Bloch, David

From: Lee, Timothy
Sent: Thursday, December 20, 2012 4:13 PM
To: Parker, Richard; Grob, George
Cc: Bloch, David
Subject: Excerpt

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.

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

Bloch, David

From: Lee, Timothy
Sent: Thursday, December 20, 2012 4:11 PM
To: Parker, Richard; Grob, George
Cc: Bloch, David
Subject: NYTimes' take

http://dealbook.nytimes.com/2012/12/20/making-it-easier-to-estimate-libor-losses/

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

Bloch, David

From: Frost, David
Sent: Thursday, December 20, 2012 3:17 PM
To: Bloch, David
Subject: FHFA on LIBOR

http://www.mortgageorb.com/e107_plugins/content/content.php?content.12955#.UNNxraP4K6E

David Morgan Frost

Assistant Inspector General for Evaluations
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
(b) (6) (cell)

Bloch, David

From: Lee, Timothy
Sent: Thursday, December 20, 2012 3:03 PM
To: Parker, Richard
Cc: Bloch, David; Grob, George
Subject: RE: Documents petaining to Judicial Watch FOIA Request

Hi Old Salt,

Having read through the request, my belief is that we can and should return a null response. That is because it specifically references TARP, thereby excluding the Enterprise operations on which our LIBOR inquiry focused. We could explain our reasoning and invite further dialogue if we wish, however.

If you concur, I will start drafting the short letter.

Tim

From: Parker, Richard
Sent: Thursday, December 20, 2012 1:48 PM
To: Lee, Timothy
Cc: Bloch, David; Grob, George
Subject: FW: Documents petaining to Judicial Watch FOIA Request

Skipper,

Can you handle? Pls advise soonest.

R

From: Balmaseda, Kat
Sent: Thursday, December 20, 2012 1:28 PM
To: Grob, George; Parker, Richard
Cc: Saddler, Bryan
Subject: Documents petaining to Judicial Watch FOIA Request

Hi George and Rich,

I am in need of your assistance to the attached FOIA request, which seeks the following:

"All communications, facts and analysis respecting LIBOR vis-à-vis TARP. The time frame for this request is January 21, 2009 though the present."

We are required to use reasonable efforts to find records that might be responsive to this request. To that end, please search for all potentially responsive records wherever they are likely to be found, including but not limited to:

- Any electronic files stored on your computer, on a network drive, or in the cloud (such as SharePoint, hard drives, folders, etc.)
- Emails stored in Outlook
- Hard copy records stored in file drawers

- Any information stored in team systems (i.e. CMS, Team Management, etc.)
- Thumb drives or CD-ROMS

After performing a search, please forward to me any responsive records you may have.

Thanks so much!
Kat

Bloch, David

From: Parker, Richard
Sent: Thursday, December 20, 2012 1:48 PM
To: Lee, Timothy
Cc: Bloch, David; Grob, George
Subject: FW: Documents petaining to Judicial Watch FOIA Request
Attachments: 2013-FOIA-017_Initial Request.pdf

Skipper,

Can you handle? Pls advise soonest.

R

From: Balmaseda, Kat
Sent: Thursday, December 20, 2012 1:28 PM
To: Grob, George; Parker, Richard
Cc: Saddler, Bryan
Subject: Documents petaining to Judicial Watch FOIA Request

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- Any electronic files stored on your computer, on a network drive, or in the cloud (such as SharePoint, hard drives, folders, etc.)
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- Hard copy records stored in file drawers
- Any information stored in team systems (i.e. CMS, Team Management, etc.)
- Thumb drives or CD-ROMS

After performing a search, please forward to me any responsive records you may have.

Thanks so much!
Kat

Bloch, David

From: Lee, Timothy
Sent: Thursday, December 20, 2012 9:04 AM
To: Parker, Richard
Cc: Bloch, David
Subject: FW: Interesting article

(b) (5)
.

From: (b) (6)
Sent: Monday, December 17, 2012 5:45 PM
To: Lee, Timothy
Subject: RE: Interesting article

(b) (5)

From: Lee, Timothy
Sent: Friday, December 14, 2012 9:00 AM
To: (b) (6)
Subject: FW: Interesting article

Hi (b) (6),

If you have any thoughts to offer on this, I'd love to hear them.

Tim

From: Lee, Timothy
Sent: Friday, December 14, 2012 8:59 AM
To: Parker, Richard
Cc: Bloch, David
Subject: Interesting article

From Bloomberg. Note the last few paragraphs:

> In London, lawyers at Collyer Bristow LLP, a 252-year-old firm, are working on a plan that would force banks to reimburse customers for any payments they made under derivatives contracts pegged to Libor. Three of the five partners on the financial- litigation team are working full time on Libor-related cases.
>
> Stephen Rosen, who runs the practice, said clients who entered into interest-rate swaps with banks are entitled to cancel those contracts because manipulation was so entrenched. Swaps are contracts that allow borrowers to exchange a variable interest cost for a fixed one, protecting them against fluctuations in interest rates.
>
> "It's possible on legal grounds to set aside the swap contract entirely, which could mean you can recover all the payments you've made under the swap," Rosen, who wears thick- rimmed glasses and speaks in clipped, precise tones, said in an interview at his office in a Georgian townhouse in the legal district of Gray's Inn. "The bank,

when they entered into the swap, made an implied representation that Libor would not be unfairly manipulated."

Rosen said his clients include a publicly traded real estate company, three nursing homes and at least 12 more firms that bought Libor-linked interest-rate swaps from banks. He declined to identify them by name, citing confidentiality rules.

"The client will argue, 'Had you told me the truth -- that you were fraudulently manipulating this rate -- I would never have entered the contract with you,'" he said. "We are calling this the nuclear option."

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

Bloch, David

From: Lee, Timothy
Sent: Tuesday, December 18, 2012 3:44 PM
To: Bloch, David
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 (b) (6) Letter dtd Oct 12 2012.pdf; (b) (6) Libor Letter dtd Oct 12, 2012.pdf; LIBOR Deck Nov 2012.ppt

Just forwarded to Rich at his urgent request.

Idea:
Step 1. Make up mind.
Step 2. Pass out instructions.

Just a thought.

From: Lee, Timothy
Sent: Tuesday, December 18, 2012 3:29 PM
To: Parker, Richard
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

---

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

Bloch, David

From: Lee, Timothy
Sent: Wednesday, December 19, 2012 4:15 PM
To: Bloch, David
Subject: FW: FYI, Updated WSJ - with more detail: Report Says Libor-Tied Losses at Fannie, Freddie May Top $3 Billion

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From: DiSanto, Emilia
Sent: Wednesday, December 19, 2012 3:57 PM
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

fyi

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

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

Report Says Libor-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 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 Libor, 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 Libor. Before the financial crisis, Libor 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 Libor had been manipulated lower. That's because their mortgage bonds, swaps and other assets tied to Libor exceeded what they owed in Libor-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

(b) (6)

Bloch, David

From:	Lee, Timothy
Sent:	Tuesday, December 18, 2012 1:21 PM
To:	Bloch, David
Cc:	Grob, George
Subject:	FW: Letter to Grassley and Kirk TL Edits Blacklined.docx
Attachments:	Letter to Grassley and Kirk TL Edits Blacklined.docx

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From: DiSanto, Emilia
Sent: Tuesday, December 18, 2012 10:59 AM
To: Lee, Timothy
Cc: Parker, Richard; DiSanto, Emilia
Subject: Letter to Grassley and Kirk TL Edits Blacklined.docx

You cool—david added a few minor things

Bloch, David

From: Lee, Timothy
Sent: Monday, December 17, 2012 4:00 PM
To: Bloch, David
Subject: FW: Letter to Grassley and Kirk.docx
Attachments: Letter to Grassley and Kirk v2.docx

From: Lee, Timothy
Sent: Monday, December 17, 2012 3:52 PM
To: DiSanto, Emilia
Cc: Parker, Richard
Subject: RE: Letter to Grassley and Kirk.docx

Hi Em,

This should address your points. I insert two paragraphs' chronology in the front, and accompany simplified graphs on the Enterprises' investments with references to their published financial statements. The footnote linking to their 10Ks and 10Qs remains, of course.

Tim

From: DiSanto, Emilia
Sent: Monday, December 17, 2012 2:38 PM
To: Lee, Timothy
Subject: Letter to Grassley and Kirk.docx

See me asap

Bloch, David

From: Lee, Timothy
Sent: Friday, December 14, 2012 8:59 AM
To: Parker, Richard
Cc: Bloch, David
Subject: Interesting article

From Bloomberg. Note the last few paragraphs:

> In London, lawyers at Collyer Bristow LLP, a 252-year-old firm, are working on a plan that would force banks to reimburse customers for any payments they made under derivatives contracts pegged to Libor. Three of the five partners on the financial- litigation team are working full time on Libor-related cases.
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> Stephen Rosen, who runs the practice, said clients who entered into interest-rate swaps with banks are entitled to cancel those contracts because manipulation was so entrenched. Swaps are contracts that allow borrowers to exchange a variable interest cost for a fixed one, protecting them against fluctuations in interest rates.
>
> "It's possible on legal grounds to set aside the swap contract entirely, which could mean you can recover all the payments you've made under the swap," Rosen, who wears thick- rimmed glasses and speaks in clipped, precise tones, said in an interview at his office in a Georgian townhouse in the legal district of Gray's Inn. "The bank, when they entered into the swap, made an implied representation that Libor would not be unfairly manipulated."
>
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>
> "The client will argue, 'Had you told me the truth -- that you were fraudulently manipulating this rate -- I would never have entered the contract with you,'" he said. "We are calling this the nuclear option."

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

Bloch, David

From: Lee, Timothy
Sent: Wednesday, December 12, 2012 4:55 PM
To: Bloch, David
Subject: FW: A little more water for your Scotch
Attachments: LIBOR Dec 13 Blackline.docx

From: Lee, Timothy
Sent: Wednesday, December 12, 2012 4:04 PM
To: Parker, Richard
Subject: A little more water for your Scotch

Hi Rich,

All the changes are in the appendix. I can always clean up once we get buyoff on direction.

Tim

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

Bloch, David

From: Parker, Richard
Sent: Wednesday, December 12, 2012 12:04 PM
To: Lee, Timothy; Wu, Simon
Cc: Bloch, David
Subject: RE: Revised LIBOR Memo

No. Hang fire, pls. - R

From: Lee, Timothy
Sent: Wednesday, December 12, 2012 11:36 AM
To: Wu, Simon; Parker, Richard
Cc: Bloch, David
Subject: RE: Revised LIBOR Memo

Hi all,

My only further comment is that "deviation" strikes me as superfluous, given that "divergence" is an appropriate precedent to "it" in the sentence.

Otherwise, I am signed off. Should I get this cleaned up to circulate around the office?

Tim

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; the narrative about rate movements stayed in the body, but all the technical discussion is now in the appendix. I kept the dates unchanged and have not updated the memo for recent events, which would have required additional research and time. 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

Bloch, David

From: Wu, Simon
Sent: Wednesday, December 12, 2012 11:14 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David
Subject: RE: Revised LIBOR Memo
Attachments: LIBOR Final and Dec 12 comparison (rprev)_Edits by Rich and Simon.docx

See edits by Rich and Simon...very minor. All looks good.

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Sent: Wednesday, December 12, 2012 9:04 AM
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Cc: Wu, Simon; Bloch, David
Subject: Revised LIBOR Memo

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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 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]

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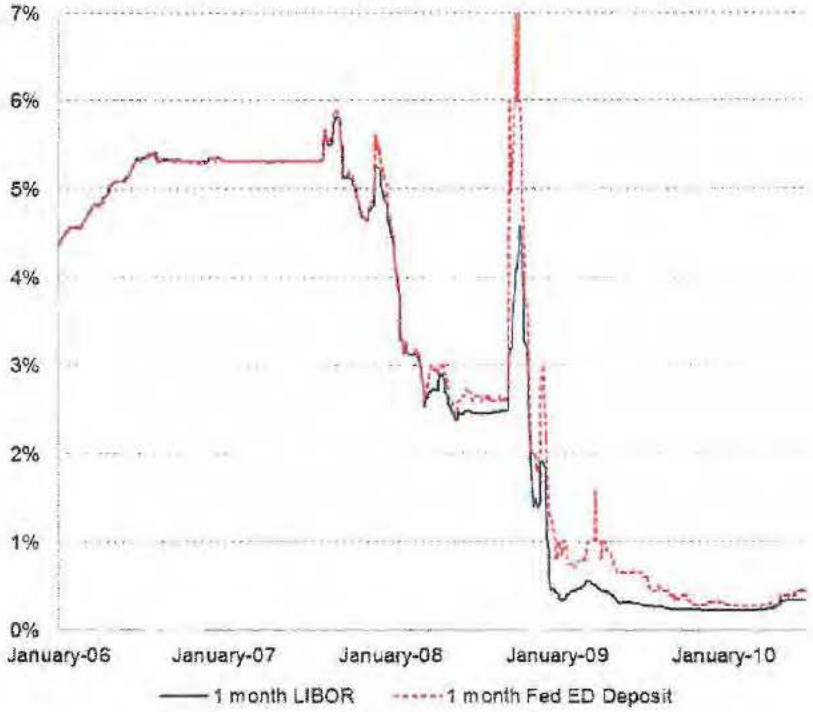
[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

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

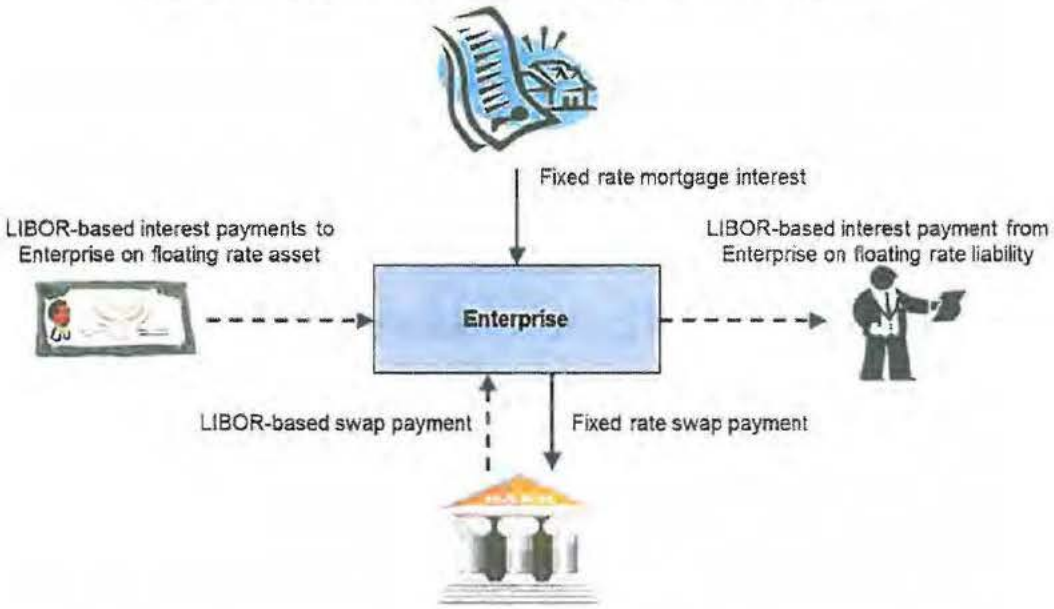


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

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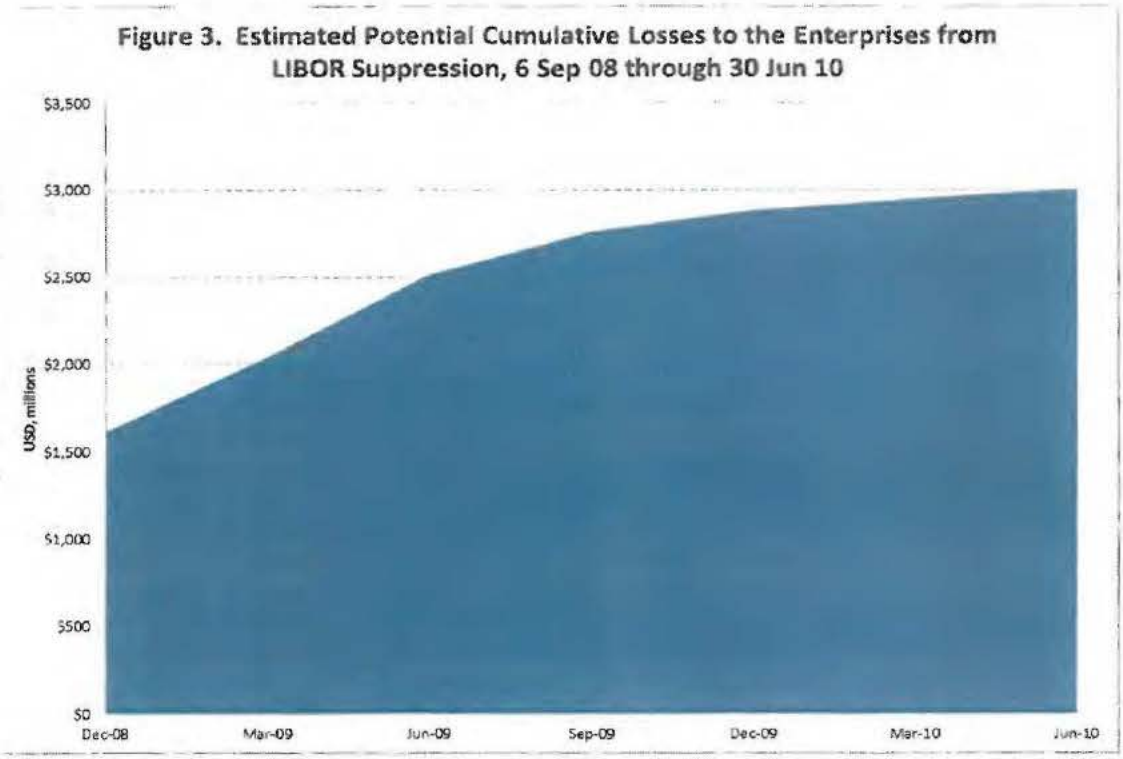
[c] To simplify our calculations, we assumed that all Enterprise floating rate assets referenced 1-month LIBOR. In practice, mortgage-related bonds and interest rate swaps typically reference either 1-month or 3-month LIBOR.

[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.

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

December xx, 2012

The Honorable Charles Grassley, Ranking Member
The Honorable Mark Kirk
United States Senate
Committee on the Judiciary
Washington, DC 20510-6275

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(b) (5)

(b) (5)

(b) (5)

Sincerely,

Steve A. Linick
Inspector General

(b) (5)

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

December 17, 2012

The Honorable Charles Grassley, Ranking Member
The Honorable Mark Kirk
United States Senate
Committee on the Judiciary
Washington, DC 20510-6275

Dear Senators Grassley and Kirk,

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Sincerely,

Steve A. Linick
Inspector General

(b) (5)

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.

(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

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]

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[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. (b) (5)

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 instruments is recalculated for each payment period by reference to the current value of LIBOR.

Analysis

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

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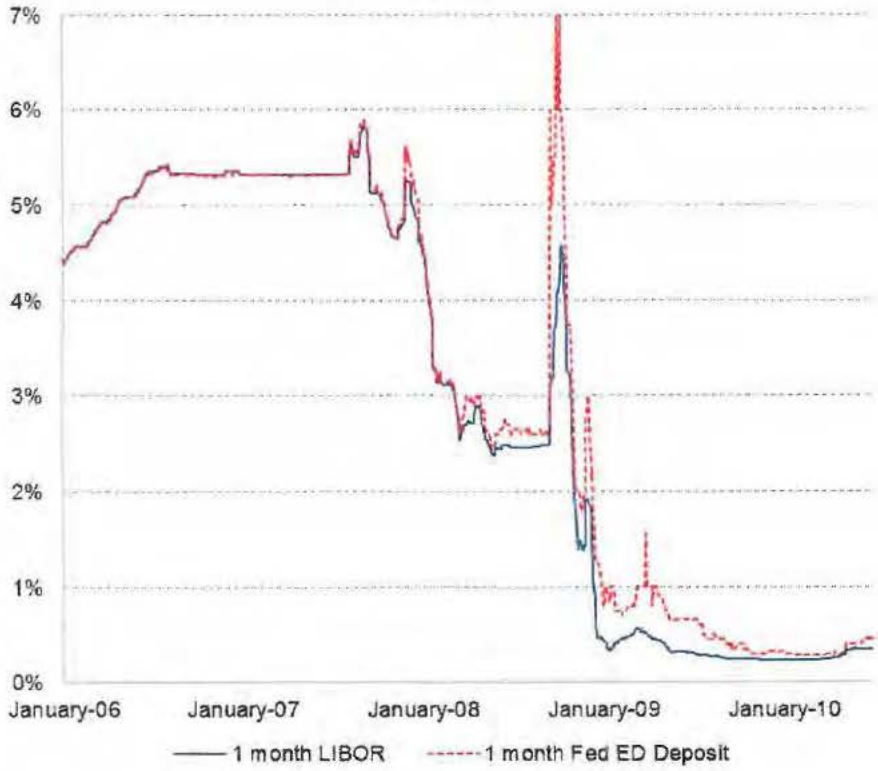
[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

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

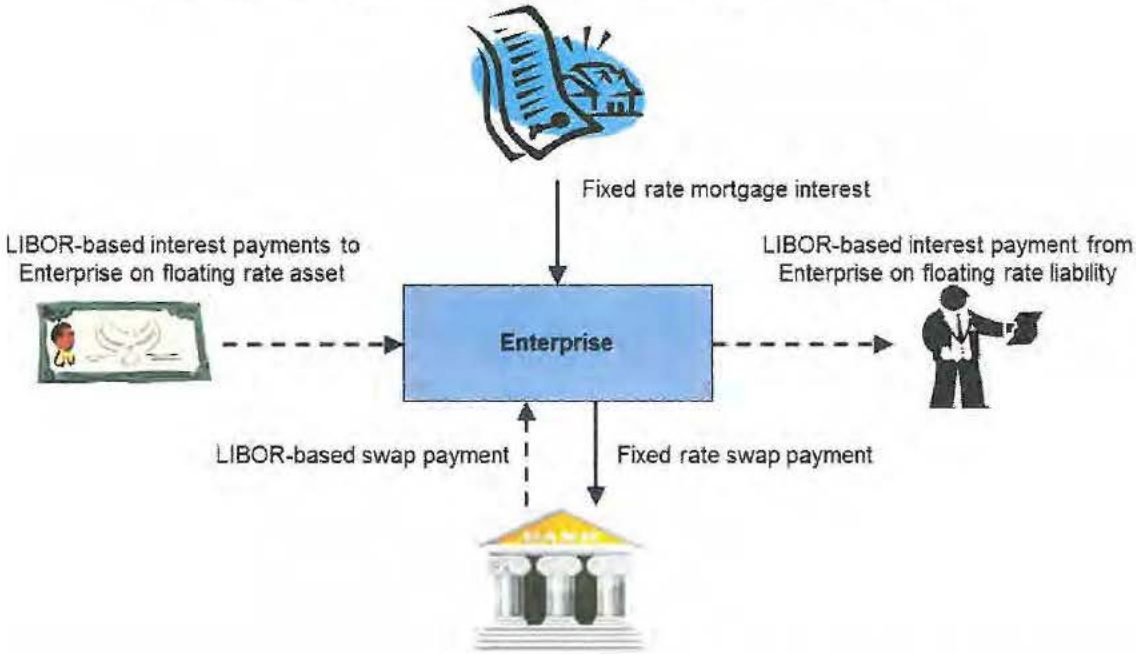


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

> … 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.[c]

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 3 presents a table of banks recently identified by the Federal Reserve Bank of New York as major derivatives dealers.[19] 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.

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,[20] four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.[21] However, our review of a small sample of offering documents for the

[c] The attached appendix, *Notes on Analytical Methodology*, contains further details on FHFA-OIG's approach to calculating LIBOR-related Enterprise losses.

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 3.

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.[22]

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, in light of FHFA's obligations as the Enterprises' conservator, the Agency should have in place a plan by which to effect 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 gauge the effect of alleged LIBOR manipulation on the Enterprises, FHFA-OIG undertook a three-step analytical process.

Step 1. LIBOR Benchmarks

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 ~~deviation~~ value for each calendar quarter since the Enterprises entered conservatorship.[d] Specifically, 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 indexes revealed significant rate discrepancies between LIBOR and the Federal Reserve index, beginning in 2007. 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, Chairman 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

[d] 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.

the Federal Reserve Eurodollar deposit rate could indicate the timing and extent of potential manipulation by LIBOR poll participants.

Step 2: Review of Enterprises' Financial Statements

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.

Step 3: Estimation of Enterprise Losses

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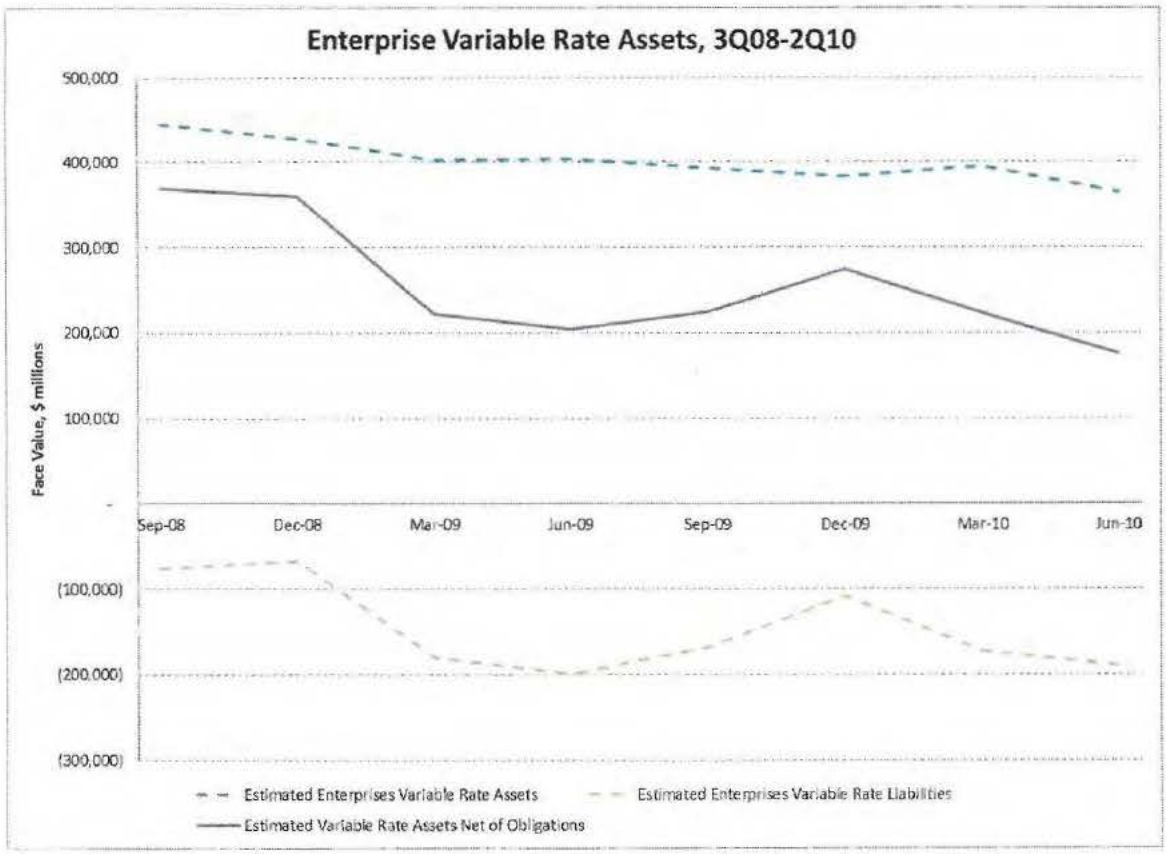
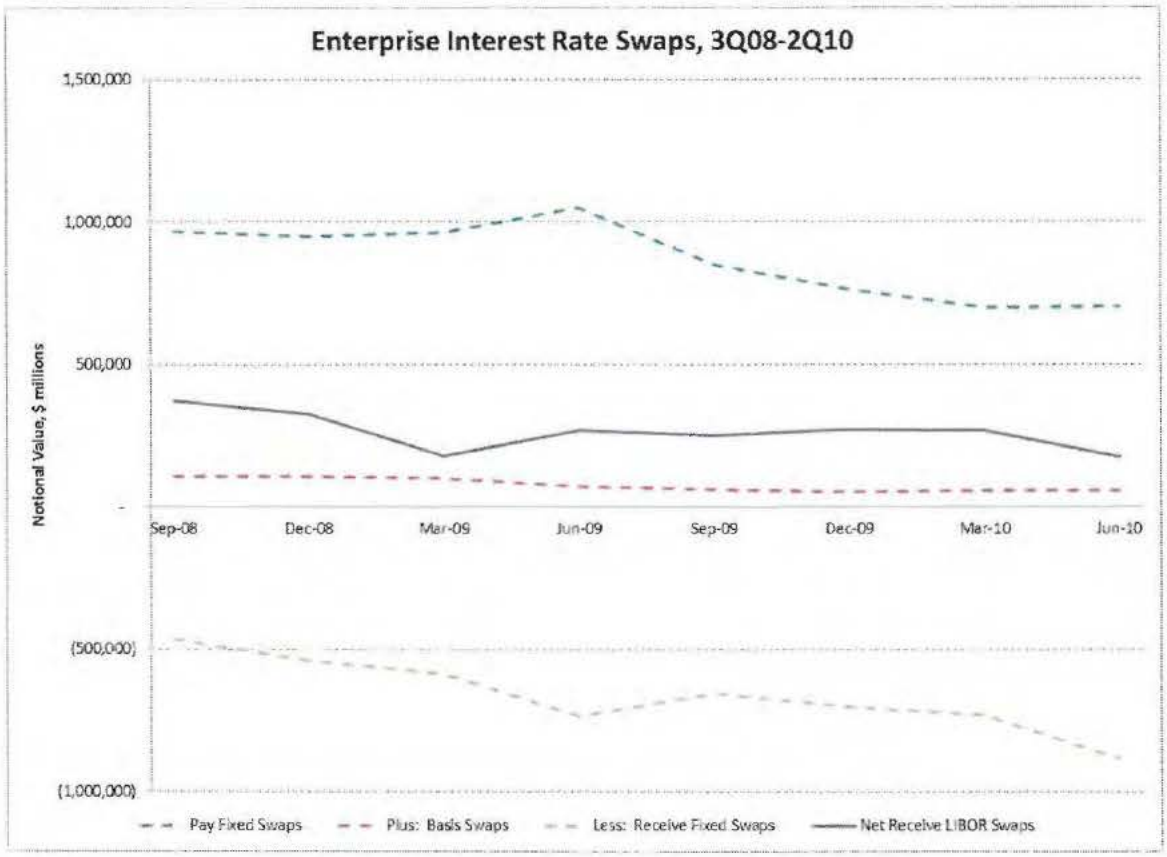

Enterprise Variable Rate Assets, 3Q08-2Q10
Face Value, $ millions
500,000
400,000
300,000
200,000
100,000
-
(100,000)
(200,000)
(300,000)
Sep-08
Dec-08
Mar-09
Jun-09
Sep-09
Dec-09
Mar-10
Jun-10
Estimated Enterprises Variable Rate Assets
Estimated Enterprises Variable Rate Liabilities
Estimated Variable Rate Assets Net of Obligations


Enterprise Interest Rate Swaps, 3Q08-2Q10
Notional Value, $ millions
1,500,000
1,000,000
500,000
-
(500,000)
(1,000,000)
Sep-08
Dec-08
Mar-09
Jun-09
Sep-09
Dec-09
Mar-10
Jun-10
Pay Fixed Swaps
Plus: Basis Swaps
Less: Receive Fixed Swaps
Net Receive LIBOR Swaps

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Limitations of Our Analysis

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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 exact figure for potential losses and provide guidance for any future action that may be required to protect the taxpayers.

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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.

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[20] "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."

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

[22] 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.

~~[23] 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.~~

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.

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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

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.

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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~~instruments is recalculated for each payment period by reference to the current value of LIBOR.

Analysis

~~As a first step in our analysis~~To gauge the effect of alleged LIBOR manipulation ~~estimate the Enterprises' losses~~, 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]

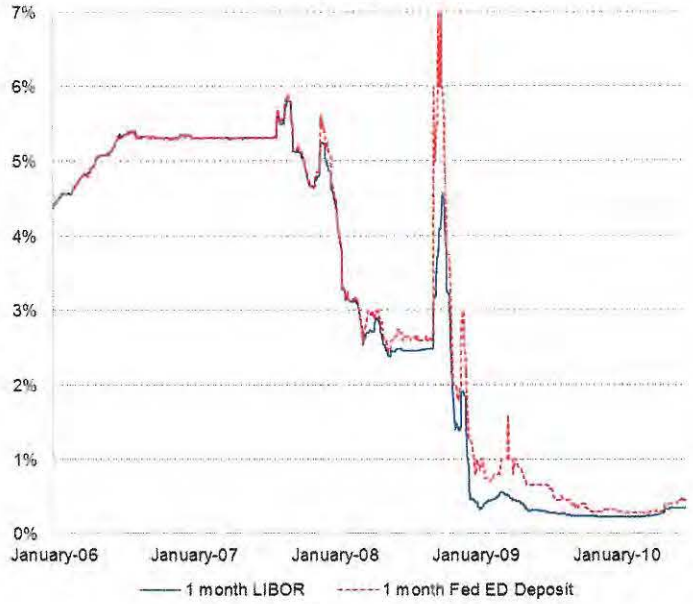
However, beginning in early 2007 emerging declines in home prices had begun to place strains on the financial system. New Century Financial, a leading home loan originator, filed for bankruptcy in April.[14] Adding to the stress were media reports of precipitous decay in two high-

[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.

profile mortgage-backed securities hedge funds sponsored by Bear Stearns, a leading 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.

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

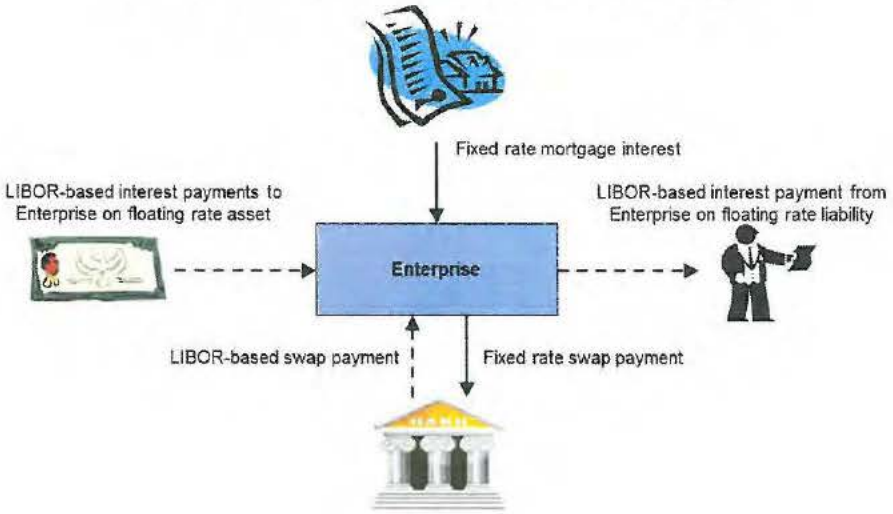


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

> ... 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.[9]

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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 43 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

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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.

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	

Figure 3.

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, in light of FHFA's obligations as the Enterprises' conservator, the Agency should have in place a plan by which to effect 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.

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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~~exact 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

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Bloch, David

From: Lee, Timothy
Sent: Wednesday, December 12, 2012 9:04 AM
To: Parker, Richard
Cc: Wu, Simon; Bloch, David
Subject: Revised LIBOR Memo
Attachments: LIBOR Final and Dec 12 comparison.docx; LIBOR memo Dec 12.docx

Hi Old Salt,

Attached please find the revisions you requested, both clean and blacklined against the previous one. The changes should be self-explanatory; the narrative about rate movements stayed in the body, but all the technical discussion is now in the appendix. I kept the dates unchanged and have not updated the memo for recent events, which would have required additional research and time. 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

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.

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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.

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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~~instruments is recalculated for each payment period by reference to the current value of LIBOR.

Analysis

~~As a first step in our analysis~~To estimate the Enterprises' losses, 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-

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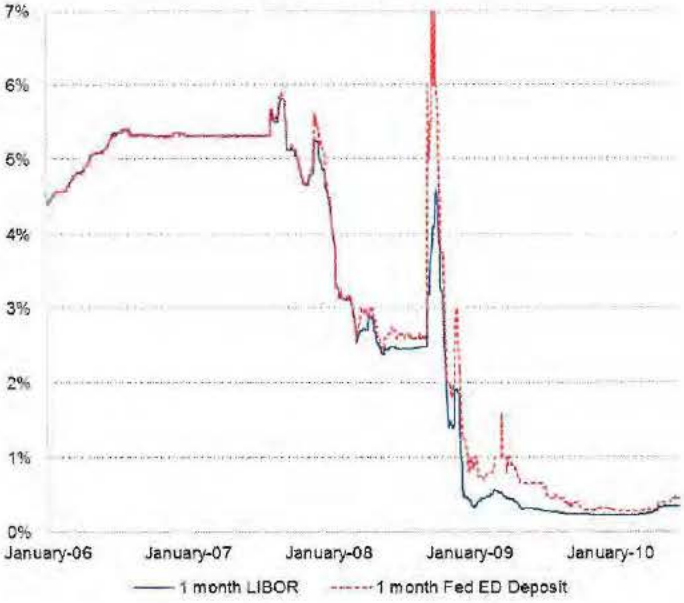
profile mortgage-backed securities hedge funds sponsored by Bear Stearns, a leading U.S. investment bank. These began to emerge in mid-June,[15] followed promptly by the funds' bankruptcy filings at the end of July.[16]

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.

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

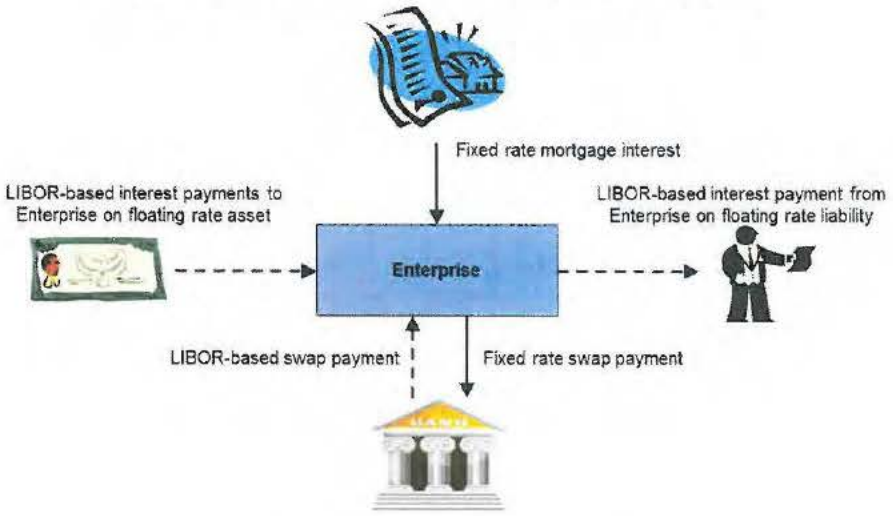


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

> … 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.[c]

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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 43 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

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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.

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	

Figure 3.

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, in light of FHFA's obligations as the Enterprises' conservator, the Agency should have in place a plan by which to effect 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

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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~~

Step 2: Review of Enterprises' Financial Statements

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.

Step 3: Estimation of Enterprise Losses

Finally, using these figures, we estimated the additional quarterly net interest payments that the Enterprises would have received if LIBOR had matched the corresponding Fed ED rate since conservatorship. 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.

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Limitations of Our Analysis

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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

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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~~exact 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.

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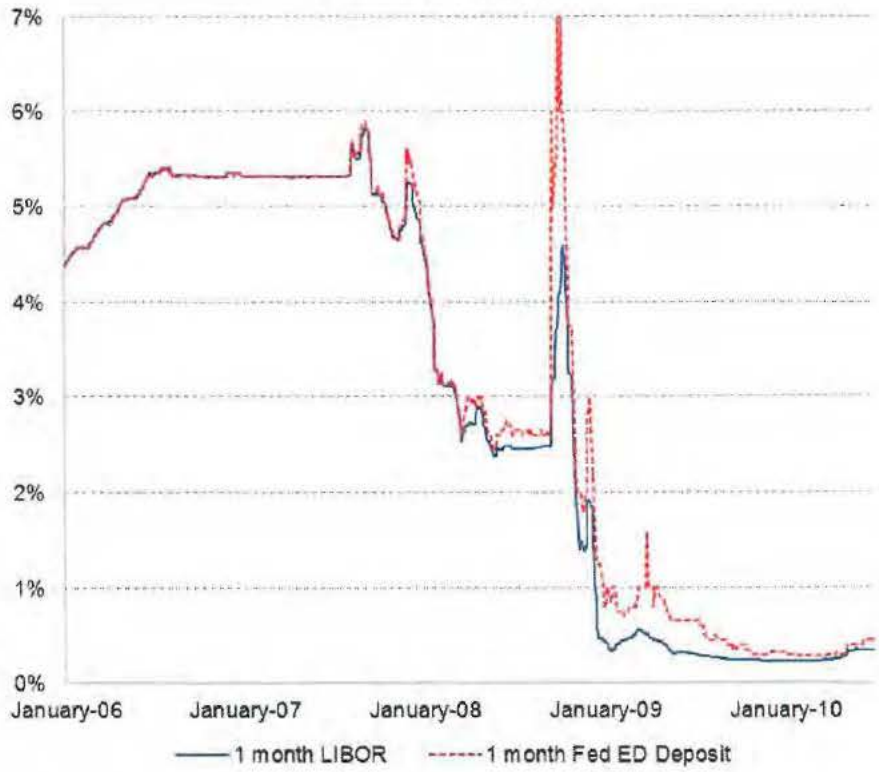
[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

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

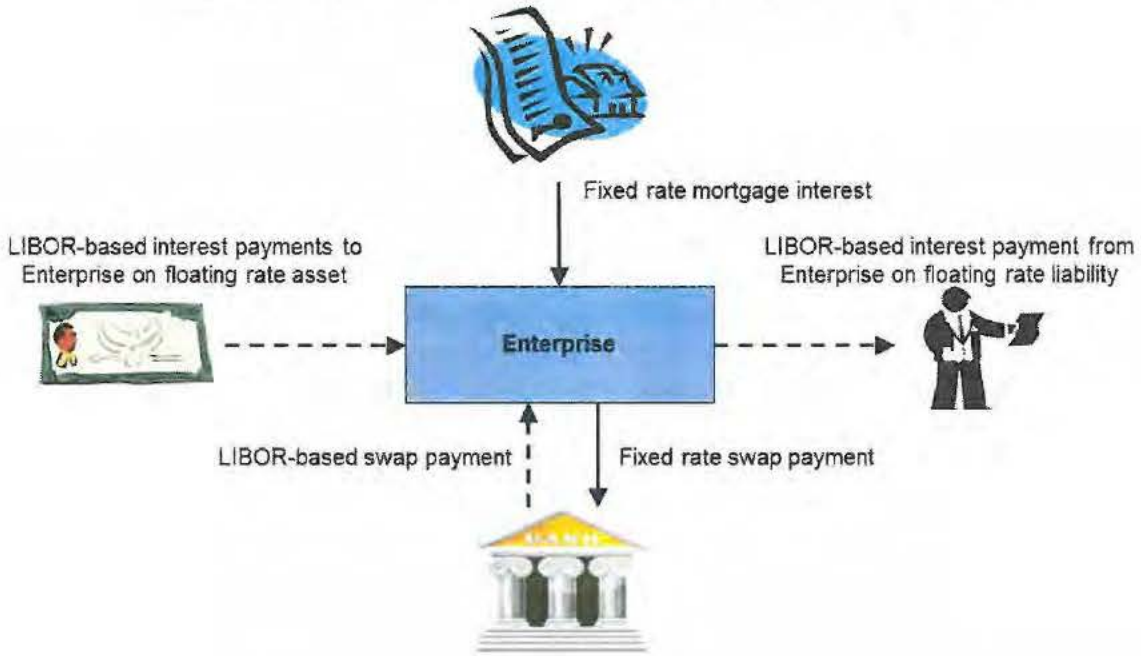


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

> … 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.[c]

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 3 presents a table of banks recently identified by the Federal Reserve Bank of New York as major derivatives dealers.[19] 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.

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,[20] four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.[21] However, our review of a small sample of offering documents for the

[c] The attached appendix, *Notes on Analytical Methodology*, contains further details on FHFA-OIG's approach to calculating LIBOR-related Enterprise losses.

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 3.

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.[22]

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, in light of FHFA's obligations as the Enterprises' conservator, the Agency should have in place a plan by which to effect 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

(b) (5)

[redacted]

(b) (5)

[redacted]

Step 2: Review of Enterprises' Financial Statements

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.

Step 3: Estimation of Enterprise Losses

Finally, using these figures, we estimated the additional quarterly net interest payments that the Enterprises would have received if LIBOR had matched the corresponding Fed ED rate since conservatorship. 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.

(b) (5)

[redacted]

(b) (5)

[redacted]

Limitations of Our Analysis

(b) (5)

[redacted]

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

[20] "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."

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

[22] 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.

[23] 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.

Bloch, David

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:51 PM
To: (b) (6)
Cc: (b) (6); Lee, Timothy; Bloch, David
Subject: RE: LIBOR

(b) (6),

(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: (b) (6)
Cell: (b) (6)

From: Parker, Richard
Sent: Thursday, December 06, 2012 4:23 PM
To: (b) (6)
Cc: (b) (6); Lee, Timothy; Bloch, David
Subject: LIBOR

(b) (6)

Enclosed, please find the memorandum that you have been speaking about with Tim for the last few months.

I want to confirm with you that our publication of this piece will not have a negative impact upon any cases or other work that DOJ Civil is doing in this space. 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 (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, Dan. We really appreciate it.

Rich

Richard Parker
Director, Policy, Oversight & Review

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Attachments: Memo 11022012.pdf

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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 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]

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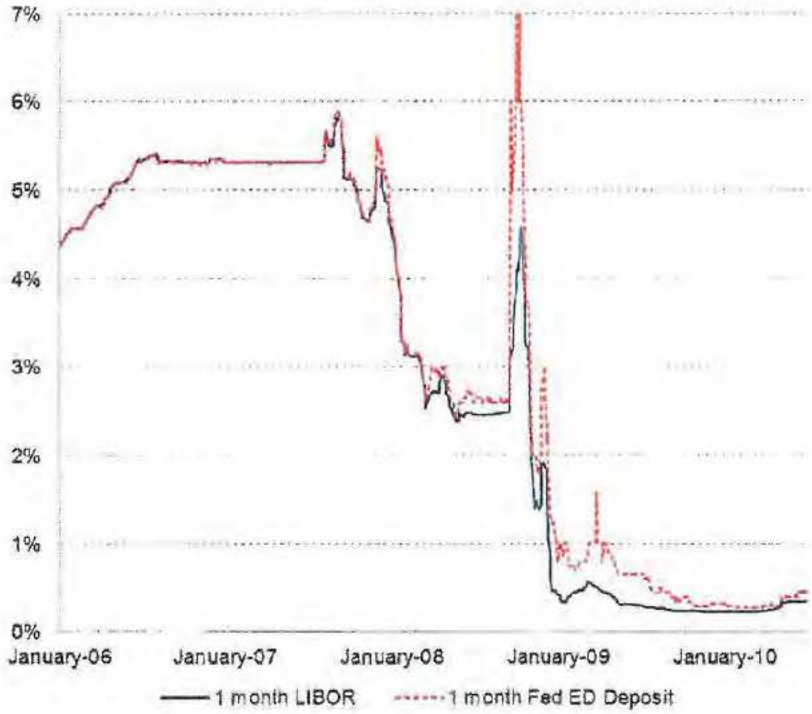
[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

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

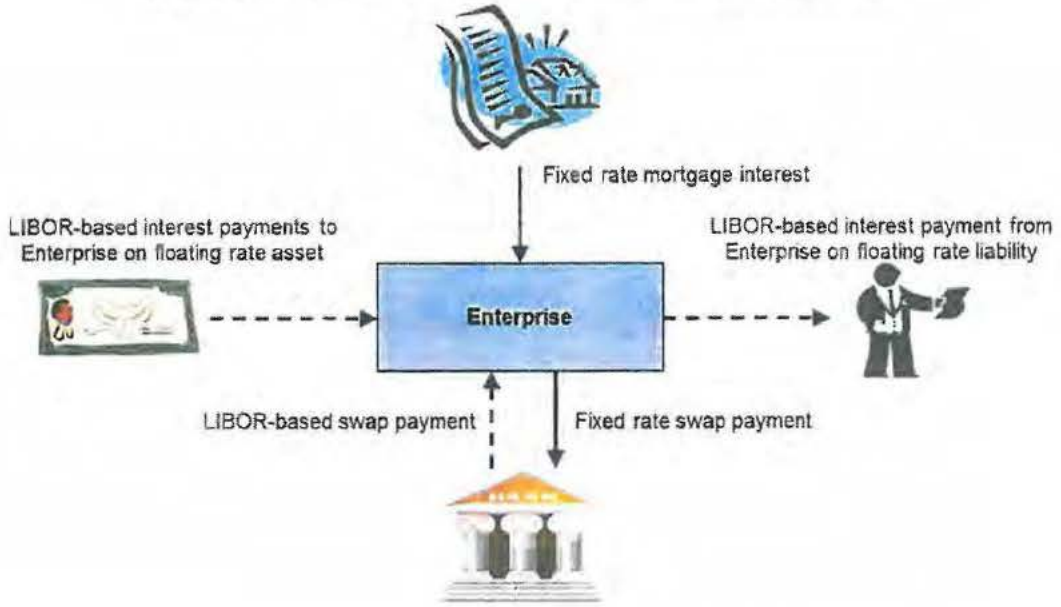


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

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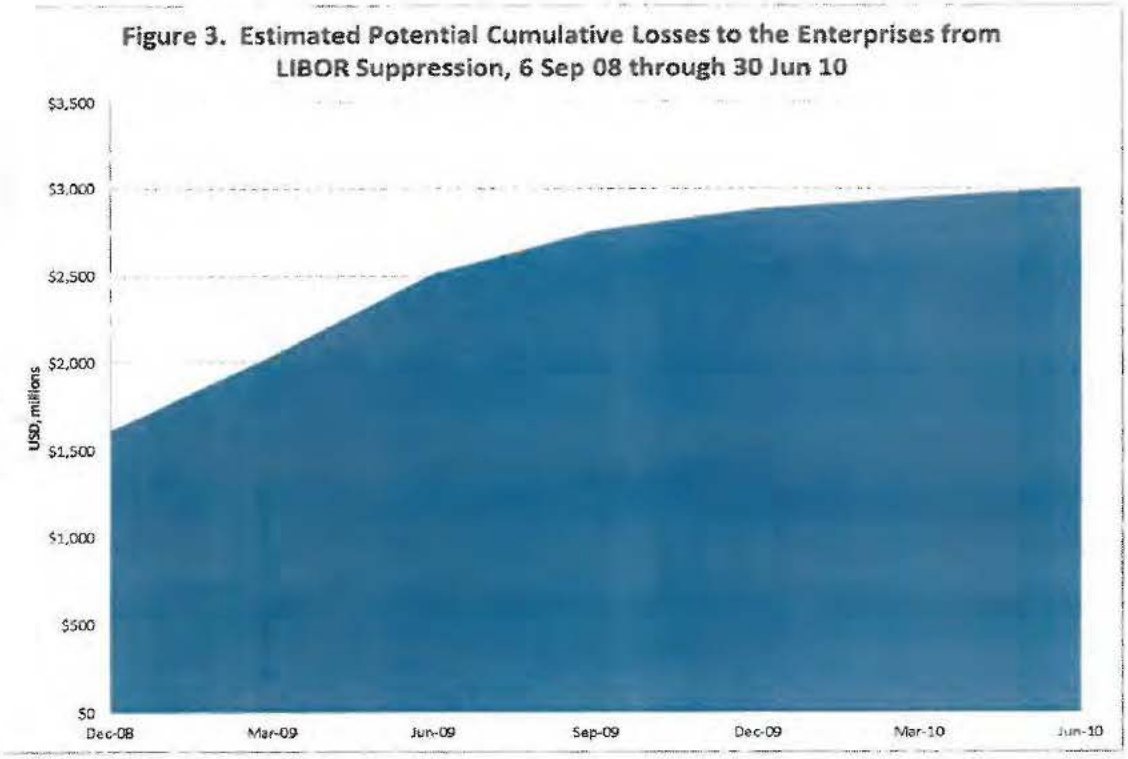
[c] To simplify our calculations, we assumed that all Enterprise floating rate assets referenced 1-month LIBOR. In practice, mortgage-related bonds and interest rate swaps typically reference either 1-month or 3-month LIBOR.

[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.

Bloch, David

From: Linick, Steve
Sent: Thursday, December 06, 2012 3:29 PM
To: Parker, Richard; Bloch, David; Lee, Timothy
Cc: Stephens, Michael
Subject: LIBOR

(b) (5)

Can you advise me who you gave you clearance. tx

Bloch, David

From: Parker, Richard
Sent: Thursday, November 29, 2012 4:36 PM
To: Bloch, David; Lee, Timothy; Grob, George
Subject: RE: LIBOR Memo 11 29 12 (DPB PM).docx

Concur. Outstanding work. Out is goes. Tx to all. - R

From: Bloch, David
Sent: Thursday, November 29, 2012 3:42 PM
To: Lee, Timothy; Parker, Richard; Grob, George
Subject: LIBOR Memo 11 29 12 (DPB PM).docx

With minor corrections. I believe this is what was envisioned by Steve & Em. Thanks. David

Bloch, David

From: Lee, Timothy
Sent: Wednesday, November 28, 2012 4:36 PM
To: Bloch, David
Subject: RE: LIBOR conversations

You're welcome to call me this evening. (b) (6)

From: Bloch, David
Sent: Wednesday, November 28, 2012 4:10 PM
To: Lee, Timothy
Subject: RE: LIBOR conversations

Have a question.

From: Lee, Timothy
Sent: Wednesday, November 28, 2012 2:47 PM
To: Bloch, David
Cc: Parker, Richard; Grob, George
Subject: LIBOR conversations

Hi David,

FYI, these records indicate informal conversations with (b) (6), Fannie, and Freddie on LIBOR c. 8-9 August. I would, if asked, testify that I discussed my preliminary indications of LIBOR losses to the Enterprises at each of these conversations, and that I got no indication that they had already undertaken any work on the matter before these conversations.

Tim

Bloch, David

From: Lee, Timothy
Sent: Wednesday, November 28, 2012 2:47 PM
To: Bloch, David
Cc: Parker, Richard; Grob, George
Subject: LIBOR conversations
Attachments: LIBOR; LIBOR; LIBOR/Barclays Call

Hi David,

FYI, these records indicate informal conversations with (b) (6), Fannie, and Freddie on LIBOR c. 8-9 August. I would, if asked, testify that I discussed my preliminary indications of LIBOR losses to the Enterprises at each of these conversations, and that I got no indication that they had already undertaken any work on the matter before these conversations.

Tim

Bloch, David

Subject:	LIBOR
Location:	Your office
Start:	Thu 8/9/2012 9:30 AM
End:	Thu 8/9/2012 9:45 AM
Recurrence:	(none)
Meeting Status:	Meeting organizer
Organizer:	Lee, Timothy
Required Attendees:	(b) (6)

Bloch, David

Subject:	LIBOR
Location:	I will call -- please provide number
Start:	Thu 8/9/2012 4:00 PM
End:	Thu 8/9/2012 4:15 PM
Recurrence:	(none)
Meeting Status:	Meeting organizer
Organizer:	Lee, Timothy
Required Attendees:	(b) (6)

Bloch, David

Subject:	LIBOR/Barclays Call
Location:	Caroline to host: MML 202-752-6000 Code 113539
Start:	Thu 8/9/2012 4:00 PM
End:	Thu 8/9/2012 4:15 PM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	OIG Meeting Administrator

When: Thursday, August 09, 2012 4:00 PM-4:15 PM (GMT-05:00) Eastern Time (US & Canada).
Where: (b) (6) to host: (b) (2)

Note: The GMT offset above does not reflect daylight saving time adjustments.

~~*~*~*~*~*~*~*~*

Bloch, David

From: Lee, Timothy
Sent: Wednesday, November 28, 2012 2:39 PM
To: Bloch, David
Subject: Emailing: LIBOR Meeting September 11.docx
Attachments: LIBOR Meeting September 11.docx

Hi David,

As discussed. Note the "get the ball rolling" and "start the required analysis" quotes.

Tim

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Files

From: Timothy Lee

Subject: Coordination Meeting on LIBOR

Date: September 11, 2012

Today at 1030, Richard Parker and I participated in a conference call with senior staff at FHFA and representatives of the Department of Justice's civil division. Specifically, attendees outside FHFA-OIG included:

- Jon Greenlee, Fred Graham, and Nina Nichols from FHFA
- [redacted] (b) (6) [redacted] from DOJ

The purpose of the conversation was to set up a working relationship between FHFA and DOJ. For the past several weeks we have had conversations with DOJ about the likelihood and extent of possible losses to the Enterprises stemming from LIBOR manipulation. [redacted] (b) (5) [redacted]

After initial introductions, DOJ [redacted] (b) (5) [redacted]. Jon Greenlee [redacted] (b) (5) [redacted]

In response to a question from [redacted] (b) (6) [redacted] DOJ [redacted] (b) (5) [redacted] Richard Parker [redacted] (b) (5) [redacted] FHFA [redacted] (b) (5) [redacted]

I closed the meeting with a request for all participants' contact info to circulate.

Bloch, David

From: Parker, Richard
Sent: Thursday, November 15, 2012 3:51 PM
To: Linick, Steve
Cc: Lee, Timothy; Bloch, David; Stephens, Michael; Grob, George
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

We're on it. -R

Sent from my Windows Phone

From: Linick, Steve
Sent: 11/15/2012 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] Greenlee [redacted] Ed DeMarco [redacted] (b) (5) [redacted]

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

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] 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

Bloch, David

From: Parker, Richard
Sent: Thursday, November 15, 2012 2:26 PM
To: Grob, George; Bloch, David
Cc: Lee, Timothy; Linick, Steve
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Agreed. Moreover, Tim noted [redacted] (b) (5), (b) (4) [redacted]

From: Grob, George
Sent: Thursday, November 15, 2012 2:23 PM
To: Parker, Richard; Bloch, David
Cc: Lee, Timothy; Linick, Steve
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Actually, I got the two mixed up. I meant to say that I did not see a Fannie plan of action here. [redacted] (b) (5) [redacted] The only action step mentioned [redacted] (b) (4) [redacted] (b) (5) [redacted].

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) (5), (b) (4) [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

Bloch, David

From: Lee, Timothy
Sent: Thursday, November 15, 2012 2:09 PM
To: Bloch, David
Subject: FW: LIBOR distribution memo
Attachments: LIBOR Distribution Memo.docx

FYI

From: Lee, Timothy
Sent: Thursday, November 15, 2012 2:08 PM
To: Parker, Richard
Subject: LIBOR distribution memo

Hi Steve,

With minor changes to reflect today's receipt of the Agency response. In addition to Steve, would Emilia and Mike want to look at this note?

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: Richard Parker

From: Timothy Lee

Subject: FHFA-OIG interagency assistance on LIBOR

Date: November 15, 2012

On November 2, we submitted our analysis to the Agency of the effect of possible LIBOR manipulation on Fannie Mae and Freddie Mac under conservatorship. Today, we received formal responses to our analysis from FHFA and both Enterprises. The Enterprises have engaged an external law firm, Dickstein Shapiro, to oversee an intensive review of our analysis and possible legal options related thereto. (b) (5)

(b) (5)

(b) (5)

Bloch, David

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 [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

Bloch, 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
Attachments: Final Memo FHFA-OIG Memo re LIBOR Manipulation dtd Nov 15 2012.pdf; Memo 11022012.pdf; FHLMC LIBOR.pdf; (b) (5) Letter dtd Oct 12 2012.pdf (b) (6) Libor Letter dtd Oct 12, 2012.pdf; LIBOR Deck Nov 2012.ppt

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

Bloch, David

From: Linick, Steve
Sent: Monday, November 05, 2012 5:24 PM
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
Attachments: Memo 11022012.pdf

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

---

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

[redacted] (b) (6)
Federal Housing Finance Agency
Office of Inspector General
[redacted] (b) (6) office
[redacted] (b) (6) ell
[redacted] (b) (6) main line

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]

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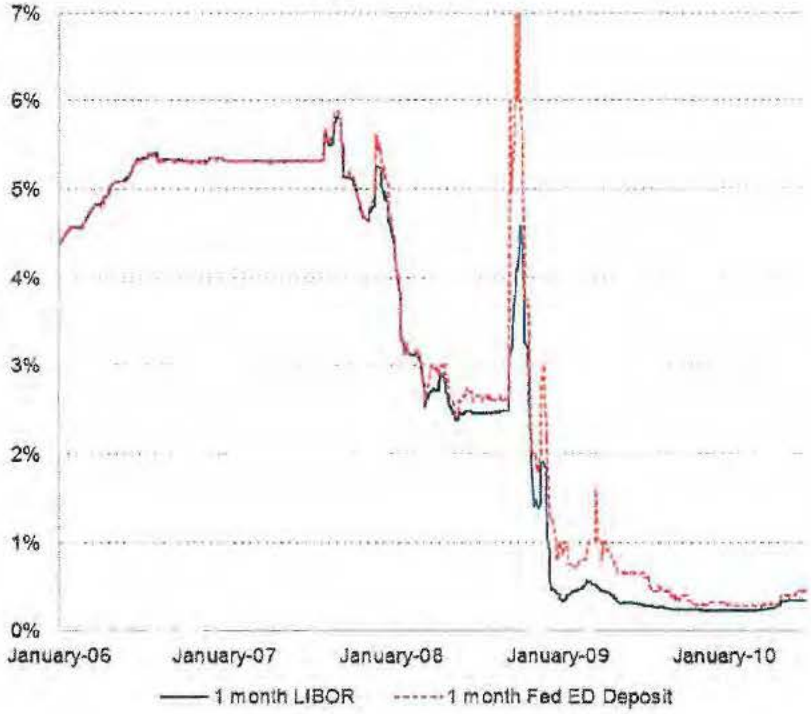
[b] While the Enterprises may enter into both pay-floating rate and receive-floating rate swaps, in order to offset the risk of their (principally fixed-rate) mortgage assets, historically their overall net investment in interest rate swaps has been to receive floating-rate payments.

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

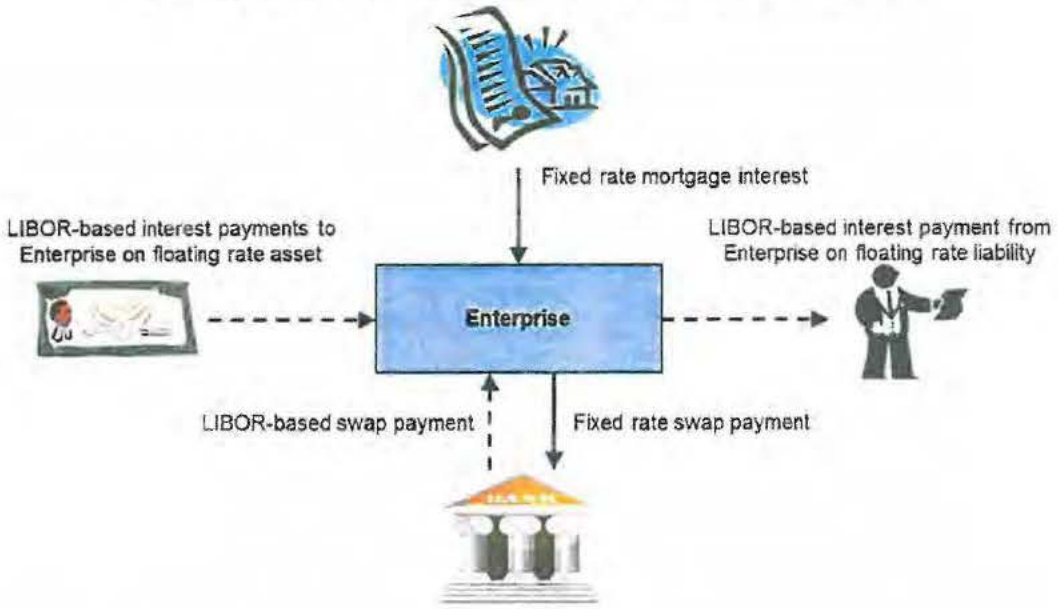


This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

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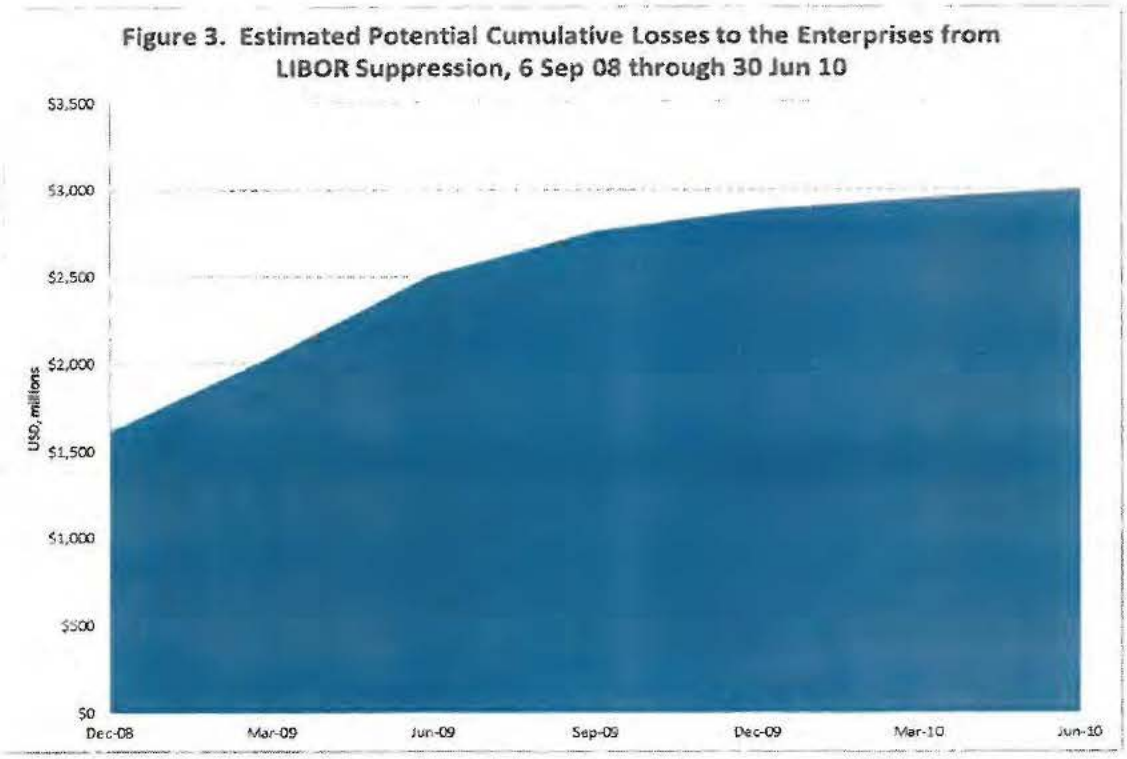
[c] To simplify our calculations, we assumed that all Enterprise floating rate assets referenced 1-month LIBOR. In practice, mortgage-related bonds and interest rate swaps typically reference either 1-month or 3-month LIBOR.

[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.

Bloch, David

From: Lee, Timothy
Sent: Thursday, November 01, 2012 10:47 AM
To: Bloch, David
Subject: The latest and greatest

https://sharepoint.[redacted] (b) (2) [redacted] (b) (2) [redacted]

https://sharepoint.[redacted] (b) (2) [redacted]

https://sharepoint.[redacted] (b) (2) [redacted]

Bloch, David

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] (b) (5) [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: (b) (6)
Cell: (b) (6)

Bloch, David

From: Parker, Richard
Sent: Wednesday, October 31, 2012 10:41 AM
To: Bloch, David
Subject: RE: LIBOR Excel sheet

Great. Tx, R

From: Bloch, David
Sent: Wednesday, October 31, 2012 10:35 AM
To: Parker, Richard
Subject: RE: LIBOR Excel sheet

Awaiting a returned call again.

From: Parker, Richard
Sent: 10/31/2012 10:23 AM
To: Bloch, David
Subject: RE: LIBOR Excel sheet

Great. On what day, and at what time, will be able to have the discussion with our friends at the SEC?

From: Bloch, David
Sent: Wednesday, October 31, 2012 9:53 AM
To: Parker, Richard
Subject: RE: LIBOR Excel sheet

Rich – I am satisfied that we can move this forward consistent with our previous discussions. David

---

From: Parker, Richard
Sent: Monday, October 29, 2012 5:58 PM
To: Lee, Timothy
Cc: Bloch, David
Subject: RE: LIBOR Excel sheet

David,

What say you, partner?

Rich

From: Lee, Timothy
Sent: Monday, October 29, 2012 4:46 PM
To: Parker, Richard
Cc: Bloch, David
Subject: LIBOR Excel sheet

Hi Old Salt,

With a little spare time on my hands today, I went back and triple-checked all the numbers in the LIBOR analysis. I have also hyperlinked all the numbers I used to specific tables in the financial statements, so that anyone who wants to can click through and see immediately where I got my numbers. This obviates anybody else's need to recheck the Excel sheet. At this point, I am perfectly content to distribute this file along with the memo when authorized. In fact, for the sake of transparency, I recommend we do exactly that.

This file is also on SharePoint.

Tim

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

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