Bloch, David

From: Lee, Timothy
Sent: Monday, October 29, 2012 4:46 PM
To: Parker, Richard
Cc: Bloch, David
Subject: LIBOR Excel sheet
Attachments: LIBOR proposal Verified Oct 29.xlsx

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

Cash Flow Shortfall from LIBOR Suppression
Enterprises Variable Rate Mortgage Assets and Interest Rate Swaps
dollars in millions

	30-Jun-07	30-Sep-07	31-Dec-07	31-Mar-08	30-Jun-08	30-Sep-08	31-Dec-08	31-Mar-09	30-Jun-09	30-Sep-09	31-Dec-09	31-Mar-10	30-Jun-10
Swap Notional Amounts													
Fannie Mae	Table 25	Table 28	Table 30	Table 43	Table 43	Table 48	Table 29	Table 50	Table 45	Table 47	Table 53	Table 45	Table 48
Pay Fixed Swaps	303,243	329,657	377,738	443,845	526,028	515,853	546,916	620,850	650,447	435,693	382,600	315,857	317,259
Less: Receive Fixed Swaps	248,916	256,902	285,885	408,658	409,181	372,555	451,081	549,823	571,802	340,384	275,417	229,293	234,901
Plus: Basis Swaps	7,601	8,401	7,001	18,026	25,626	24,761	24,560	19,815	22,200	11,000	3,225	3,220	3,020
Net Receive LIBOR Swaps	61,928	81,156	98,854	53,213	142,473	168,059	120,395	90,842	100,845	106,309	110,408	89,784	85,378
Freddie Mac	Table 7	Table 7	Table 15	Table 17	Table 26	Table 28	Table 38	Table 25	Table 26	Table 26	Table 38	Table 29	Table 29
Less: Receive Fixed Swaps	214,657	282,070	301,649	326,247	245,054	329,828	279,609	336,207	284,244	320,458	271,403	255,940	349,545
Plus: Pay Fixed Swaps	284,927	380,370	409,682	425,450	411,074	452,633	404,359	342,747	401,901	414,776	382,259	382,145	386,194
Plus: Basis Swaps	473	1,093	498	17,988	32,205	82,205	82,190	82,090	51,065	51,615	52,045	54,070	53,910
Net Receive LIBOR Swaps	70,743	99,393	108,531	117,191	198,225	205,010	206,940	88,630	168,722	145,933	162,901	180,275	90,559
Enterprises													
Net Receive LIBOR Swaps	132,671	180,549	207,385	170,404	340,698	373,069	327,335	179,472	269,567	252,242	273,309	270,059	175,937
Mortgage Related Securities on Balance Sheet													
Fannie Mae	Table 11	Table 11	Table 23	Table 22	Table 22	Table 22	Table 20	Table 20	Table 18	Table 19	Table 22	Table 18	Table 22
Capital Markets group's mortgage-related securities	333,959	329,158	324,326	314,867	333,124	359,495	362,703	353,172	369,546	368,389	352,709	434,532	391,615
Freddie Mac Variable Rate Securities Ratio	43%	42%	42%	43%	39%	41%	37%	33%	34%	34%	40%	52%	52%
Estimated Fannie Mae Variable Rate Securities	143,728	139,816	136,268	134,230	130,345	146,025	132,796	116,457	124,378	125,616	139,775	224,780	204,120
Freddie Mac	Table 10	Table 10	Table 22	Table 15	Table 15	Table 17	Table 24	Table 19	Table 19	Table 19	Table 28	Table 19	Table 20
Fixed Rate Securities	405,650	410,235	417,959	408,735	481,983	437,560	510,116	581,180	550,539	516,778	372,160	159,278	148,851
Variable Rate Securities	306,486	302,929	302,854	303,727	309,815	299,316	294,646	285,924	279,298	267,393	244,296	170,690	162,049
Variable Rate Securities Ratio	43%	42%	42%	43%	39%	41%	37%	33%	34%	34%	40%	52%	52%
Floating Rate Liabilities on Balance Sheet													
Fannie Mae	Table 13	Table 13	Table 28	Note 8	Note 8	Note 9	Note 10	Note 10	Note 10	Note 10	Note 9	Note 9	Note 9
Floating Rate Short Term Debt			-	4,501	4,501	4,495	7,585	3,132	3,102	3,069	50	-	-
Senior Floating Rate Long Term Debt	12,201	15,651	13,700	25,652	33,064	47,087	46,611	58,770	68,766	51,142	42,952	46,170	45,144
Freddie Mac	Table 7.1	Table 7.1	Table 7.3	Table 7.1	Table 7.1	Table 7.1	Table 8.3	Table 7.1	Table 7.1	Table 7.1	Table 9.3	Table 8.3	Table 8.3
Long-Term Debt, Variable Rate	24,176	25,487	25,566	25,230	27,093	24,708	13,664	118,160	126,647	113,775	65,855	126,036	144,833
Total Other Long-Term Debt	483,522	509,744	479,087	504,592	541,851	494,168	433,954	478,379	512,742	460,626	461,051	593,174	585,630
Ratio: Variable Rate Long-Term Debt to Other Long-Term Debt	5%	5%	5%	5%	5%	5%	3%	25%	25%	25%	14%	21%	25%
Enterprises													
Estimated Variable Rate Assets Net of Obligations	413,837	401,606	399,856	382,574	375,502	369,051	359,582	222,319	205,161	225,024	275,214	223,264	176,192
Fed ED-LIBOR spread, 1 month	0.00%	-0.02%	-0.10%	-0.04%	-0.16%	-0.16%	-0.87%	-0.42%	-0.40%	-0.20%	-0.09%	-0.05%	-0.06%
Estimated Damages													
LIBOR Cash Flow Shortfall - Quarterly Totals	(6.3)	24.5	150.5	55.7	295.2	312.3	1,535.0	424.0	474.0	249.1	122.0	65.7	55.0
LIBOR Cash Flow Shortfall - Cumulative	(6.3)	18.2	168.7	224.4	519.6	750.4	1,616.5	2,040.5	2,514.5	2,763.6	2,885.6	2,951.3	3,006.3
Prorated LIBOR Cash Flow Shortfall - 9/6/08 thru 9/30/08						81.5							

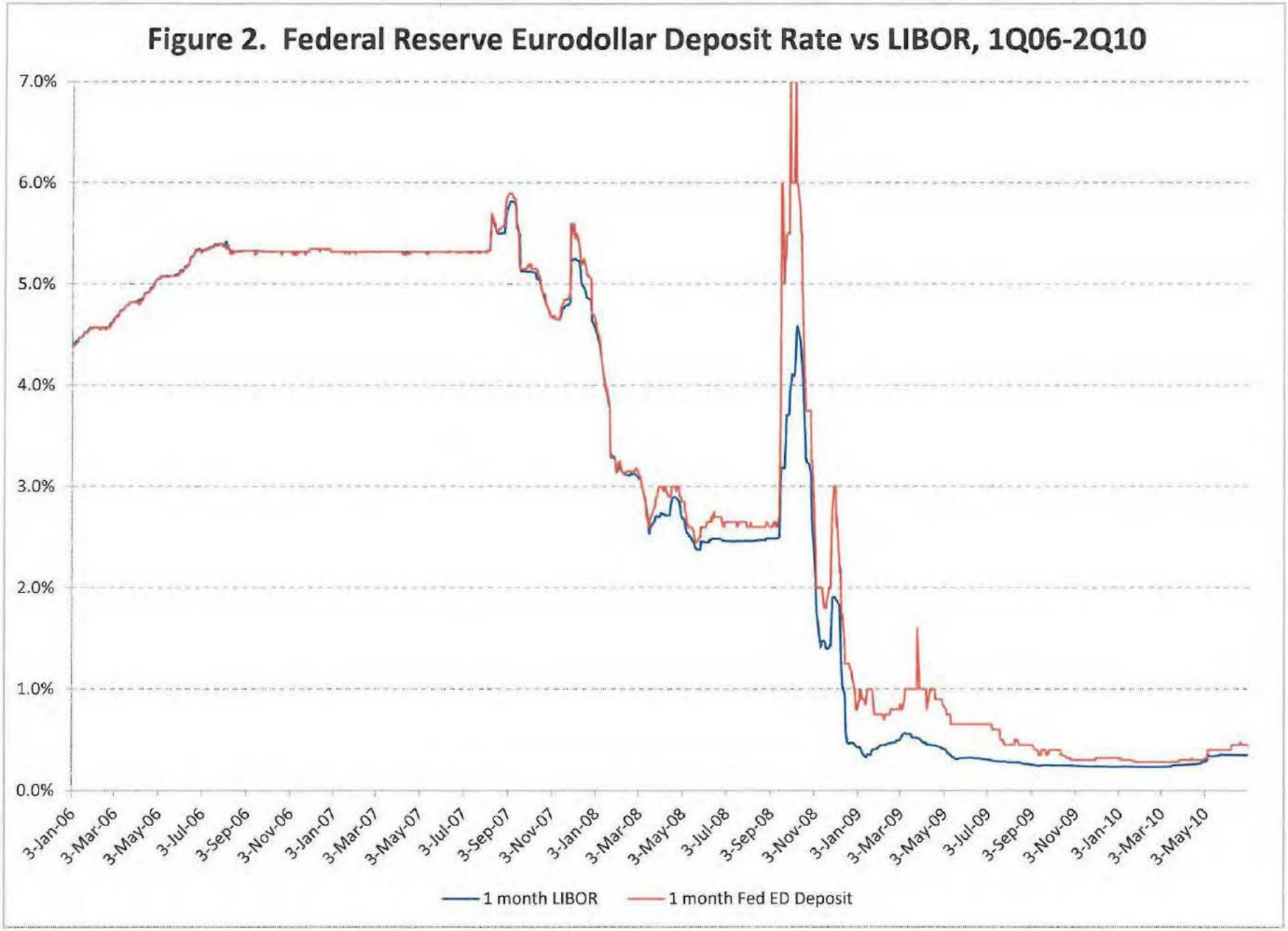
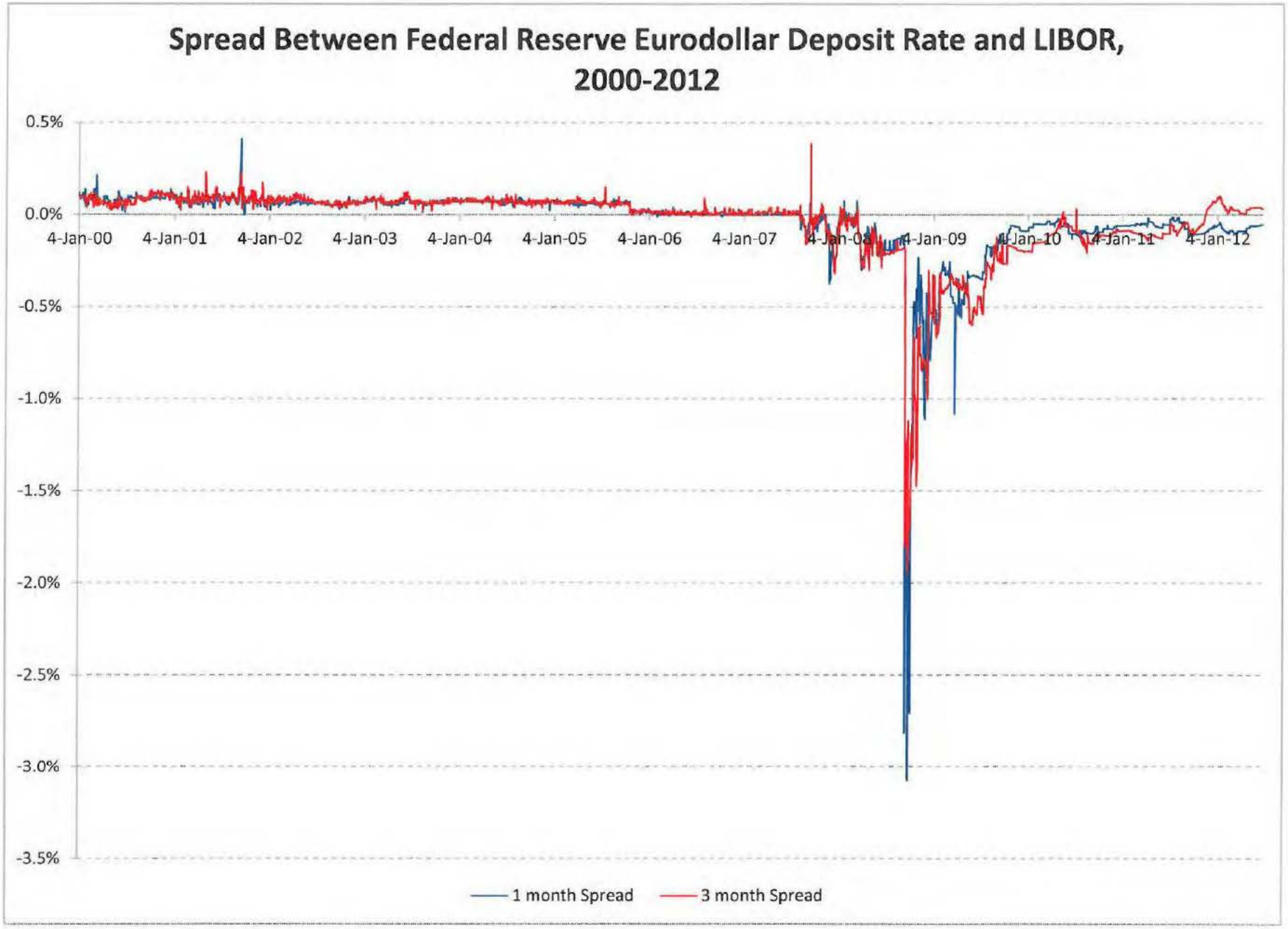


Figure 2. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
3-Jan-06
3-Mar-06
3-May-06
3-Jul-06
3-Sep-06
3-Nov-06
3-Jan-07
3-Mar-07
3-May-07
3-Jul-07
3-Sep-07
3-Nov-07
3-Jan-08
3-Mar-08
3-May-08
3-Jul-08
3-Sep-08
3-Nov-08
3-Jan-09
3-Mar-09
3-May-09
3-Jul-09
3-Sep-09
3-Nov-09
3-Jan-10
3-Mar-10
3-May-10
1 month LIBOR
1 month Fed ED Deposit


Spread Between Federal Reserve Eurodollar Deposit Rate and LIBOR, 2000-2012
0.5%
0.0%
-0.5%
-1.0%
-1.5%
-2.0%
-2.5%
-3.0%
-3.5%
4-Jan-00
4-Jan-01
4-Jan-02
4-Jan-03
4-Jan-04
4-Jan-05
4-Jan-06
4-Jan-07
4-Jan-08
4-Jan-09
4-Jan-10
4-Jan-11
4-Jan-12
1 month Spread
3 month Spread

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

Bloch, David

From: (b) (6)
Sent: Friday, October 26, 2012 2:48 PM
To: Lee, Timothy; Bloch, David
Cc: Parker, Richard
Subject: RE: Sister agencies

OK. This will delay any meeting with FRB-OIG as they want to see the memo before we meet. Let me know when it is cleared for takeoff.

From: Lee, Timothy
Sent: Friday, October 26, 2012 2:47 PM
To: Bloch, David; (b) (6)
Cc: Parker, Richard
Subject: Sister agencies

Hi guys,

Old Salt wanted to make clear that, while we can discuss generalities with other agencies, the LIBOR memo itself stays within FHFA-OIG until further notice.

Tim

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

Bloch, David

From: Wu, Simon
Sent: Thursday, October 25, 2012 4:54 PM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David
Subject: RE: LIBOR: the latest and greatest
Attachments: REDLINE cover memo.docx

Ok. See my comments and edits. Thanks and looks good.

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: (b) (6)

From: Lee, Timothy
Sent: Thursday, October 25, 2012 1:50 PM
To: Parker, Richard
Cc: Bloch, David; Wu, Simon
Subject: RE: LIBOR: the latest and greatest

Hi Old Salt,

Attached are my edits to the cover memo. You will see that the changes are all stylistic.

As far as indexing my work, I have taken care to reference the memorandum thoroughly. The links should click right through to the appropriate sources, so that anything we assert may be quickly and easily verified. That said, the endnote citations may not be MLA (or whatever we use) standard. Should I get help in seeing that they are properly formatted?

Tim

From: Parker, Richard
Sent: Thursday, October 25, 2012 12:53 PM
To: Lee, Timothy
Subject: FW: LIBOR: the latest and greatest

Skipper,

I'm alright with this. I need your buy-in. Also – pls tell me what you did to index your work against the sources set forth in the end notes and links. Tx,

Rich

From: (b) (6)
Sent: Thursday, October 25, 2012 12:01 PM

To: Parker, Richard
Subject: RE: LIBOR: the latest and greatest

Two docs are attached; the final doc is "LIBOR memos and appendix" and it contains both memos and the appendix from the links below. There is one comment bubble on the first page that needs a second look for rephrasing. I did read through everything and made minor proofing corrections, but because the final contains a number of hyperlinks I did not want to Track Change in it as many times the links go wonky. Therefore, the second doc "REDLINE" is a redline (HA, go figure) of all your original files vs the final and you can see all of the proofing edits I made. If you do not agree with something I changed, you will need to restore it in the final. Holler if you have any questions. ~pw

---

From: Parker, Richard
Sent: Wednesday, October 24, 2012 5:18 PM
To: (b) (6)
Subject: FW: LIBOR: the latest and greatest

(b) (6)

Here are the 3 documents about which we spoke. Many thanks for the good help.

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: Lee, Timothy
Sent: Wednesday, October 24, 2012 11:41 AM
To: Parker, Richard
Subject: LIBOR: the latest and greatest

Memo with cover note

Spreadsheet

Appendix

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: October ~~22~~26, 2012

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

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

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

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

Agree, maybe "Preliminary estimates provided by my staff shows_"? Simon Wu

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

Date: October 26, 2012

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

In a June 2012 settlement with British and ~~US~~U.S. authorities, including the Department of Justice ~~("~~(DOJ~~"),~~), Barclays Bank Plc ~~("~~(Barclays~~")~~) admitted to submitting falsified borrowing cost data in an effort to manipulate LIBOR to its own advantage.[4] According to subsequent media reports, further LIBOR-related state and federal government investigations remain ongoing.[5] Additionally, several parties have filed civil damage claims seeking compensation for

financial losses related to LIBOR manipulation.[6] These civil suits incorporate allegations that banks contributing to the determination of LIBOR strove to depress the published rates.[a]

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

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

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

Background

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

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

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

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

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

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

Analysis

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

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

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

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

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

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

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

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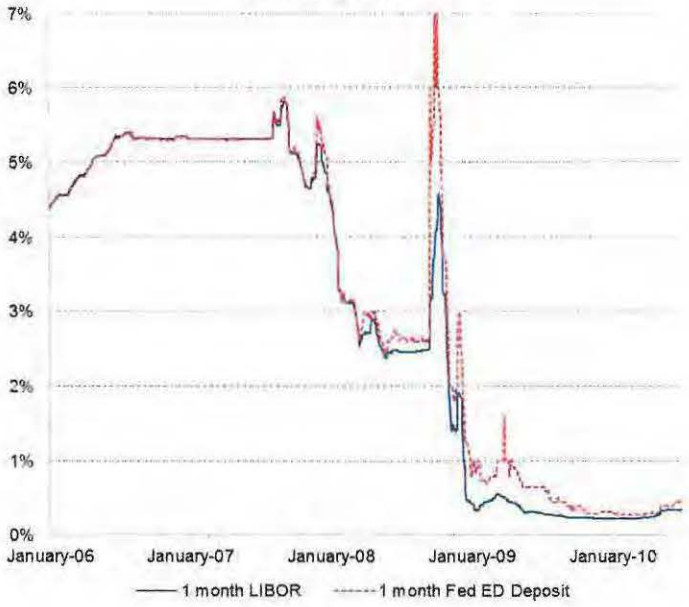
Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10



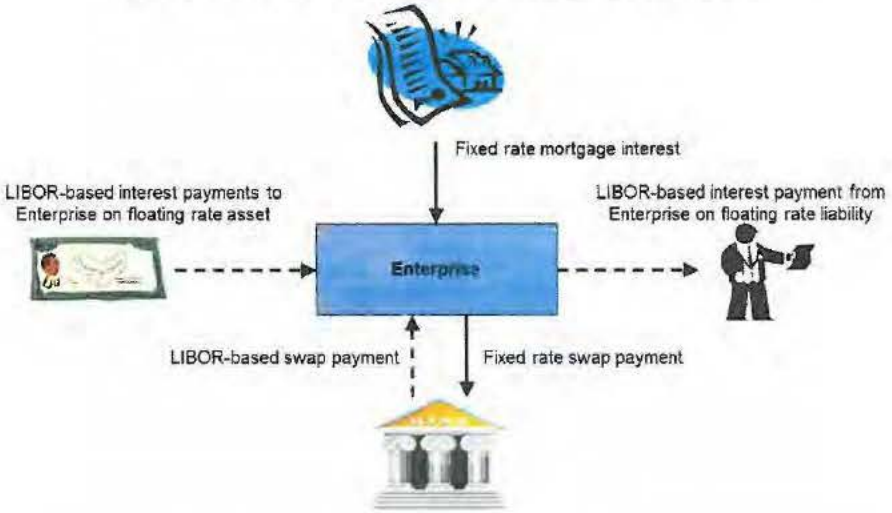
This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

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

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

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

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



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

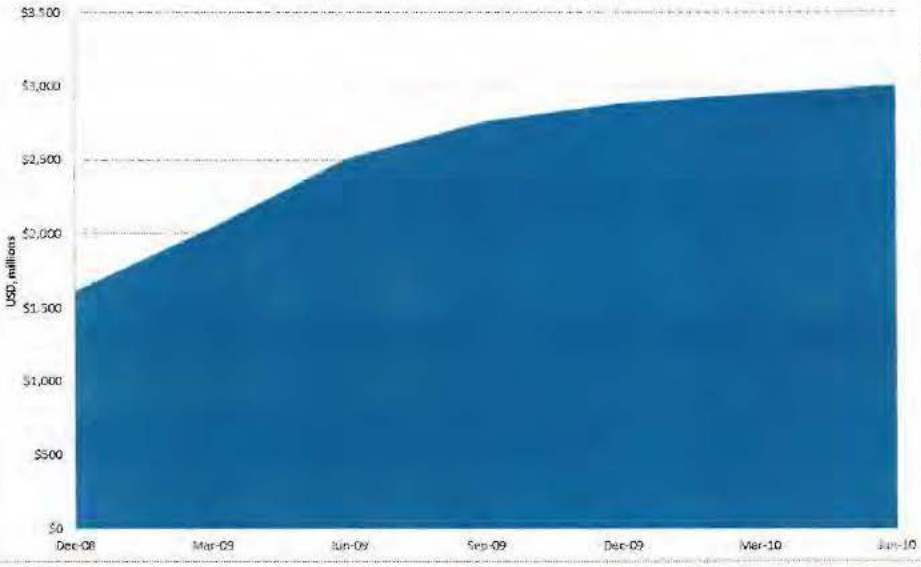
To gauge the effect of possible LIBOR manipulation on the Enterprises, we undertook a three-step analytical process:

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

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

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

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



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

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

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

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

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

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

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	

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

Recommendations

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

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

Appendix
Notes on Analytical Methodology

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

LIBOR Benchmarks

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

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

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

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

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

Calculation of Enterprise Losses

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

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

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

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

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

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

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

Limitations of Our Analysis

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

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

Endnotes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Bloch, David

From: Lee, Timothy
Sent: Thursday, October 25, 2012 1:50 PM
To: Parker, Richard
Cc: Bloch, David; Wu, Simon
Subject: RE: LIBOR: the latest and greatest
Attachments: REDLINE cover memo.docx

Hi Old Salt,

Attached are my edits to the cover memo. You will see that the changes are all stylistic.

As far as indexing my work, I have taken care to reference the memorandum thoroughly. The links should click right through to the appropriate sources, so that anything we assert may be quickly and easily verified. That said, the endnote citations may not be MLA (or whatever we use) standard. Should I get help in seeing that they are properly formatted?

Tim

From: Parker, Richard
Sent: Thursday, October 25, 2012 12:53 PM
To: Lee, Timothy
Subject: FW: LIBOR: the latest and greatest

Skipper,

I'm alright with this. I need your buy-in. Also – pls tell me what you did to index your work against the sources set forth in the end notes and links. Tx,

Rich

From: [redacted] (b) (6)
Sent: Thursday, October 25, 2012 12:01 PM
To: Parker, Richard
Subject: RE: LIBOR: the latest and greatest

Two docs are attached; the final doc is "LIBOR memos and appendix" and it contains both memos and the appendix from the links below. There is one comment bubble on the first page that needs a second look for rephrasing. I did read through everything and made minor proofing corrections, but because the final contains a number of hyperlinks I did not want to Track Change in it as many times the links go wonky. Therefore, the second doc "REDLINE" is a redline (HA, go figure) of all your original files vs the final and you can see all of the proofing edits I made. If you do not agree with something I changed, you will need to restore it in the final. Holler if you have any questions. ~pw

---

From: Parker, Richard
Sent: Wednesday, October 24, 2012 5:18 PM
To: [redacted] (b) (6)
Subject: FW: LIBOR: the latest and greatest

[redacted] (b) (6),

Here are the 3 documents about which we spoke. Many thanks for the good help.

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: Lee, Timothy
Sent: Wednesday, October 24, 2012 11:41 AM
To: Parker, Richard
Subject: LIBOR: the latest and greatest

Memo with cover note

Spreadsheet

Appendix

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: October ~~22~~26, 2012

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

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

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

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

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

Date: October 26, 2012

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

In a June 2012 settlement with British and ~~US~~U.S. authorities, including the Department of Justice ~~("~~(DOJ~~")~~), Barclays Bank Plc ~~("~~(Barclays~~")~~) admitted to submitting falsified borrowing cost data in an effort to manipulate LIBOR to its own advantage.[4] According to subsequent media reports, further LIBOR-related state and federal government investigations remain ongoing.[5] Additionally, several parties have filed civil damage claims seeking compensation for

financial losses related to LIBOR manipulation.[6] These civil suits incorporate allegations that banks contributing to the determination of LIBOR strove to depress the published rates.[a]

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

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

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

Background

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

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

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

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

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

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

Analysis

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

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

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

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

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

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

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

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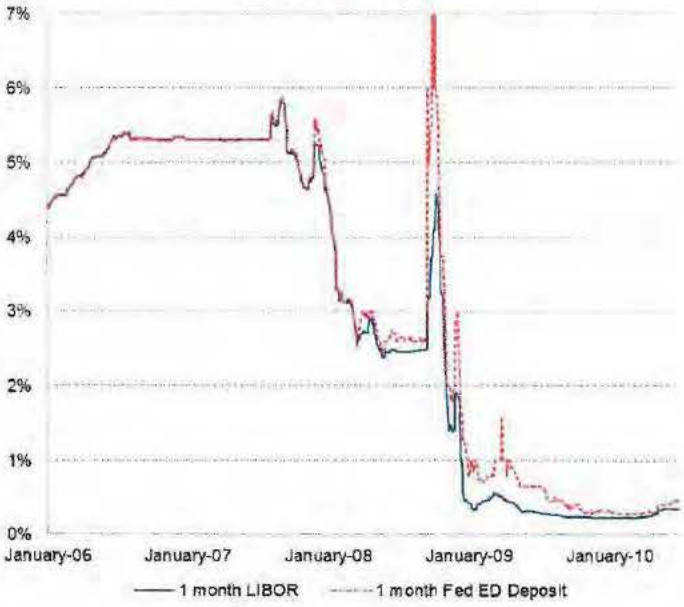
Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10



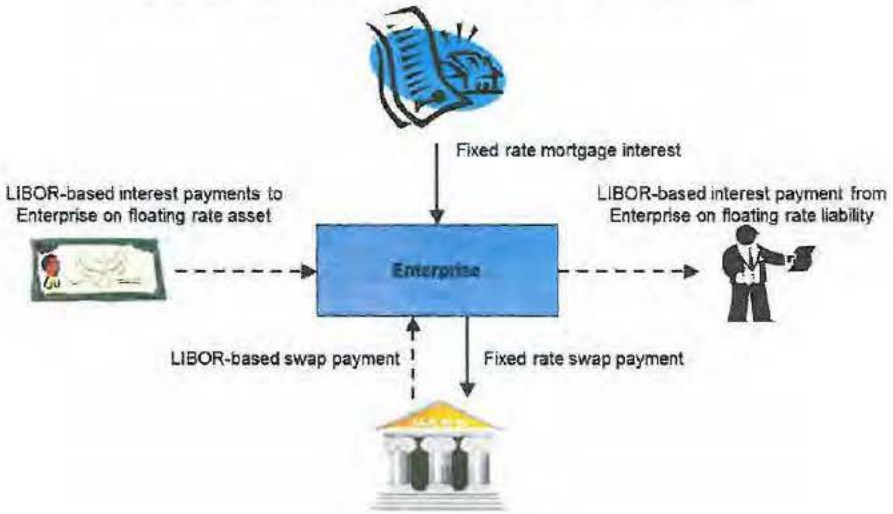
This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

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

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

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

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



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

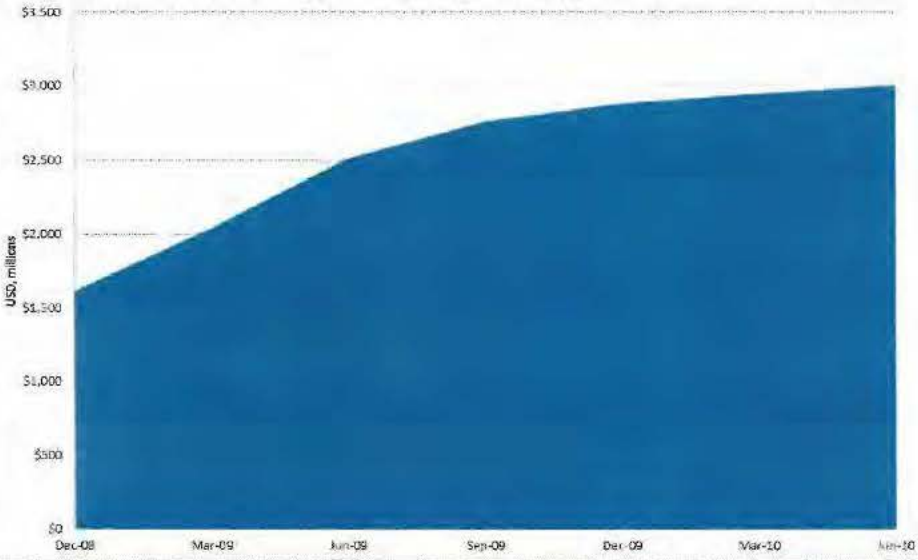
To gauge the effect of possible LIBOR manipulation on the Enterprises, we undertook a three-step analytical process:

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

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

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

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



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

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

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

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

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

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

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	

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

LIBOR Benchmarks

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

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

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

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

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

Calculation of Enterprise Losses

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

- Data on derivatives investments from Table 38, page 109. We calculated Freddie Mac's net receive-LIBOR interest rate swap investment as:
  - Pay-fixed (i.e. Freddie Mac receives LIBOR), *plus*
  - Basis (i.e. Freddie Mac and its counterparty exchange different sets of floating rate interest payments. Generally, these involve the Enterprise's payments of frequently -used ARM indices, such as the Cost of Funds Index or the 12-month Constant Maturity Treasury rate, in exchange for LIBOR-based payments); *less*
  - Receive-fixed (i.e. Freddie Mac pays LIBOR).
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- Data on Freddie Mac's long-term debt liabilities, including variable-rate liabilities, in Table 8.3, page 224.
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- Except where explicitly disclosed, short-term variable rate obligations of the Enterprises were excluded from the analysis as a relatively minor component.

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

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

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

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

Limitations of Our Analysis

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

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

Endnotes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Edward J. DeMarco, Acting Director

From: Steve A. Linick, Inspector General

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

Date: October ~~22~~26, 2012

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

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

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

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

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

Date: October 26, 2012

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

In a June 2012 settlement with British and ~~US~~U.S. authorities, including the Department of Justice ~~("~~(DOJ~~"),~~), Barclays Bank Plc ~~("~~(Barclays~~")~~) admitted to submitting falsified borrowing cost data in an effort to manipulate LIBOR to its own advantage.[4] According to subsequent media reports, further LIBOR-related state and federal government investigations remain ongoing.[5] Additionally, several parties have filed civil damage claims seeking compensation for

financial losses related to LIBOR manipulation.[6] These civil suits incorporate allegations that banks contributing to the determination of LIBOR strove to depress the published rates.[a]

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

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

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

Background

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

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

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

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

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

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

Analysis

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

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

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

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

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

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

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

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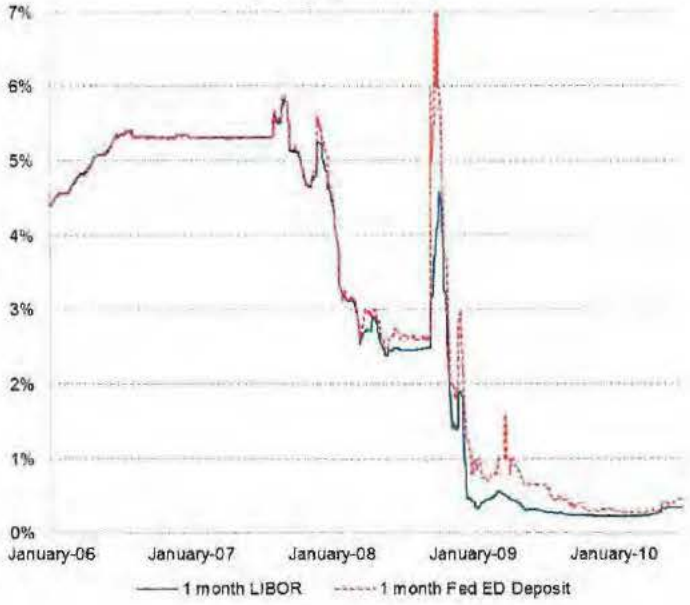
Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10



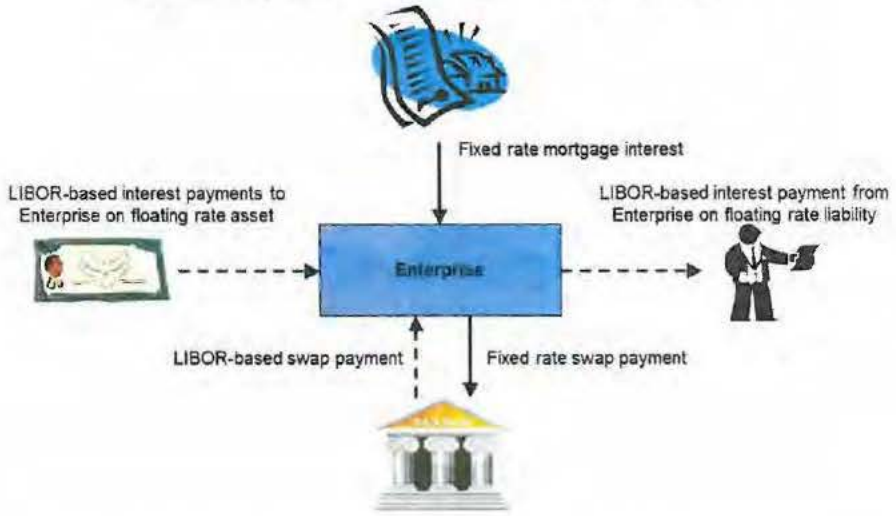
This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[17] Moreover, it is consistent with DOJ's statement of facts regarding Barclays' admitted LIBOR manipulation, which reads in part:

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

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

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

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



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

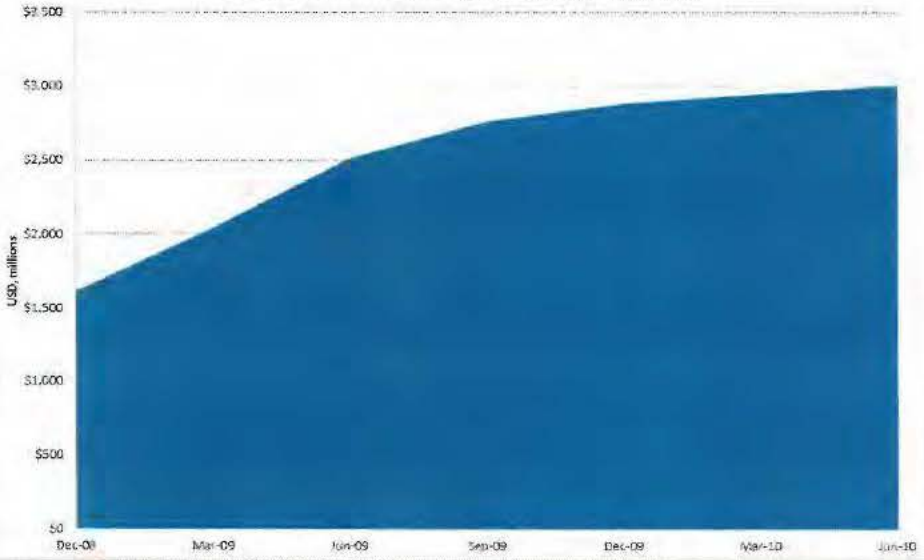
To gauge the effect of possible LIBOR manipulation on the Enterprises, we undertook a three-step analytical process:

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

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

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

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



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

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

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

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

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

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

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:

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- **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:

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

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

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

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

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

Limitations of Our Analysis

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

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

Endnotes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Bloch, David

From: Lee, Timothy
Sent: Thursday, October 25, 2012 10:32 AM
To: Bloch, David
Subject: FW: Greetings and Meeting Request

Sent from my Windows Phone

From: (b) (6)
Sent: 10/24/2012 11:00
To: (b) (6) v
Cc: Lee, Timothy; Febles, Rene
Subject: Greetings and Meeting Request

(b) (6),

Hope all is well with you and the rest of the team at FRB-OIG.

Here at FHFA-OIG in the wake of the LIBOR reports, our Senior Policy Analyst, Tim Lee has done some analysis to gauge the effect of any downward manipulation on Fannie Mae and Freddie Mac. (b) (5)

It strikes Tim (b) (5) (b) (5)

(b) (5)

Therefore, I wanted to reaching out to you at Fed IG, to see if we could meet with someone at the IG who has a grounding in business and finance, to share our findings and discuss their implications for the Federal Reserve. Of course, we are always happy to help in any way we can. Can you please provide me with a contact and help arrange a meeting? I have copied Rene Febles, Assistant Inspector General for Investigations at FHFA-OIG on this email.

I look forward to hearing from you. Many thanks!!

(b) (6)
Investigative Counsel
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Telephone: (b) (6)

BlackBerry: (b) (6)
(b) (6)

Bloch, David

From: Grob, George
Sent: Friday, October 19, 2012 10:55 AM
To: Bloch, David
Subject: FW: Libor
Attachments: LIBOR proposal.xlsx; LIBOR action memo Oct 19.docx; Appendix.docx

David,

I was sure you were invited. See below.

George

From: Parker, Richard
Sent: Friday, October 19, 2012 8:40 AM
To: Linick, Steve
Cc: [redacted] (b) (6) [redacted]; Grob, George; Bloch, David; DiSanto, Emilia; Stephens, Michael
Subject: FW: Libor

From: Lee, Timothy
Sent: Thursday, October 18, 2012 9:23 PM
To: Parker, Richard
Subject: RE: Libor

These files are what I am going with tomorrow. They are already on SharePoint.

From: Linick, Steve
Sent: Thursday, October 18, 2012 4:25 PM
To: Parker, Richard
Cc: [redacted] (b) (6) [redacted]
Subject: Libor

Rich, can I get the latest version of the Libor memo with [redacted] (b) (6) [redacted] additions. Also ,please include him in the meeting tmrw. tx

OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

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

Date: October 19, 2012

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

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

---

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

In a June 2012 settlement with British and US 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

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. FHFA-OIG's preliminary review of the Enterprises' financial statements and historical interest rate data indicate that, during conservatorship, they 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 with the Enterprises.

Because of the seriousness of these allegations and the possibility that Treasury and the Enterprises may have suffered significant losses from LIBOR manipulation, FHFA-OIG should 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 Senior Preferred Share Purchase Agreements ("PSPAs") with each. Under the terms of the PSPAs, Treasury provides capital funding directly to the Enterprises in amounts necessary to ensure their continued solvency.[8] To date, the federal government has provided the Enterprises $187 billion.[9]

As part of their business, the Enterprises have always held substantial quantities of floating-rate assets, on which interest is recalculated and paid each month or quarter based on currently prevailing short-term rates. Such investments are popular because, 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:

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creditworthiness." University of Pennsylvania, "The LIBOR Mess: How Did It Happen – And What Lies Ahead?", July 18, 2012

- **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. FHFA-OIG estimates 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.

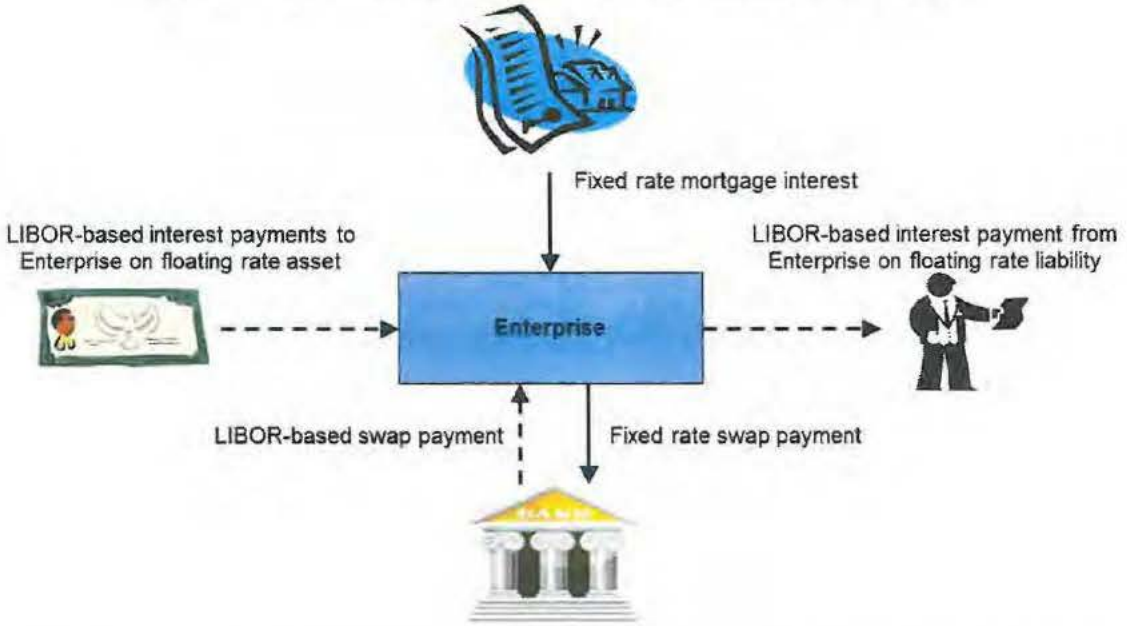
The interest due for such floating rate obligations is recalculated for each payment period by reference to the current value of LIBOR.

FHFA-OIG Analysis

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 may be partially offset by lower borrowing costs on the Enterprises' own floating-rate liabilities.)

[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.

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



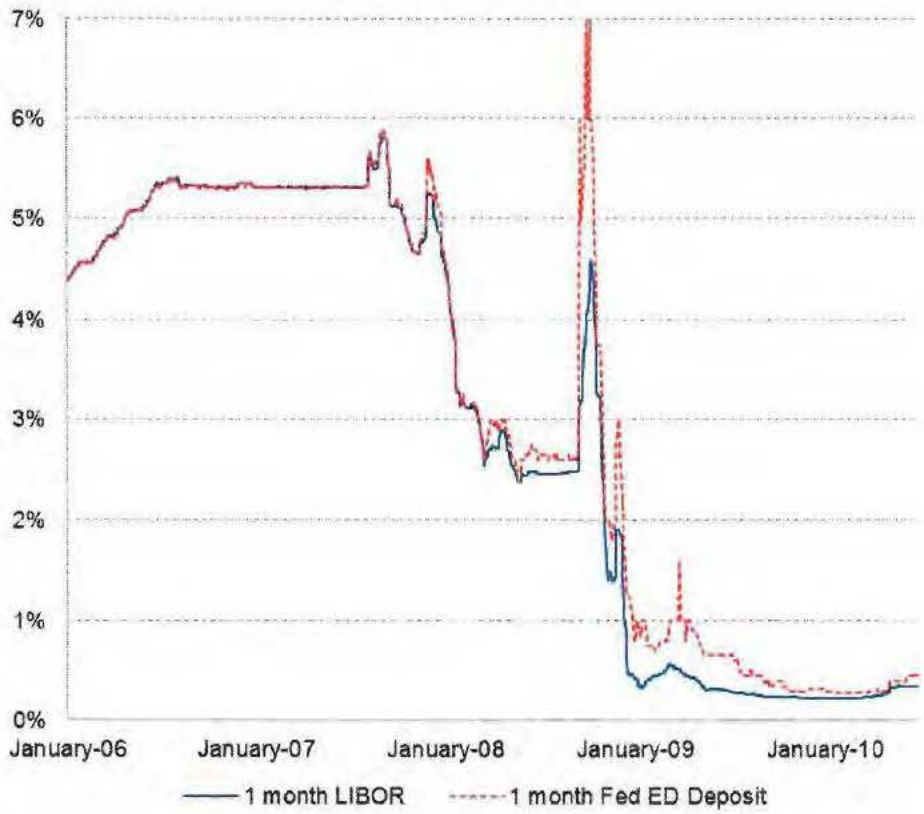
To the extent that the Enterprises suffered such "short-changing" of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury's investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have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

To estimate the timing and extent of any potential LIBOR manipulation, FHFA-OIG compared historical data on two floating rate indices:

- 1-month[11] LIBOR rates; and
- The Federal Reserve's published Eurodollar deposit rates 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.

Figure 2 illustrates the historical correlation of these two measures. Before mid-2007, the difference remained near zero. A former Federal Reserve economist observed, "effectively, these two rates should be the same as they are the same instrument."[13] However, as the financial crisis unfolded, the two series diverged substantially for a period of years, and briefly by as much as three percentage points. This anomaly has been cited in civil complaints as evidence of financial institutions' LIBOR manipulation.[14]

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



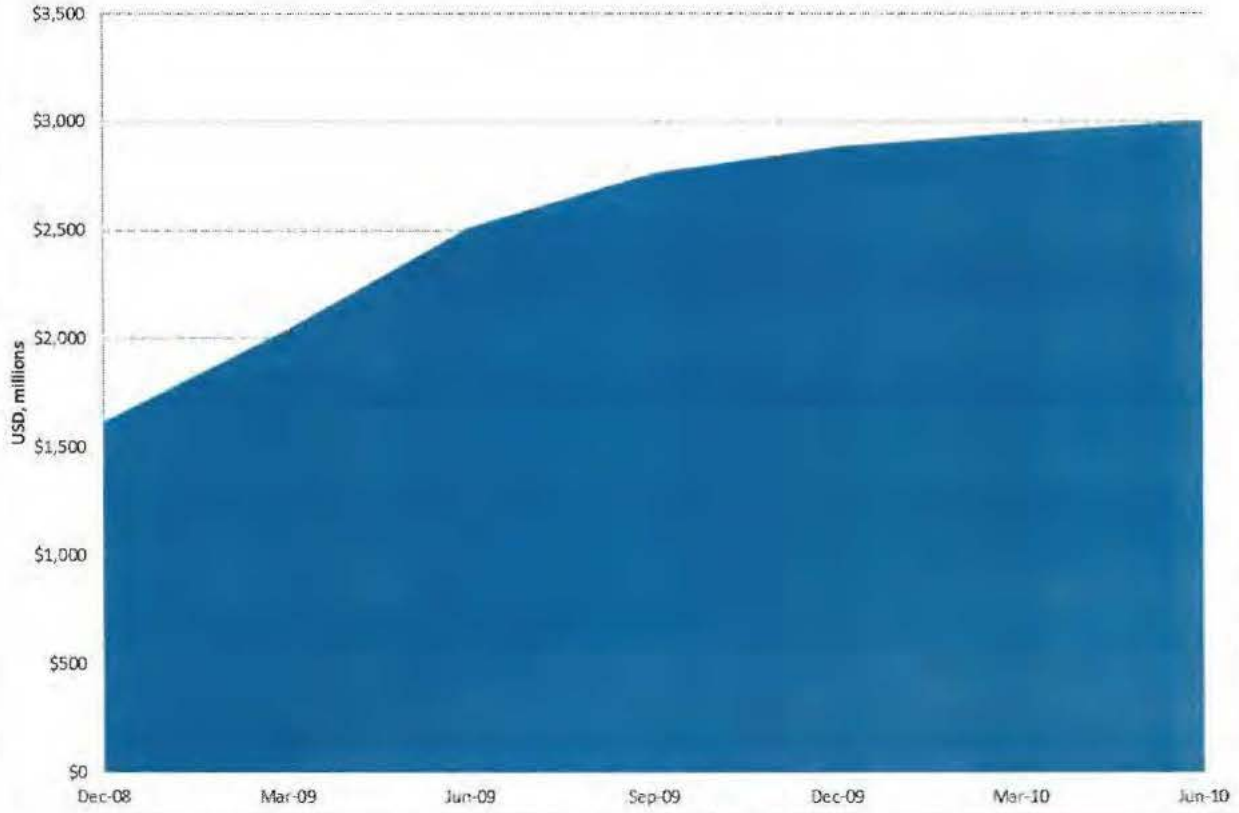
To gauge the effect of possible LIBOR manipulation on the Enterprises, FHFA-OIG undertook a three-step analytical process:

- First, FHFA-OIG measured the daily divergence between 1-month LIBOR and the corresponding Federal Reserve Eurodollar deposit 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, FHFA-OIG 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.

[c] To simplify its calculations, FHFA-OIG 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.

- Finally, using these figures, FHFA-OIG calculated an estimate for the additional quarterly interest payments that the Enterprises would have received if LIBOR had matched the corresponding Federal Reserve Eurodollar deposit rate since conservatorship.[d]

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



Using this methodology, FHFA-OIG estimates that, from the beginning of the Enterprises' conservatorship in 2008 through the second quarter of 2010,[15] net Enterprise losses on their holdings of floating rate bonds and interest rate swaps may have exceeded $3 billion. Over half of those potential losses appear to have taken place in the fourth quarter of 2008 alone.[e]

With respect to the Enterprises' interest rate swaps, it is notable that the leading providers of these instruments are many of the same institutions that contribute to the determination of US dollar LIBOR. Figure 4 presents a table of banks recently identified by the Federal Reserve Bank of New York as major derivatives dealers.[16] Ten of these fourteen major derivatives dealers also contribute to the poll used to determine LIBOR. Collectively, these dealers both set LIBOR and make LIBOR-based payments to their transaction partners, or counterparties, under the

[d] Further details on FHFA-OIG's methodology are available in the Appendix.

[e] FHFA-OIG also estimates 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.

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,[17] four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.[18] However, FHFA-OIG's 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.[19]

Recommendations

In the context of active federal and state investigations into possible LIBOR manipulation, as well as the results of FHFA-OIG's own preliminary analysis of publicly available information, FHFA-OIG believes 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 remains 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, FHFA-OIG should 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 its charge to "conserve and preserve" the assets of the Enterprises, FHFA should have a plan 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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[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."

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[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."

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

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

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

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

[19] At least two complaints, those of Berkshire Bank and the City of Baltimore, name all 16 contributors to US 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.

Appendix

Notes on Analytical Methodology

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

LIBOR Benchmarks

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

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

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

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

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

Calculation of Enterprise Losses

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

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

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

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

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

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

Limitations of FHFA-OIG's Analysis

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

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

Bloch, David

From: Parker, Richard
Sent: Friday, October 19, 2012 8:40 AM
To: Linick, Steve
Cc: [redacted] (b) (6) [redacted]; Grob, George; Bloch, David; DiSanto, Emilia; Stephens, Michael
Subject: FW: Libor
Attachments: LIBOR proposal.xlsx; LIBOR action memo Oct 19.docx; Appendix.docx

---

From: Lee, Timothy
Sent: Thursday, October 18, 2012 9:23 PM
To: Parker, Richard
Subject: RE: Libor

These files are what I am going with tomorrow. They are already on SharePoint.

From: Linick, Steve
Sent: Thursday, October 18, 2012 4:25 PM
To: Parker, Richard
Cc: [redacted] (b) (6) [redacted]
Subject: Libor

Rich, can I get the latest version of the Libor memo with [redacted] (b) (6) [redacted] additions. Also ,please include him in the meeting tmrw. tx

Bloch, David

From: Lee, Timothy
Sent: Thursday, October 18, 2012 1:23 PM
To: Parker, Richard
Cc: Grob, George; Bloch, David
Subject: RE: LIBOR: Talking points for tomorrow

As they say in the Army, aye aye

From: Parker, Richard
Sent: Thursday, October 18, 2012 1:22 PM
To: Lee, Timothy
Cc: Grob, George; Bloch, David
Subject: RE: LIBOR: Talking points for tomorrow

Tim,

Great work. Note that Steve is already on board. He just wants to know that (b) (6) comments have been addressed/resolved, and that (b) (6) understands the resolution and agrees. To that end it would be nice to have a chart (half page) that, from left to right, lays-out the comment and the resolution (which can be anything from "done" to "great suggestion but is beyond the scope of this report.") Can you do this?

Rich

From: Lee, Timothy
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Cc: Grob, George; Bloch, David
Subject: LIBOR: Talking points for tomorrow

Hi Old Salt,

Let me know what you think. I am assuming that when we sit down, Steve will already be familiar with the contents of the memo.

Tim

(b) (5), (b) (7)(A)

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

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

Bloch, David

From: Lee, Timothy
Sent: Wednesday, October 17, 2012 4:30 PM
To: (b) (6)
Cc: Parker, Richard; Grob, George; Bloch, David; Rhinesmith, Alan
Subject: RE: Je m'accuse

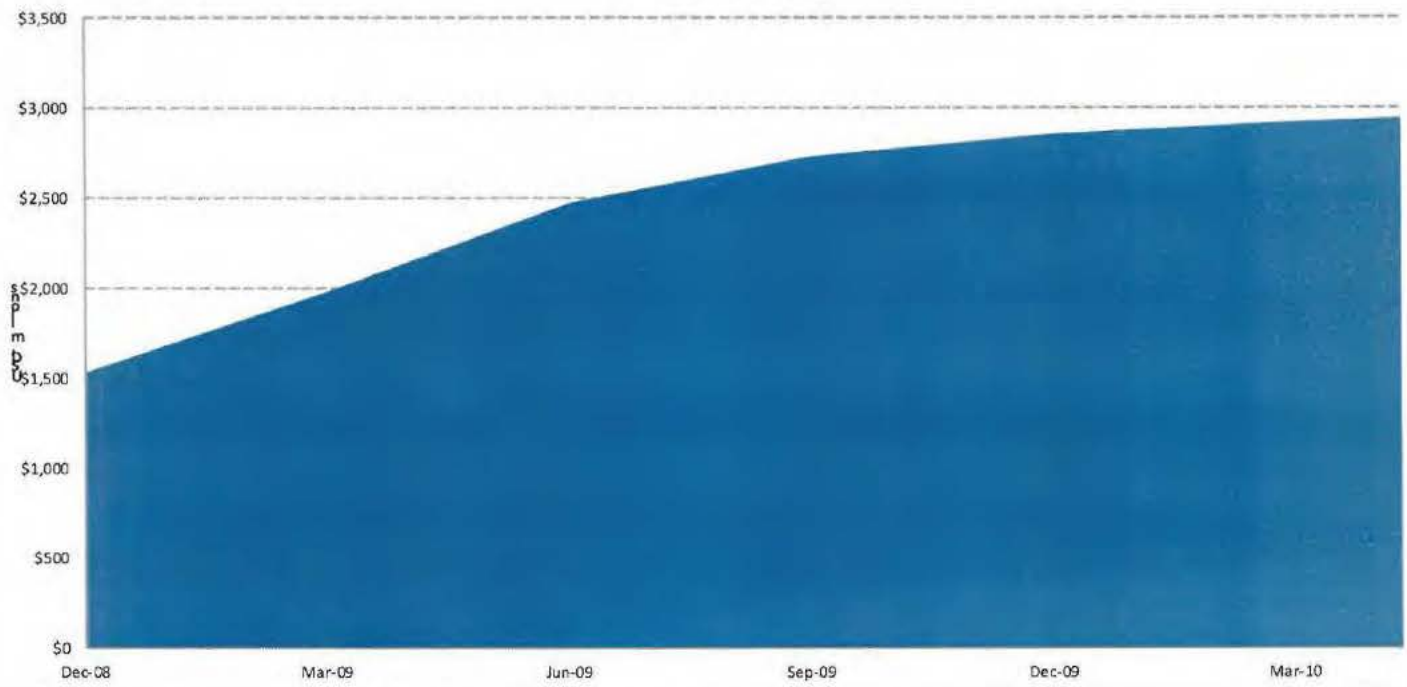
Hi (b) (6)

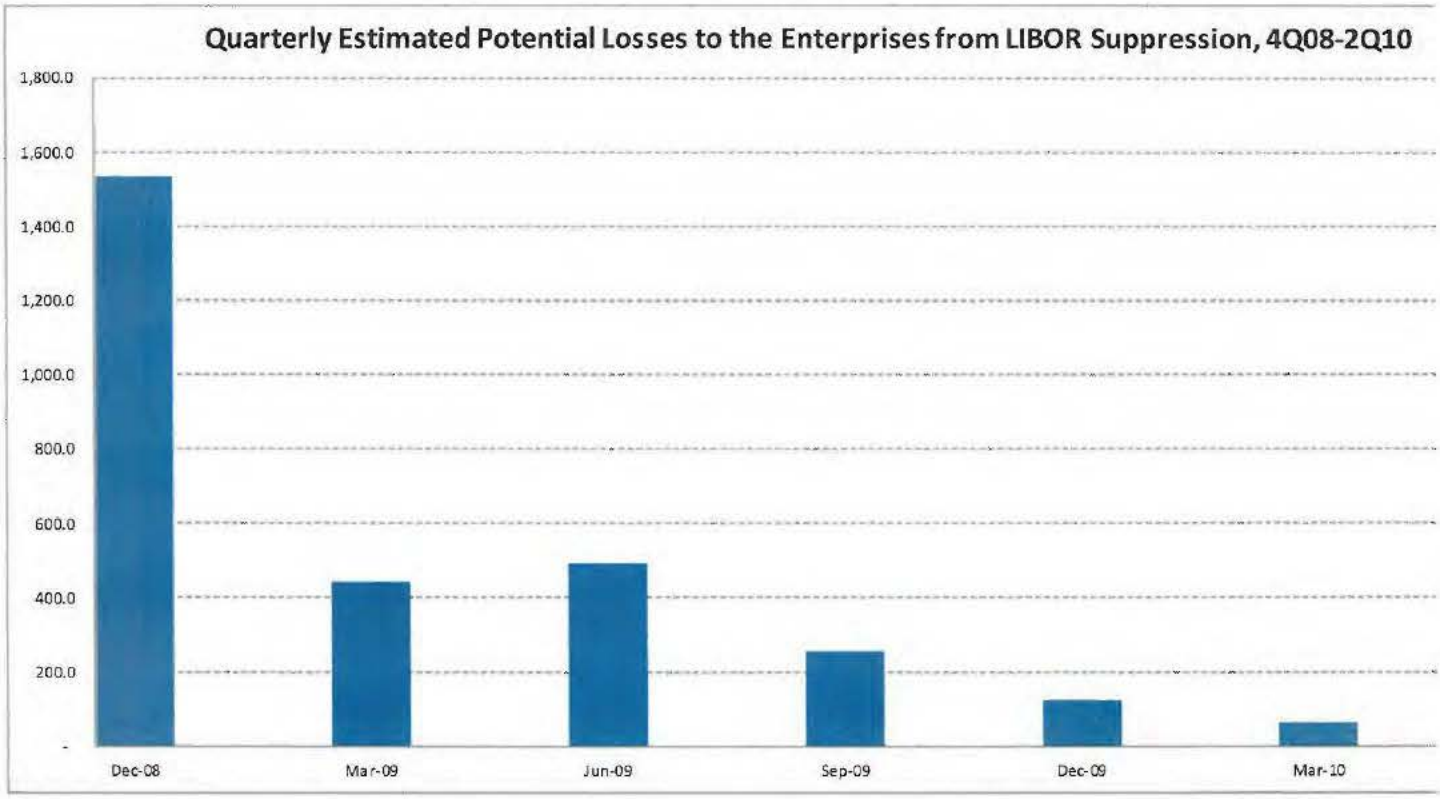
Many thanks for your kind words. As for the graphics, I worked up an area chart for cumulative losses, as well as a bar chart for quarterly losses. Remember in each case, we begin at 4Q08, when conservatorship started. As it happens, I calculate an average Fed ED-LIBOR gap of 87 basis points that quarter, over double that of any other quarter. Moreover, in 4Q08 the net receive-LIBOR position of the Enterprises, both bonds and swaps, were both at their highest levels of the period we looked at. Not surprisingly, the estimated loss for 4Q08 is far and away the largest. I added a sentence at the top of page 4: "Over half of those potential losses appear to have taken place in the fourth quarter of 2008 alone."

I'll go ahead and also make the change from line chart to area chart in the memo. However, we can still discuss as a group if warranted.

Tim

Figure 3. Estimated Potential Cumulative Losses to the Enterprises from LIBOR Suppression, 4Q08-2Q10





From: [redacted] (b) (6)
Sent: Wednesday, October 17, 2012 4:10 PM
To: Lee, Timothy; Parker, Richard
Subject: Je m'accuse

My apologies Tim.

It's a good letter. Steve asked me to review it so I tried to point out potential weaknesses. I apologize for not choosing my words better. To tell you the truth, I'm not sure Steve has even read my comments. Don't send me to Devil's Island for it! ☺

That being said, the whole purpose of the paper is to suggest there may have been manipulation of LIBOR of which the Enterprises suffered loss. Most of that loss occurred during the nine months from the last quarter of 2008 to the second quarter of 2009. The chart you have on cumulative losses shows that, but maybe not clearly. It starts with the line already $1.5 million in accumulated losses (most of which probably occurred from September 2008 on) and then increases for six months and then levels off.

It looked to me as a chart a plaintiff might use to show losses occurring over a longer period of time when that isn't really the case. I'm not sure that matters, but I thought Steve ought to be aware of it. It might not hurt to mention the time period when most of the losses would have occurred in the memo.

All that being said, it's a damn good presentation and shows creative thinking on this topic that so far has escaped almost everyone else. You are to be congratulated for it.

Bob

From: Lee, Timothy
Sent: Wednesday, October 17, 2012 3:05 PM

To: Parker, Richard; Bloch, David
Cc: Grob, George; (b) (6)
Subject: RE: LIBOR Draft Action Memo

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    - Two market indexes diverge meaningfully – and in one direction! – when, in fact, respected commentators maintain they should be virtually identical. A couple of the outstanding lawsuits use this as a principal piece of evidence. (Not quoted, of course, is the informal color from our LRS mission, from knowledgeable market participants, concurring with my opinion that this is the most convincing exhibit in those lawsuits.)
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- If the wacky indicators did result from some sort of manipulation, then the Enterprises could well have lost a boatload of money from it.
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Cc: Grob, George
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Sent from my Windows Phone

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From: (b) (6)
Sent: Wednesday, October 17, 2012 12:48 PM
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Steve,

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However, I'd be a little careful about concluding (as our analysis sort of does) that the difference between LIBOR and comparable rates during this time was all manipulation. It may have been, but there might also be some other explanation (although I don't have one).

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Let me know if you need anything else.

(b) (6)

From: Linick, Steve
Sent: Tuesday, October 16, 2012 5:16 PM
To: Seide, David; (b) (6)
Subject: FW: LIBOR Draft Action Memo

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Sent from my Windows Phone

From: Parker, Richard
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Cc: DiSanto, Emilia
Subject: LIBOR Draft Action Memo

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Office of the Inspector General
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Washington, D.C. 20024
Tel: (b) (6) 9
Cell: (b) (6)

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Attachments: LIBOR action memo Oct 12.docx; Appendix to LIBOR analysis.docx

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Bob

From: Linick, Steve
Sent: Tuesday, October 16, 2012 5:16 PM
To: Seide, David; (b) (6)
Subject: FW: LIBOR Draft Action Memo

Can u give me your redline comments. Tx

Sent from my Windows Phone

From: Parker, Richard
Sent: 10/12/2012 3:46 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: LIBOR Draft Action Memo

Steve,

Here is the working draft of the LIBOR action memo. I will be polishing it over the weekend but this is the format and content we have talked about and vetted around the office over the last two weeks. I will incorporate the appendix into the body of the memo as we go forward.

All in all, I think that the report will serve to put the Agency on inquiry notice as to the Enterprises' potential losses, and keep our foot in the door ROI-wise should any action be undertaken to recover the losses that we have identified.

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)

OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

To: Edward DeMarco, Acting Director

From: Steve A. Linick, Inspector General

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

Date: October 12, 2012

(b) (5)

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Bloch, David

Subject:	FW: LIBOR Draft Action Memo
Location:	Conference 3-289
Start:	Fri 10/19/2012 10:00 AM
End:	Fri 10/19/2012 11:00 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Linick, Steve

David,

Here is the actual appointment.

George

-----Original Appointment-----
From: Linick, Steve
Sent: Wednesday, October 17, 2012 10:22 AM
To: Linick, Steve; Bloch, David; Emerzian, Peter; Lee, Timothy; Parker, Richard; DiSanto, Emilia; Stephens, Michael; Grob, George; Wu, Simon
Subject: LIBOR Draft Action Memo
When: Friday, October 19, 2012 10:00 AM-11:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Conference 3-289

Bloch, David

From: Lee, Timothy
Sent: Wednesday, October 17, 2012 11:00 AM
To: Bloch, David
Subject: LIBOR draft

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

This draft reflects a few minor tweaks I made this morning as well as Alan's and George's edits (you will see we haven't addressed George's explicitly yet). If you need the Excel sheet or the technical appendix, let me know.

Bloch, David

From: Lee, Timothy
Sent: Friday, October 12, 2012 12:45 PM
To: Bloch, David; Grob, George
Subject: FW: Back to you: LIBOR memo

From: Lee, Timothy
Sent: Friday, October 12, 2012 12:43 PM
To: Parker, Richard; Rhinesmith, Alan
Subject: RE: Back to you: LIBOR memo

Hi guys,

I straightened out the footnoting and incorporated Alan's changes in both the memo and appendix. Aside from the lead-in to the memo, they were very light. Accordingly, I have not put them in track changes.

Alan's changes do in fact add to the crisp, concise tone of the introduction. It now does an even better job of saying what needs to be said with minimal fuss; the flow is improved. With respect to his comment about more detailed discussion of the Enterprises' liabilities, however, I would recommend that we keep matters as simple as possible. My understanding has always been that our goal is to frame the issue as simply as possible to keep it within the reach of people who aren't finance professionals, and more detailed liabilities discussion in the body of the memo would run counter to that goal. We touch on the matter again in our appendix on methodology, and finance pros will understand what is going on intuitively after reading the appendix. Moreover, as I have mentioned before, I am certainly not averse to taking phone calls or posting the Excel sheet online to satisfy the hard-core number crunchers out there. As Rich has probably heard hundreds of times, "K.I.S.S. It's not just a rock band. Keep it simple, sailor."

Tim

From: Parker, Richard
Sent: Friday, October 12, 2012 12:07 PM
To: Rhinesmith, Alan; Lee, Timothy
Subject: RE: Back to you: LIBOR memo

Tim,

Will you psl ensure that the parallel footnoting system is in good shape before I review Alan's suggestions? I would appreciate that very much

Alan,

Many thanks for your good work. I appreciate it very much. Also, thanks for not laughing at the stage direction part of my job . . .

Rich

From: Rhinesmith, Alan
Sent: Friday, October 12, 2012 12:05 PM

To: Lee, Timothy
Cc: Parker, Richard
Subject: Back to you: LIBOR memo

Attached and in Sharepoint (
https://sharepoint.fhfaoig.gov/[redacted] and

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

are suggested edits to both documents.

My only detailed edit was to the introduction to the memo. I also had one comment about how much to go into the other side (net pay) of the equation. I did not deal with Grob's comments.
Overall I thought the documents were in good shape and won't be offended if you reject my suggested reorganization of the introduction. (The parallel footnoting system – letters and numbers – may have gotten screwed up in the process. Sorry.)

From: Lee, Timothy
Sent: Thursday, October 11, 2012 10:59 AM
To: Rhinesmith, Alan
Subject: FW: LIBOR memo

From: Lee, Timothy
Sent: Wednesday, October 10, 2012 5:02 PM
To: Parker, Richard; Bloch, David
Subject: LIBOR memo

Gentlemen,

Here is the definitive document as of this evening.

I took three steps in this new document:

- Resolved the ongoing graphics controversy by reframing Figure 2 so that the text visibly talks right to the chart.
- Changed the loss language and chart to mention only the estimated **net** LIBOR manipulation loss, in light of my having incorporated information in the Excel sheet about the Enterprises' LIBOR-based liabilities. For reasons I can discuss in the morning, they are lower than one would first expect, so the net LIBOR manipulation figure now approaches $3 billion.
- Cleaned up a couple of the hyperlinks in the endnotes.

Also, the appendix on methodology is drafted and awaiting review.

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

Bloch, David

From: Parker, Richard
Sent: Wednesday, October 10, 2012 6:33 PM
To: Lee, Timothy; Bloch, David
Subject: RE: LIBOR memo

Who are you calling a gentleman?

Sent from my Windows Phone

From: Lee, Timothy
Sent: 10/10/2012 5:01 PM
To: Parker, Richard; Bloch, David
Subject: LIBOR memo

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

Bloch, David

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- Cleaned up a couple of the hyperlinks in the endnotes.

Also, the appendix on methodology is drafted and awaiting review.

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

Bloch, David

From: Wu, Simon
Sent: Wednesday, October 10, 2012 3:05 PM
To: Parker, Richard; Bloch, David; Lee, Timothy
Cc: Grob, George
Subject: RE: See my revised Figure 2 chart

Ok.

Tim and David, Let me know if you have any suggestion for the two text box language for Fig 2. I thought it's better for the chart to tell the story when standing alone, b/c some readers may not have the patience to read the paragraph following Fig 2 to understand what was going on.

From: Parker, Richard
Sent: Wednesday, October 10, 2012 1:13 PM
To: Bloch, David; Wu, Simon; Lee, Timothy
Cc: Grob, George
Subject: RE: See my revised Figure 2 chart

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

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

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

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

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

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

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: (b) (6)

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

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

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

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

From: Wu, Simon
Sent: Wednesday, October 10, 2012 9:53 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David; Grob, George
Subject: See my revised Figure 2 chart

https://sharepoint.fhfaoig.gov/ (b) (2)

Bloch, David

From: Lee, Timothy
Sent: Wednesday, October 10, 2012 1:53 PM
To: Parker, Richard
Cc: Bloch, David
Subject: Appendix
Attachments: Appendix.docx

Hi Old Salt,

Attached is the appendix you requested. I purposely went over all my assumptions in detail. If Ross Kari or Nick Satriano want to go through the Excel sheet line by line with me, "bring 'em on."

Tim

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

Bloch, David

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To: Bloch, David; Wu, Simon; Lee, Timothy
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Subject: RE: See my revised Figure 2 chart

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Sent: Wednesday, October 10, 2012 9:53 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David; Grob, George
Subject: See my revised Figure 2 chart

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

Bloch, David

From: Lee, Timothy
Sent: Wednesday, October 10, 2012 1:12 PM
To: Bloch, David
Subject: RE: See my revised Figure 2 chart

I agree.

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

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

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

https://sharepoint.fhfaoig.gov/ (b) (2)

Bloch, David

From: Parker, Richard
Sent: Wednesday, October 10, 2012 11:43 AM
To: Linick, Steve; Stephens, Michael; DiSanto, Emilia
Cc: Grob, George; Bloch, David; Lee, Timothy
Subject: LIBOR Theory of Harm to GOvernmental Entities Explained.

The facts in this short article are, essentially, the background contained in our draft action memorandum. http://www.moneynews.com/FinanceNews/libor-loss-states-scandal/2012/10/09/id/459170

– 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

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Cc: Bloch, David; Grob, George
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Attachments: LIBOR action memo Oct 9 with gg comments_Simon Wu Comments.docx

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Cc: Bloch, David; Grob, George
Subject: See my revised Figure 2 chart

https://sharepoint.fhfaoig.gov/ (b) (2)

Bloch, David

From: Parker, Richard
Sent: Wednesday, October 10, 2012 10:14 AM
To: Wu, Simon; Lee, Timothy
Cc: Bloch, David; Grob, George
Subject: RE: See my revised Figure 2 chart

Please cut and paste as you suggest, Simon. We should decide the rest as a group.

From: Wu, Simon
Sent: Wednesday, October 10, 2012 10:04 AM
To: Parker, Richard; Lee, Timothy
Cc: Bloch, David; Grob, George
Subject: RE: See my revised Figure 2 chart

I was just suggesting pasting this chart from the spreadsheet to the Word file...that's pretty easy to do, if we all agree this is a better way to present our story for Figure 2. No need to link these charts there.

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

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

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

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Bloch, David

From: Wu, Simon
Sent: Wednesday, October 10, 2012 9:45 AM
To: Lee, Timothy; Parker, Richard
Cc: Bloch, David; Grob, George
Subject: RE: Emailing: LIBOR action memo Oct 9 with gg comments.docx

LIBOR action memo Oct 9 wit...

Just a couple of comments.

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 4:38 PM
To: Parker, Richard
Cc: Bloch, David; Grob, George; Wu, Simon
Subject: Emailing: LIBOR action memo Oct 9 with gg comments.docx

Hi Old Salt,

This incorporates George's comments, toward the back. Per an informal conversation with him and David, I have only addressed one immediately (it's highlighted). The plan was to touch base with you about the others. There was some mention of putting this document through the regular report process, but I pointed out that the gestation of this memo has been over three months anyway (since right after the July 4 holiday). Accordingly, my own view (which met with sympathy from George and David) is that we should frame this in a way that allows for quick, crisp finalizing and transmittal/publication. Emilia has also pointed out that members of Congress have already expressed a good deal of interest in the topic, so that may only add to the impetus for timeliness.

I will have my phone with me if questions or comments arise.

Tim << File: LIBOR action memo Oct 9 with gg comments.docx >>

Bloch, David

From: Lee, Timothy
Sent: Wednesday, October 10, 2012 9:23 AM
To: Parker, Richard
Cc: Bloch, David
Subject: RE: DOJ and disclosure

Hi Old Salt,

I think it would be interesting to get a sense of their view of the LIBOR matter (including the Enterprises' exposure), as well as open a channel generally.

This morning I had breakfast with [redacted] (b) (6) [redacted]. He is now a senior exec at a real estate firm in California. Perhaps more interestingly, he is a Navy reservist, trained as a Naval Gunfire Liaison Officer. NGLOs help the Marines in ways analogous to how Air Force JTACs help Army units. (I told him it was a shame you weren't there to share sea stories with him.)

He tells me that on his last annual cruise, he participated in a DoD war game with an integrated team. By "integrated" I mean not just Navy and Marines figuring out how to sink shipping and get ashore, but a whole range of folks brought in to consider the more holistic implications of military action. If we cut off a shipping lane, what are the implications for the economies of our enemy's neighbors? What does this mean for our own economy? How does this play out in the media? There were State Department, Commerce Department and civilian intelligence people at the exercise, right there besides the military representatives. Listening to him speak made clear the point to me that more information, connections and relationships don't just add to our ability to succeed in exceptional circumstances, they multiply it.

Tim

From: Parker, Richard
Sent: Tuesday, October 09, 2012 3:30 PM
To: Lee, Timothy
Subject: RE: DOJ and disclosure

If you want to get SEC to comment on what exposure the Enterprises have, then go for it. Otherwise, I don't see what there is to talk about with them.

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 3:13 PM
To: Parker, Richard
Cc: Bloch, David
Subject: DOJ and disclosure

Hi Old Salt,

I reached out to DOJ about the 1933 Act, [redacted] (b) (5) [redacted]. I know David Bloch knows people at SEC, so I mentioned it to him. He is confident that he knows someone there who would be happy to take a phone call. Please advise on how to proceed.

Tim

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

Bloch, David

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 4:38 PM
To: Parker, Richard
Cc: Bloch, David; Grob, George; Wu, Simon
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LIBOR action memo Oct 9 wit...

Tim

Bloch, David

From:	Lee, Timothy
Sent:	Tuesday, October 09, 2012 2:32 PM
To:	Grob, George; Bloch, David
Cc:	Parker, Richard
Subject:	LIBOR memo - George's comments

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

Hi George,

Per our conversation, I added one sentence preceding the recommendations that I think gets to your point (highlighted, toward the back). We will touch on the other points with Rich before I make further changes.

Tim

PS. David, I also straightened out your official title.

Bloch, David

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 1:29 PM
To: Grob, George
Cc: Parker, Richard; Bloch, David
Subject: RE: LIBOR memo

Hi George,

Thanks for your comments. They make perfect sense, but all the same I would benefit from a little more discussion on the specifics. Could David and I swing by for 15 minutes?

Tim

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

Richard and Tim,

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

George

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

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

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

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

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

Hi all,

Here is the newest Sharepoint draft of the LIBOR memo, which is now the definitive version. We have cleaned up the graphics per Wes' suggestion and tightened the timeframe to mid-2010, which we can support by media reports on the existing lawsuits. We have also rearranged the order of the recommendations. The cleaned-up Excel data sheet is also available.

Tim

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

Bloch, David

From: Grob, George
Sent: Tuesday, October 09, 2012 1:07 PM
To: Lee, Timothy; Parker, Richard
Cc: Wu, Simon; Bloch, David; Phillips, Wesley
Subject: RE: LIBOR memo
Attachments: LIBOR action memo Oct 9 with gg comments.docx

Richard and Tim,

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

George

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

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Cc: Parker, Richard; Wu, Simon; Bloch, David
Subject: RE: LIBOR memo

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Cc: Phillips, Wesley; Parker, Richard; Wu, Simon; Bloch, David
Subject: LIBOR memo

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existing lawsuits. We have also rearranged the order of the recommendations. The cleaned-up Excel data sheet is also available.

Tim

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

Bloch, David

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 12:46 PM
To: Bloch, David
Subject: Friends at the SEC

Hi David,

Following is an excerpt from a note I sent to a contact at DOJ:

> You may already be ahead of me on this one, but it is worth noting that in the course of my LIBOR research, I took a look at some offering memoranda related to the Enterprises' investments in floating-rate private-label MBS. Like most floating rate bonds, MBS floaters calculate interest by reference to LIBOR. The private-label MBS were sold, in many cases, by many of the same banks that contribute to LIBOR: Barclays, JPM, BofA, Deutsche, &c.
>
> If these banks were in fact manipulating LIBOR (as seems a good bet with Barclays), that may present 1933 Act issues. I am but an humble business guy, but have always understood that under that Act, underwriters were required to disclose all material risks of a securities offering to prospective investors. Thus, I would have expected to see a passage in the offering memoranda that read something like this:
>
>> **LIBOR May Be Manipulated By The Underwriters**
>>
>> Along with other major financial institutions, the Lead Manager and some Co-Managers share in determining the LIBOR index used to calculate interest payments on the Certificates. To contribute interest rates used to determine LIBOR, the Lead Manager and such Co-Managers may, at times, employ in their money markets departments the sort of lying troglodytes who care as much about ethical behavior as Paul Prudhomme cares about dieting. Moreover, such employees may be in regular contact with their counterparts in the mortgage-backed securities departments and senior management. Such employees may, if they find it convenient, strive to reduce the published LIBOR figure in order to improve their own trading positions or to stem widespread panic about their bank's financial soundness. As a result, holders of the Certificates may suffer reduced returns on their investments.
>
> Eagerly, I reviewed eight risk factors passages in order to assuage my concerns. You can imagine how crestfallen I was, then, to discover that none of the documents I checked had any language of the sort, not even Barclays'! I am now highly dismayed and left wondering what to do. If you wish to discuss, I am always happy to hear from you.

He replied that this is probably the SEC's turf, which leads me to wonder whether you know anyone there who would appreciate hearing about this.

Please let me know if you'd like me to come by to discuss.

Thanks,
Tim

Timothy Lee
Senior Policy Advisor, FHFA-OIG

202-730-2821

Bloch, David

From: Lee, Timothy
Sent: Tuesday, October 09, 2012 12:07 PM
To: Phillips, Wesley; Grob, George
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Subject: RE: LIBOR memo

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

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Tim

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

Bloch, David

From: Wu, Simon
Sent: Tuesday, October 09, 2012 11:37 AM
To: Phillips, Wesley; Lee, Timothy; Grob, George
Cc: Parker, Richard; Bloch, David
Subject: RE: LIBOR memo

Done with Fig 2. make it easier to detect the "suppression" visually...

From: Wu, Simon
Sent: Tuesday, October 09, 2012 11:32 AM
To: Phillips, Wesley; Lee, Timothy; Grob, George
Cc: Parker, Richard; Bloch, David
Subject: RE: LIBOR memo

Let me revise the new chart one more time...

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

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

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

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Tim

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

Bloch, David

From: Wu, Simon
Sent: Tuesday, October 09, 2012 11:32 AM
To: Phillips, Wesley; Lee, Timothy; Grob, George
Cc: Parker, Richard; Bloch, David
Subject: RE: LIBOR memo

Let me revise the new chart one more time...

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: ([redacted] (b) (6))

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

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From: Lee, Timothy
Sent: Tuesday, October 09, 2012 11:17 AM
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Senior Policy Advisor, FHFA-OIG
202-730-2821

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

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Tim

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

Bloch, David

From: Wu, Simon
Sent: Tuesday, October 09, 2012 10:15 AM
To: Lee, Timothy; Parker, Richard
Cc: Phillips, Wesley; Bloch, David
Subject: RE: LIBOR action memorandum draft for Steve.docx

For the 2nd bullet point below, we can also have both charts there: the rate movement and the spread chart. In that case, people can grasp where the spread chart comes from, but also see the huge jump in spread compared to the previous periods.

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

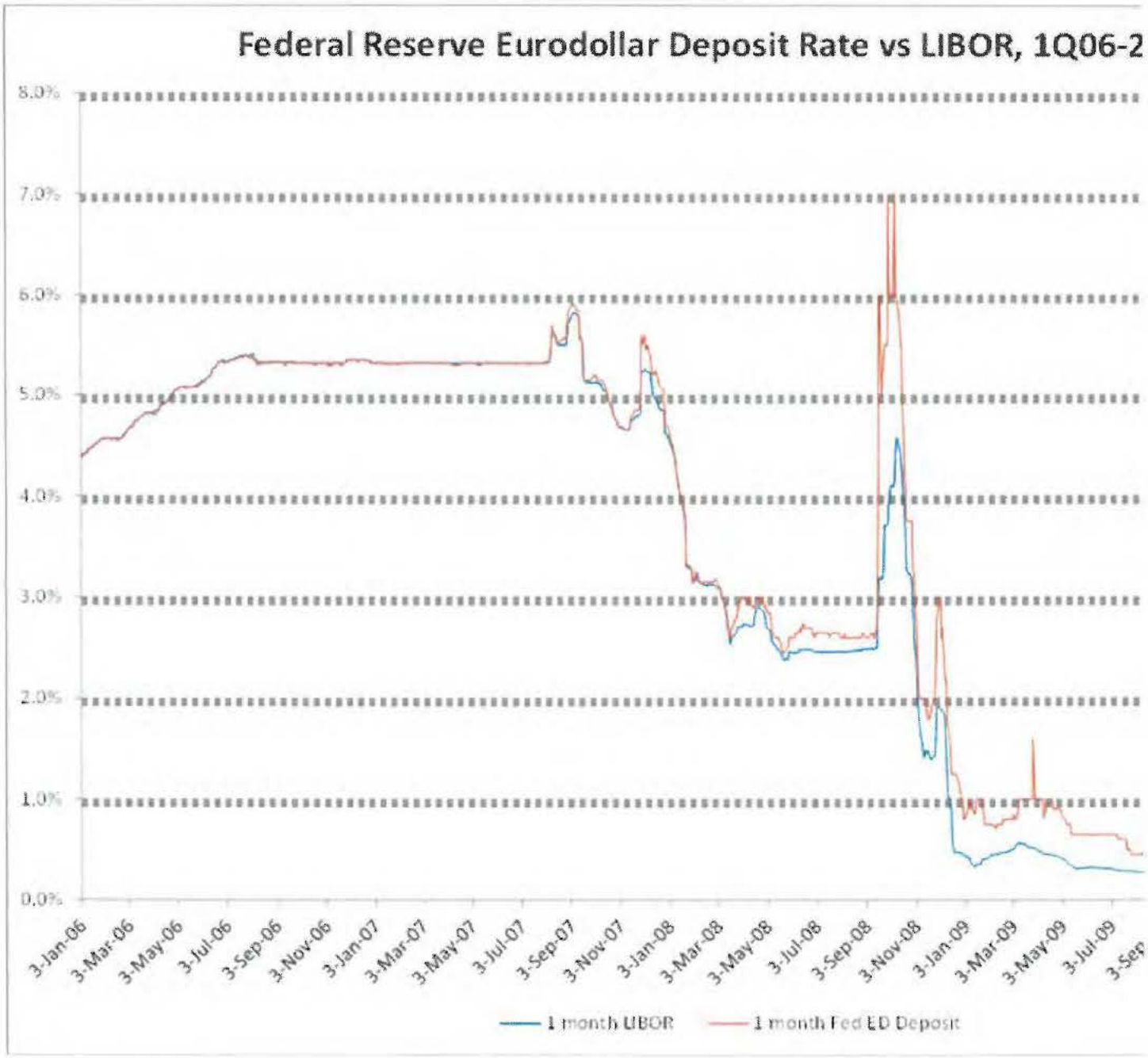
Hi Old Salt,

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

(b) (5)

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

Tim



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

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

Bloch, David

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

Hi Old Salt,

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

(b) (5)

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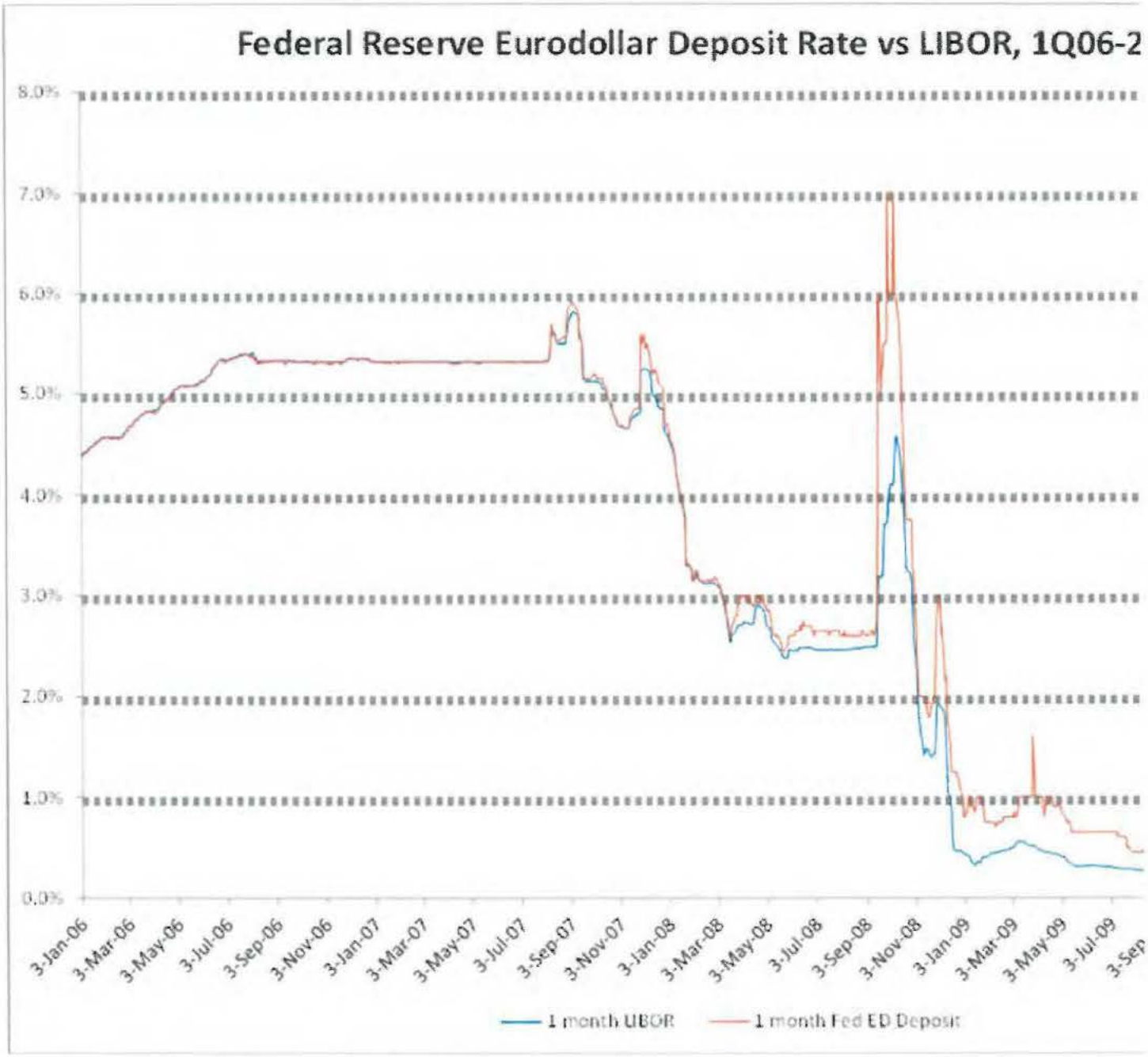

From: Phillips, Wesley
Sent: Tuesday, October 09, 2012 9:48 AM
To: Lee, Timothy
Cc: Parker, Richard; Wu, Simon
Subject: LIBOR action memorandum draft for Steve.docx

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

Bloch, David

From: Lee, Timothy
Sent: Friday, October 05, 2012 6:15 PM
To: Parker, Richard
Cc: Bloch, David; Wu, Simon
Subject: One more thing...
Attachments: LIBOR action memorandum draft for Steve.docx; LIBOR proposal.xlsx

Hi guys,

I finished up footnote d, including the necessary research. To back it up, the Excel file has a new sheet, "Offering Memoranda", which is really worth a look because I think it could point to quite the little playground for the RMBS Working Group, the SEC (1933 Act), or perhaps NYSAG (Martin Act).

Tim

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

Bloch, David

From: Lee, Timothy
Sent: Friday, October 05, 2012 12:12 PM
To: Bloch, David; Wu, Simon; Parker, Richard
Cc: Phillips, Wesley; Rhinesmith, Alan
Subject: LIBOR memo
Attachments: LIBOR action memorandum draft for Steve.docx

Hi Old Salt,

Attached is a draft that we deem ready to forward to Steve for his review. The edits compared to yesterday evening are fairly minor, though you should take a look at the table on page 6, as well as insertions on the bottoms of pages 6 and 7. Of course, we are pleased to discuss any questions that arise.

Tim

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

Bloch, David

From: Wu, Simon
Sent: Friday, October 05, 2012 9:57 AM
To: Bloch, David; Lee, Timothy
Subject: RE: LIBOR memo
Attachments: LIBOR action memorandum Oct 4_Wu Comments.docx

Looking good...

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: (b) (6)

-----Original Message-----
From: Wu, Simon
Sent: Friday, October 05, 2012 9:33 AM
To: Bloch, David; Lee, Timothy
Subject: RE: LIBOR memo

I was yesterday so i will read this morning.

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

Sent from my Windows Phone

-----Original Message-----
From: Bloch, David
Sent: 10/5/2012 9:27 AM
To: Lee, Timothy
Cc: Wu, Simon
Subject: RE: LIBOR memo

Bloch, David

From: Lee, Timothy
Sent: Friday, October 05, 2012 9:27 AM
To: Bloch, David
Cc: Wu, Simon
Subject: LIBOR memo

I freshened up the table and last paragraph on page 6. See what you think.

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

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

Bloch, David

From: Lee, Timothy
Sent: Thursday, October 04, 2012 6:00 PM
To: Bloch, David
Subject: Libor memo

Do we want to add something dry but totally caustic about the banks as underwriters of floating rate bonds, like: "FHFA-OIG is unaware of any disclosures by the LIBOR contributors, in their role as dealers and underwriters of floating-rate securities purchased by the Enterprises, that they may manipulate LIBOR for their own interests, which may conflict with those of their customers?"

Sent from my Windows Phone

Bloch, David

From: Lee, Timothy
Sent: Thursday, October 04, 2012 5:19 PM
To: Bloch, David
Cc: Wu, Simon; Parker, Richard
Subject: LIBOR draft
Attachments: LIBOR proposal.xlsx; LIBOR action memorandum Oct 4.docx

Hi all,

Here is the latest. I've tried to synthesize both of your comments into a single document. Also attached is the buildout of our loss numbers to include pre-conservatorship figures. Please let me know as soon as you can if anything remains objectionable, because the plan is for Rich to forward the document to Steve tomorrow.

Thanks,
Tim

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

Bloch, David

From: (b) (6)
Sent: Thursday, October 04, 2012 5:24 PM
To: Lee, Timothy
Cc: Parker, Richard; Wu, Simon; Bloch, David
Subject: RE: Need an Auditor for about 3 hours

Hey Tim,

I'll stop by tomorrow. I didn't put too much thought into it, but it was a little curious why you were using Freddie's Variable Rate Securities Ratio to calculate Fannie's Estimated Fannie Mae Variable Rate Securities... Thanks.

From: Lee, Timothy
Sent: Thursday, October 04, 2012 5:19 PM
To: (b) (6)
Cc: Parker, Richard; Wu, Simon; Bloch, David
Subject: RE: Need an Auditor for about 3 hours

Hi Chris,

Thanks very much for the help. If you want, come by tomorrow and I'll give you a big-picture review of how your efforts helped the greater whole.

Tim

From: (b) (6)
Sent: Wednesday, October 03, 2012 8:23 PM
To: Wu, Simon
Cc: Parker, Richard; Lee, Timothy; Wolfe, Heath; Rau, Russell
Subject: RE: Need an Auditor for about 3 hours

Simon/Tim,

Please find the attached copy of the LIBOR spreadsheet with additional B/S data and the corresponding F/S pages. I've saved a copy of the original spreadsheet and made the changes in the copy version. Also, I've highlighted the data from the supporting F/S pages. Please let me know if you have any questions. I have a staff meeting until 10 am and I'll stop by your office afterwards.

Thank you,

(b) (6), CPA, CIA, CGFM
400 7th Street, SW
Washington, DC 20024
Office: (b) (6)
Mibile: (b) (6)
(b) (6)

From: Wu, Simon
Sent: Wednesday, October 03, 2012 3:24 PM
To: Rau, Russell
Cc: Parker, Richard; Lee, Timothy; Wolfe, Heath; (b) (6)
Subject: RE: Need an Auditor for about 3 hours

Thanks Russ. I've already spoken to (b) (6) and Heath. Thanks for your timely assistance.

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: (b) (6)

From: Rau, Russell
Sent: Wednesday, October 03, 2012 3:23 PM
To: Wu, Simon
Cc: Parker, Richard; Lee, Timothy; Wolfe, Heath; (b) (6)
Subject: RE: Need an Auditor for about 3 hours

As you know, (b) (6) will be able to help.

Russell A. Rau
Deputy Inspector General for Audits
Office of Inspector General
Federal Housing Finance Agency
400 7th Street SW, Room 3129
Washington, DC 20024
Voice: 202-730-0390

From: Wu, Simon
Sent: Wednesday, October 03, 2012 1:53 PM
To: Rau, Russell; Wolfe, Heath
Cc: Parker, Richard; Lee, Timothy
Subject: Need an Auditor for about 3 hours

Hello Russ and Heath,

We have a rush job here for Steve and we need an auditor for about 3 hours of time to compile some data from Enterprises' 10-Q and 10-K financial filings (going back at least 6 quarters). Steve has authorized an auditor from your group to help us. Could either of you let me know an available person from Audit, preferably for tomorrow morning?

Thanks!

Simon Z. Wu, Ph.D.
Chief Economist

Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: (b) (6)

Bloch, David

From: Lee, Timothy
Sent: Thursday, October 04, 2012 3:44 PM
To: Bloch, David
Subject: RE: LIBOR

OK. Could I send you a document tonight for us to discuss first thing in the morning? I'd like to have a copy for Rich as early as possible tomorrow.

From: Bloch, David
Sent: Thursday, October 04, 2012 3:41 PM
To: Lee, Timothy
Subject: RE: LIBOR

Can we do first thing in the a.m. – I got in while dark and need to get going.

From: Lee, Timothy
Sent: Thursday, October 04, 2012 3:40 PM
To: Bloch, David
Subject: LIBOR

Hi David,

Have a few minutes to go over your comments and the current state of the document at 4pm?

Tim

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

Bloch, David

From: (b) (6)
Sent: Thursday, October 04, 2012 1:01 PM
To: Bloch, David
Subject: LIBOR action mem 10 3 12 (DPB.2).docx
Attachments: LIBOR action mem 10 3 12 (DPB.2).docx

Here you go.

(b) (6)

Bloch, David

From: Lee, Timothy
Sent: Thursday, October 04, 2012 12:20 PM
To: Bloch, David
Subject: RE: LIBOR memo draft

Isn't this just light-years better than the usual bureaucratic garbage we have to put up with?

From: Bloch, David
Sent: Thursday, October 04, 2012 12:19 PM
To: Lee, Timothy
Subject: RE: LIBOR memo draft

I will shoot over the cleaned up draft ASAP.

From: Lee, Timothy
Sent: Thursday, October 04, 2012 12:16 PM
To: Bloch, David
Subject: RE: LIBOR memo draft

New draft is up, as are revised numbers. I've checked (b) (6) work – he did a fine job considering the lack of experience I expect he has.

From: Bloch, David
Sent: Thursday, October 04, 2012 12:11 PM
To: Lee, Timothy
Subject: RE: LIBOR memo draft

I have some research items in the draft I worked on, as well as a comment or two as well as some edits, as you'll see.

From: Lee, Timothy
Sent: Thursday, October 04, 2012 12:09 PM
To: Bloch, David
Subject: RE: LIBOR memo draft

FYI I've addressed Simon's edits on SharePoint. You may want to have a look in ten minutes. Revised numbers are also up.

From: Bloch, David
Sent: Thursday, October 04, 2012 12:09 PM
To: Wu, Simon; Lee, Timothy
Cc: Parker, Richard; Phillips, Wesley
Subject: RE: LIBOR memo draft

With (b) (6) for a clean-up. Will have it back shortly.

From: Wu, Simon
Sent: Wednesday, October 03, 2012 6:30 PM
To: Lee, Timothy; Bloch, David

Cc: Parker, Richard; Phillips, Wesley
Subject: RE: LIBOR memo draft

I am out tomorrow, so here are my initial comments. We can chat more on Friday.

Also, are we supposed to get an outline to Steve by Friday first?

From: Lee, Timothy
Sent: Wednesday, October 03, 2012 4:29 PM
To: Bloch, David; Wu, Simon
Cc: Parker, Richard
Subject: LIBOR memo draft

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

Hi guys,

The wine bottles are drained. Here is my first draft. I know I need one paragraph from a legal eagle in the crowd (I think that's you, David). Other comments welcome too, of course. Let me know what you think – after you take a first glance, perhaps we can schedule a meeting to keep the process moving.

Tim

Bloch, David

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Cc: Parker, Richard
Subject: LIBOR memo draft

https://sharepoint.fhfaoig.gov/ (b) (2)

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Tim

Bloch, David

From: [redacted] (b) (6)
Sent: Thursday, October 04, 2012 11:47 AM
To: Bloch, David
Subject: RE: LIBOR action mem 10.3.12 (DPB).docx

Did you want the endnotes to be footnotes?

[redacted] (b) (6)

From: Bloch, David
Sent: Thursday, October 04, 2012 11:42 AM
To: [redacted] (b) (6)
Subject: LIBOR action mem 10.3.12 (DPB).docx

Would you please help me clean this up? Thanks. David

Bloch, David

From: [redacted] (b) (6)
Sent: Thursday, October 04, 2012 11:43 AM
To: Bloch, David
Subject: RE: LIBOR action mem 10.3.12 (DPB).docx

Will do.

[redacted] (b) (6)

From: Bloch, David
Sent: Thursday, October 04, 2012 11:42 AM
To: [redacted] (b) (6)
Subject: LIBOR action mem 10.3.12 (DPB).docx

Would you please help me clean this up? Thanks. David

Bloch, David

From: Wu, Simon
Sent: Wednesday, October 03, 2012 6:30 PM
To: Lee, Timothy; Bloch, David
Cc: Parker, Richard; Phillips, Wesley
Subject: RE: LIBOR memo draft
Attachments: LIBOR action memorandum v2_Wu Comments.docx

I am out tomorrow, so here are my initial comments. We can chat more on Friday.

Also, are we supposed to get an outline to Steve by Friday first?

From: Lee, Timothy
Sent: Wednesday, October 03, 2012 4:29 PM
To: Bloch, David; Wu, Simon
Cc: Parker, Richard
Subject: LIBOR memo draft

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

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Bloch, David

From: Lee, Timothy
Sent: Wednesday, October 03, 2012 11:19 AM
To: Bloch, David; Phillips, Wesley; Parker, Richard; Wu, Simon
Subject: RE: OPOR LIBOR Memo Outline.docx

Let me point out that the two are not mutually exclusive. In fact, they can be complementary, inasmuch as you strengthen the retained earnings component of your capital base if you can successfully rip off your customers.

From: Bloch, David
Sent: Wednesday, October 03, 2012 11:11 AM
To: Phillips, Wesley; Lee, Timothy; Parker, Richard; Wu, Simon
Subject: RE: OPOR LIBOR Memo Outline.docx

Tim's point about masking financial condition is an important one. I have seen some articles that claim that was the driver versus a monetary gain motivation.

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

Fair enough suggest [redacted] (b) (5) [redacted]

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Cc: Phillips, Wesley
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Hi all,

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

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

Bloch, David

From: Lee, Timothy
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To: Parker, Richard; Phillips, Wesley; Wu, Simon; Bloch, David
Subject: RE: OPOR LIBOR Memo Outline.docx

I'm on the case.

-Emile Zola

From: Parker, Richard
Sent: Wednesday, October 03, 2012 10:45 AM
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Subject: RE: OPOR LIBOR Memo Outline.docx

Tim,

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

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Bloch, David

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

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

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

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

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Bloch, David

From: Wu, Simon
Sent: Wednesday, October 03, 2012 10:08 AM
To: Lee, Timothy; Bloch, David
Subject: RE: LIBOR memo

[redacted] (b) (5) [redacted]. We could even say that in a footnote.

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

Hi gentlemen,

My $0.02 on the question is [redacted] (b) (5) [redacted]

Similarly, [redacted] (b) (5) [redacted]. However, I don't think [redacted] (b) (5) [redacted]. However, [redacted] (b) (5) [redacted]"

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

Tim

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

Bloch, David

From: Wu, Simon
Sent: Wednesday, October 03, 2012 9:21 AM
To: Bloch, David; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

Also, a couple of other suggestions:

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

2) Also, as David has mentioned below, [redacted] (b) (5) [redacted]. In this case, [redacted] (b) (5) [redacted]

Thanks.

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

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

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

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

I was actually referring to the damage analysis. [redacted] (b) (5) [redacted].

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

I think [redacted] (b) (5) [redacted]. In other words, I would opt [redacted] (b) (5) [redacted]. Just a thought. D.

From: Wu, Simon
Sent: Wednesday, October 03, 2012 7:40 AM
To: Bloch, David; Lee, Timothy; Parker, Richard
Subject: RE: LIBOR

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

In any case, Tim, [redacted] (b) (5) [redacted]. Thanks.

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

Sent from my Windows Phone

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

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

---

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

Thank you to you all on answering my question below.

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

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

Simon Z. Wu, Ph.D.
Chief Economist
Office of Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024
Voice: [redacted] (b) (6) [redacted]

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

A fine question Simon. And the answer is "maybe." [redacted] (b) (5) [redacted]. But one never knows....

From: Wu, Simon
Sent: Tuesday, October 02, 2012 12:00 PM
To: Lee, Timothy; Parker, Richard

Cc: Bloch, David
Subject: RE: LIBOR

To all of you:

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

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

Hi Old Salt,

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

[redacted] (b) (5)

Happy to discuss.
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Attachments: OPOR LIBOR Memo Outline.docx; Copy of LIBOR proposal_Lee and Wu.xlsx

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202-730-2821

Bloch, David

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

Hi Simon,

If you look carefully at the raw data, you can make an excellent argument [redacted] (b) (5) [redacted]

Personally, I think the [redacted] (b) (5) [redacted]

Tim

From: Wu, Simon
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Bloch, David

From: Wu, Simon
Sent: Tuesday, October 02, 2012 12:04 PM
To: Parker, Richard; Lee, Timothy
Cc: Bloch, David
Subject: RE: LIBOR

Ok, we will keep the distinction in our analysis and proposal. I told Tim that I will get a revised draft to him this afternoon around 3 or 3:30. Thanks.

From: Parker, Richard
Sent: Tuesday, October 02, 2012 12:01 PM
To: Wu, Simon; Lee, Timothy
Cc: Bloch, David
Subject: RE: LIBOR

(b) (5), Simon, (b) (5). - R

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

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

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

Hi Old Salt,

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

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

(b) (5)

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Happy to discuss.
Tim

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

Bloch, David

From: Lee, Timothy
Sent: Tuesday, October 02, 2012 9:48 AM
To: Bloch, David
Subject: FW: LIBOR

From: Lee, Timothy
Sent: Tuesday, October 02, 2012 9:43 AM
To: Parker, Richard
Subject: LIBOR

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Tim

"Sea lampreys attach to fish with a sucking disk and sharp teeth. Sea lampreys feed on body fluids, often scarring and killing host fish. During its life as a parasite, each sea lamprey can kill 40 or more pounds of fish. Sea lampreys are so destructive that under some conditions, only one of seven fish attacked by a sea lamprey will survive."
-Great Lakes Fishery Commission

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Subject: LIBOR
Attachments: LIBOR action memorandum outline.docx; LIBOR proposal.xlsx; Schwab v. BofA amended complaint.pdf

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