20/2012 9:26 AM
To: Parker, Richard
Cc: Grob, George; Nichols, Nina
Subject: RE: LIBOR

Rich and George,

Thanks for following up.

We talked about this quite a bit and are very uncomfortable with the idea of making public the OIG memo and a revised response. I'm only in for a few hours today so we should plan on discussing this next week when I return.

Hope you have a great Thanksgiving.

Jon

Jon Greenlee
Deputy Director, Enterprise Regulation
Federal Housing Finance Agency

Constitution Center
400 7th Street, SW
Washington, DC 20024
[redacted] office
[redacted] cell

From: Parker, Richard
Sent: Monday, November 19, 2012 2:07 PM
To: Greenlee, Jon
Cc: Grob, George
Subject: LIBOR

Jon,

Hope you had a great weekend. Do you know when we should expect to receive your revised reply to the memo? Thanks, Jon.

Rich

Sent from my Windows Phone

Linick, Steve

From: Parker, Richard
Sent: Thursday, November 15, 2012 2:16 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: LIBOR Distribution Memo.docx
Attachments: LIBOR Distribution Memo.docx

Steve,

Please see the enclosed memo from Tim in which [redacted] (b) (5) I've advised him to hold fire until you say otherwise. Tx,

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted] (b) (6)
Cell:

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Richard Parker

From: Timothy Lee

Subject: FHFA-OIG interagency assistance on LIBOR

Date: November 15, 2012

[redacted] (b) (5)

(b) (5)

[redacted]

Linick, Steve

From:	Parker, Richard
Sent:	Thursday, November 15, 2012 2:04 PM
To:	Bloch, David; Grob, George
Cc:	Lee, Timothy; Linick, Steve
Subject:	RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

George,

I think David has this right. Freddie's plan is contained in the three page letter on Freddie letterhead. (b) (4), (b) (5) [redacted]

Rich

From: Bloch, David
Sent: Thursday, November 15, 2012 12:48 PM
To: Grob, George
Cc: Lee, Timothy; Linick, Steve; Parker, Richard
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Freddie's response to FHFA is in letter form. Fannie's response to FHFA is in a slide deck. Freddie has already engaged Dickstein Shapiro and Bates White to run the loss figures. [redacted] (b) (4) [redacted] David

---

From: Grob, George
Sent: Thursday, November 15, 2012 12:23 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [mailto:Diane.Williams@fhfa.gov]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

Linick, Steve

From:	Lee, Timothy
Sent:	Thursday, November 15, 2012 12:53 PM
To:	Bloch, David; Grob, George
Cc:	Linick, Steve; Parker, Richard
Subject:	RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

One thing that jumps out at me on first examination of the Fannie deck is [redacted] (b) (4) [redacted] (b) (4) [redacted]?

From: Bloch, David
Sent: Thursday, November 15, 2012 12:48 PM
To: Grob, George
Cc: Lee, Timothy; Linick, Steve; Parker, Richard
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Freddie's response to FHFA is in letter form. Fannie's response to FHFA is in a slide deck. Freddie has already engaged Dickstein Shapiro and Bates White to run the loss figures. [redacted] (b) (4) [redacted] David

---

From: Grob, George
Sent: Thursday, November 15, 2012 12:23 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [mailto:Diane.Williams@fhfa.gov]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

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Linick, Steve

From:	Lee, Timothy
Sent:	Wednesday, November 14, 2012 10:04 AM
To:	Linick, Steve
Cc:	Parker, Richard
Subject:	Cleveland Fed LIBOR paper

Hi Steve,

I took a look at the article you mentioned yesterday. Its primary focus is on alternatives to LIBOR in consumer mortgages, especially in light of the recent allegations. There are, of course, homeowner lawsuits alleging that lenders *inflated* LIBOR settings in an effort to increase interest income on their adjustable rate mortgages.

The issues raised in the Cleveland Fed paper [redacted] (b) (5) According to the Federal Reserve Bank of St Louis, ARMs are most commonly tied to COFI, rather than LIBOR. (One-year Treasury rates are another commonly used index.) Thus, readily available alternatives to LIBOR already exist and are accepted by the markets. [redacted] (b) (5)

It is important to note that, [redacted] (b) (5)

[redacted].

I will keep an eye on this going forward, but at the moment do not see cause for further action.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

Linick, Steve

From: Parker, Richard
Sent: Wednesday, November 14, 2012 6:44 AM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: RE: LIBOR

Jon indicated that he expected that we would receive it on the 16th. He brought it up, and he didn't ask for an extension. I have the next meeting down for Tuesday, November 27, @ 1:00 PM.
Sent from my Windows Phone

From: Linick, Steve
Sent: 11/13/2012 10:19 PM
To: Parker, Richard
Subject: RE: LIBOR

Tx Rich. Sounds like good news. Will they have the response by the 16th. Also pls let me know when the next bi weekly meetings with Jon will occur. Tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 11/13/2012 9:47 PM
To: Linick, Steve
Cc: DiSanto, Emilia; Stephens, Michael
Subject: LIBOR

During today's OIG/DER bi-weekly meeting, Jon Geeenlee [redacted] (b) (4) Jon indicated that this would be the headline in the Agency's reply to the memo on the 16th. He stated [redacted] (b) (5) As you may recall, Tim briefed Jon and other senior Agency officials on September 11th, several weeks earlier. -R

Sent from my Windows Phone

Linick, Steve

From: Parker, Richard
Sent: Tuesday, November 13, 2012 9:47 PM
To: Linick, Steve
Cc: DiSanto, Emilia; Stephens, Michael
Subject: LIBOR

During today's OIG/DER bi-weekly meeting, Jon Geeenlee [redacted] (b) (4) Jon indicated that this would be the headline in the Agency's reply to the memo on the 16th. [redacted] (b) (5). As you may recall, Tim briefed Jon and other senior Agency officials on September 11th, several weeks earlier. -R

Sent from my Windows Phone

Linick, Steve

From: Parker, Richard
Sent: Thursday, November 01, 2012 11:04 AM
To: Linick, Steve
Subject: FW: LIBOR memo
Attachments: LIBOR memo package proposed final.docx

Sent from my Windows Phone

From: Lee, Timothy
Sent: 11/1/2012 10:45 AM
To: Linick, Steve
Cc: Stephens, Michael; Parker, Richard; DiSanto, Emilia
Subject: RE: LIBOR memo

From: Linick, Steve
Sent: Thursday, November 01, 2012 10:35 AM
To: Lee, Timothy
Cc: Stephens, Michael; Parker, Richard; DiSanto, Emilia
Subject: RE: LIBOR memo

Please send word version. tx

From: Lee, Timothy
Sent: Thursday, November 01, 2012 10:25 AM
To: Linick, Steve
Cc: Stephens, Michael; Parker, Richard; DiSanto, Emilia
Subject: FW: LIBOR memo

Hi Steve,

To follow up on the requested black-and-white hard copies, attached is the LIBOR document package in PDF format. Let me know if you need anything else.

Tim

From: Lee, Timothy
Sent: Thursday, November 01, 2012 9:37 AM
To: DiSanto, Emilia
Cc: Parker, Richard; [redacted] (b) (6)
Subject: LIBOR memo

Hi Em,

Attached is the LIBOR memo package. The Word file and a verified Excel spreadsheet are also on SharePoint.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: November 1, 2012

Please find attached a staff memorandum that details my concerns about financial losses that Fannie Mae and Freddie Mac (the Enterprises) may have sustained due to alleged manipulation of the London Interbank Offered Rate (LIBOR) by a number of major financial institutions. As you know, on June 27, the Department of Justice announced an agreement with Barclays Bank Plc (Barclays) in which the bank admitted to manipulating LIBOR for its own advantage over a period of years. Federal, state, and foreign government investigations into possible LIBOR manipulation at other institutions are ongoing, as are a number of high-profile civil suits predicated upon such manipulation.

FHFA-OIG's interest in the consequences of possible LIBOR manipulation upon the Enterprises stems directly from its core mission to prevent and detect fraud and abuse in FHFA's programs and operations. Members of my staff began their work on this topic within days of the Department of Justice's announcement of its agreement with Barclays. On September 6 and 11 they shared their preliminary analysis with members of your senior staff and, at about the same time, with both Enterprises. To date, however, FHFA-OIG remains unaware of any steps taken by the Agency or the Enterprises to investigate the matter further.

The memorandum outlines in detail my staff's LIBOR loss estimates and offers recommendations for Agency action to recover any such losses on behalf of the Enterprises. My staff has tentatively estimated that the Enterprises may have suffered \$3 billion in such losses. Those losses, of course, would have been funded by the Department of the Treasury under the Senior Preferred Stock Purchase Agreements in place with each Enterprise. I therefore believe that this matter warrants the Agency's attention. Please do not hesitate to contact me or any of my staff in this regard.

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Steve A. Linick, Inspector General

From: Timothy Lee, Senior Policy Advisor, Office of Policy, Oversight and Review
David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis, Office of Evaluations
Simon Z. Wu, Chief Economist, Office of Policy, Oversight and Review

Through: Richard Parker, Director, Office of Policy, Oversight and Review, and
George P. Grob, Deputy Inspector General, Office of Evaluations

Subject: Potential losses to Fannie Mae and Freddie Mac due to LIBOR manipulation

Date: October 26, 2012

The London Interbank Offered Rate (LIBOR) is a market-standard interest rate index used extensively by participants in the global financial markets.[1] It is used to calculate payments on over $300 trillion of financial instruments and has been described as "the most important figure in finance."[2] LIBOR is determined by daily polls of 18 leading financial institutions (16 firms through 2010), which are asked to estimate their own short-term borrowing costs. The highest four and lowest four submissions are eliminated, and LIBOR is calculated by averaging the remaining ones.[3]

In a June 2012 settlement with British and U.S. authorities, including the Department of Justice (DOJ), Barclays Bank Plc (Barclays) admitted to submitting falsified borrowing cost data in an effort to manipulate LIBOR to its own advantage.[4] According to subsequent media reports, further LIBOR-related state and federal government investigations remain ongoing.[5] Additionally, several parties have filed civil damage claims seeking compensation for financial losses related to LIBOR manipulation.[6] These civil suits incorporate allegations that banks contributing to the determination of LIBOR strove to depress the published rates.[a]

[a] Market participants deem lower borrowing costs to reflect better creditworthiness. Thus, publicly disclosed borrowing costs became a closely watched indicator of the industry's stability during the financial crisis. As one academic observer noted, "Especially in 2008, the biggest problem was that all the banks wanted to claim they were able to borrow more cheaply than was in fact the case, so as not to heighten concerns about their creditworthiness." University of Pennsylvania, "The LIBOR Mess: How Did It Happen – And What Lies Ahead?" July 18, 2012.

Fannie Mae and Freddie Mac (collectively, the Enterprises) rely upon LIBOR in the determination of interest payments on their sizable investments in floating-rate financial instruments, such as mortgage-backed securities and interest rate swaps. Many of the banks that contribute to the LIBOR calculation also have existing commitments to pay the Enterprises hundreds of millions of dollars in such LIBOR-based interest payments. As detailed under the "Analysis" portion of this document, our preliminary review of the Enterprises' published financial statements and publicly available historical interest rate data indicates that, during conservatorship, the Enterprises may have suffered $3 billion in cumulative losses from any such manipulation. Those losses would ultimately have been borne by the Department of the Treasury (Treasury), through its Senior Preferred Stock Purchase Agreements (PSPAs) with the Enterprises.

Because of the seriousness of these allegations and the possibility that Treasury and the Enterprises may have suffered significant losses due to LIBOR manipulation, we recommend that FHFA take three steps, outlined in further detail below:

- Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation;
- Promptly consider options for appropriate legal action, if warranted; and
- Coordinate efforts and share information with other federal and state regulatory agencies.

Background

Since September 6, 2008, the Enterprises have operated under FHFA conservatorship.[7] Under the terms of the conservatorship, Treasury has ensured the Enterprises' ability to remain viable entities through PSPAs with each. Under the terms of the PSPAs, Treasury provides capital funding directly to the Enterprises in amounts necessary to ensure their continued solvency.[8] To date, the federal government has provided the Enterprises over $187 billion.[9]

As part of their business, the Enterprises have always held substantial quantities of floating-rate assets on which interest is recalculated and paid each month or quarter based on currently prevailing short-term rates. Such investments are popular because, as compared to assets that pay a fixed interest rate throughout their terms, floating-rate assets greatly reduce bondholders' market risk that their investments' value may decline due to adverse interest rate movements. The Enterprises' two primary categories of floating-rate investments include:

- Floating rate bonds. Many securities are structured in this fashion. For example, according to its public financial statements, Freddie Mac alone held approximately $299 billion of floating rate securities upon entering conservatorship.[10]
- Interest rate swaps. Because American homeowners tend to prefer predictable mortgage payments, the Enterprises' mortgage portfolios generally contain more fixed-rate loans

than floating-rate loans. As a result, the value of those portfolios may vary as interest rates fluctuate. However, the Enterprises also invest in interest-rate swaps, contracting with large financial institutions for the obligation to pay them fixed-rate interest streams in exchange for the right to receive corresponding floating-rate ones.[b] These swaps effectively offset the mortgage loans' fluctuations in value, resulting in stable combined portfolio valuations even if interest rates rise or fall. We estimate that the Enterprises received floating-rate interest payments on a net total of $373 billion in face, or "notional" amount of interest rate swaps upon entering conservatorship.

The interest due for such floating rate obligations is recalculated for each payment period by reference to the current value of LIBOR.

Analysis

As a first step in our analysis, we compared the historical data on two floating rate indices:

- 1-month[11] LIBOR rates; and
- The Federal Reserve's published Eurodollar deposit rates (Fed ED) for 1-month[12] obligations. Like LIBOR, this data series is designed to measure short-term bank borrowing costs via polling of financial institutions. However, the Federal Reserve measure polls a broader range of institutions and is rarely referenced in floating rate financial obligations.

Our examination of daily records for 1-month Fed ED and 1-month LIBOR indicates that the two rates remained very close from the earliest point we reviewed, the beginning of 2000, until mid-2007. During that period, the largest divergence between the two indexes appeared shortly after September 11, 2001, when LIBOR *exceeded* Fed ED by as much as 0.41%. Indeed, on average the two measures remained within 0.06% of each other during that period, with LIBOR falling below Fed ED on less than one business day of each nine. The close correspondence of these two measures conformed to the expectations of market observers. As a former Federal Reserve economist said, "Effectively, these two rates should be the same as they are the same instrument."[13]

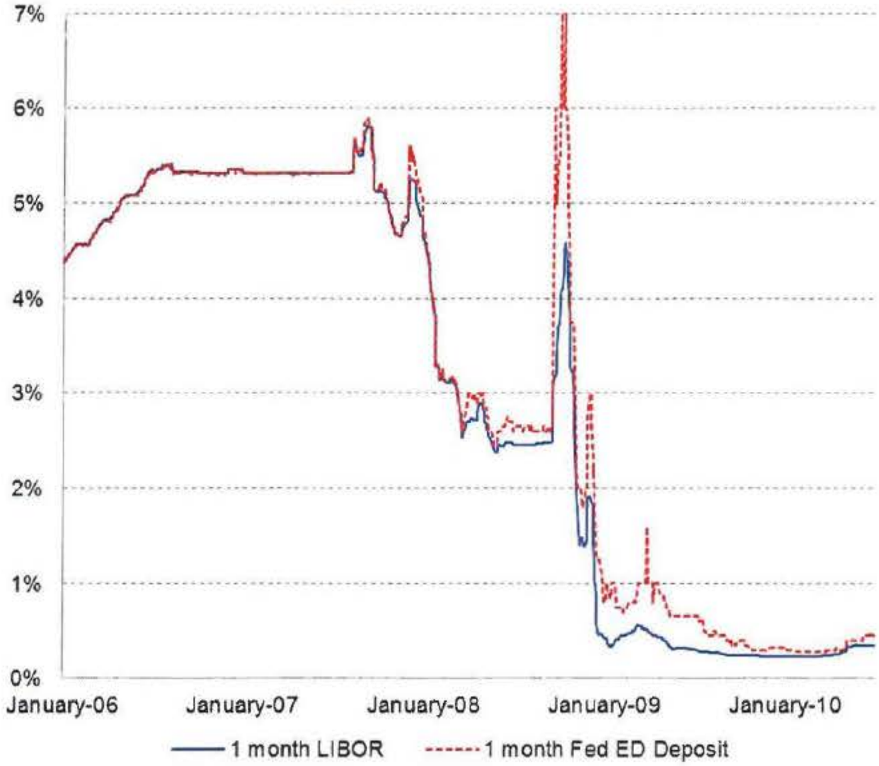
However, beginning in early 2007 emerging declines in home prices had begun to place strains on the financial system. New Century Financial, a leading home loan originator, filed for bankruptcy in April.[14] Adding to the stress were media reports of precipitous decay in two high-profile mortgage-backed securities hedge funds sponsored by Bear Stearns, a leading U.S.

[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

investment bank. These began to emerge in mid-June,[15] followed promptly by the funds' bankruptcy filings at the end of July.[16]

As the financial crisis began to metastasize, LIBOR and Fed ED began to diverge substantially, eventually by as much as three percentage points at the end of September 2008. Moreover, in a marked contrast with previous behavior, LIBOR began to fall below Fed ED consistently. Figure 1 illustrates the recent divergence of these two measures, beginning in mid-2007.

Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10

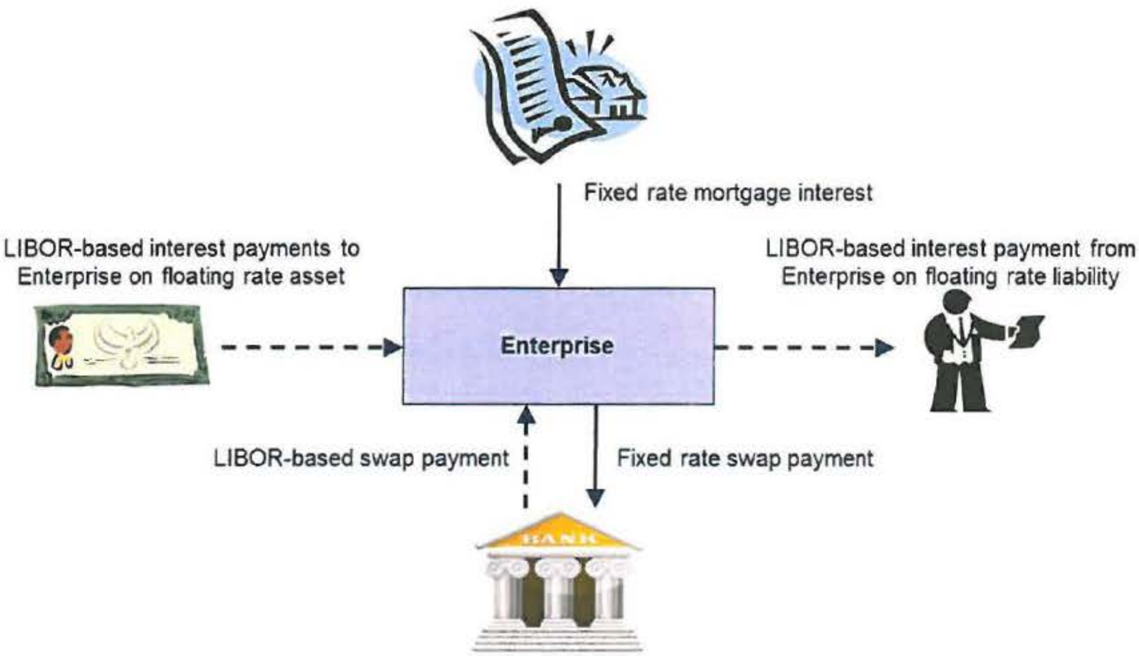


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

> … between approximately August 2007 and January 2009, in response to initial and ongoing press speculation that Barclays's high U.S. Dollar LIBOR submissions at the time might reflect liquidity problems at Barclays, members of Barclays management directed that Barclays's Dollar LIBOR submissions be lowered. This management instruction often resulted in Barclays's submission of false rates that did not reflect its perceived cost of obtaining interbank funds.[18]

Because the Enterprises receive LIBOR-based floating rate payments on their floating rate bonds and interest rate swaps, the principal effect on them of any downward manipulation of LIBOR would be reduced interest payments with respect to their holdings of floating rate securities and interest rate swaps. (This is partially offset by lower borrowing costs on the Enterprises' own floating-rate liabilities, a factor we have considered in our estimation of Enterprise losses.)

Figure 2. LIBOR-Based Payments to and From the Enterprises



To the extent that the Enterprises suffered such "short-changing" of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury's investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have inflicted meaningful losses on Treasury and the taxpayers.

To gauge the effect of possible LIBOR manipulation on the Enterprises, we undertook a three-step analytical process:

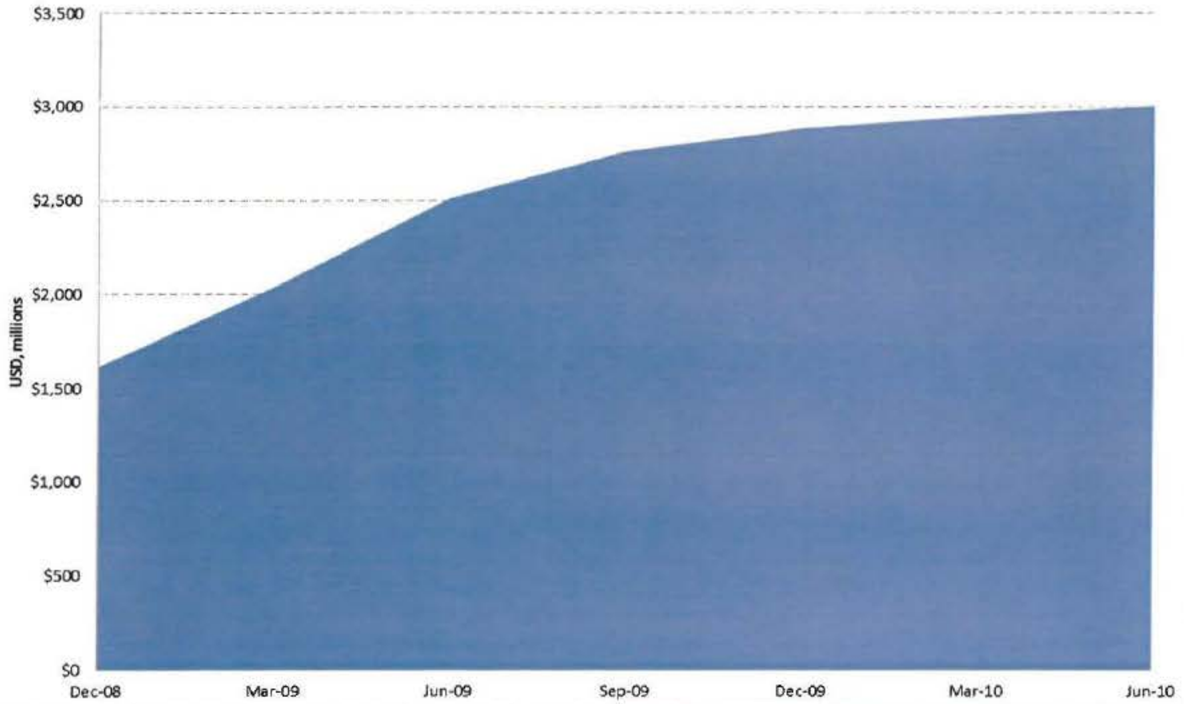
- First, we measured the daily divergence between 1-month LIBOR and the corresponding Fed ED rate (essentially treating the latter as the correct benchmark rate), and calculated its average value for each calendar quarter since the Enterprises entered conservatorship.[c]
- Second, we reviewed the Enterprises' publicly available financial statements to develop rough estimates of their holdings of variable rate securities, interest rate swaps, and variable rate liabilities for each quarter.
- Finally, using these figures, we calculated an estimate for the additional quarterly net interest payments that the Enterprises would have received if LIBOR had matched the corresponding Fed ED rate since conservatorship.[d]

---

[c] To simplify our calculations, we assumed that all Enterprise floating rate assets referenced 1-month LIBOR. In practice, mortgage-related bonds and interest rate swaps typically reference either 1-month or 3-month LIBOR.

[d] Further details on our methodology are available in the Appendix.

Figure 3. Estimated Potential Cumulative Losses to the Enterprises from LIBOR Suppression, 6 Sep 08 through 30 Jun 10



Using this methodology, we estimate that, from the beginning of the Enterprises' conservatorship in 2008 through the second quarter of 2010,[19] net Enterprise losses on their holdings of floating rate bonds and interest rate swaps may have exceeded $3 billion. Over half of those potential losses appear to have taken place in the fourth quarter of 2008 alone.[e]

With respect to the Enterprises' interest rate swaps, it is notable that the leading providers of these instruments are many of the same institutions that contribute to the determination of U.S. dollar LIBOR. Figure 4 presents a table of banks recently identified by the Federal Reserve Bank of New York as major derivatives dealers.[20] Ten of these fourteen major derivatives dealers also contribute to the poll used to determine LIBOR. Collectively, these dealers both participate in setting LIBOR and make LIBOR-based payments to their transaction partners, or counterparties, under the terms of their interest rate swaps. If the Enterprises conduct most of their derivatives business with these institutions, the potential for conflicts of interest is readily apparent.

[e] We also estimate that the Enterprises may have suffered approximately $750 million of net LIBOR-related losses after market turmoil began in mid-2007, but prior to entering conservatorship.

A comparable situation exists in the market for floating-rate securities. For example, of 2007's ten leading underwriters of "private label" mortgage-backed securities,[21] four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.[22] However, our review of a small sample of offering documents for the Enterprises' floating-rate investments in this category failed to uncover any disclosure of risks that the underwriters could manipulate LIBOR for their own advantage, to the detriment of bondholders.

Figure 4.

Major Derivatives Dealers

	LIBOR Contributor
Bank of America	✓
Barclays	✓
BNP Paribas	
Citibank	✓
Credit Suisse	✓
Deutsche Bank	✓
Goldman Sachs	
HSBC Group	✓
JPMorganChase	✓
Morgan Stanley	
RBS	✓
Societe Generale	✓
UBS	✓
Wachovia	

Top Private Label MBS Underwriters 2007

	LIBOR Contributor
Lehman Brothers	
Bear Stearns	
Deutsche Bank	✓
Countrywide	
RBS	✓
Credit Suisse	✓
JPMorganChase	✓
Morgan Stanley	
Washington Mutual	
Merrill Lynch	

In addition to the Barclays settlement, each LIBOR poll contributor among these dealers has been contacted by federal or state authorities with respect to ongoing investigations and/or is a named defendant in existing civil actions.[23]

Recommendations

In the context of active federal and state investigations into possible LIBOR manipulation, as well as the results of our own preliminary analysis of publicly available information, we believe that further investigation of the potential harm to Fannie Mae and Freddie Mac – and therefore to Treasury and, ultimately, the American taxpayer – of any LIBOR manipulation is firmly warranted. While FHFA-OIG should remain ready to offer advice and assistance, FHFA and the Enterprises themselves possess the detailed information needed to develop precise loss calculations and take any legal action that may prove appropriate. Therefore, we recommend that FHFA:

- **Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation.** The Enterprises should possess detailed records of individual LIBOR-based assets and liabilities. An itemized analysis of these records would produce a better-founded estimate of their losses than is possible from reviewing only the Enterprises' public 10-K and 10-Q filings.

- **Promptly consider options for appropriate legal action, if warranted.** If the existing accusations of LIBOR manipulation prove well founded then, in light of its obligations as their conservator, FHFA should have in place a plan by which to affect full recovery of any Enterprise funds lost and deter further malfeasance of this type. Due to the possibility that the Enterprises' legal options may soon be narrowed by statute of limitations considerations, FHFA should develop this plan promptly.
- **Coordinate efforts and share information with other federal and state regulatory agencies.** FHFA and FHFA-OIG can be valuable and effective partners with other federal and state agencies in their efforts on behalf of the public to recover losses and obtain justice for any wrongdoing that may ultimately be proven.

Appendix
Notes on Analytical Methodology

To estimate the Enterprises' potential losses due to LIBOR manipulation, we drew on two principal sources of information.

LIBOR Benchmarks

First, we referenced Federal Reserve Bank of St. Louis repositories of daily historical data for the following data series:

- 1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar (USD1MTD156N). According to the Federal Reserve, this information is provided by the British Bankers' Association. The Federal Reserve describes LIBOR as "the most widely used 'benchmark' or reference rate for short term interest rates."
- 1-Month Eurodollar Deposit Rate (London)(DED1). This information is compiled by the Federal Reserve itself, working with Bloomberg and ICAP Plc, a bond brokerage firm.

We also compiled similar samples for 3-month rates in each case. Comparisons of both the 1-month and 3-month indices revealed significant rate discrepancies between LIBOR and the Federal Reserve index, beginning in 2007. The Bloomberg story cited in the body of the report includes the former Federal Reserve economist's quote that "effectively, these two rates should be the same as they are the same instrument." Several civil lawsuits, including those brought by Charles Schwab and the City of Baltimore, cite the emergence of these discrepancies as evidence of malfeasance.

Notably, other commentators have also cited additional market indicators as evidence of potential LIBOR manipulation. For example, in a recent speech to the European Parliament's Economic and Monetary Affairs Committee, Gary Gensler, head of the U.S. Commodity Futures Trading Commission, cited persistent anomalies compared to other short-term interest rate indexes, such as Euribor and non-dollar indexes, along with pricing in derivatives such as interest rate options and credit default swaps in questioning the recent behavior of LIBOR.

However, because of differences in currency or maturity of the other indicators compared to the Federal Reserve Eurodollar deposit rate, we chose the Federal Reserve index as the simplest and best benchmark for comparison. For the purposes of this analysis, it served as a proxy for the appropriate LIBOR setting. Thus, we assumed that observed differences between LIBOR and the Federal Reserve Eurodollar deposit rate could indicate the timing and extent of potential manipulation by LIBOR poll participants.

Calculation of Enterprise Losses

Second, we assembled Fannie Mae and Freddie Mac balance sheet data for the relevant period from the Enterprises' published financial statements. For example, Freddie Mac data for 4Q08 are drawn from the 2008 10-K, including:

- Data on derivatives investments from Table 38, page 109. We calculated Freddie Mac's net receive-LIBOR interest rate swap investment as:
  - Pay-fixed (i.e. Freddie Mac receives LIBOR), *plus*
  - Basis (i.e. Freddie Mac and its counterparty exchange different sets of floating rate interest payments. Generally, these involve the Enterprise's payments of frequently used ARM indices, such as the Cost of Funds Index or the 12-month Constant Maturity Treasury rate, in exchange for LIBOR-based payments); *less*
  - Receive-fixed (i.e. Freddie Mac pays LIBOR).
- Data on Freddie Mac's variable-rate mortgage-related securities from information on the Enterprise's Mortgage-Related Investments Portfolio, Table 24, page 93.
  - We assumed that essentially all variable-rate MBS holdings calculated interest payments by reference to LIBOR.
  - Fannie Mae did not publish explicit information on its variable rate MBS, but did provide figures for all MBS held by its Capital Markets Group. To estimate Fannie Mae's variable-rate MBS investment holdings, we assumed that Fannie Mae's Capital Markets Group held the same proportion of variable rate securities held by Freddie Mac in its Mortgage-Related Investments Portfolio.
- Data on Freddie Mac's long-term debt liabilities, including variable-rate liabilities, in Table 8.3, page 224.
  - We assumed that essentially all long-term floating-rate debt obligations of the Enterprises calculated interest payments by reference to LIBOR.
  - Fannie Mae explicitly discloses floating-rate obligations in its financial statements.
  - Freddie Mac's reporting of floating-rate obligations for the time period under review is intermittent. Long-term variable-rate debt obligations are totaled as of December 31, 2009, and subsequently, but not for the 10Qs as of 1Q09, 2Q09, and 3Q09. Within the time period examined, the highest proportion of long-term variable-rate obligations to other long-term debt (i.e., direct obligations not brought onto the balance sheet by the requirements of SFAS 167) was 24.7%, reported as of 2Q10. We used that proportion to estimate Freddie Mac's variable-rate debt obligations when no other information was available.

- Except where explicitly disclosed, short-term variable rate obligations of the Enterprises were excluded from the analysis as a relatively minor component.

We calculated cash flow shortfalls to the Enterprises as equivalent to (a) the difference between 1-month LIBOR and the 1-month Federal Reserve Eurodollar deposit rate, multiplied by (b) (i) the notional amount of net receive-LIBOR swaps investments held by the Enterprises, plus (ii) the face value of Enterprise variable-rate mortgage-related securities net of their variable-rate liabilities. Cash flow shortfalls were calculated on a quarterly basis. We assumed reported figures remained constant within each quarter. We included a portion of the indicated cash flow shortfalls for 3Q08, prorated for the final 24 days of September.

We believe that direct cash flow shortfalls, due to reduced interest and swap payments on LIBOR-based investments held by the Enterprises, are likely to constitute the great majority of Enterprise financial losses resulting from any LIBOR manipulation. However, additional secondary effects of LIBOR manipulation may also affect the amount of such losses. These include, but are not limited to:

- Distortions in the volatility measures used to benchmark pricing of the Enterprises' interest rate options
- Effects on the interest rate futures market used to value interest rate swaps
- Effects on prepayment valuation models used to value MBS, which rely on short-term interest rate data as an input

However, we did not incorporate such factors into this analysis.

Limitations of Our Analysis

The goal of this report is not to provide a definitive accounting of the Enterprises' losses, nor to demonstrate conclusively the culpability of specific organizations or individuals. We acknowledge the limitations inherent in any corporate financial analysis developed exclusively from public reports. However, this analysis does indicate that the numerous accusations of LIBOR manipulation raise legitimate concerns about their impact on the Enterprises. Accordingly, they warrant closer examination by FHFA and the Enterprises, which have access to the detailed asset-level records and information needed to generate a more accurate and precise figure for potential losses and provide guidance for any future action that may be required to protect the taxpayers.

For more details about this analysis, please contact Timothy Lee, Senior Policy Advisor, at (202) 730-2821 or timothy.lee@fhfaoig.gov.

Endnotes

[1] British Bankers' Association, "BBA LIBOR Explained."

[2] The Telegraph, "LIBOR Scandal: Martin Wheatley's Speech," September 28, 2012.

[3] Thomson Reuters, "Thomson Reuters Role in the Calculation and Distribution of BBA LIBOR™", July 4, 2012. The number of poll contributors is cited in the Department of Justice's settlement documentation, "Appendix A: Statement of Facts."

[4] U.S. Department of Justice, "Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay $160 Million Penalty," June 27, 2012.

[5] See, inter alia, The New York Times, "State Regulators Widen LIBOR Investigation," August 15, 2012, and BusinessWeek, "US LIBOR Probers Said to Seek London Trader Interviews," September 27, 2012.

[6] The Wall Street Journal, "Suits Mount in Rate Scandal," August 26, 2012.

[7] Federal Housing Finance Agency, "Statement of Director James A. Lockhart", September 7, 2008, p.6.

[8] Federal Housing Finance Agency, "Mortgage Market Note 10-1", January 20, 2010

[9] Federal Housing Finance Agency, "Data as of August 8, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities."

[10] Current and historical financial statement data for Freddie Mac can be found at http://www.freddiemac.com/investors/sec_filings/?intcmp=AFIRSF. Data for Fannie Mae can be found at http://www.fanniemae.com/portal/about-us/investor-relations/sec-filings.html.

[11] Federal Reserve Bank of St. Louis, "1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar (USD1MTD156N)". Data obtained October 1, 2012.

[12] Federal Reserve Bank of St. Louis, "1-Month Eurodollar Deposit Rate (London) (DED)". Data obtained October 1, 2012.

[13] Bloomberg News, "Fed's Eurodollar Rates Suggest Dollar LIBOR May Stabilize", April 28, 2008.

[14] See, for example, the *Report of the Financial Crisis Inquiry Commission.* Facts noted here are taken from Chapter 12 of that document, page 233.

[15] BusinessWeek, "Bear Stearns' Subprime Bath", June 12, 2007.

[16] *Report of the Financial Crisis Inquiry Commission,* Chapter 12, page 240.

[17] See, for example, Thomson Reuters, "In re LIBOR-Based Financial Instruments Antitrust Litigation," April 30, 2012, pp. 23-31.

[18] U.S. Department of Justice, "Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay $160 Million Penalty," June 27, 2012.

[19] Media reports cite allegations that LIBOR manipulation continued through at least mid-2010. See, e.g., Washington Post, "Trickle of LIBOR Lawsuits From Rate-Fixing Scandal Likely to Become Deluge", July 30, 2012.

[20] Federal Reserve Bank of New York, "An Analysis of OTC Interest Rate Derivatives Transactions: Implications for Public Reporting," March 2012, p.2

[21] "Private label" MBS are those not brought to market and guaranteed through the Enterprises. See U.S. Securities and Exchange Commission, "Mortgage-Backed Securities." League table data provided by Inside Mortgage Finance, "Mortgage Market Statistical Annual."

[22] See, for example, Federal Housing Finance Agency, "FHFA Sues 17 Firms to Recover Losses to Fannie Mae and Freddie Mac."

[23] At least two complaints, those of Berkshire Bank and the City of Baltimore, name all 16 contributors to U.S. dollar LIBOR. Wall Street Journal, "New York Lender Files LIBOR Lawsuit", July 30, 2012, and Thomson Reuters, "In re LIBOR-Based Financial Instruments Antitrust Litigation," April 30, 2012. Also see with respect to federal and state investigations, inter alia, The New York Times, "State Regulators Widen LIBOR Investigation," August 15, 2012, and BusinessWeek, "US LIBOR Probers Said to Seek London Trader Interviews," September 27, 2012.

Linick, Steve

From: Lee, Timothy
Sent: Thursday, November 01, 2012 10:25 AM
To: Linick, Steve
Cc: Stephens, Michael; Parker, Richard; DiSanto, Emilia
Subject: FW: LIBOR memo
Attachments: LIBOR memo package proposed final.pdf

Hi Steve,

To follow up on the requested black-and-white hard copies, attached is the LIBOR document package in PDF format. Let me know if you need anything else.

Tim

From: Lee, Timothy
Sent: Thursday, November 01, 2012 9:37 AM
To: DiSanto, Emilia
Cc: Parker, Richard; [redacted] (b) (6)
Subject: LIBOR memo

Hi Em,

Attached is the LIBOR memo package. The Word file and a verified Excel spreadsheet are also on SharePoint.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

Linick, Steve

From:	Bloch, David
Sent:	Thursday, November 01, 2012 9:45 AM
To:	Linick, Steve
Cc:	Parker, Richard; DiSanto, Emilia
Subject:	RE: LIBOR

You're welcome Steve.

From: Linick, Steve
Sent: Wednesday, October 31, 2012 6:56 PM
To: Bloch, David
Cc: Parker, Richard; DiSanto, Emilia
Subject: FW: LIBOR

Thanks for pursuing this David. I have a greater comfort level.

From: DiSanto, Emilia
Sent: Wednesday, October 31, 2012 5:08 PM
To: Linick, Steve; Stephens, Michael
Subject: FW: LIBOR

fyi

From: Parker, Richard
Sent: Wednesday, October 31, 2012 4:48 PM
To: DiSanto, Emilia
Subject: LIBOR

SEC hurdle cleared. [redacted], et al, [redacted] Pls finalize the cover memo to your satisfaction. Tx, - R

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell: [redacted]

Linick, Steve

From: Bloch, David
Sent: Sunday, October 28, 2012 5:29 PM
To: Linick, Steve; Stephens, Michael; DiSanto, Emilia; Seide, David; Grob, George; Frost, David; tim.lee@fhfaoig.gov
Subject: RE: steve.linick@fhfaoig.gov has shared: Watchdog urges Treasury to get Libor out of TARP

The Wheatley report out of the UK recommends that LIBOR be reformed. The report came out a few weeks ago. A terrific thought piece from HM Treasury.

Dodd-Frank takes a stab at designating, supervising and regulating SIFIs. While banks are most likely to be so designated, AIG serves as the best example of a non-bank financial institution that was a SIFI. The FSOC can make the designation.

From: [redacted] (b) (6)
Sent: 10/28/2012 4:49 PM
To: Stephens, Michael; DiSanto, Emilia; Seide, David; Bloch, David; Grob, George; Frost, David; tim.lee@fhfaoig.gov
Subject: [redacted] (b) (6) has shared: Watchdog urges Treasury to get Libor out of TARP

Interesting in light of what we are doing as well. SIGTARP actually recommending they using a different benchmark in the future.

Watchdog urges Treasury to get Libor out of TARP

Source: marketwatch.com

WASHINGTON (MarketWatch) — The Treasury Department should stop using the Libor overnight interest rate in its loan programs given that it is "potentially subject to manipulation" and...

[redacted] (b) (6) sent this using **ShareThis**. Please note that ShareThis does not verify the ownership of this email address.

Linick, Steve

From: Linick, Steve
Sent: Thursday, December 06, 2012 3:29 PM
To: Parker, Richard; Bloch, David; Lee, Timothy
Cc: Stephens, Michael
Subject: LIBOR

[redacted] (b) (5). [redacted] (b) (5). Can you advise me who you gave you clearance. tx

Linick, Steve

From: Linick, Steve
Sent: Wednesday, December 05, 2012 2:04 PM
To: 'DeMarco, Edward'
Cc: Crandlemire, Bruce
Subject: LIBOR

Hi Ed,
Just wanted to check and see whether you were going to submit a new response to our LIBOR memo. If you could let me know, I would appreciate it. tx

Linick, Steve

From:	Linick, Steve
Sent:	Thursday, November 15, 2012 3:45 PM
To:	Grob, George
Cc:	Parker, Richard; Lee, Timothy; Bloch, David; Stephens, Michael
Subject:	RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Why don't you raise this issue with Greenlee first and let him know about our intentions as well as how you want him to modify his letter.

From: Grob, George
Sent: Thursday, November 15, 2012 3:42 PM
To: Linick, Steve
Cc: Parker, Richard; Lee, Timothy; Bloch, David
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Steve,

This is George with Richard by my side. Here are our thoughts. [redacted] (b) (5)

- [redacted]
- [redacted]
- [redacted]

[redacted] (b) (5)

George and Richard

From: Linick, Steve
Sent: Thursday, November 15, 2012 1:17 PM
To: Bloch, David; Grob, George
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

What are your thoughts on posting our memo on the website? will it impair any proposed litigation

---

From: Bloch, David
Sent: Thursday, November 15, 2012 12:48 PM
To: Grob, George
Cc: Lee, Timothy; Linick, Steve; Parker, Richard
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Freddie's response to FHFA is in letter form. Fannie's response to FHFA is in a slide deck. Freddie has already engaged Dickstein Shapiro and Bates White to run the loss figures. [redacted] (b) (4)

[redacted] (b) (4)

[redacted]. David

From: Grob, George
Sent: Thursday, November 15, 2012 12:23 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [mailto:Diane.Williams@fhfa.gov]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

Linick, Steve

From: Linick, Steve
Sent: Thursday, November 15, 2012 1:17 PM
To: Bloch, David; Grob, George
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

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Sent: Thursday, November 15, 2012 12:48 PM
To: Grob, George
Cc: Lee, Timothy; Linick, Steve; Parker, Richard
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

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---

From: Grob, George
Sent: Thursday, November 15, 2012 12:23 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

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From: Williams, Diane [mailto:Diane.Williams@fhfa.gov]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
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purpose other than its intended use, is strictly prohibited. If you believe you have received this e-mail in error: permanently delete the e-mail and any attachments, and do not save, copy, disclose, or rely on any part of the information contained in this e-mail or its attachments. Please call 202-649-3800 if you have questions.

Linick, Steve

From: Linick, Steve
Sent: Tuesday, November 13, 2012 10:19 PM
To: Parker, Richard
Subject: RE: LIBOR

Tx Rich. Sounds like good news. Will they have the response by the 16th. Also pls let me know when the next bi weekly meetings with Jon will occur. Tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 11/13/2012 9:47 PM
To: Linick, Steve
Cc: DiSanto, Emilia; Stephens, Michael
Subject: LIBOR

During today's OIG/DER bi-weekly meeting, Jon Geeenlee [redacted] (b) (4) Jon indicated that this would be the headline in the Agency's reply to the memo on the 16th. [redacted] (b) (5) As you may recall, Tim briefed Jon and other senior Agency officials on September 11th, several weeks earlier. -R

Sent from my Windows Phone

Linick, Steve

From: Linick, Steve
Sent: Thursday, November 01, 2012 10:35 AM
To: Lee, Timothy
Cc: Stephens, Michael; Parker, Richard; DiSanto, Emilia
Subject: RE: LIBOR memo

Please send word version. tx

From: Lee, Timothy
Sent: Thursday, November 01, 2012 10:25 AM
To: Linick, Steve
Cc: Stephens, Michael; Parker, Richard; DiSanto, Emilia
Subject: FW: LIBOR memo

Hi Steve,

To follow up on the requested black-and-white hard copies, attached is the LIBOR document package in PDF format. Let me know if you need anything else.

Tim

From: Lee, Timothy
Sent: Thursday, November 01, 2012 9:37 AM
To: DiSanto, Emilia
Cc: Parker, Richard; [redacted]
Subject: LIBOR memo

Hi Em,

Attached is the LIBOR memo package. The Word file and a verified Excel spreadsheet are also on SharePoint.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821

Linick, Steve

From: Linick, Steve
Sent: Wednesday, October 31, 2012 6:56 PM
To: Bloch, David
Cc: Parker, Richard; DiSanto, Emilia (Emilia.DiSanto@fhfaoig.gov)
Subject: FW: LIBOR

Thanks for pursuing this David. I have a greater comfort level.

From: DiSanto, Emilia
Sent: Wednesday, October 31, 2012 5:08 PM
To: Linick, Steve; Stephens, Michael
Subject: FW: LIBOR

fyi

From: Parker, Richard
Sent: Wednesday, October 31, 2012 4:48 PM
To: DiSanto, Emilia
Subject: LIBOR

SEC hurdle cleared. [redacted] (b) (6) et al, [redacted] (b) (5) Pls finalize the cover memo to your satisfaction. Tx, - R

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted] (b) (6)
Cell:

Linick, Steve

From: Linick, Steve
Sent: Thursday, October 18, 2012 4:25 PM
To: Parker, Richard
Cc: [redacted]
Subject: Libor

Rich, can I get the latest version of the Libor memo with [redacted]s additions. Also ,please include him in the meeting tmrw. tx

Linick, Steve

From:	Linick, Steve
Sent:	Wednesday, October 17, 2012 1:04 PM
To:	Parker, Richard
Cc:	[redacted]; Seide, David
Subject:	FW: LIBOR Draft Action Memo
Attachments:	LIBOR action memo Oct 12.docx; Appendix to LIBOR analysis.docx

Rich,
Before you schedule a briefing with me, please have your team address [redacted] and David's comments and revise accordingly. This should really be a memo from your team to me, which I will attach to a cover letter to demarco. tx

From: [redacted]
Sent: Wednesday, October 17, 2012 12:48 PM
To: Linick, Steve; Seide, David
Subject: RE: LIBOR Draft Action Memo

Steve,

Enclosed please find my comments. I had no problems with George's comments.

[redacted]

Let me know if you need anything else.

[redacted]

From: Linick, Steve
Sent: Tuesday, October 16, 2012 5:16 PM
To: Seide, David; [redacted]
Subject: FW: LIBOR Draft Action Memo

Can u give me your redline comments. Tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 10/12/2012 3:46 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: LIBOR Draft Action Memo

Steve,

Here is the working draft of the LIBOR action memo. I will be polishing it over the weekend but this is the format and content we have talked about and vetted around the office over the last two weeks. I will incorporate the appendix into the body of the memo as we go forward.

All in all, [redacted] (b) (5).

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted]
Cell: (b) (6)

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation

Date: October 12, 2012

(b) (5)

[redacted]

(b) (5)

[redacted]

(b) (5)

[redacted]

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

[redacted]

Linick, Steve

From:	Linick, Steve
Sent:	Wednesday, October 17, 2012 7:06 AM
To:	Parker, Richard
Cc:	DiSanto, Emilia; Stephens, Michael; Grob, George; Emerzian, Peter
Subject:	RE: LIBOR Draft Action Memo

Tx. Yes it would be great if you could set something up. pls include Peter also

Sent from my Windows Phone

From: Parker, Richard
Sent: 10/16/2012 10:57 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: RE: LIBOR Draft Action Memo

Steve,

Tim Lee, Simon Wu, and David Bloch did the writing; Alan Rhinesmith has done some editorial work, and Wes has cold read it. George and I have been overseeing the production (ensuring that the theories are being vetted and the charts and graphs confirmed through independent calculation).

As you may recall,, I suggested that after you to read the rough draft you take a substantive briefing from the authors, George, and I.

Should I work with (b) (6) to set this up?

Sent from my Windows Phone

From: Linick, Steve
Sent: 10/16/2012 5:51 PM
To: Parker, Richard
Cc: DiSanto, Emilia
Subject: RE: LIBOR Draft Action Memo

Rich
Who worked on this? Tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 10/12/2012 3:46 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: LIBOR Draft Action Memo

Steve,

Here is the working draft of the LIBOR action memo. I will be polishing it over the weekend but this is the format and content we have talked about and vetted around the office over the last two weeks. I will incorporate the appendix into the body of the memo as we go forward.

All in all, [redacted] (b) (5).

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted] (b) (6)
Cell:

Linick, Steve

From: Linick, Steve
Sent: Tuesday, October 16, 2012 5:51 PM
To: Parker, Richard
Cc: DiSanto, Emilia
Subject: RE: LIBOR Draft Action Memo

Rich
Who worked on this? Tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 10/12/2012 3:46 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: LIBOR Draft Action Memo

Steve,

Here is the working draft of the LIBOR action memo. I will be polishing it over the weekend but this is the format and content we have talked about and vetted around the office over the last two weeks. I will incorporate the appendix into the body of the memo as we go forward.

All in all, [redacted] (b) (5).

Rich

Richard Parker
Director, Policy, Oversight & Review
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, D.C. 20024
Tel: [redacted] (b) (6)
Cell:

Linick, Steve

From: Linick, Steve
Sent: Friday, September 21, 2012 11:54 AM
To: DeMarco, Edward
Subject: FW: Libor
Attachments: Memo to Ed DeMarco 09142012 Re. LIBOR.pdf

Hi Ed
I neglected to provide this memo to you yesterday about our work on the Libor investigation. If you have any questions, please let me know. Have a nice weekend. Steve

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

400 7th Street, S.W., Washington DC 20024

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

Subject: Effect of Possible LIBOR Manipulations on FHFA Regulated Entities

Date: September 14, 2012

On June 27, the Department of Justice ("DOJ") announced that Barclays Bank, PLC had agreed to pay a $160 million penalty to resolve violations arising from its misconduct related to the determination of LIBOR, the market-standard short-term interest rate index. According to subsequent reports, a number of federal and state inquiries into manipulation of LIBOR are underway, and several major financial institutions are defendants in pending LIBOR-related civil actions.

(b) (5)

[redacted]

(b) (5)

Linick, Steve

From: Linick, Steve
Sent: Monday, September 17, 2012 10:10 AM
To: Parker, Richard
Subject: RE: Libor letter to Ed D

DOJ does not need to be spelled out on the second page because you have it already in first

Sent from my Windows Phone

From: Parker, Richard
Sent: 9/17/2012 9:55 AM
To: Linick, Steve; Stephens, Michael; DiSanto, Emilia; Lee, Timothy
Subject: RE: Libor letter to Ed D

Steve,

I have stricken the LIBOR-related loss estimate and qualified the Barclays Bank interest rate swaps figure by adding the word "about." These changes have resulted in the elimination of one paragraph from the memo. After running spell check I cannot detect the typo that you have mentioned. Please let me know if this version works.

Rich

From: Linick, Steve
Sent: Monday, September 17, 2012 9:41 AM
To: Stephens, Michael; DiSanto, Emilia; Parker, Richard; Lee, Timothy
Subject: RE: Libor letter to Ed D

Ok. Rich, there is typo on p. 2. Pls review. Tx

Sent from my Windows Phone

From: Stephens, Michael
Sent: 9/17/2012 9:34 AM
To: Linick, Steve; DiSanto, Emilia; Parker, Richard; Lee, Timothy
Subject: RE: Libor letter to Ed D

Just talked to Rich and he will submit a new version to Steve.

From: Linick, Steve
Sent: Friday, September 14, 2012 5:50 PM
To: DiSanto, Emilia; Stephens, Michael; Parker, Richard; Lee, Timothy
Subject: RE: Libor letter to Ed D

yes

From: DiSanto, Emilia
Sent: Friday, September 14, 2012 5:36 PM
To: Stephens, Michael; Parker, Richard; Lee, Timothy
Cc: Linick, Steve
Subject: RE: Libor letter to Ed D

(b) (5) [redacted].

From: Stephens, Michael
Sent: Friday, September 14, 2012 5:02 PM
To: Parker, Richard; Lee, Timothy; DiSanto, Emilia
Cc: Linick, Steve
Subject: Libor letter to Ed D

(b) (5) [redacted]. Please give it a try and let me see what you come up with. Very excellent memo and great work.

Linick, Steve

From: Linick, Steve
Sent: Monday, September 17, 2012 9:41 AM
To: Stephens, Michael; DiSanto, Emilia; Parker, Richard; Lee, Timothy
Subject: RE: Libor letter to Ed D

Ok. Rich, there is typo on p. 2. Pls review. Tx

Sent from my Windows Phone

From: Stephens, Michael
Sent: 9/17/2012 9:34 AM
To: Linick, Steve; DiSanto, Emilia; Parker, Richard; Lee, Timothy
Subject: RE: Libor letter to Ed D

Just talked to Rich and he will submit a new version to Steve.

From: Linick, Steve
Sent: Friday, September 14, 2012 5:50 PM
To: DiSanto, Emilia; Stephens, Michael; Parker, Richard; Lee, Timothy
Subject: RE: Libor letter to Ed D

yes

From: DiSanto, Emilia
Sent: Friday, September 14, 2012 5:36 PM
To: Stephens, Michael; Parker, Richard; Lee, Timothy
Cc: Linick, Steve
Subject: RE: Libor letter to Ed D

(b) (5) [redacted].

From: Stephens, Michael
Sent: Friday, September 14, 2012 5:02 PM
To: Parker, Richard; Lee, Timothy; DiSanto, Emilia
Cc: Linick, Steve
Subject: Libor letter to Ed D

(b) (5) [redacted] Please give it a try and let me see what you come up with. Very excellent memo and great work.

Linick, Steve

From: Linick, Steve
Sent: Friday, September 14, 2012 5:50 PM
To: DiSanto, Emilia; Stephens, Michael; Parker, Richard; Lee, Timothy
Subject: RE: Libor letter to Ed D

yes

From: DiSanto, Emilia
Sent: Friday, September 14, 2012 5:36 PM
To: Stephens, Michael; Parker, Richard; Lee, Timothy
Cc: Linick, Steve
Subject: RE: Libor letter to Ed D

[redacted] (b) (5).

From: Stephens, Michael
Sent: Friday, September 14, 2012 5:02 PM
To: Parker, Richard; Lee, Timothy; DiSanto, Emilia
Cc: Linick, Steve
Subject: Libor letter to Ed D

[redacted] (b) (5) [redacted]. Please give it a try and let me see what you come up with. Very excellent memo and great work.

Linick, Steve

From: Linick, Steve
Sent: Friday, September 14, 2012 3:34 PM
To: Lee, Timothy; Parker, Richard
Cc: Seide, David
Subject: Libor

Tim
Thanks for drafting the memo on Libor to DeMarco. [redacted] (b) (5). Can you provide me with the back up documentation which leads you to conclude there may be $1b at issue for every 10 bps. Do you believe this is a conservative estimate?

Linick, Steve

From: Linick, Steve
Sent: Friday, September 07, 2012 12:54 PM
To: Parker, Richard
Cc: DiSanto, Emilia
Subject: RE: LIBOR and the GSEs

Grt. Tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 9/7/2012 12:38 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: FW: LIBOR and the GSEs

Steve,

Per our conversation, I have asked Tim to assemble a memo to Ed from you that outlines the LIBOR issue as it relates to the Enterprises and the OIG's work in the area. By early next week we'll have something that you can look at and provide direction from.

Enclosed is a brief encapsulation of yesterday's meeting with the Agency on the LIBOR issue.

Rich

From: Lee, Timothy
Sent: Thursday, September 06, 2012 4:39 PM
To: Parker, Richard
Subject: FW: LIBOR and the GSEs

Hi Rich,

FYI. This basically recaps today's conversation. [redacted] (b) (5) As the note says, I expect to line up a call and make introductions early next week to move matters along.

Tim

From: Lee, Timothy
Sent: Thursday, September 06, 2012 4:34 PM
To: 'nina.nichols@fhfa.gov'; Greenlee, Jon (Jon.Greenlee@fhfa.gov); stephen.cross@fhfa.gov; fred.graham@fhfa.gov; Sciacca, Christie (Christie.Sciacca@fhfa.gov)
Subject: LIBOR and the GSEs

Hi Jon, Steve, Fred, Christie and Nina,

Following up from our meeting, please find several files attached as additional background.

(b) (5)

[redacted]

(b) (5)

[redacted] They would appreciate the opportunity to touch base early next week, so please let me know when your team is free for half an hour. I will be pleased to make the introduction over the phone.

Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG
202-730-2821