

From: [Grob, George](#)
To: [Linick, Steve](#)
Subject: Accepted: LIBOR Draft Action Memo

From: (b) (6)
To: [DiSanto, Emilia](#); [Emerzian, Peter](#); [Febles, Rene](#); [Frost, David](#); [Grob, George](#); [Linick, Steve](#); [Parker, Richard](#); [Rau, Russell](#); [Saddler, Bryan](#); [Seide, David](#); [Silverman, Adam](#); [Stephens, Michael](#); [Wilkerson, Tawana](#); [Wolfe, Heath](#)
Subject: Update
Date: Friday, December 21, 2012 1:52:12 PM
Attachments: [Senior Staff - Holiday Leave Calendar 2012.docx](#)

Folks,

The next Senior Staff Meeting will be held on Thursday, January 3 at 3 PM. In the meantime, I want share Kris Belisle's media summary for this week as well as a copy of Senior Staff – Holiday Leave Calendar for your reference.

Week of December 17, 2012

- OIG in the News

WSJ: Fannie Mae and Freddie Mac may have lost more than \$3 billion as a result of banks' alleged manipulation of a key interest rate, according to an internal report by a federal watchdog sent to the mortgage companies' regulator and reviewed by The Wall Street Journal. <http://fhfa.ewb.dowjones.com/FHFA/Article/Default.aspx?an=WSJO000020121219e8cj008c2>

Bloomberg: [Fannie Mae](#) and Freddie Mac may have lost more than \$3 billion tied to the rigging of a key interest rate, according to internal memos by the auditor of the Federal Housing Finance Agency. <http://www.bloomberg.com/news/2012-12-19/fannie-mae-freddie-mac-libor-loss-tops-3-billion-auditor-says.html>

Reuters: U.S. mortgage finance giants Fannie Mae and Freddie Mac may have suffered more than \$3 billion in losses due to manipulation of the benchmark interest rate known as Libor, according to an internal memo by a federal watchdog. <http://fhfa.ewb.dowjones.com/FHFA/Article/Default.aspx?an=LBA0000020121219e8cj0017o>

American Banker: Fannie Mae and Freddie Mac may have lost billions of dollars as a result of banks' allegedly manipulating a benchmark that determines the price at which banks lend to one another. <http://fhfa.ewb.dowjones.com/FHFA/Article/Default.aspx?an=AMB0000020121219e8ck000rt>

Financial Times: The alleged manipulation of Libor by banks may have cost Fannie Mae and Freddie Mac more than \$3bn in uncollected interest payments, a US regulator has estimated. <http://fhfa.ewb.dowjones.com/FHFA/Article/Default.aspx?an=FTFTA00020121220e8ck0002g>

Washington Post: Mortgage finance giants Fannie Mae and Freddie Mac may have lost up to \$3 billion from the manipulation by several big banks of the global interest rate known as Libor, according to an internal government memo.

<http://fhfa.ewb.dowjones.com/FHFA/Article/Default.aspx?an=WP00000020121220e8ck0005i>

AP: WASHINGTON (AP) - A federal watchdog has found that government-controlled Fannie Mae and Freddie Mac may have lost more than \$3 billion from big banks' alleged rigging of a key interest rate. <http://fhfa.ewb.dowjones.com/FHFA/Article/Default.aspx?an=APRS000020121220e8ck0001x>

Huffington Post: Libor manipulation cost Fannie Mae and Freddie Mac more than \$3 billion, according to an estimate by a government watchdog, who recommends the government-owned mortgage giants sue the big banks. http://www.huffingtonpost.com/2012/12/19/libor-manipulation-cost-fannie-freddie_n_2332300.html

NY Times: The potential victims of the Libor scandal are starting to estimate the costs to their bottom lines. <http://dealbook.nytimes.com/2012/12/20/making-it-easier-to-estimate-libor-losses/>

- FHFA in the News
- GSEs in the News
- Housing Market Stories
- Financial Crisis Stories

Dow Jones: The Treasury in 2013 hopes to clear out its portfolio of banks that took bailout funds during the financial crisis, including scores of institutions that have missed dividend payments owed to the government. <http://fhfa.ewb.dowjones.com/FHFA/Article/default.aspx?an=DJI0000020121218e8ci0005b>

- Legislative Developments
- Administrative Developments
- Policy Developments
- Industry Developments
- Commentary

Happy Holidays,

(b) (6)

(b) (6)

Federal Housing Finance Agency
Office of Inspector General

(b) (6)

office

(b) (6)

cell

(b) (6)

main line

From: [Frost, David](#)
To: [Saddler, Bryan](#)
Cc: [Grob, George](#)
Subject: Upcoming reports for SAR
Date: Wednesday, December 26, 2012 11:57:16 AM

Bryan—

Per your request, here are write-ups of the five reports we expect to publish by the next SAR. Findings and recommendations may evolve between now and the time of report publication, in light of policy review and other considerations.

FHFA’s Oversight of the Federal Home Loan Banks’ Affordable Housing Programs

(b) (5)

[Redacted]

[Redacted]

Potential Losses to Fannie Mae and Freddie Mac from LIBOR Manipulation

Findings: There are significant potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation.

Recommendations: FHFA should: 1) Require the Enterprises to conduct or commission detailed analyses of the potential financial losses due to LIBOR manipulation; 2) promptly consider options for appropriate legal action, if warranted; and 3) coordinate efforts and share information with other federal and state regulatory agencies.

Case Study: Freddie Mac’s Unsecured Lending to Lehman Brothers Prior to

Lehman's Bankruptcy

(b) (5)
[Redacted text block]

[Redacted text block]

FHFA's Oversight of Public Disclosures

(b) (5)
[Redacted text block]

[Redacted text block]

White Paper on Dividends Under the PSPAs

(b) (5)
[Redacted text block]

Apologies for the delay!

David

David Morgan Frost

Assistant Inspector General for Evaluations
Federal Housing Finance Agency

400 7th Street, SW
Washington, DC 20024

(b) (6)

(cell)

From: [Lee, Timothy](#)
To: [Bloch, David](#)
Cc: [Parker, Richard](#); [Grob, George](#)
Subject: Timeline memo
Date: Thursday, November 29, 2012 3:39:15 PM
Attachments: [LIBOR Memo 11 28 12 TL Edits.docx](#)

Hi David,

Here are changes made after Rich's and my review of the draft we got this morning. Happy to discuss if need be.

Tim

[Timothy Lee](#)

Senior Policy Advisor, FHFA-OIG

202-730-2821

From: [ShareThis](#) on behalf of (b) (6)
To: [Stephens, Michael](#); [DiSanto, Emilia](#); [Seide, David](#); [Bloch, David](#); [Grob, George](#); [Frost, David](#); tim.lee@fhfaoig.gov
Subject: steve.linick@fhfaoig.gov has shared: Watchdog urges Treasury to get Libor out of TARP
Date: Sunday, October 28, 2012 4:49:09 PM

Interesting in light of what we are doing as well. SIGTARP actually recommending they using a different benchmark in the future.

[Watchdog urges Treasury to get Libor out of TARP](#)

Source: [marketwatch.com](#)



WASHINGTON (MarketWatch) — The Treasury Department should stop using the Libor overnight interest rate in its loan programs given that it is “potentially subject to manipulation” and...

(b) (6) sent this using [ShareThis](#). Please note that ShareThis does not verify the ownership of this email address.

From: [Bloch, David](#)
To: [Grob, George](#); [Frost, David](#)
Subject: SEC & LIBOR update
Date: Wednesday, October 31, 2012 4:01:20 PM

Tim and I spent about a ½ hr. or so on the phone with the Chicago office of the SEC which is running a series of LIBOR investigations. Our methodology is sound for the purpose of notifying FHFA that this is an issue that the Agency ought to be paying some immediate attention. This is reassuring. Tim and I have notified Rich and I believe he will be speaking with the IG about our call. David

David P. Bloch
Director – Division of Mortgage, Investments and Risk Analysis
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Room 3-187
Washington, DC 20024

(b) (6) (telephone)
(b) (6)

From: [Bloch, David](#)
To: [Linick, Steve](#); [Stephens, Michael](#); [DiSanto, Emilia](#); [Seide, David](#); [Grob, George](#); [Frost, David](#); tim.lee@fhfaog.gov
Subject: RE: (b) (6) has shared: Watchdog urges Treasury to get Libor out of TARP
Date: Sunday, October 28, 2012 5:29:10 PM

The Wheatley report out of the UK recommends that LIBOR be reformed. The report came out a few weeks ago. A terrific thought piece from HM Treasury.

Dodd-Frank takes a stab at designating, supervising and regulating SIFIs. While banks are most likely to be so designated, AIG serves as the best example of a non-bank financial institution that was a SIFI. The FSOC can make the designation.

From: (b) (6)
Sent: 10/28/2012 4:49 PM
To: Stephens, Michael; DiSanto, Emilia; Seide, David; Bloch, David; Grob, George; Frost, David; tim.lee@fhfaog.gov
Subject: (b) (6) has shared: Watchdog urges Treasury to get Libor out of TARP

Interesting in light of what we are doing as well. SIGTARP actually recommending they using a different benchmark in the future.

Watchdog urges Treasury to get Libor out of TARP

Source: marketwatch.com



WASHINGTON (MarketWatch) — The Treasury Department should stop using the Libor overnight interest rate in its loan programs given that it is “potentially subject to manipulation” and...

(b) (6) sent this using [ShareThis](#). Please note that ShareThis does not verify the ownership of this email address.

From: Grob, George
To: [Bloch, David](#); [Frost, David](#)
Subject: RE: SEC & LIBOR update
Date: Wednesday, October 31, 2012 5:08:00 PM

Thank you.

From: Bloch, David
Sent: Wednesday, October 31, 2012 4:01 PM
To: Grob, George; Frost, David
Subject: SEC & LIBOR update

Tim and I spent about a ½ hr. or so on the phone with the Chicago office of the SEC which is running a series of LIBOR investigations. Our methodology is sound for the purpose of notifying FHFA that this is an issue that the Agency ought to be paying some immediate attention. This is reassuring. Tim and I have notified Rich and I believe he will be speaking with the IG about our call. David

David P. Bloch
Director – Division of Mortgage, Investments and Risk Analysis
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Room 3-187
Washington, DC 20024
(b) (6) (telephone)
(b) (6)

From: [Frost, David](#)
To: [Bloch, David](#); [Grob, George](#)
Subject: RE: SEC & LIBOR update
Date: Wednesday, October 31, 2012 4:37:30 PM

Thanks!

From: Bloch, David
Sent: Wednesday, October 31, 2012 4:01 PM
To: Grob, George; Frost, David
Subject: SEC & LIBOR update

Tim and I spent about a ½ hr. or so on the phone with the Chicago office of the SEC which is running a series of LIBOR investigations. Our methodology is sound for the purpose of notifying FHFA that this is an issue that the Agency ought to be paying some immediate attention. This is reassuring. Tim and I have notified Rich and I believe he will be speaking with the IG about our call. David

David P. Bloch
Director – Division of Mortgage, Investments and Risk Analysis
Office of the Inspector General
Federal Housing Finance Agency
400 7th Street, SW
Room 3-187
Washington, DC 20024
(b) (6) (telephone)
(b) (6)

From: Grob, George
To: [Parker, Richard](#); [Bloch, David](#); [Lee, Timothy](#); [Wu, Simon](#)
Cc: [Linick, Steve](#); [Frost, David](#); [Stephens, Michael](#); [DiSanto, Emilia](#)
Subject: RE: Message from Shared-Printer-1
Date: Monday, November 05, 2012 5:33:00 PM

Richard, David, Tim, Simone,

Nice work all—a real pleasure working with you on this.

George

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

Folks

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

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

Hi Ed

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

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

(b) (6)
Federal Housing Finance Agency
Office of Inspector General
(b) (6) office
(b) (6) cell
(b) (6) main line

From: [Parker, Richard](#)
To: [Greenlee, Jon](#)
Cc: [Grob, George](#); [Nichols, Nina](#)
Subject: RE: LIBOR
Date: Tuesday, November 20, 2012 10:07:55 AM

I'd prefer the 26th at 9:00AM. Many thanks, - R

From: Williams, Diane [mailto:Diane.Williams@fhfa.gov] **On Behalf Of** Greenlee, Jon
Sent: Tuesday, November 20, 2012 10:07 AM
To: Parker, Richard; Greenlee, Jon
Cc: Grob, George; Nichols, Nina
Subject: RE: LIBOR

Good morning Mr. Parker,

I have checked all parties' calendar and it looks like to the following dates and times are available to discuss LIBOR. Please let me know which one will be available to you. Thanks Diane

November 26 9:00 a.m. – 10:00 a.m.
4:00 p.m. – 10:00 a.m.

November 28 9:00 a.m. – 10:00 a.m.
4:00 p.m. – 5:00 p.m.

From: Parker, Richard
Sent: Tuesday, November 20, 2012 9:36 AM
To: Greenlee, Jon
Cc: Grob, George; Nichols, Nina
Subject: RE: LIBOR

Jon,

I understand. Pls schedule George and I for some time early next week with a view toward finding a way forward on the issue of publication.

I wish you and yours a happy and healthy Thanksgiving.

Rich

Sent from my Windows Phone

From: Greenlee, Jon
Sent: 11/20/2012 9:26 AM
To: Parker, Richard
Cc: Grob, George; Nichols, Nina
Subject: RE: LIBOR

Rich and George,

Thanks for following up.

We talked about this quite a bit and are very uncomfortable with the idea of making public the OIG memo and a revised response. I'm only in for a few hours today so we should plan on discussing this next week when I return.

Hope you have a great Thanksgiving.

Jon

Jon Greenlee
Deputy Director, Enterprise Regulation
Federal Housing Finance Agency
Constitution Center
400 7th Street, SW
Washington, DC 20024

(b) (6) office
ell

From: Parker, Richard
Sent: Monday, November 19, 2012 2:07 PM
To: Greenlee, Jon
Cc: Grob, George
Subject: LIBOR

Jon,

Hope you had a great weekend. Do you know when we should expect to receive your revised reply to the memo? Thanks, Jon.

Rich

Sent from my Windows Phone

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From: Grob, George
To: [Lee, Timothy](#)
Subject: RE: LIBOR memo
Date: Tuesday, October 09, 2012 1:29:00 PM

I am here now.

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?

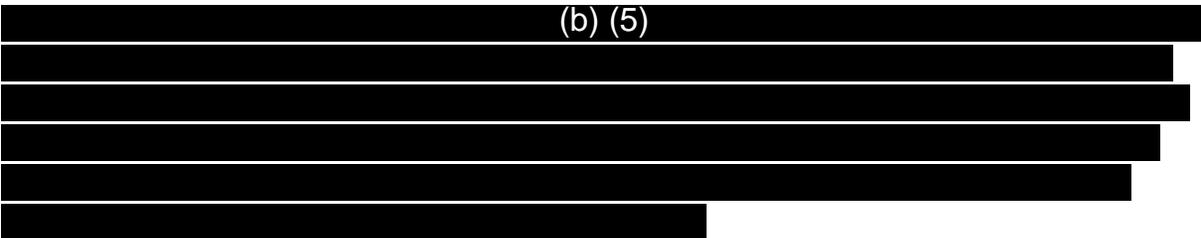
Tim

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.

(b) (5)

A large section of the email is redacted with black bars. The redaction covers approximately six lines of text. The first line of the redacted area contains the text "(b) (5)".

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 [REDACTED] (b) (5) [REDACTED]. We have also rearranged the order of the recommendations. The cleaned-up [Excel data sheet](#) is also available.

Tim

[Timothy Lee](#)

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

From: [Parker, Richard](#)
To: [Bloch, David](#); [Lee, Timothy](#); [Grob, George](#)
Subject: RE: LIBOR Memo 11 29 12 (DPB PM).docx
Date: Thursday, November 29, 2012 4:38:15 PM

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

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

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

From: Grob, George
To: [Parker, Richard](#)
Subject: RE: LIBOR memo
Date: Tuesday, October 09, 2012 12:18:00 PM

Richard,

Checking into this now after re-entering after a long weekend. Will read the latest version from Tim then get back to you.

George

From: Parker, Richard
Sent: Friday, October 05, 2012 1:07 PM
To: Grob, George
Subject: FW: LIBOR memo

Looping you in. After you read this I would like to speak with you to accomplish three things: (1) get you impression of the quality of the work and its suitability to our identified goal of putting the Agency on "inquiry notice" of the losses they may be facing due to their investment in LIBOR-dependant products; (2) gauge the level of effort that will be necessary to compete the work, the time that will be needed, and the format in which it should be presented; and (3) how we should proceed with the Agency below the Acting Director, if at all, before delivery to him. (b) (5)

Sound good? Be well,

Rich

Sent from my Windows Phone

From: Lee, Timothy
Sent: 10/5/2012 12:11 PM
To: Bloch, David; Wu, Simon; Parker, Richard
Cc: Phillips, Wesley; Rhinesmith, Alan
Subject: LIBOR memo

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

From: Grob, George
To: [Lee, Timothy](#); [Parker, Richard](#)
Cc: [Wu, Simon](#); [Bloch, David](#); [Phillips, Wesley](#)
Subject: RE: LIBOR memo
Date: Tuesday, October 09, 2012 1:07:00 PM
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.

(b) (5)

[Redacted]

George

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

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

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

I think that works well. (b) (5)

[Redacted]

Wes

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

Hi all,

Here is the [newest Sharepoint draft](#) of the LIBOR memo, which is now the definitive version. We have cleaned up the graphics per Wes' suggestion and 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

From: Grob, George
To: [Parker, Richard](#)
Subject: RE: LIBOR Draft Action Memo
Date: Wednesday, October 17, 2012 6:55:00 PM

Agree. I read this over, like Tim's reactions. I also agree with (b) (6) that we need a one page cover note, and convert the current memo into some kind of attachment or whatever. I think the meeting is scheduled for 10:00 AM—is that right?

From: Parker, Richard
Sent: Wednesday, October 17, 2012 4:42 PM
To: Grob, George
Subject: RE: LIBOR Draft Action Memo

Suggest that we meet with our team on Friday morning and let them tell us what's what so that we can decide next steps. -R

Sent from my Windows Phone

From: Grob, George
Sent: 10/17/2012 4:21 PM
To: Lee, Timothy; Parker, Richard; Bloch, David
Cc: (b) (6)
Subject: RE: LIBOR Draft Action Memo

Thank you, Tim.

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

Hi Rich,

I took a look at the comments. My responses are as follows:

- We are in fact launching into a description of LIBOR in the very first sentence, per the suggestion of readers (I think Alan).
- The net swap position has in fact trended downward since the start of conservatorship, though it remained very substantial through the period in question. I have edited the memo to reflect just figures at the start of conservatorship, which is really all we need for our story.
- Of course, the Enterprises do have floating rate bonds outstanding that we have done our best to estimate and incorporate into the analysis.
- Some of these comments ask questions we cannot answer definitively, or assume we are answering questions we cannot. **The paper does not attribute any of this gap to manipulation:** it is deliberately agnostic on that point. Even if I wanted to be Emile Zola, I don't have the conclusive evidence at hand. We deliberately walk the reader step by step through a carefully documented set of facts:

- 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.)
- We state clearly that we are calculating the losses to the Enterprises that this divergence generated.
- As noted in the document, we tie the time frame to existing accusations as described in media reports.

I cannot emphasize this enough: the goal of this document is not to convict anyone or provide a definitive accounting of losses. That is simply impossible to do off what is in the 10Ks. What we seek to do here is say:

- There has already been proof of some kind of manipulation (Barclays). And you know, like other branches of the Government note (see Gary Gensler), it's really very plausible that additional manipulation occurred, given how wacky the indicators look.
- If the wacky indicators did result from some sort of manipulation, then the Enterprises could well have lost a boatload of money from it.
- This possibility warrants an Agency effort to get off its ass and (a) create a precise calculation of loss, (b) think about legal avenues for recovery if evidence arises, and (c) get plugged in with other agencies so they know if convincing evidence does arise.

Per all of my previous conversations, the document is deliberately written simply, with minimal emphasis on numerical details, in order to appeal to readers who are not financial professionals. Moreover it has been kept short. However, that means it must be carefully read in order to be evaluated properly.

The emphasis on user-friendliness means that some of the details (b) (6) seeks are not included in the draft. I will see that he receives the [Excel sheet](#) so that he can satisfy himself at his leisure as to how I arrived at the answers provided. As stated before, I am perfectly content to (a) publish the relevant portions of the Excel sheet for public scrutiny, and/or (b) publish my phone number so that the numbers geeks can call me up personally. Based on public and covert sources, I am highly confident that this paper is, as the British say, “fit for purpose.”

In light of that, please let me know if we still need an in-person conversation; I am in the office tomorrow. My view of matters is that nothing prevents us from going ahead with the Friday morning meeting with Steve.

Tim

From: Parker, Richard
Sent: Wednesday, October 17, 2012 2:05 PM
To: Lee, Timothy; Bloch, David
Cc: Grob, George
Subject: FW: LIBOR Draft Action Memo

Tim and David,

See the message one under. Steve had (b) (6) and David read the memo for him. Their questions are noted. Steve wants them answered or accounted for before he will go forward. Can you look this over and meet with George and me on Friday @ 1000 hrs when we were going to meet and brief Steve? That time slot is already tied up on all of our calendars. Pls advise soonest. Skipper, pls have (b) (6) cancel the 1000 hrs with Steve, Em, Peter, Simon, and Mike and then reinvite the four of us (Grob, Bloch, Lee, and Parker) for that time. I think that it would be best if you ran your replies by George and me before you both brief Steve so pls plan to do that on Friday morning. Tx to all,

rich

Sent from my Windows Phone

From: Linick, Steve
Sent: 10/17/2012 1:04 PM
To: Parker, Richard
Cc: (b) (6); Seide, David
Subject: FW: LIBOR Draft Action Memo

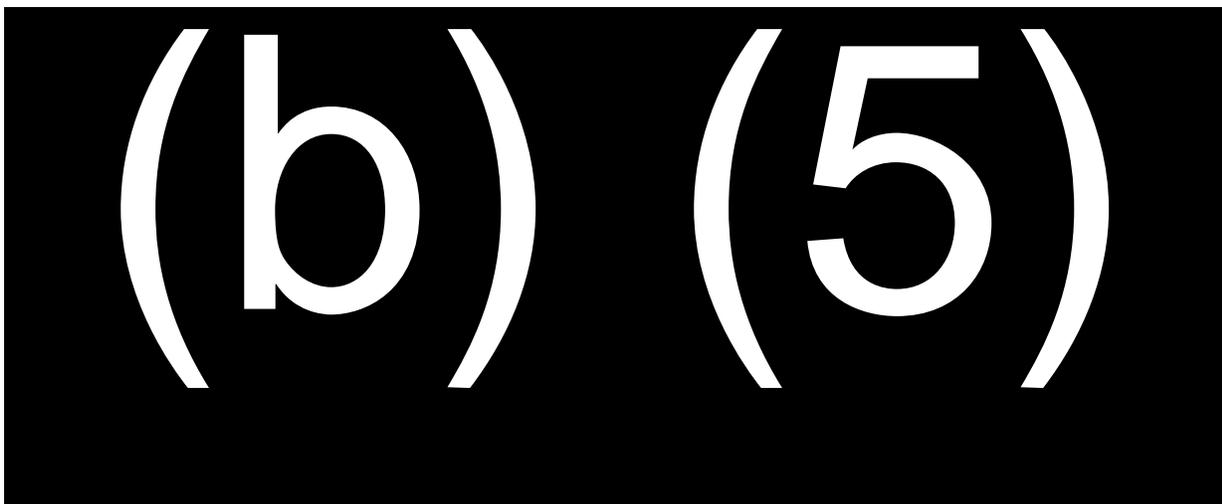
Rich,

Before you schedule a briefing with me, please have your team address (b) (6) and David's comments and revise accordingly. This should really be a memo from your team to me, which I will attach to a cover letter to demarco. tx

From: (b) (6)
Sent: Wednesday, October 17, 2012 12:48 PM
To: Linick, Steve; Seide, David
Subject: RE: LIBOR Draft Action Memo

Steve,

Enclosed please find my comments. I had no problems with George's comments.



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

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)

From: Grob, George
To: [Linick, Steve](#)
Subject: RE: LIBOR Draft Action Memo
Date: Wednesday, October 17, 2012 8:13:00 AM

Steve,

Richard's explanation of who worked on it is exactly correct. It has been a pleasure working with him personally as well as his staff, and the combination of the efforts of our two offices has in my mind has been very productive and efficient.

George

From: Linick, Steve
Sent: Wednesday, October 17, 2012 7:06 AM
To: Parker, Richard
Cc: DiSanto, Emilia; Stephens, Michael; Grob, George; Emerzian, Peter
Subject: RE: LIBOR Draft Action Memo

Tx. Yes it would be great if you could set something up. pls include Peter also

Sent from my Windows Phone

From: Parker, Richard
Sent: 10/16/2012 10:57 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: RE: LIBOR Draft Action Memo

Steve,

Tim Lee, Simon Wu, and David Bloch did the writing; Alan Rhinesmith has done some editorial work, and Wes has cold read it. George and I have been overseeing the production (ensuring that the theories are being vetted and the charts and graphs confirmed through independent calculation).

As you may recall,, I suggested that after you to read the rough draft you take a substantive briefing from the authors, George, and I.

Should I work with **(b) (6)** to set this up?

Sent from my Windows Phone

From: Linick, Steve
Sent: 10/16/2012 5:51 PM
To: Parker, Richard
Cc: DiSanto, Emilia
Subject: RE: LIBOR Draft Action Memo

Rich

Who worked on this? Tx

Sent from my Windows Phone

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

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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: Grob, George
To: [Parker, Richard](#)
Subject: RE: LIBOR Draft Action Memo
Date: Wednesday, October 17, 2012 8:14:00 AM

Will call you late morning or early afternoon. This combined effort is a great example of how we (you and I as well as our offices) should work together.

From: Parker, Richard
Sent: Tuesday, October 16, 2012 11:12 PM
To: Grob, George
Subject: FW: LIBOR Draft Action Memo

George,

Looping you in. Tried to catch up with you today on LIBOR but the day slipped away. Bottom line: Mike has read the rough draft as we decided he should and, no surprise, he likes it and wants us to go with it. Steve is looking at it now. With the message below I have tried to remind Steve that this is a rough draft, and that he should let our folks walk him through it and its development before reaching any conclusions. Give me a buzz tomorrow at your convenience as I am working from home home and want us to be able to download each other. (b) (6). -Rich

Sent from my Windows Phone

From: Parker, Richard
Sent: 10/16/2012 10:57 PM
To: Linick, Steve
Cc: DiSanto, Emilia
Subject: RE: LIBOR Draft Action Memo

Steve,

Tim Lee, Simon Wu, and David Bloch did the writing; Alan Rhinesmith has done some editorial work, and Wes has cold read it. George and I have been overseeing the production (ensuring that the theories are being vetted and the charts and graphs confirmed through independent calculation).

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From: Linick, Steve
Sent: 10/16/2012 5:51 PM
To: Parker, Richard
Cc: DiSanto, Emilia
Subject: RE: LIBOR Draft Action Memo

Rich

Who worked on this? Tx

Sent from my Windows Phone

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

Steve,

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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: Grob, George
To: [Lee, Timothy](#); [Parker, Richard](#); [Bloch, David](#)
Cc: (b) (6)
Subject: RE: LIBOR Draft Action Memo
Date: Wednesday, October 17, 2012 4:21:00 PM

Thank you, Tim.

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

Hi Rich,

I took a look at the comments. My responses are as follows:

- We are in fact launching into a description of LIBOR in the very first sentence, per the suggestion of readers (I think Alan).
- The net swap position has in fact trended downward since the start of conservatorship, though it remained very substantial through the period in question. I have edited the memo to reflect just figures at the start of conservatorship, which is really all we need for our story.
- Of course, the Enterprises do have floating rate bonds outstanding that we have done our best to estimate and incorporate into the analysis.
- Some of these comments ask questions we cannot answer definitively, or assume we are answering questions we cannot. **The paper does not attribute any of this gap to manipulation:** it is deliberately agnostic on that point. Even if I wanted to be Emile Zola, I don't have the conclusive evidence at hand. We deliberately walk the reader step by step through a carefully documented set of facts:
 - 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.)
 - We state clearly that we are calculating the losses to the Enterprises that this divergence generated.
 - As noted in the document, we tie the time frame to existing accusations as described in media reports.

I cannot emphasize this enough: the goal of this document is not to convict anyone or provide a definitive accounting of losses. That is simply impossible to do off what is in the 10Ks. What we seek to do here is say:

- There has already been proof of some kind of manipulation (Barclays). And you know, like other branches of the Government note (see Gary Gensler), it's really very plausible that additional manipulation occurred, given how wacky the indicators look.

- If the wacky indicators did result from some sort of manipulation, then the Enterprises could well have lost a boatload of money from it.
- This possibility warrants an Agency effort to get off its ass and (a) create a precise calculation of loss, (b) think about legal avenues for recovery if evidence arises, and (c) get plugged in with other agencies so they know if convincing evidence does arise.

Per all of my previous conversations, the document is deliberately written simply, with minimal emphasis on numerical details, in order to appeal to readers who are not financial professionals. Moreover it has been kept short. However, that means it must be carefully read in order to be evaluated properly.

The emphasis on user-friendliness means that some of the details (b) (6) seeks are not included in the draft. I will see that he receives the [Excel sheet](#) so that he can satisfy himself at his leisure as to how I arrived at the answers provided. As stated before, I am perfectly content to (a) publish the relevant portions of the Excel sheet for public scrutiny, and/or (b) publish my phone number so that the numbers geeks can call me up personally. Based on public and covert sources, I am highly confident that this paper is, as the British say, "fit for purpose."

In light of that, please let me know if we still need an in-person conversation; I am in the office tomorrow. My view of matters is that nothing prevents us from going ahead with the Friday morning meeting with Steve.

Tim

From: Parker, Richard
Sent: Wednesday, October 17, 2012 2:05 PM
To: Lee, Timothy; Bloch, David
Cc: Grob, George
Subject: FW: LIBOR Draft Action Memo

Tim and David,

See the message one under. Steve had (b) (6) and David read the memo for him. Their questions are noted. Steve wants them answered or accounted for before he will go forward. Can you look this over and meet with George and me on Friday @ 1000 hrs when we were going to meet and brief Steve? That time slot is already tied up on all of our calendars. Pls advise soonest. Skipper, pls have (b) (6) cancel the 1000 hrs with Steve, Em, Peter, Simon, and Mike and then reinvite the four of us (Grob, Bloch, Lee, and Parker) for that time. I think that it would be best if you ran your replies by George and me before you both brief Steve so pls plan to do that on Friday morning. Tx to all,

rich

Sent from my Windows Phone

From: Linick, Steve
Sent: 10/17/2012 1:04 PM
To: Parker, Richard

Cc: (b) (6); Seide, David
Subject: FW: LIBOR Draft Action Memo

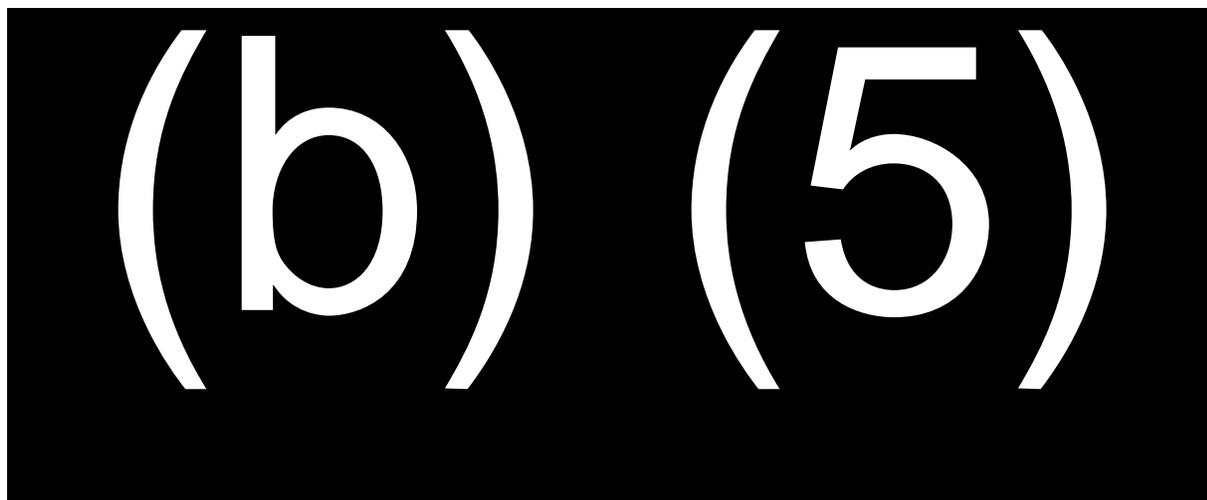
Rich,

Before you schedule a briefing with me, please have your team address (b) (6) and David's comments and revise accordingly. This should really be a memo from your team to me, which I will attach to a cover letter to demarco. tx

From: (b) (6)
Sent: Wednesday, October 17, 2012 12:48 PM
To: Linick, Steve; Seide, David
Subject: RE: LIBOR Draft Action Memo

Steve,

Enclosed please find my comments. I had no problems with George's comments.



Let me know if you need anything else.

Bob

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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Cc: DiSanto, Emilia
Subject: LIBOR Draft Action Memo

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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)

From: [Bloch, David](#)
To: [Grob, George](#)
Subject: RE: Libor
Date: Friday, October 19, 2012 10:58:45 AM

Completely my error George. It was in my in box and I had not accepted it. I immediately went down to OI to discuss Lehman and missed the opportunity to participate. Thanks.

From: Grob, George
Sent: Friday, October 19, 2012 10:55 AM
To: Bloch, David
Subject: FW: Libor

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: (b) (6) 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: (b) (6)
Subject: Libor

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

From: [Williams, Diane](#) on behalf of [Greenlee, Jon](#)
To: [Parker, Richard](#); [Greenlee, Jon](#)
Cc: [Grob, George](#); [Nichols, Nina](#)
Subject: RE: LIBOR
Date: Tuesday, November 20, 2012 10:06:54 AM

Good morning Mr. Parker,

I have checked all parties' calendar and it looks like to the following dates and times are available to discuss LIBOR. Please let me know which one will be available to you. Thanks Diane

November 26 9:00 a.m. – 10:00 a.m.
4:00 p.m. – 10:00 a.m.

November 28 9:00 a.m. – 10:00 a.m.
4:00 p.m. – 5:00 p.m.

From: Parker, Richard
Sent: Tuesday, November 20, 2012 9:36 AM
To: Greenlee, Jon
Cc: Grob, George; Nichols, Nina
Subject: RE: LIBOR

Jon,

I understand. Pls schedule George and I for some time early next week with a view toward finding a way forward on the issue of publication.

I wish you and yours a happy and healthy Thanksgiving.

Rich

Sent from my Windows Phone

From: Greenlee, Jon
Sent: 11/20/2012 9:26 AM
To: Parker, Richard
Cc: Grob, George; Nichols, Nina
Subject: RE: LIBOR

Rich and George,

Thanks for following up.

We talked about this quite a bit and are very uncomfortable with the idea of making public the OIG memo and a revised response. I'm only in for a few hours today so we should plan on discussing this next week when I return.

Hope you have a great Thanksgiving.

Jon

Jon Greenlee
Deputy Director, Enterprise Regulation
Federal Housing Finance Agency
Constitution Center
400 7th Street, SW
Washington, DC 20024

(b) (6) office
(b) (6) cell

From: Parker, Richard
Sent: Monday, November 19, 2012 2:07 PM
To: Greenlee, Jon
Cc: Grob, George
Subject: LIBOR

Jon,

Hope you had a great weekend. Do you know when we should expect to receive your revised reply to the memo? Thanks, Jon.

Rich

Sent from my Windows Phone

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including any of its contents or attachments by any person other than the intended recipient, or for any purpose other than its intended use, is strictly prohibited. If you believe you received this email in error, please permanently delete it and any attachments, and do not save, copy, disclose, or rely on any part of the information. Please call the OIG at 202-730-4949 if you have any questions or to let us know you received this email in error.

From: Grob, George
To: [Linick, Steve](#)
Cc: [Parker, Richard](#); [Lee, Timothy](#); [Bloch, David](#)
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation
Date: Thursday, November 15, 2012 3:42:00 PM

Steve,

This is George with Richard by my side. Here are our thoughts. (b) (5)

[REDACTED]

[REDACTED]

(b) (5)

Accordingly we suggest that you alert Ed to the above and enlist his support in the publication of our memo and his response.

George and Richard

From: Linick, Steve
Sent: Thursday, November 15, 2012 1:17 PM
To: Bloch, David; Grob, George
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

What are your thoughts on posting our memo on the website? will it impair any proposed litigation

From: Bloch, David
Sent: Thursday, November 15, 2012 12:48 PM
To: Grob, George
Cc: Lee, Timothy; Linick, Steve; Parker, Richard
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Freddie's response to FHFA is in letter form. Fannie's response to FHFA is in a slide deck. Freddie has already engaged Dickstein Shapiro and Bates White to run the loss figures. (b) (4)

[REDACTED]

[REDACTED]

. David

From: Grob, George
Sent: Thursday, November 15, 2012 12:23 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [<mailto:Diane.Williams@fhfa.gov>]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

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From: Grob, George
To: [Parker, Richard](#); [Bloch, David](#)
Cc: [Lee, Timothy](#); [Linick, Steve](#)
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation
Date: Thursday, November 15, 2012 2:22:00 PM

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

From: Parker, Richard
Sent: Thursday, November 15, 2012 2:04 PM
To: Bloch, David; Grob, George
Cc: Lee, Timothy; Linick, Steve
Subject: RE: FHFA-OIG Memorandum Regarding LIBOR Manipulation

George,

I think David has this right. Freddie's plan is contained in the three page letter on Freddie letterhead. Essentially, they are relying on the law firm/economists to compute the damage estimate before determining whether to intervene in an extant suit or bring one of their own.

Rich

From: Bloch, David
Sent: Thursday, November 15, 2012 12:48 PM
To: Grob, George
Cc: Lee, Timothy; Linick, Steve; Parker, Richard
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[REDACTED]
[REDACTED]. David

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To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [<mailto:Diane.Williams@fhfa.gov>]
Sent: Thursday, November 15, 2012 12:06 PM

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Cc: Greenlee, Jon; Nichols, Nina
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From: Grob, George
To: [Linick, Steve](#)
Cc: [Parker, Richard](#)
Subject: RE:
Date: Tuesday, November 27, 2012 11:01:00 AM

Richard and I will meet with you at 11:30 to fill you in on Libor

From: Linick, Steve
Sent: Tuesday, November 27, 2012 9:55 AM
To: Rau, Russell; Grob, George
Subject:

Im not going to join you with Greenlee this morning but interested in a briefing tx

Sent from my Windows Phone

Balmaseda, Kat

From: DiSanto, Emilia
Sent: Tuesday, December 18, 2012 3:08 PM
To: Parker, Richard; Grob, George
Cc: DiSanto, Emilia
Subject: can one of you please provide me with a copy of the responses that we got from FHFA on LIBOR....this is HIGH priority please

Importance: High

From: [Lee, Timothy](#)
To: [Parker, Richard](#); [Grob, George](#)
Cc: [Bloch, David](#)
Subject: NYTimes" take
Date: Thursday, December 20, 2012 4:10:40 PM

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

[Timothy Lee](#)

Senior Policy Advisor, FHFA-OIG

202-730-2821

Cash Flow Shortfall from LIBOR Suppression

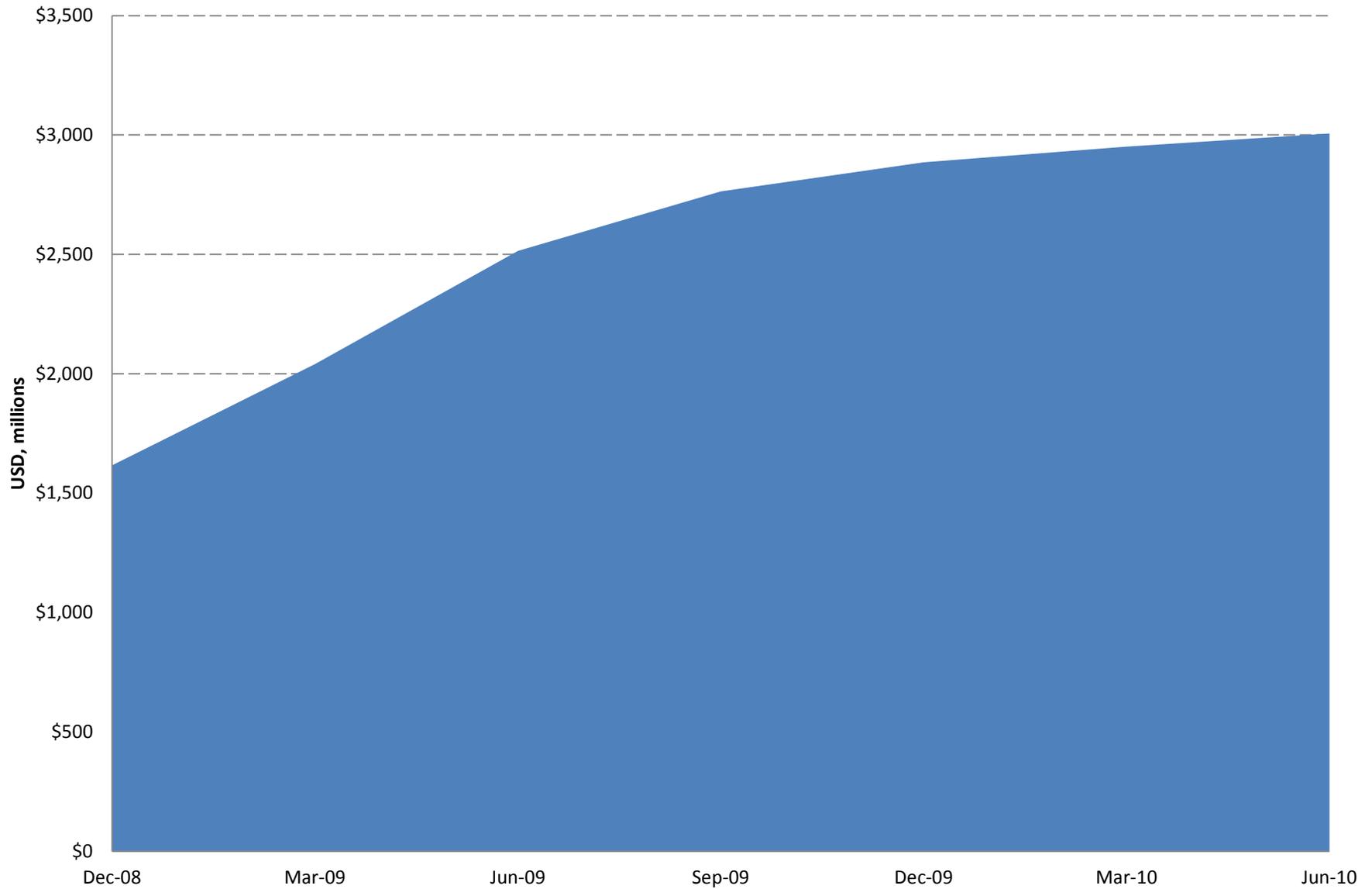
Enterprises Variable Rate Mortgage Assets and Interest Rate Swaps

dollars in millions

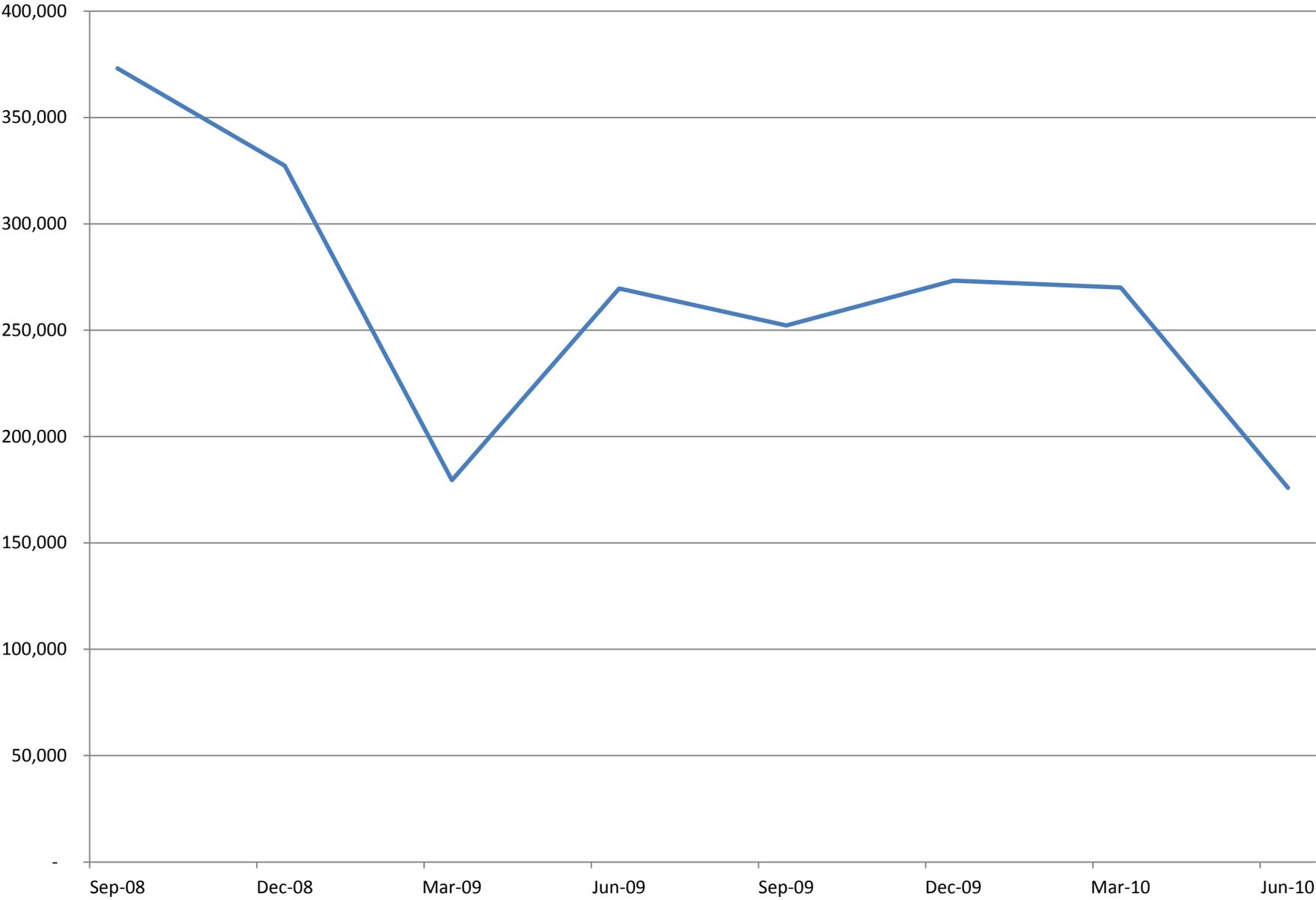
Column verified?

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

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



Net Receive Floating Enterprise Swaps



Quarterly Estimated Potential Losses to the Enterprises from LIBOR Suppression, 4Q08-2Q10

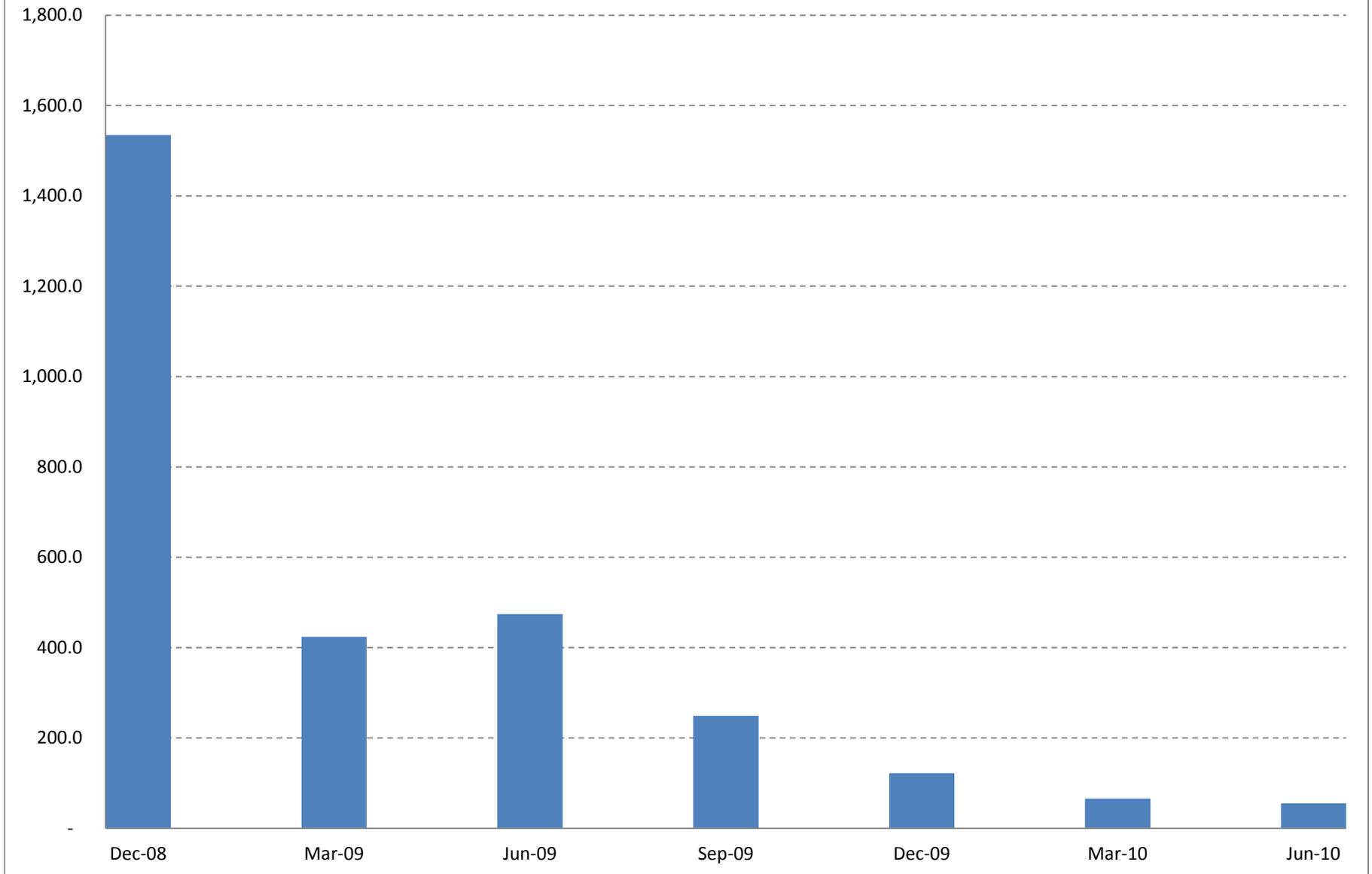
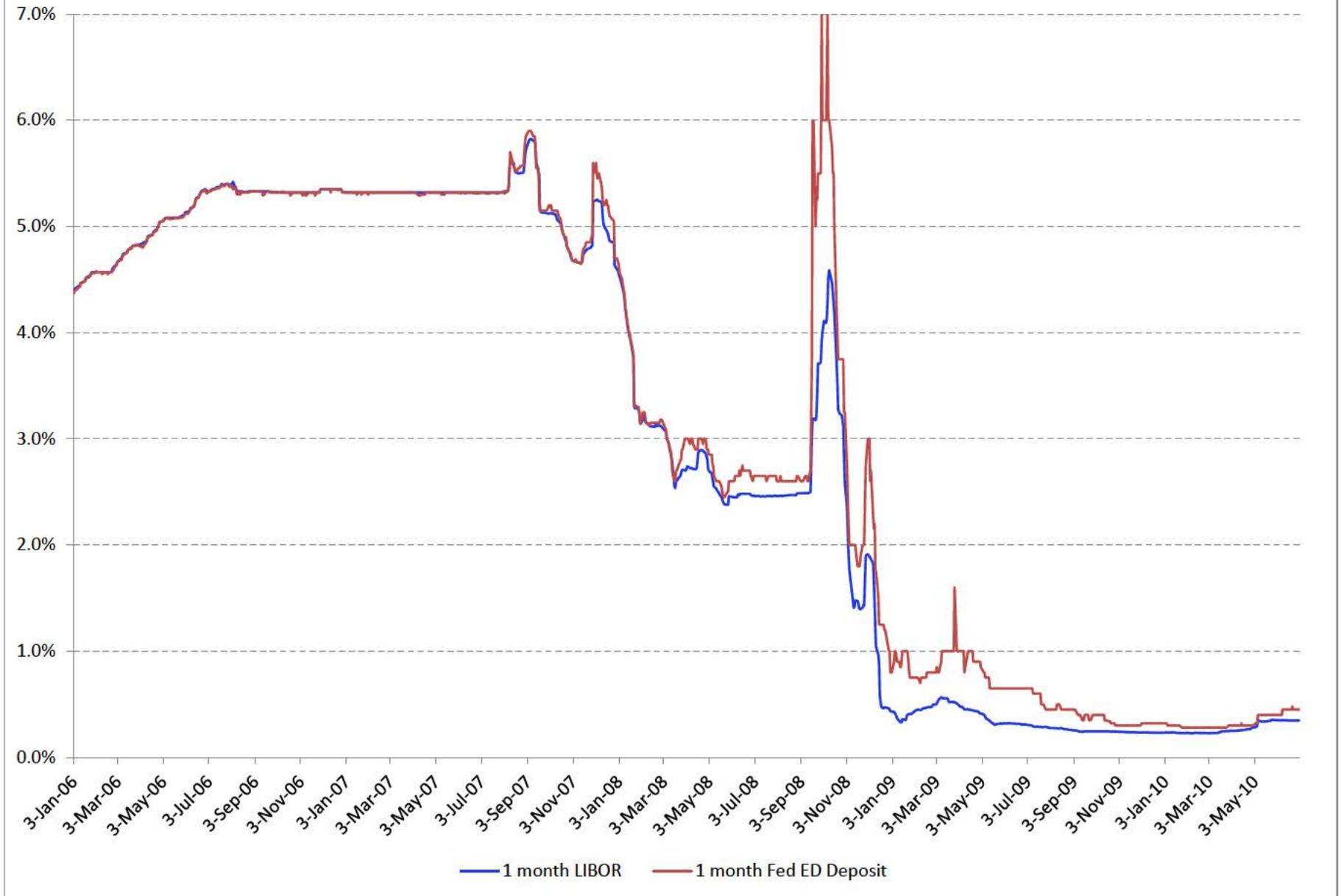


Figure 2. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10



Spread Between Federal Reserve Eurodollar Deposit Rate and LIBOR, 2000-2012



Federal Reserve ED
Deposits Less LIBOR, 1
month tenor

4-Jan-00 through 14-Jun-07

Average Spread	0.06%
Incidence of Zero or Negative Spreads	10.7%
Highest Spread	0.41%

15-jun-07 through 7-Sep-08

Average Spread	-0.09%
Incidence of Zero or Negative Spreads	89.7%
Highest Spread	0.30%

6-sep-08 through 27-jun-12

Average Spread	-0.19%
Incidence of Zero or Negative Spreads	100.00%
Highest Spread	-0.01%

Date	1 month LIBOR	1 month Fed ED Deposit	1 month Spread
4-Jan-00	5.81%	5.69%	0.12%
5-Jan-00	5.79%	5.69%	0.10%
6-Jan-00	5.79%	5.69%	0.10%
7-Jan-00	5.79%	5.69%	0.10%
10-Jan-00	5.78%	5.69%	0.09%
11-Jan-00	5.78%	5.69%	0.09%
12-Jan-00	5.78%	5.69%	0.09%
13-Jan-00	5.78%	5.69%	0.09%
14-Jan-00	5.79%	5.69%	0.10%
18-Jan-00	5.81%	5.69%	0.12%
19-Jan-00	5.81%	5.69%	0.12%
20-Jan-00	5.81%	5.69%	0.12%
21-Jan-00	5.81%	5.72%	0.09%
24-Jan-00	5.82%	5.75%	0.07%
25-Jan-00	5.82%	5.75%	0.07%
26-Jan-00	5.82%	5.75%	0.07%
27-Jan-00	5.83%	5.69%	0.14%
28-Jan-00	5.86%	5.81%	0.05%
31-Jan-00	5.89%	5.84%	0.04%
1-Feb-00	5.91%	5.84%	0.07%
2-Feb-00	5.92%	5.88%	0.04%
3-Feb-00	5.90%	5.84%	0.06%
4-Feb-00	5.89%	5.81%	0.08%

7-Feb-00	5.89%	5.84%	0.05%
8-Feb-00	5.89%	5.81%	0.08%
9-Feb-00	5.89%	5.81%	0.08%
10-Feb-00	5.89%	5.78%	0.11%
11-Feb-00	5.89%	5.78%	0.11%
14-Feb-00	5.88%	5.78%	0.10%
15-Feb-00	5.88%	5.78%	0.10%
16-Feb-00	5.88%	5.78%	0.10%
17-Feb-00	5.88%	5.78%	0.10%
18-Feb-00	5.88%	5.78%	0.10%
22-Feb-00	5.88%	5.78%	0.10%
23-Feb-00	5.88%	5.78%	0.10%
24-Feb-00	5.88%	5.78%	0.10%
25-Feb-00	5.88%	5.81%	0.07%
28-Feb-00	5.91%	5.81%	0.10%
29-Feb-00	5.92%	5.78%	0.14%
1-Mar-00	5.93%	5.81%	0.12%
2-Mar-00	5.94%	5.84%	0.10%
3-Mar-00	5.94%	5.84%	0.10%
6-Mar-00	5.95%	5.81%	0.14%
7-Mar-00	5.96%	5.88%	0.08%
8-Mar-00	5.97%	5.88%	0.09%
9-Mar-00	5.99%	5.94%	0.05%
10-Mar-00	6.00%	5.78%	0.22%
13-Mar-00	6.00%	5.94%	0.06%
14-Mar-00	6.02%	5.97%	0.05%
15-Mar-00	6.04%	5.97%	0.07%
16-Mar-00	6.07%	6.00%	0.07%
17-Mar-00	6.10%	6.03%	0.07%
20-Mar-00	6.11%	6.06%	0.05%
21-Mar-00	6.12%	6.06%	0.06%
22-Mar-00	6.12%	6.06%	0.06%
23-Mar-00	6.13%	6.06%	0.07%
24-Mar-00	6.13%	6.06%	0.07%
27-Mar-00	6.13%	6.06%	0.07%
28-Mar-00	6.13%	6.06%	0.07%
29-Mar-00	6.13%	6.06%	0.07%
30-Mar-00	6.13%	6.06%	0.07%
31-Mar-00	6.13%	6.06%	0.07%
3-Apr-00	6.13%	6.06%	0.07%
4-Apr-00	6.13%	6.06%	0.07%
5-Apr-00	6.13%	6.06%	0.07%
6-Apr-00	6.13%	6.06%	0.07%
7-Apr-00	6.13%	6.03%	0.10%
10-Apr-00	6.13%	6.06%	0.07%
11-Apr-00	6.13%	6.03%	0.10%
12-Apr-00	6.13%	6.03%	0.10%

13-Apr-00	6.13%	6.03%	0.10%
14-Apr-00	6.13%	6.03%	0.10%
17-Apr-00	6.13%	6.03%	0.10%
18-Apr-00	6.13%	6.03%	0.10%
19-Apr-00	6.15%	6.06%	0.09%
20-Apr-00	6.15%	6.06%	0.09%
25-Apr-00	6.16%	6.09%	0.07%
26-Apr-00	6.18%	6.13%	0.05%
27-Apr-00	6.20%	6.13%	0.07%
28-Apr-00	6.29%	6.25%	0.04%
2-May-00	6.36%	6.28%	0.08%
3-May-00	6.38%	6.31%	0.07%
4-May-00	6.43%	6.38%	0.05%
5-May-00	6.44%	6.38%	0.06%
8-May-00	6.46%	6.41%	0.05%
9-May-00	6.48%	6.44%	0.04%
10-May-00	6.50%	6.44%	0.06%
11-May-00	6.52%	6.47%	0.05%
12-May-00	6.54%	6.50%	0.04%
15-May-00	6.57%	6.53%	0.04%
16-May-00	6.58%	6.50%	0.08%
17-May-00	6.61%	6.53%	0.08%
18-May-00	6.61%	6.53%	0.08%
19-May-00	6.61%	6.53%	0.08%
22-May-00	6.61%	6.53%	0.08%
23-May-00	6.61%	6.53%	0.08%
24-May-00	6.61%	6.53%	0.08%
25-May-00	6.61%	6.56%	0.05%
26-May-00	6.62%	6.53%	0.09%
30-May-00	6.64%	6.56%	0.08%
31-May-00	6.65%	6.56%	0.09%
1-Jun-00	6.66%	6.56%	0.10%
2-Jun-00	6.66%	6.53%	0.13%
5-Jun-00	6.62%	6.53%	0.09%
6-Jun-00	6.63%	6.53%	0.10%
7-Jun-00	6.63%	6.53%	0.10%
8-Jun-00	6.64%	6.56%	0.08%
9-Jun-00	6.64%	6.56%	0.08%
12-Jun-00	6.65%	6.59%	0.06%
13-Jun-00	6.65%	6.56%	0.09%
14-Jun-00	6.65%	6.56%	0.09%
15-Jun-00	6.65%	6.59%	0.06%
16-Jun-00	6.65%	6.63%	0.02%
19-Jun-00	6.65%	6.59%	0.06%
20-Jun-00	6.65%	6.59%	0.06%
21-Jun-00	6.65%	6.59%	0.06%
22-Jun-00	6.65%	6.59%	0.06%

23-Jun-00	6.65%	6.59%	0.06%
26-Jun-00	6.67%	6.63%	0.04%
27-Jun-00	6.67%	6.66%	0.01%
28-Jun-00	6.68%	6.66%	0.02%
29-Jun-00	6.65%	6.56%	0.09%
30-Jun-00	6.64%	6.56%	0.08%
3-Jul-00	6.64%	6.56%	0.08%
5-Jul-00	6.63%	6.56%	0.07%
6-Jul-00	6.63%	6.56%	0.07%
7-Jul-00	6.63%	6.53%	0.10%
10-Jul-00	6.63%	6.56%	0.07%
11-Jul-00	6.63%	6.56%	0.07%
12-Jul-00	6.63%	6.56%	0.07%
13-Jul-00	6.63%	6.53%	0.10%
14-Jul-00	6.63%	6.53%	0.10%
17-Jul-00	6.63%	6.53%	0.10%
18-Jul-00	6.63%	6.53%	0.10%
19-Jul-00	6.63%	6.53%	0.10%
20-Jul-00	6.63%	6.53%	0.10%
21-Jul-00	6.62%	6.53%	0.09%
24-Jul-00	6.62%	6.53%	0.09%
25-Jul-00	6.62%	6.53%	0.09%
26-Jul-00	6.62%	6.53%	0.09%
27-Jul-00	6.62%	6.53%	0.09%
28-Jul-00	6.62%	6.53%	0.09%
31-Jul-00	6.62%	6.53%	0.09%
1-Aug-00	6.62%	6.53%	0.09%
2-Aug-00	6.62%	6.53%	0.09%
3-Aug-00	6.62%	6.53%	0.09%
4-Aug-00	6.62%	6.53%	0.09%
7-Aug-00	6.62%	6.53%	0.09%
8-Aug-00	6.62%	6.53%	0.09%
9-Aug-00	6.62%	6.50%	0.12%
10-Aug-00	6.62%	6.53%	0.09%
11-Aug-00	6.62%	6.53%	0.09%
14-Aug-00	6.62%	6.53%	0.09%
15-Aug-00	6.62%	6.53%	0.09%
16-Aug-00	6.62%	6.53%	0.09%
17-Aug-00	6.62%	6.53%	0.09%
18-Aug-00	6.62%	6.53%	0.09%
21-Aug-00	6.62%	6.53%	0.09%
22-Aug-00	6.62%	6.53%	0.09%
23-Aug-00	6.62%	6.53%	0.09%
24-Aug-00	6.62%	6.52%	0.10%
25-Aug-00	6.62%	6.52%	0.10%
29-Aug-00	6.62%	6.52%	0.10%
30-Aug-00	6.63%	6.53%	0.10%

31-Aug-00	6.63%	6.53%	0.10%
1-Sep-00	6.63%	6.54%	0.09%
5-Sep-00	6.62%	6.53%	0.09%
6-Sep-00	6.62%	6.53%	0.09%
7-Sep-00	6.62%	6.53%	0.09%
8-Sep-00	6.62%	6.53%	0.09%
11-Sep-00	6.62%	6.53%	0.09%
12-Sep-00	6.62%	6.53%	0.09%
13-Sep-00	6.62%	6.54%	0.08%
14-Sep-00	6.62%	6.55%	0.07%
15-Sep-00	6.62%	6.54%	0.08%
18-Sep-00	6.62%	6.54%	0.08%
19-Sep-00	6.62%	6.53%	0.09%
20-Sep-00	6.62%	6.54%	0.08%
21-Sep-00	6.62%	6.54%	0.08%
22-Sep-00	6.62%	6.54%	0.08%
25-Sep-00	6.62%	6.54%	0.08%
26-Sep-00	6.62%	6.54%	0.08%
27-Sep-00	6.62%	6.54%	0.08%
28-Sep-00	6.62%	6.53%	0.09%
29-Sep-00	6.62%	6.53%	0.09%
2-Oct-00	6.62%	6.54%	0.08%
3-Oct-00	6.62%	6.53%	0.09%
4-Oct-00	6.62%	6.53%	0.09%
5-Oct-00	6.62%	6.53%	0.09%
6-Oct-00	6.62%	6.53%	0.09%
10-Oct-00	6.62%	6.53%	0.09%
11-Oct-00	6.62%	6.50%	0.12%
12-Oct-00	6.62%	6.53%	0.09%
13-Oct-00	6.62%	6.53%	0.09%
16-Oct-00	6.62%	6.53%	0.09%
17-Oct-00	6.62%	6.53%	0.09%
18-Oct-00	6.62%	6.53%	0.09%
19-Oct-00	6.62%	6.52%	0.10%
20-Oct-00	6.62%	6.53%	0.09%
23-Oct-00	6.62%	6.52%	0.10%
24-Oct-00	6.62%	6.53%	0.09%
25-Oct-00	6.62%	6.52%	0.10%
26-Oct-00	6.62%	6.53%	0.09%
27-Oct-00	6.62%	6.53%	0.09%
30-Oct-00	6.62%	6.53%	0.09%
31-Oct-00	6.62%	6.53%	0.09%
1-Nov-00	6.62%	6.53%	0.09%
2-Nov-00	6.62%	6.53%	0.09%
3-Nov-00	6.62%	6.53%	0.09%
6-Nov-00	6.62%	6.53%	0.09%
7-Nov-00	6.62%	6.53%	0.09%

8-Nov-00	6.62%	6.53%	0.09%
9-Nov-00	6.62%	6.53%	0.09%
10-Nov-00	6.62%	6.53%	0.09%
13-Nov-00	6.62%	6.50%	0.12%
14-Nov-00	6.62%	6.53%	0.09%
15-Nov-00	6.62%	6.53%	0.09%
16-Nov-00	6.62%	6.53%	0.09%
17-Nov-00	6.62%	6.53%	0.09%
20-Nov-00	6.62%	6.53%	0.09%
21-Nov-00	6.62%	6.53%	0.09%
22-Nov-00	6.62%	6.53%	0.09%
24-Nov-00	6.62%	6.53%	0.09%
27-Nov-00	6.62%	6.53%	0.09%
28-Nov-00	6.62%	6.53%	0.09%
29-Nov-00	6.82%	6.71%	0.11%
30-Nov-00	6.80%	6.69%	0.11%
1-Dec-00	6.78%	6.66%	0.12%
4-Dec-00	6.78%	6.66%	0.12%
5-Dec-00	6.77%	6.66%	0.11%
6-Dec-00	6.75%	6.63%	0.12%
7-Dec-00	6.73%	6.62%	0.11%
8-Dec-00	6.72%	6.62%	0.10%
11-Dec-00	6.71%	6.60%	0.11%
12-Dec-00	6.71%	6.60%	0.11%
13-Dec-00	6.71%	6.60%	0.11%
14-Dec-00	6.70%	6.59%	0.11%
15-Dec-00	6.70%	6.59%	0.11%
18-Dec-00	6.69%	6.56%	0.13%
19-Dec-00	6.67%	6.53%	0.14%
20-Dec-00	6.66%	6.53%	0.13%
21-Dec-00	6.65%	6.55%	0.10%
22-Dec-00	6.65%	6.55%	0.10%
27-Dec-00	6.64%	6.53%	0.11%
28-Dec-00	6.56%	6.47%	0.09%
29-Dec-00	6.56%	6.48%	0.08%
2-Jan-01	6.55%	6.46%	0.09%
3-Jan-01	6.51%	6.41%	0.10%
4-Jan-01	6.05%	5.95%	0.10%
5-Jan-01	5.94%	5.85%	0.09%
8-Jan-01	5.88%	5.78%	0.10%
9-Jan-01	5.88%	5.80%	0.08%
10-Jan-01	5.89%	5.78%	0.11%
11-Jan-01	5.88%	5.80%	0.08%
12-Jan-01	5.88%	5.82%	0.06%
16-Jan-01	5.90%	5.81%	0.09%
17-Jan-01	5.90%	5.81%	0.09%
18-Jan-01	5.84%	5.75%	0.09%

19-Jan-01	5.79%	5.75%	0.04%
22-Jan-01	5.73%	5.65%	0.08%
23-Jan-01	5.71%	5.64%	0.07%
24-Jan-01	5.74%	5.65%	0.09%
25-Jan-01	5.72%	5.66%	0.05%
26-Jan-01	5.69%	5.66%	0.02%
29-Jan-01	5.65%	5.53%	0.12%
30-Jan-01	5.63%	5.53%	0.09%
31-Jan-01	5.57%	5.48%	0.09%
1-Feb-01	5.56%	5.49%	0.07%
2-Feb-01	5.57%	5.49%	0.08%
5-Feb-01	5.57%	5.50%	0.07%
6-Feb-01	5.57%	5.50%	0.07%
7-Feb-01	5.57%	5.50%	0.07%
8-Feb-01	5.57%	5.51%	0.06%
9-Feb-01	5.57%	5.50%	0.07%
12-Feb-01	5.57%	5.49%	0.08%
13-Feb-01	5.57%	5.50%	0.07%
14-Feb-01	5.57%	5.50%	0.07%
15-Feb-01	5.58%	5.50%	0.08%
16-Feb-01	5.58%	5.50%	0.08%
20-Feb-01	5.57%	5.51%	0.06%
21-Feb-01	5.56%	5.50%	0.06%
22-Feb-01	5.53%	5.45%	0.08%
23-Feb-01	5.48%	5.41%	0.07%
26-Feb-01	5.38%	5.25%	0.13%
27-Feb-01	5.28%	5.18%	0.10%
28-Feb-01	5.21%	5.13%	0.08%
1-Mar-01	5.29%	5.25%	0.04%
2-Mar-01	5.29%	5.25%	0.04%
5-Mar-01	5.28%	5.22%	0.06%
6-Mar-01	5.27%	5.23%	0.04%
7-Mar-01	5.26%	5.22%	0.04%
8-Mar-01	5.23%	5.15%	0.08%
9-Mar-01	5.19%	5.15%	0.04%
12-Mar-01	5.19%	5.13%	0.06%
13-Mar-01	5.16%	5.09%	0.07%
14-Mar-01	5.15%	5.05%	0.10%
15-Mar-01	5.06%	4.97%	0.09%
16-Mar-01	5.01%	4.91%	0.10%
19-Mar-01	4.98%	4.90%	0.08%
20-Mar-01	4.98%	4.90%	0.08%
21-Mar-01	5.06%	5.00%	0.06%
22-Mar-01	5.05%	4.98%	0.07%
23-Mar-01	5.06%	4.98%	0.08%
26-Mar-01	5.06%	4.98%	0.08%
27-Mar-01	5.06%	4.98%	0.07%

28-Mar-01	5.08%	5.02%	0.06%
29-Mar-01	5.08%	5.00%	0.08%
30-Mar-01	5.08%	4.98%	0.10%
2-Apr-01	5.06%	5.00%	0.06%
3-Apr-01	5.06%	5.00%	0.06%
4-Apr-01	5.05%	4.98%	0.07%
5-Apr-01	5.05%	5.00%	0.05%
6-Apr-01	5.05%	4.95%	0.10%
9-Apr-01	5.02%	4.95%	0.07%
10-Apr-01	5.02%	4.93%	0.09%
11-Apr-01	5.02%	4.97%	0.05%
12-Apr-01	5.04%	4.98%	0.06%
17-Apr-01	5.05%	4.98%	0.07%
18-Apr-01	5.05%	4.97%	0.08%
19-Apr-01	4.52%	4.44%	0.08%
20-Apr-01	4.53%	4.46%	0.07%
23-Apr-01	4.51%	4.45%	0.06%
24-Apr-01	4.47%	4.43%	0.04%
25-Apr-01	4.46%	4.40%	0.06%
26-Apr-01	4.46%	4.40%	0.06%
27-Apr-01	4.43%	4.37%	0.06%
30-Apr-01	4.43%	4.36%	0.07%
1-May-01	4.43%	4.36%	0.07%
2-May-01	4.42%	4.33%	0.09%
3-May-01	4.38%	4.30%	0.08%
4-May-01	4.35%	4.14%	0.21%
8-May-01	4.18%	4.11%	0.07%
9-May-01	4.17%	4.09%	0.08%
10-May-01	4.13%	4.06%	0.07%
11-May-01	4.12%	4.07%	0.05%
14-May-01	4.15%	4.06%	0.09%
15-May-01	4.14%	4.03%	0.11%
16-May-01	4.08%	4.00%	0.08%
17-May-01	4.08%	4.00%	0.08%
18-May-01	4.09%	4.00%	0.09%
21-May-01	4.09%	4.01%	0.08%
22-May-01	4.09%	4.02%	0.07%
23-May-01	4.09%	4.02%	0.07%
24-May-01	4.08%	4.01%	0.07%
25-May-01	4.06%	4.00%	0.06%
29-May-01	4.06%	4.00%	0.06%
30-May-01	4.06%	4.00%	0.06%
31-May-01	4.06%	4.00%	0.06%
1-Jun-01	4.04%	4.00%	0.04%
4-Jun-01	4.03%	3.98%	0.05%
5-Jun-01	4.03%	3.98%	0.05%
6-Jun-01	4.02%	3.96%	0.06%

7-Jun-01	4.01%	3.98%	0.03%
8-Jun-01	4.01%	3.94%	0.07%
11-Jun-01	4.00%	3.88%	0.12%
12-Jun-01	3.99%	3.88%	0.11%
13-Jun-01	3.98%	3.88%	0.10%
14-Jun-01	3.97%	3.88%	0.09%
15-Jun-01	3.95%	3.84%	0.11%
18-Jun-01	3.88%	3.81%	0.07%
19-Jun-01	3.85%	3.76%	0.09%
20-Jun-01	3.83%	3.74%	0.09%
21-Jun-01	3.81%	3.71%	0.09%
22-Jun-01	3.79%	3.68%	0.11%
25-Jun-01	3.76%	3.65%	0.11%
26-Jun-01	3.75%	3.65%	0.10%
27-Jun-01	3.75%	3.66%	0.09%
28-Jun-01	3.84%	3.77%	0.07%
29-Jun-01	3.86%	3.79%	0.07%
2-Jul-01	3.86%	3.79%	0.07%
3-Jul-01	3.85%	3.77%	0.08%
5-Jul-01	3.85%	3.75%	0.10%
6-Jul-01	3.85%	3.75%	0.10%
9-Jul-01	3.83%	3.75%	0.08%
10-Jul-01	3.83%	3.75%	0.08%
11-Jul-01	3.83%	3.75%	0.08%
12-Jul-01	3.83%	3.71%	0.12%
13-Jul-01	3.83%	3.75%	0.08%
16-Jul-01	3.83%	3.75%	0.08%
17-Jul-01	3.83%	3.75%	0.08%
18-Jul-01	3.83%	3.75%	0.08%
19-Jul-01	3.81%	3.73%	0.08%
20-Jul-01	3.80%	3.73%	0.07%
23-Jul-01	3.79%	3.73%	0.06%
24-Jul-01	3.79%	3.73%	0.06%
25-Jul-01	3.79%	3.73%	0.06%
26-Jul-01	3.78%	3.72%	0.06%
27-Jul-01	3.78%	3.72%	0.05%
30-Jul-01	3.76%	3.70%	0.06%
31-Jul-01	3.75%	3.70%	0.05%
1-Aug-01	3.74%	3.68%	0.06%
2-Aug-01	3.73%	3.67%	0.06%
3-Aug-01	3.73%	3.66%	0.07%
6-Aug-01	3.72%	3.65%	0.07%
7-Aug-01	3.71%	3.63%	0.08%
8-Aug-01	3.71%	3.62%	0.09%
9-Aug-01	3.67%	3.58%	0.09%
10-Aug-01	3.66%	3.57%	0.09%
13-Aug-01	3.64%	3.55%	0.09%

14-Aug-01	3.63%	3.53%	0.10%
15-Aug-01	3.62%	3.52%	0.10%
16-Aug-01	3.61%	3.52%	0.09%
17-Aug-01	3.60%	3.51%	0.09%
20-Aug-01	3.58%	3.49%	0.09%
21-Aug-01	3.58%	3.49%	0.09%
22-Aug-01	3.58%	3.50%	0.08%
23-Aug-01	3.58%	3.50%	0.08%
24-Aug-01	3.58%	3.50%	0.08%
28-Aug-01	3.58%	3.51%	0.07%
29-Aug-01	3.58%	3.52%	0.06%
30-Aug-01	3.58%	3.52%	0.06%
31-Aug-01	3.58%	3.52%	0.06%
4-Sep-01	3.57%	3.52%	0.05%
5-Sep-01	3.58%	3.52%	0.06%
6-Sep-01	3.58%	3.51%	0.07%
7-Sep-01	3.57%	3.50%	0.07%
10-Sep-01	3.50%	3.41%	0.09%
17-Sep-01	3.38%	2.97%	0.41%
18-Sep-01	3.06%	2.90%	0.16%
19-Sep-01	2.79%	2.65%	0.14%
20-Sep-01	2.61%	2.55%	0.06%
21-Sep-01	2.66%	2.52%	0.14%
24-Sep-01	2.64%	2.56%	0.08%
25-Sep-01	2.67%	2.60%	0.07%
26-Sep-01	2.66%	2.60%	0.06%
27-Sep-01	2.64%	2.60%	0.04%
28-Sep-01	2.63%	2.63%	0.00%
1-Oct-01	2.64%	2.63%	0.01%
2-Oct-01	2.64%	2.55%	0.09%
3-Oct-01	2.59%	2.52%	0.07%
4-Oct-01	2.58%	2.52%	0.06%
5-Oct-01	2.56%	2.50%	0.06%
9-Oct-01	2.53%	2.46%	0.07%
10-Oct-01	2.53%	2.46%	0.07%
11-Oct-01	2.53%	2.46%	0.06%
12-Oct-01	2.53%	2.46%	0.07%
15-Oct-01	2.52%	2.45%	0.07%
16-Oct-01	2.51%	2.45%	0.06%
17-Oct-01	2.50%	2.43%	0.07%
18-Oct-01	2.46%	2.40%	0.06%
19-Oct-01	2.45%	2.36%	0.09%
22-Oct-01	2.43%	2.35%	0.08%
23-Oct-01	2.42%	2.34%	0.08%
24-Oct-01	2.41%	2.33%	0.08%
25-Oct-01	2.38%	2.30%	0.08%
26-Oct-01	2.35%	2.25%	0.10%

29-Oct-01	2.34%	2.27%	0.07%
30-Oct-01	2.32%	2.25%	0.07%
31-Oct-01	2.29%	2.19%	0.10%
1-Nov-01	2.28%	2.25%	0.03%
2-Nov-01	2.27%	2.14%	0.13%
5-Nov-01	2.22%	2.11%	0.11%
6-Nov-01	2.19%	2.10%	0.09%
7-Nov-01	2.09%	2.02%	0.07%
8-Nov-01	2.09%	2.00%	0.09%
9-Nov-01	2.09%	2.01%	0.08%
13-Nov-01	2.08%	2.00%	0.08%
14-Nov-01	2.08%	2.02%	0.06%
15-Nov-01	2.10%	2.03%	0.07%
16-Nov-01	2.10%	2.06%	0.04%
19-Nov-01	2.10%	2.04%	0.06%
20-Nov-01	2.09%	2.03%	0.06%
21-Nov-01	2.10%	2.03%	0.07%
23-Nov-01	2.11%	2.03%	0.08%
26-Nov-01	2.11%	2.04%	0.07%
27-Nov-01	2.11%	2.05%	0.06%
28-Nov-01	2.08%	2.02%	0.06%
29-Nov-01	2.14%	2.10%	0.04%
30-Nov-01	2.12%	2.04%	0.08%
3-Dec-01	2.11%	2.03%	0.08%
4-Dec-01	2.09%	2.01%	0.08%
5-Dec-01	2.04%	1.96%	0.08%
6-Dec-01	2.04%	1.95%	0.09%
7-Dec-01	2.02%	1.87%	0.15%
10-Dec-01	1.94%	1.85%	0.09%
11-Dec-01	1.92%	1.83%	0.09%
12-Dec-01	1.90%	1.83%	0.07%
13-Dec-01	1.90%	1.85%	0.05%
14-Dec-01	1.91%	1.85%	0.06%
17-Dec-01	1.92%	1.86%	0.06%
18-Dec-01	1.93%	1.89%	0.04%
19-Dec-01	1.93%	1.87%	0.06%
20-Dec-01	1.93%	1.87%	0.06%
21-Dec-01	1.93%	1.87%	0.06%
24-Dec-01	1.93%	1.88%	0.05%
27-Dec-01	1.93%	1.84%	0.09%
28-Dec-01	1.87%	1.81%	0.06%
31-Dec-01	1.87%	1.80%	0.07%
2-Jan-02	1.86%	1.80%	0.06%
3-Jan-02	1.87%	1.80%	0.07%
4-Jan-02	1.86%	1.79%	0.07%
7-Jan-02	1.85%	1.83%	0.02%
8-Jan-02	1.84%	1.75%	0.09%

9-Jan-02	1.84%	1.74%	0.10%
10-Jan-02	1.83%	1.75%	0.08%
11-Jan-02	1.82%	1.74%	0.08%
14-Jan-02	1.74%	1.68%	0.06%
15-Jan-02	1.74%	1.65%	0.09%
16-Jan-02	1.73%	1.68%	0.05%
17-Jan-02	1.74%	1.65%	0.09%
18-Jan-02	1.75%	1.68%	0.07%
22-Jan-02	1.76%	1.71%	0.05%
23-Jan-02	1.76%	1.71%	0.05%
24-Jan-02	1.77%	1.71%	0.06%
25-Jan-02	1.83%	1.75%	0.08%
28-Jan-02	1.83%	1.76%	0.07%
29-Jan-02	1.83%	1.77%	0.06%
30-Jan-02	1.83%	1.76%	0.07%
31-Jan-02	1.85%	1.79%	0.06%
1-Feb-02	1.86%	1.80%	0.06%
4-Feb-02	1.85%	1.79%	0.06%
5-Feb-02	1.84%	1.78%	0.06%
6-Feb-02	1.84%	1.78%	0.06%
7-Feb-02	1.84%	1.80%	0.04%
8-Feb-02	1.84%	1.78%	0.06%
11-Feb-02	1.84%	1.77%	0.07%
12-Feb-02	1.84%	1.78%	0.06%
13-Feb-02	1.85%	1.80%	0.05%
14-Feb-02	1.85%	1.79%	0.06%
15-Feb-02	1.85%	1.79%	0.06%
19-Feb-02	1.85%	1.79%	0.06%
20-Feb-02	1.85%	1.79%	0.06%
21-Feb-02	1.85%	1.79%	0.06%
22-Feb-02	1.85%	1.78%	0.07%
25-Feb-02	1.85%	1.75%	0.10%
26-Feb-02	1.85%	1.78%	0.07%
27-Feb-02	1.87%	1.78%	0.09%
28-Feb-02	1.87%	1.78%	0.09%
1-Mar-02	1.87%	1.77%	0.10%
4-Mar-02	1.88%	1.81%	0.07%
5-Mar-02	1.88%	1.80%	0.08%
6-Mar-02	1.88%	1.80%	0.08%
7-Mar-02	1.88%	1.81%	0.07%
8-Mar-02	1.90%	1.83%	0.07%
11-Mar-02	1.90%	1.83%	0.07%
12-Mar-02	1.90%	1.84%	0.06%
13-Mar-02	1.90%	1.83%	0.07%
14-Mar-02	1.90%	1.83%	0.07%
15-Mar-02	1.90%	1.83%	0.07%
18-Mar-02	1.90%	1.85%	0.05%

19-Mar-02	1.90%	1.85%	0.05%
20-Mar-02	1.90%	1.83%	0.07%
21-Mar-02	1.90%	1.83%	0.07%
22-Mar-02	1.90%	1.84%	0.06%
25-Mar-02	1.90%	1.85%	0.05%
26-Mar-02	1.91%	1.85%	0.06%
27-Mar-02	1.88%	1.82%	0.06%
28-Mar-02	1.88%	1.82%	0.06%
2-Apr-02	1.88%	1.82%	0.06%
3-Apr-02	1.87%	1.81%	0.06%
4-Apr-02	1.87%	1.80%	0.07%
5-Apr-02	1.87%	1.80%	0.07%
8-Apr-02	1.86%	1.80%	0.06%
9-Apr-02	1.86%	1.80%	0.06%
10-Apr-02	1.86%	1.79%	0.07%
11-Apr-02	1.86%	1.80%	0.06%
12-Apr-02	1.86%	1.78%	0.08%
15-Apr-02	1.86%	1.78%	0.08%
16-Apr-02	1.86%	1.78%	0.08%
17-Apr-02	1.86%	1.79%	0.07%
18-Apr-02	1.86%	1.79%	0.07%
19-Apr-02	1.85%	1.78%	0.07%
22-Apr-02	1.85%	1.78%	0.07%
23-Apr-02	1.85%	1.78%	0.07%
24-Apr-02	1.85%	1.78%	0.07%
25-Apr-02	1.84%	1.77%	0.07%
26-Apr-02	1.84%	1.77%	0.07%
29-Apr-02	1.84%	1.77%	0.07%
30-Apr-02	1.84%	1.78%	0.06%
1-May-02	1.84%	1.78%	0.06%
2-May-02	1.84%	1.79%	0.05%
3-May-02	1.84%	1.78%	0.06%
7-May-02	1.84%	1.78%	0.06%
8-May-02	1.84%	1.78%	0.06%
9-May-02	1.84%	1.77%	0.07%
10-May-02	1.84%	1.77%	0.07%
13-May-02	1.84%	1.78%	0.06%
14-May-02	1.84%	1.78%	0.06%
15-May-02	1.84%	1.78%	0.06%
16-May-02	1.84%	1.75%	0.09%
17-May-02	1.84%	1.78%	0.06%
20-May-02	1.84%	1.78%	0.06%
21-May-02	1.84%	1.78%	0.06%
22-May-02	1.84%	1.78%	0.06%
23-May-02	1.84%	1.78%	0.06%
24-May-02	1.84%	1.78%	0.06%
28-May-02	1.84%	1.78%	0.06%

29-May-02	1.84%	1.79%	0.05%
30-May-02	1.84%	1.78%	0.06%
31-May-02	1.84%	1.79%	0.05%
5-Jun-02	1.84%	1.78%	0.06%
6-Jun-02	1.84%	1.78%	0.06%
7-Jun-02	1.84%	1.78%	0.06%
10-Jun-02	1.84%	1.78%	0.06%
11-Jun-02	1.84%	1.78%	0.06%
12-Jun-02	1.84%	1.78%	0.06%
13-Jun-02	1.84%	1.78%	0.06%
14-Jun-02	1.84%	1.78%	0.06%
17-Jun-02	1.84%	1.78%	0.06%
18-Jun-02	1.84%	1.77%	0.07%
19-Jun-02	1.84%	1.77%	0.07%
20-Jun-02	1.84%	1.77%	0.07%
21-Jun-02	1.84%	1.78%	0.06%
24-Jun-02	1.84%	1.78%	0.06%
25-Jun-02	1.84%	1.78%	0.06%
26-Jun-02	1.84%	1.78%	0.06%
27-Jun-02	1.84%	1.77%	0.07%
28-Jun-02	1.84%	1.78%	0.06%
1-Jul-02	1.84%	1.78%	0.06%
2-Jul-02	1.84%	1.78%	0.06%
3-Jul-02	1.84%	1.78%	0.06%
5-Jul-02	1.84%	1.77%	0.07%
8-Jul-02	1.84%	1.78%	0.06%
9-Jul-02	1.84%	1.78%	0.06%
10-Jul-02	1.84%	1.77%	0.07%
11-Jul-02	1.84%	1.78%	0.06%
12-Jul-02	1.84%	1.77%	0.07%
15-Jul-02	1.84%	1.77%	0.07%
16-Jul-02	1.84%	1.77%	0.07%
17-Jul-02	1.84%	1.77%	0.07%
18-Jul-02	1.84%	1.77%	0.07%
19-Jul-02	1.84%	1.77%	0.07%
22-Jul-02	1.84%	1.78%	0.06%
23-Jul-02	1.84%	1.76%	0.08%
24-Jul-02	1.82%	1.75%	0.07%
25-Jul-02	1.82%	1.76%	0.06%
26-Jul-02	1.81%	1.75%	0.06%
29-Jul-02	1.81%	1.75%	0.06%
30-Jul-02	1.82%	1.75%	0.07%
31-Jul-02	1.82%	1.76%	0.06%
1-Aug-02	1.81%	1.76%	0.05%
2-Aug-02	1.80%	1.75%	0.05%
5-Aug-02	1.79%	1.72%	0.07%
6-Aug-02	1.78%	1.73%	0.05%

7-Aug-02	1.78%	1.73%	0.05%
8-Aug-02	1.78%	1.72%	0.06%
9-Aug-02	1.78%	1.72%	0.06%
12-Aug-02	1.78%	1.72%	0.06%
13-Aug-02	1.78%	1.72%	0.06%
14-Aug-02	1.78%	1.72%	0.06%
15-Aug-02	1.79%	1.74%	0.05%
16-Aug-02	1.80%	1.74%	0.06%
19-Aug-02	1.81%	1.74%	0.07%
20-Aug-02	1.81%	1.75%	0.06%
21-Aug-02	1.81%	1.75%	0.06%
22-Aug-02	1.81%	1.75%	0.06%
23-Aug-02	1.81%	1.75%	0.06%
27-Aug-02	1.81%	1.76%	0.05%
28-Aug-02	1.82%	1.77%	0.05%
29-Aug-02	1.82%	1.77%	0.05%
30-Aug-02	1.82%	1.77%	0.05%
3-Sep-02	1.82%	1.77%	0.05%
4-Sep-02	1.81%	1.76%	0.05%
5-Sep-02	1.81%	1.76%	0.05%
6-Sep-02	1.81%	1.76%	0.05%
9-Sep-02	1.81%	1.76%	0.05%
10-Sep-02	1.82%	1.77%	0.05%
11-Sep-02	1.82%	1.77%	0.05%
12-Sep-02	1.82%	1.77%	0.05%
13-Sep-02	1.82%	1.77%	0.05%
16-Sep-02	1.82%	1.77%	0.05%
17-Sep-02	1.82%	1.77%	0.05%
18-Sep-02	1.82%	1.77%	0.05%
19-Sep-02	1.82%	1.77%	0.05%
20-Sep-02	1.82%	1.76%	0.05%
23-Sep-02	1.81%	1.75%	0.06%
24-Sep-02	1.81%	1.76%	0.05%
25-Sep-02	1.81%	1.77%	0.04%
26-Sep-02	1.81%	1.77%	0.04%
27-Sep-02	1.82%	1.77%	0.05%
30-Sep-02	1.81%	1.78%	0.03%
1-Oct-02	1.80%	1.76%	0.04%
2-Oct-02	1.80%	1.76%	0.04%
3-Oct-02	1.80%	1.76%	0.04%
4-Oct-02	1.80%	1.76%	0.04%
7-Oct-02	1.80%	1.76%	0.04%
8-Oct-02	1.80%	1.76%	0.04%
9-Oct-02	1.80%	1.76%	0.04%
10-Oct-02	1.80%	1.76%	0.04%
11-Oct-02	1.80%	1.75%	0.05%
15-Oct-02	1.82%	1.76%	0.05%

16-Oct-02	1.82%	1.77%	0.05%
17-Oct-02	1.83%	1.77%	0.06%
18-Oct-02	1.83%	1.77%	0.06%
21-Oct-02	1.83%	1.77%	0.06%
22-Oct-02	1.83%	1.79%	0.04%
23-Oct-02	1.83%	1.77%	0.06%
24-Oct-02	1.83%	1.78%	0.05%
25-Oct-02	1.82%	1.78%	0.04%
28-Oct-02	1.80%	1.76%	0.04%
29-Oct-02	1.79%	1.74%	0.05%
30-Oct-02	1.74%	1.67%	0.07%
31-Oct-02	1.72%	1.64%	0.08%
1-Nov-02	1.69%	1.62%	0.07%
4-Nov-02	1.65%	1.56%	0.09%
5-Nov-02	1.64%	1.55%	0.09%
6-Nov-02	1.63%	1.53%	0.10%
7-Nov-02	1.38%	1.31%	0.07%
8-Nov-02	1.38%	1.30%	0.08%
12-Nov-02	1.38%	1.31%	0.07%
13-Nov-02	1.38%	1.32%	0.06%
14-Nov-02	1.38%	1.32%	0.06%
15-Nov-02	1.39%	1.33%	0.06%
18-Nov-02	1.39%	1.33%	0.06%
19-Nov-02	1.39%	1.32%	0.07%
20-Nov-02	1.38%	1.31%	0.07%
21-Nov-02	1.38%	1.31%	0.07%
22-Nov-02	1.38%	1.31%	0.07%
25-Nov-02	1.38%	1.31%	0.07%
26-Nov-02	1.38%	1.31%	0.07%
27-Nov-02	1.38%	1.30%	0.08%
29-Nov-02	1.44%	1.38%	0.06%
2-Dec-02	1.44%	1.39%	0.05%
3-Dec-02	1.44%	1.38%	0.06%
4-Dec-02	1.44%	1.38%	0.06%
5-Dec-02	1.43%	1.38%	0.05%
6-Dec-02	1.43%	1.36%	0.07%
9-Dec-02	1.42%	1.36%	0.06%
10-Dec-02	1.42%	1.36%	0.06%
11-Dec-02	1.42%	1.35%	0.07%
12-Dec-02	1.42%	1.35%	0.07%
13-Dec-02	1.42%	1.35%	0.07%
16-Dec-02	1.42%	1.35%	0.07%
17-Dec-02	1.42%	1.35%	0.07%
18-Dec-02	1.42%	1.35%	0.07%
19-Dec-02	1.42%	1.35%	0.07%
20-Dec-02	1.42%	1.35%	0.07%
23-Dec-02	1.42%	1.35%	0.07%

24-Dec-02	1.42%	1.36%	0.06%
27-Dec-02	1.42%	1.35%	0.07%
30-Dec-02	1.38%	1.32%	0.06%
31-Dec-02	1.38%	1.30%	0.08%
2-Jan-03	1.38%	1.32%	0.06%
3-Jan-03	1.38%	1.32%	0.06%
6-Jan-03	1.38%	1.32%	0.06%
7-Jan-03	1.38%	1.30%	0.08%
8-Jan-03	1.38%	1.28%	0.10%
9-Jan-03	1.38%	1.29%	0.09%
10-Jan-03	1.37%	1.28%	0.09%
13-Jan-03	1.37%	1.29%	0.08%
14-Jan-03	1.37%	1.28%	0.09%
15-Jan-03	1.37%	1.28%	0.09%
16-Jan-03	1.36%	1.28%	0.08%
17-Jan-03	1.36%	1.28%	0.08%
21-Jan-03	1.36%	1.28%	0.08%
22-Jan-03	1.36%	1.28%	0.08%
23-Jan-03	1.35%	1.28%	0.07%
24-Jan-03	1.35%	1.27%	0.08%
27-Jan-03	1.34%	1.26%	0.08%
28-Jan-03	1.34%	1.25%	0.09%
29-Jan-03	1.34%	1.26%	0.08%
30-Jan-03	1.34%	1.27%	0.07%
31-Jan-03	1.34%	1.26%	0.08%
3-Feb-03	1.34%	1.27%	0.07%
4-Feb-03	1.34%	1.27%	0.07%
5-Feb-03	1.34%	1.24%	0.10%
6-Feb-03	1.34%	1.26%	0.08%
7-Feb-03	1.34%	1.26%	0.08%
10-Feb-03	1.34%	1.25%	0.09%
11-Feb-03	1.34%	1.26%	0.08%
12-Feb-03	1.34%	1.26%	0.08%
13-Feb-03	1.34%	1.26%	0.08%
14-Feb-03	1.34%	1.26%	0.08%
18-Feb-03	1.34%	1.31%	0.03%
19-Feb-03	1.34%	1.26%	0.08%
20-Feb-03	1.34%	1.26%	0.08%
21-Feb-03	1.34%	1.26%	0.08%
24-Feb-03	1.34%	1.26%	0.08%
25-Feb-03	1.34%	1.25%	0.09%
26-Feb-03	1.34%	1.26%	0.08%
27-Feb-03	1.34%	1.26%	0.08%
28-Feb-03	1.34%	1.26%	0.08%
3-Mar-03	1.34%	1.25%	0.09%
4-Mar-03	1.33%	1.25%	0.08%
5-Mar-03	1.33%	1.25%	0.08%

6-Mar-03	1.33%	1.25%	0.07%
7-Mar-03	1.32%	1.23%	0.09%
10-Mar-03	1.29%	1.23%	0.06%
11-Mar-03	1.27%	1.20%	0.07%
12-Mar-03	1.27%	1.20%	0.07%
13-Mar-03	1.28%	1.21%	0.07%
14-Mar-03	1.30%	1.21%	0.09%
17-Mar-03	1.28%	1.22%	0.06%
18-Mar-03	1.28%	1.21%	0.07%
19-Mar-03	1.30%	1.25%	0.05%
20-Mar-03	1.30%	1.25%	0.05%
21-Mar-03	1.31%	1.25%	0.05%
24-Mar-03	1.31%	1.25%	0.06%
25-Mar-03	1.31%	1.25%	0.06%
26-Mar-03	1.31%	1.25%	0.06%
27-Mar-03	1.31%	1.25%	0.06%
28-Mar-03	1.31%	1.25%	0.06%
31-Mar-03	1.30%	1.25%	0.05%
1-Apr-03	1.30%	1.25%	0.05%
2-Apr-03	1.30%	1.25%	0.05%
3-Apr-03	1.30%	1.25%	0.05%
4-Apr-03	1.30%	1.25%	0.05%
7-Apr-03	1.31%	1.25%	0.06%
8-Apr-03	1.31%	1.26%	0.05%
9-Apr-03	1.31%	1.25%	0.06%
10-Apr-03	1.30%	1.25%	0.05%
11-Apr-03	1.31%	1.25%	0.06%
14-Apr-03	1.31%	1.26%	0.05%
15-Apr-03	1.32%	1.25%	0.07%
16-Apr-03	1.33%	1.26%	0.07%
17-Apr-03	1.32%	1.28%	0.04%
22-Apr-03	1.32%	1.26%	0.06%
23-Apr-03	1.32%	1.25%	0.07%
24-Apr-03	1.32%	1.25%	0.07%
25-Apr-03	1.32%	1.25%	0.07%
28-Apr-03	1.32%	1.26%	0.06%
29-Apr-03	1.32%	1.26%	0.06%
30-Apr-03	1.32%	1.26%	0.06%
1-May-03	1.31%	1.26%	0.05%
2-May-03	1.31%	1.25%	0.06%
6-May-03	1.31%	1.26%	0.05%
7-May-03	1.31%	1.25%	0.06%
8-May-03	1.31%	1.25%	0.06%
9-May-03	1.31%	1.26%	0.05%
12-May-03	1.31%	1.25%	0.06%
13-May-03	1.31%	1.26%	0.05%
14-May-03	1.31%	1.26%	0.05%

15-May-03	1.32%	1.26%	0.06%
16-May-03	1.32%	1.26%	0.06%
19-May-03	1.32%	1.25%	0.07%
20-May-03	1.32%	1.25%	0.07%
21-May-03	1.32%	1.25%	0.07%
22-May-03	1.32%	1.26%	0.06%
23-May-03	1.32%	1.25%	0.07%
27-May-03	1.32%	1.25%	0.07%
28-May-03	1.32%	1.26%	0.06%
29-May-03	1.32%	1.26%	0.06%
30-May-03	1.32%	1.25%	0.07%
2-Jun-03	1.32%	1.26%	0.06%
3-Jun-03	1.32%	1.26%	0.06%
4-Jun-03	1.31%	1.25%	0.06%
5-Jun-03	1.29%	1.21%	0.08%
6-Jun-03	1.27%	1.20%	0.07%
9-Jun-03	1.26%	1.17%	0.09%
10-Jun-03	1.25%	1.16%	0.09%
11-Jun-03	1.22%	1.12%	0.10%
12-Jun-03	1.18%	1.09%	0.09%
13-Jun-03	1.14%	1.06%	0.08%
16-Jun-03	1.11%	1.02%	0.09%
17-Jun-03	1.09%	1.00%	0.09%
18-Jun-03	1.10%	1.02%	0.08%
19-Jun-03	1.06%	0.96%	0.10%
20-Jun-03	1.04%	0.96%	0.08%
23-Jun-03	1.04%	0.95%	0.09%
24-Jun-03	1.03%	0.94%	0.09%
25-Jun-03	1.02%	0.94%	0.08%
26-Jun-03	1.11%	1.05%	0.06%
27-Jun-03	1.12%	1.05%	0.07%
30-Jun-03	1.12%	1.04%	0.08%
1-Jul-03	1.12%	1.05%	0.07%
2-Jul-03	1.12%	1.05%	0.07%
3-Jul-03	1.12%	1.05%	0.07%
7-Jul-03	1.11%	1.05%	0.06%
8-Jul-03	1.11%	1.05%	0.06%
9-Jul-03	1.11%	1.05%	0.06%
10-Jul-03	1.11%	1.04%	0.07%
11-Jul-03	1.11%	1.04%	0.07%
14-Jul-03	1.10%	1.03%	0.07%
15-Jul-03	1.10%	1.04%	0.06%
16-Jul-03	1.10%	1.06%	0.04%
17-Jul-03	1.10%	1.07%	0.03%
18-Jul-03	1.10%	1.03%	0.07%
21-Jul-03	1.10%	1.03%	0.07%
22-Jul-03	1.10%	1.03%	0.07%

23-Jul-03	1.10%	1.04%	0.06%
24-Jul-03	1.10%	1.04%	0.06%
25-Jul-03	1.10%	1.04%	0.06%
28-Jul-03	1.10%	1.04%	0.06%
29-Jul-03	1.10%	1.04%	0.06%
30-Jul-03	1.10%	1.05%	0.05%
31-Jul-03	1.10%	1.04%	0.06%
1-Aug-03	1.11%	1.05%	0.06%
4-Aug-03	1.11%	1.05%	0.06%
5-Aug-03	1.11%	1.05%	0.06%
6-Aug-03	1.11%	1.04%	0.07%
7-Aug-03	1.11%	1.05%	0.06%
8-Aug-03	1.11%	1.04%	0.07%
11-Aug-03	1.11%	1.05%	0.06%
12-Aug-03	1.11%	1.05%	0.06%
13-Aug-03	1.11%	1.05%	0.06%
14-Aug-03	1.11%	1.05%	0.06%
15-Aug-03	1.11%	1.10%	0.01%
18-Aug-03	1.11%	1.06%	0.05%
19-Aug-03	1.11%	1.05%	0.06%
20-Aug-03	1.11%	1.05%	0.06%
21-Aug-03	1.11%	1.05%	0.06%
22-Aug-03	1.11%	1.05%	0.06%
26-Aug-03	1.11%	1.06%	0.05%
27-Aug-03	1.11%	1.05%	0.06%
28-Aug-03	1.12%	1.06%	0.06%
29-Aug-03	1.12%	1.07%	0.05%
2-Sep-03	1.12%	1.07%	0.05%
3-Sep-03	1.12%	1.07%	0.05%
4-Sep-03	1.12%	1.06%	0.06%
5-Sep-03	1.12%	1.06%	0.06%
8-Sep-03	1.12%	1.06%	0.06%
9-Sep-03	1.12%	1.06%	0.06%
10-Sep-03	1.12%	1.06%	0.06%
11-Sep-03	1.12%	1.06%	0.06%
12-Sep-03	1.12%	1.06%	0.06%
15-Sep-03	1.12%	1.06%	0.06%
16-Sep-03	1.12%	1.06%	0.06%
17-Sep-03	1.12%	1.06%	0.06%
18-Sep-03	1.12%	1.10%	0.02%
19-Sep-03	1.12%	1.10%	0.02%
22-Sep-03	1.12%	1.05%	0.07%
23-Sep-03	1.12%	1.05%	0.07%
24-Sep-03	1.12%	1.05%	0.07%
25-Sep-03	1.12%	1.05%	0.07%
26-Sep-03	1.12%	1.05%	0.07%
29-Sep-03	1.12%	1.05%	0.07%

30-Sep-03	1.12%	1.05%	0.07%
1-Oct-03	1.12%	1.05%	0.07%
2-Oct-03	1.12%	1.05%	0.07%
3-Oct-03	1.12%	1.05%	0.07%
6-Oct-03	1.12%	1.05%	0.07%
7-Oct-03	1.12%	1.05%	0.07%
8-Oct-03	1.12%	1.05%	0.07%
9-Oct-03	1.12%	1.04%	0.08%
10-Oct-03	1.12%	1.05%	0.07%
14-Oct-03	1.12%	1.05%	0.07%
15-Oct-03	1.12%	1.05%	0.07%
16-Oct-03	1.12%	1.05%	0.07%
17-Oct-03	1.12%	1.05%	0.07%
20-Oct-03	1.12%	1.05%	0.07%
21-Oct-03	1.12%	1.05%	0.07%
22-Oct-03	1.12%	1.05%	0.07%
23-Oct-03	1.12%	1.04%	0.08%
24-Oct-03	1.12%	1.05%	0.07%
27-Oct-03	1.12%	1.05%	0.07%
28-Oct-03	1.12%	1.05%	0.07%
29-Oct-03	1.12%	1.04%	0.08%
30-Oct-03	1.12%	1.05%	0.07%
31-Oct-03	1.12%	1.04%	0.08%
3-Nov-03	1.12%	1.04%	0.08%
4-Nov-03	1.12%	1.04%	0.08%
5-Nov-03	1.12%	1.04%	0.08%
6-Nov-03	1.12%	1.04%	0.08%
7-Nov-03	1.12%	1.04%	0.08%
10-Nov-03	1.12%	1.04%	0.08%
12-Nov-03	1.12%	1.04%	0.08%
13-Nov-03	1.12%	1.04%	0.08%
14-Nov-03	1.12%	1.04%	0.08%
17-Nov-03	1.12%	1.04%	0.08%
18-Nov-03	1.12%	1.04%	0.08%
19-Nov-03	1.12%	1.03%	0.09%
20-Nov-03	1.12%	1.04%	0.08%
21-Nov-03	1.12%	1.03%	0.09%
24-Nov-03	1.12%	1.03%	0.09%
25-Nov-03	1.12%	1.04%	0.08%
26-Nov-03	1.12%	1.04%	0.08%
28-Nov-03	1.17%	1.09%	0.08%
1-Dec-03	1.17%	1.10%	0.07%
2-Dec-03	1.17%	1.10%	0.07%
3-Dec-03	1.17%	1.09%	0.08%
4-Dec-03	1.17%	1.09%	0.08%
5-Dec-03	1.17%	1.09%	0.08%
8-Dec-03	1.17%	1.08%	0.09%

9-Dec-03	1.17%	1.09%	0.08%
10-Dec-03	1.17%	1.08%	0.09%
11-Dec-03	1.16%	1.08%	0.08%
12-Dec-03	1.15%	1.07%	0.08%
15-Dec-03	1.15%	1.06%	0.09%
16-Dec-03	1.15%	1.06%	0.09%
17-Dec-03	1.15%	1.07%	0.08%
18-Dec-03	1.15%	1.06%	0.09%
19-Dec-03	1.15%	1.06%	0.09%
22-Dec-03	1.14%	1.07%	0.07%
23-Dec-03	1.14%	1.07%	0.07%
24-Dec-03	1.14%	1.07%	0.07%
29-Dec-03	1.13%	1.06%	0.07%
30-Dec-03	1.12%	1.04%	0.08%
31-Dec-03	1.12%	1.04%	0.08%
2-Jan-04	1.12%	1.05%	0.07%
5-Jan-04	1.12%	1.04%	0.08%
6-Jan-04	1.12%	1.04%	0.08%
7-Jan-04	1.11%	1.03%	0.08%
8-Jan-04	1.11%	1.03%	0.08%
9-Jan-04	1.11%	1.03%	0.08%
12-Jan-04	1.10%	1.03%	0.07%
13-Jan-04	1.10%	1.03%	0.07%
14-Jan-04	1.10%	1.03%	0.07%
15-Jan-04	1.10%	1.03%	0.07%
16-Jan-04	1.10%	1.02%	0.08%
20-Jan-04	1.10%	1.03%	0.07%
21-Jan-04	1.10%	1.02%	0.08%
22-Jan-04	1.10%	1.02%	0.08%
23-Jan-04	1.10%	1.02%	0.08%
26-Jan-04	1.10%	1.02%	0.08%
27-Jan-04	1.10%	1.02%	0.08%
28-Jan-04	1.10%	1.02%	0.08%
29-Jan-04	1.10%	1.02%	0.08%
30-Jan-04	1.10%	1.01%	0.09%
2-Feb-04	1.10%	1.02%	0.08%
3-Feb-04	1.10%	1.02%	0.08%
4-Feb-04	1.10%	1.02%	0.08%
5-Feb-04	1.10%	1.02%	0.08%
6-Feb-04	1.10%	1.02%	0.08%
9-Feb-04	1.10%	1.02%	0.08%
10-Feb-04	1.10%	1.02%	0.08%
11-Feb-04	1.10%	1.02%	0.08%
12-Feb-04	1.09%	1.02%	0.07%
13-Feb-04	1.09%	1.02%	0.07%
17-Feb-04	1.09%	1.02%	0.07%
18-Feb-04	1.09%	1.01%	0.08%

19-Feb-04	1.09%	1.02%	0.07%
20-Feb-04	1.09%	1.02%	0.07%
23-Feb-04	1.09%	1.02%	0.07%
24-Feb-04	1.09%	1.02%	0.07%
25-Feb-04	1.09%	1.02%	0.07%
26-Feb-04	1.10%	1.02%	0.08%
27-Feb-04	1.10%	1.02%	0.08%
1-Mar-04	1.10%	1.02%	0.08%
2-Mar-04	1.10%	1.02%	0.08%
3-Mar-04	1.10%	1.02%	0.08%
4-Mar-04	1.10%	1.02%	0.08%
5-Mar-04	1.10%	1.02%	0.08%
8-Mar-04	1.09%	1.02%	0.07%
9-Mar-04	1.09%	1.01%	0.08%
10-Mar-04	1.09%	1.02%	0.07%
11-Mar-04	1.09%	1.01%	0.08%
12-Mar-04	1.09%	1.01%	0.08%
15-Mar-04	1.09%	1.02%	0.07%
16-Mar-04	1.09%	1.02%	0.07%
17-Mar-04	1.09%	1.02%	0.07%
18-Mar-04	1.09%	1.02%	0.07%
19-Mar-04	1.09%	1.01%	0.08%
22-Mar-04	1.09%	1.02%	0.07%
23-Mar-04	1.09%	1.01%	0.08%
24-Mar-04	1.09%	1.02%	0.07%
25-Mar-04	1.09%	1.02%	0.07%
26-Mar-04	1.09%	1.02%	0.07%
29-Mar-04	1.09%	1.02%	0.07%
30-Mar-04	1.09%	1.02%	0.07%
31-Mar-04	1.09%	1.02%	0.07%
1-Apr-04	1.09%	1.02%	0.07%
2-Apr-04	1.09%	1.02%	0.07%
5-Apr-04	1.10%	1.02%	0.08%
6-Apr-04	1.10%	1.02%	0.08%
7-Apr-04	1.10%	1.03%	0.07%
8-Apr-04	1.10%	1.02%	0.08%
13-Apr-04	1.10%	1.02%	0.08%
14-Apr-04	1.10%	1.02%	0.08%
15-Apr-04	1.10%	1.03%	0.07%
16-Apr-04	1.10%	1.02%	0.08%
19-Apr-04	1.10%	1.01%	0.09%
20-Apr-04	1.10%	1.02%	0.08%
21-Apr-04	1.10%	1.01%	0.09%
22-Apr-04	1.10%	1.02%	0.08%
23-Apr-04	1.10%	1.02%	0.08%
26-Apr-04	1.10%	1.03%	0.07%
27-Apr-04	1.10%	1.03%	0.07%

28-Apr-04	1.10%	1.03%	0.07%
29-Apr-04	1.10%	1.03%	0.07%
30-Apr-04	1.10%	1.03%	0.07%
4-May-04	1.10%	1.03%	0.07%
5-May-04	1.10%	1.03%	0.07%
6-May-04	1.10%	1.03%	0.07%
7-May-04	1.10%	1.03%	0.07%
10-May-04	1.10%	1.03%	0.07%
11-May-04	1.10%	1.03%	0.07%
12-May-04	1.10%	1.03%	0.07%
13-May-04	1.10%	1.02%	0.08%
14-May-04	1.10%	1.03%	0.07%
17-May-04	1.10%	1.03%	0.07%
18-May-04	1.10%	1.03%	0.07%
19-May-04	1.10%	1.03%	0.07%
20-May-04	1.10%	1.03%	0.07%
21-May-04	1.10%	1.03%	0.07%
24-May-04	1.10%	1.03%	0.07%
25-May-04	1.10%	1.03%	0.07%
26-May-04	1.10%	1.03%	0.07%
27-May-04	1.11%	1.03%	0.08%
28-May-04	1.11%	1.04%	0.07%
1-Jun-04	1.13%	1.05%	0.07%
2-Jun-04	1.13%	1.06%	0.07%
3-Jun-04	1.15%	1.08%	0.07%
4-Jun-04	1.16%	1.09%	0.07%
7-Jun-04	1.17%	1.10%	0.07%
8-Jun-04	1.18%	1.13%	0.05%
9-Jun-04	1.19%	1.11%	0.08%
10-Jun-04	1.21%	1.16%	0.05%
14-Jun-04	1.25%	1.20%	0.05%
15-Jun-04	1.28%	1.19%	0.09%
16-Jun-04	1.26%	1.20%	0.06%
17-Jun-04	1.28%	1.21%	0.07%
18-Jun-04	1.28%	1.21%	0.07%
21-Jun-04	1.29%	1.22%	0.07%
22-Jun-04	1.29%	1.24%	0.05%
23-Jun-04	1.30%	1.24%	0.06%
24-Jun-04	1.32%	1.25%	0.07%
25-Jun-04	1.33%	1.26%	0.07%
28-Jun-04	1.34%	1.29%	0.05%
29-Jun-04	1.36%	1.29%	0.07%
30-Jun-04	1.37%	1.28%	0.09%
1-Jul-04	1.36%	1.29%	0.07%
2-Jul-04	1.36%	1.28%	0.08%
6-Jul-04	1.35%	1.29%	0.06%
7-Jul-04	1.35%	1.28%	0.07%

8-Jul-04	1.36%	1.29%	0.07%
9-Jul-04	1.37%	1.29%	0.08%
12-Jul-04	1.38%	1.29%	0.09%
13-Jul-04	1.38%	1.31%	0.07%
14-Jul-04	1.39%	1.31%	0.08%
15-Jul-04	1.41%	1.33%	0.08%
16-Jul-04	1.42%	1.35%	0.07%
19-Jul-04	1.42%	1.35%	0.07%
20-Jul-04	1.43%	1.35%	0.08%
21-Jul-04	1.43%	1.35%	0.08%
22-Jul-04	1.45%	1.38%	0.07%
23-Jul-04	1.45%	1.38%	0.07%
26-Jul-04	1.46%	1.40%	0.06%
27-Jul-04	1.47%	1.42%	0.05%
28-Jul-04	1.48%	1.43%	0.05%
29-Jul-04	1.49%	1.45%	0.04%
30-Jul-04	1.50%	1.44%	0.06%
2-Aug-04	1.51%	1.45%	0.06%
3-Aug-04	1.53%	1.47%	0.06%
4-Aug-04	1.54%	1.49%	0.05%
5-Aug-04	1.56%	1.51%	0.05%
6-Aug-04	1.57%	1.51%	0.06%
9-Aug-04	1.57%	1.50%	0.07%
10-Aug-04	1.58%	1.51%	0.07%
11-Aug-04	1.60%	1.52%	0.08%
12-Aug-04	1.60%	1.52%	0.08%
13-Aug-04	1.60%	1.52%	0.08%
16-Aug-04	1.60%	1.52%	0.08%
17-Aug-04	1.60%	1.52%	0.08%
18-Aug-04	1.60%	1.52%	0.08%
19-Aug-04	1.61%	1.52%	0.09%
20-Aug-04	1.61%	1.53%	0.08%
23-Aug-04	1.62%	1.52%	0.10%
24-Aug-04	1.63%	1.53%	0.09%
25-Aug-04	1.63%	1.54%	0.09%
26-Aug-04	1.64%	1.56%	0.08%
27-Aug-04	1.65%	1.57%	0.08%
31-Aug-04	1.67%	1.58%	0.09%
1-Sep-04	1.67%	1.59%	0.08%
2-Sep-04	1.69%	1.62%	0.07%
3-Sep-04	1.70%	1.62%	0.08%
7-Sep-04	1.74%	1.66%	0.08%
8-Sep-04	1.74%	1.67%	0.07%
9-Sep-04	1.75%	1.68%	0.07%
10-Sep-04	1.76%	1.68%	0.08%
13-Sep-04	1.76%	1.70%	0.06%
14-Sep-04	1.78%	1.71%	0.07%

15-Sep-04	1.79%	1.72%	0.07%
16-Sep-04	1.81%	1.76%	0.05%
17-Sep-04	1.82%	1.75%	0.07%
20-Sep-04	1.83%	1.77%	0.06%
21-Sep-04	1.83%	1.77%	0.06%
22-Sep-04	1.84%	1.77%	0.07%
23-Sep-04	1.84%	1.77%	0.07%
24-Sep-04	1.84%	1.77%	0.07%
27-Sep-04	1.84%	1.78%	0.06%
28-Sep-04	1.84%	1.77%	0.07%
29-Sep-04	1.84%	1.77%	0.07%
30-Sep-04	1.84%	1.77%	0.07%
1-Oct-04	1.84%	1.77%	0.07%
4-Oct-04	1.84%	1.77%	0.07%
5-Oct-04	1.84%	1.77%	0.07%
6-Oct-04	1.84%	1.78%	0.06%
7-Oct-04	1.86%	1.78%	0.08%
8-Oct-04	1.86%	1.79%	0.07%
12-Oct-04	1.87%	1.80%	0.07%
13-Oct-04	1.87%	1.80%	0.07%
14-Oct-04	1.89%	1.82%	0.07%
15-Oct-04	1.89%	1.82%	0.07%
18-Oct-04	1.91%	1.83%	0.08%
19-Oct-04	1.91%	1.84%	0.07%
20-Oct-04	1.91%	1.85%	0.06%
21-Oct-04	1.93%	1.88%	0.05%
22-Oct-04	1.94%	1.88%	0.06%
25-Oct-04	1.95%	1.88%	0.07%
26-Oct-04	1.96%	1.89%	0.07%
27-Oct-04	1.96%	1.89%	0.07%
28-Oct-04	1.99%	1.93%	0.06%
29-Oct-04	2.00%	1.93%	0.07%
1-Nov-04	2.02%	1.95%	0.07%
2-Nov-04	2.04%	1.96%	0.08%
3-Nov-04	2.05%	1.98%	0.07%
4-Nov-04	2.06%	1.99%	0.07%
5-Nov-04	2.07%	2.01%	0.06%
8-Nov-04	2.09%	2.02%	0.07%
9-Nov-04	2.09%	2.03%	0.06%
10-Nov-04	2.09%	2.03%	0.06%
12-Nov-04	2.10%	2.04%	0.06%
15-Nov-04	2.11%	2.03%	0.08%
16-Nov-04	2.13%	2.05%	0.08%
17-Nov-04	2.13%	2.06%	0.07%
18-Nov-04	2.14%	2.06%	0.08%
19-Nov-04	2.15%	2.08%	0.07%
22-Nov-04	2.16%	2.09%	0.07%

23-Nov-04	2.18%	2.10%	0.08%
24-Nov-04	2.18%	2.11%	0.07%
26-Nov-04	2.21%	2.13%	0.08%
29-Nov-04	2.28%	2.21%	0.07%
30-Nov-04	2.29%	2.23%	0.06%
1-Dec-04	2.31%	2.24%	0.07%
2-Dec-04	2.33%	2.27%	0.06%
3-Dec-04	2.34%	2.26%	0.08%
6-Dec-04	2.35%	2.28%	0.07%
7-Dec-04	2.36%	2.27%	0.09%
8-Dec-04	2.37%	2.30%	0.07%
9-Dec-04	2.39%	2.32%	0.07%
10-Dec-04	2.40%	2.33%	0.07%
13-Dec-04	2.40%	2.33%	0.07%
14-Dec-04	2.41%	2.33%	0.08%
15-Dec-04	2.41%	2.35%	0.06%
16-Dec-04	2.41%	2.34%	0.07%
17-Dec-04	2.41%	2.39%	0.02%
20-Dec-04	2.41%	2.34%	0.07%
21-Dec-04	2.42%	2.34%	0.08%
22-Dec-04	2.42%	2.34%	0.08%
23-Dec-04	2.42%	2.34%	0.08%
24-Dec-04	2.42%	2.34%	0.08%
29-Dec-04	2.42%	2.35%	0.07%
30-Dec-04	2.39%	2.32%	0.07%
31-Dec-04	2.40%	2.32%	0.08%
4-Jan-05	2.40%	2.32%	0.08%
5-Jan-05	2.40%	2.33%	0.07%
6-Jan-05	2.42%	2.35%	0.07%
7-Jan-05	2.43%	2.36%	0.07%
10-Jan-05	2.44%	2.36%	0.08%
11-Jan-05	2.44%	2.37%	0.07%
12-Jan-05	2.45%	2.37%	0.08%
13-Jan-05	2.48%	2.42%	0.06%
14-Jan-05	2.48%	2.41%	0.07%
18-Jan-05	2.50%	2.43%	0.07%
19-Jan-05	2.50%	2.43%	0.07%
20-Jan-05	2.52%	2.45%	0.07%
21-Jan-05	2.53%	2.46%	0.07%
24-Jan-05	2.54%	2.47%	0.07%
25-Jan-05	2.55%	2.48%	0.07%
26-Jan-05	2.56%	2.48%	0.08%
27-Jan-05	2.58%	2.52%	0.06%
28-Jan-05	2.59%	2.53%	0.06%
31-Jan-05	2.59%	2.53%	0.06%
1-Feb-05	2.59%	2.53%	0.06%
2-Feb-05	2.59%	2.53%	0.06%

3-Feb-05	2.59%	2.53%	0.06%
4-Feb-05	2.59%	2.53%	0.06%
7-Feb-05	2.59%	2.53%	0.06%
8-Feb-05	2.59%	2.53%	0.06%
9-Feb-05	2.59%	2.53%	0.06%
10-Feb-05	2.59%	2.53%	0.06%
11-Feb-05	2.59%	2.53%	0.06%
14-Feb-05	2.59%	2.53%	0.06%
15-Feb-05	2.59%	2.53%	0.06%
16-Feb-05	2.59%	2.53%	0.06%
17-Feb-05	2.60%	2.53%	0.07%
18-Feb-05	2.60%	2.53%	0.07%
22-Feb-05	2.62%	2.55%	0.07%
23-Feb-05	2.65%	2.57%	0.08%
24-Feb-05	2.67%	2.60%	0.07%
25-Feb-05	2.69%	2.63%	0.06%
28-Feb-05	2.72%	2.64%	0.08%
1-Mar-05	2.72%	2.65%	0.07%
2-Mar-05	2.72%	2.65%	0.07%
3-Mar-05	2.75%	2.67%	0.08%
4-Mar-05	2.75%	2.68%	0.07%
7-Mar-05	2.76%	2.69%	0.07%
8-Mar-05	2.77%	2.70%	0.07%
9-Mar-05	2.77%	2.70%	0.07%
10-Mar-05	2.80%	2.74%	0.06%
11-Mar-05	2.81%	2.74%	0.07%
14-Mar-05	2.82%	2.74%	0.08%
15-Mar-05	2.83%	2.77%	0.06%
16-Mar-05	2.83%	2.77%	0.06%
17-Mar-05	2.85%	2.80%	0.05%
18-Mar-05	2.85%	2.79%	0.06%
21-Mar-05	2.85%	2.79%	0.06%
22-Mar-05	2.85%	2.78%	0.07%
23-Mar-05	2.85%	2.79%	0.06%
24-Mar-05	2.85%	2.80%	0.05%
29-Mar-05	2.85%	2.80%	0.05%
30-Mar-05	2.86%	2.81%	0.05%
31-Mar-05	2.87%	2.81%	0.06%
1-Apr-05	2.87%	2.82%	0.05%
4-Apr-05	2.87%	2.82%	0.05%
5-Apr-05	2.89%	2.85%	0.04%
6-Apr-05	2.89%	2.85%	0.04%
7-Apr-05	2.91%	2.85%	0.06%
8-Apr-05	2.92%	2.86%	0.06%
11-Apr-05	2.93%	2.87%	0.06%
12-Apr-05	2.95%	2.89%	0.06%
13-Apr-05	2.95%	2.88%	0.07%

14-Apr-05	2.97%	2.90%	0.07%
15-Apr-05	2.98%	2.93%	0.05%
18-Apr-05	2.99%	2.93%	0.06%
19-Apr-05	3.00%	2.94%	0.06%
20-Apr-05	3.00%	2.94%	0.06%
21-Apr-05	3.02%	2.96%	0.06%
22-Apr-05	3.03%	2.98%	0.05%
25-Apr-05	3.04%	2.99%	0.05%
26-Apr-05	3.06%	3.01%	0.05%
27-Apr-05	3.06%	3.01%	0.05%
28-Apr-05	3.08%	3.02%	0.06%
29-Apr-05	3.09%	3.02%	0.07%
3-May-05	3.09%	3.04%	0.05%
4-May-05	3.09%	3.04%	0.05%
5-May-05	3.09%	3.04%	0.05%
6-May-05	3.09%	3.03%	0.06%
9-May-05	3.09%	3.02%	0.07%
10-May-05	3.09%	3.03%	0.06%
11-May-05	3.09%	3.03%	0.06%
12-May-05	3.09%	3.03%	0.06%
13-May-05	3.09%	3.03%	0.06%
16-May-05	3.09%	3.03%	0.06%
17-May-05	3.09%	3.02%	0.07%
18-May-05	3.09%	3.02%	0.07%
19-May-05	3.09%	3.02%	0.07%
20-May-05	3.09%	3.02%	0.07%
23-May-05	3.09%	3.03%	0.06%
24-May-05	3.09%	3.02%	0.07%
25-May-05	3.09%	3.03%	0.06%
26-May-05	3.10%	3.03%	0.07%
27-May-05	3.11%	3.04%	0.07%
31-May-05	3.13%	3.07%	0.06%
1-Jun-05	3.14%	3.07%	0.07%
2-Jun-05	3.15%	3.09%	0.06%
3-Jun-05	3.16%	3.09%	0.07%
6-Jun-05	3.17%	3.08%	0.09%
7-Jun-05	3.18%	3.13%	0.05%
8-Jun-05	3.19%	3.12%	0.07%
9-Jun-05	3.21%	3.14%	0.07%
10-Jun-05	3.22%	3.15%	0.07%
13-Jun-05	3.22%	3.16%	0.06%
14-Jun-05	3.24%	3.18%	0.06%
15-Jun-05	3.24%	3.19%	0.05%
16-Jun-05	3.26%	3.20%	0.06%
17-Jun-05	3.27%	3.20%	0.07%
20-Jun-05	3.28%	3.23%	0.05%
21-Jun-05	3.30%	3.24%	0.06%

22-Jun-05	3.30%	3.25%	0.05%
23-Jun-05	3.31%	3.26%	0.05%
24-Jun-05	3.32%	3.26%	0.06%
27-Jun-05	3.33%	3.26%	0.07%
28-Jun-05	3.33%	3.29%	0.04%
29-Jun-05	3.34%	3.28%	0.06%
30-Jun-05	3.34%	3.28%	0.06%
1-Jul-05	3.34%	3.28%	0.06%
5-Jul-05	3.34%	3.27%	0.07%
6-Jul-05	3.34%	3.29%	0.05%
7-Jul-05	3.35%	3.30%	0.05%
8-Jul-05	3.36%	3.30%	0.06%
11-Jul-05	3.38%	3.31%	0.07%
12-Jul-05	3.38%	3.31%	0.07%
13-Jul-05	3.39%	3.31%	0.08%
14-Jul-05	3.41%	3.33%	0.08%
15-Jul-05	3.42%	3.35%	0.07%
18-Jul-05	3.43%	3.35%	0.08%
19-Jul-05	3.43%	3.36%	0.07%
20-Jul-05	3.44%	3.37%	0.07%
21-Jul-05	3.46%	3.40%	0.06%
22-Jul-05	3.46%	3.40%	0.06%
25-Jul-05	3.48%	3.42%	0.06%
26-Jul-05	3.48%	3.42%	0.06%
27-Jul-05	3.49%	3.43%	0.06%
28-Jul-05	3.51%	3.45%	0.06%
29-Jul-05	3.52%	3.46%	0.06%
1-Aug-05	3.53%	3.48%	0.05%
2-Aug-05	3.54%	3.48%	0.06%
3-Aug-05	3.55%	3.50%	0.05%
4-Aug-05	3.56%	3.51%	0.05%
5-Aug-05	3.56%	3.52%	0.04%
8-Aug-05	3.57%	3.51%	0.06%
9-Aug-05	3.57%	3.52%	0.05%
10-Aug-05	3.57%	3.51%	0.06%
11-Aug-05	3.57%	3.52%	0.05%
12-Aug-05	3.57%	3.50%	0.07%
15-Aug-05	3.58%	3.53%	0.05%
16-Aug-05	3.59%	3.52%	0.07%
17-Aug-05	3.59%	3.52%	0.07%
18-Aug-05	3.61%	3.52%	0.09%
19-Aug-05	3.62%	3.55%	0.07%
22-Aug-05	3.64%	3.57%	0.07%
23-Aug-05	3.64%	3.58%	0.06%
24-Aug-05	3.64%	3.58%	0.06%
25-Aug-05	3.67%	3.60%	0.07%
26-Aug-05	3.67%	3.59%	0.08%

30-Aug-05	3.69%	3.64%	0.05%
31-Aug-05	3.70%	3.62%	0.08%
1-Sep-05	3.72%	3.66%	0.06%
2-Sep-05	3.68%	3.60%	0.08%
6-Sep-05	3.70%	3.64%	0.06%
7-Sep-05	3.70%	3.62%	0.08%
8-Sep-05	3.73%	3.66%	0.07%
9-Sep-05	3.74%	3.68%	0.06%
12-Sep-05	3.75%	3.68%	0.07%
13-Sep-05	3.77%	3.70%	0.07%
14-Sep-05	3.77%	3.71%	0.06%
15-Sep-05	3.79%	3.74%	0.05%
16-Sep-05	3.80%	3.74%	0.06%
19-Sep-05	3.81%	3.75%	0.06%
20-Sep-05	3.82%	3.75%	0.07%
21-Sep-05	3.83%	3.76%	0.07%
22-Sep-05	3.83%	3.77%	0.06%
23-Sep-05	3.83%	3.77%	0.06%
26-Sep-05	3.84%	3.77%	0.07%
27-Sep-05	3.84%	3.78%	0.06%
28-Sep-05	3.84%	3.78%	0.06%
29-Sep-05	3.86%	3.80%	0.06%
30-Sep-05	3.86%	3.80%	0.06%
3-Oct-05	3.88%	3.80%	0.08%
4-Oct-05	3.89%	3.82%	0.07%
5-Oct-05	3.89%	3.83%	0.06%
6-Oct-05	3.94%	3.86%	0.08%
7-Oct-05	3.94%	3.87%	0.07%
11-Oct-05	3.94%	3.87%	0.07%
12-Oct-05	3.95%	3.88%	0.07%
13-Oct-05	3.97%	3.90%	0.07%
14-Oct-05	3.98%	3.91%	0.07%
17-Oct-05	4.00%	3.93%	0.07%
18-Oct-05	4.00%	3.93%	0.07%
19-Oct-05	4.00%	3.93%	0.07%
20-Oct-05	4.03%	4.02%	0.01%
21-Oct-05	4.04%	4.02%	0.02%
24-Oct-05	4.05%	4.02%	0.03%
25-Oct-05	4.06%	4.05%	0.01%
26-Oct-05	4.07%	4.06%	0.01%
27-Oct-05	4.08%	4.08%	0.00%
28-Oct-05	4.09%	4.08%	0.01%
31-Oct-05	4.09%	4.08%	0.01%
1-Nov-05	4.09%	4.08%	0.01%
2-Nov-05	4.09%	4.08%	0.01%
3-Nov-05	4.09%	4.06%	0.03%
4-Nov-05	4.09%	4.06%	0.03%

7-Nov-05	4.09%	4.08%	0.01%
8-Nov-05	4.10%	4.08%	0.02%
9-Nov-05	4.11%	4.09%	0.02%
10-Nov-05	4.12%	4.09%	0.03%
14-Nov-05	4.12%	4.10%	0.02%
15-Nov-05	4.14%	4.12%	0.02%
16-Nov-05	4.14%	4.12%	0.02%
17-Nov-05	4.16%	4.14%	0.02%
18-Nov-05	4.17%	4.15%	0.02%
21-Nov-05	4.17%	4.15%	0.02%
22-Nov-05	4.19%	4.18%	0.01%
23-Nov-05	4.19%	4.18%	0.01%
25-Nov-05	4.21%	4.20%	0.01%
28-Nov-05	4.22%	4.22%	0.00%
29-Nov-05	4.29%	4.27%	0.02%
30-Nov-05	4.29%	4.28%	0.01%
1-Dec-05	4.31%	4.29%	0.02%
2-Dec-05	4.32%	4.29%	0.03%
5-Dec-05	4.33%	4.30%	0.03%
6-Dec-05	4.34%	4.31%	0.03%
7-Dec-05	4.34%	4.33%	0.01%
8-Dec-05	4.36%	4.33%	0.03%
9-Dec-05	4.36%	4.33%	0.03%
12-Dec-05	4.37%	4.35%	0.02%
13-Dec-05	4.37%	4.35%	0.02%
14-Dec-05	4.37%	4.35%	0.02%
15-Dec-05	4.37%	4.35%	0.02%
16-Dec-05	4.37%	4.34%	0.03%
19-Dec-05	4.37%	4.35%	0.02%
20-Dec-05	4.37%	4.35%	0.02%
21-Dec-05	4.37%	4.35%	0.02%
22-Dec-05	4.38%	4.37%	0.01%
23-Dec-05	4.38%	4.36%	0.02%
28-Dec-05	4.39%	4.36%	0.03%
29-Dec-05	4.39%	4.35%	0.04%
30-Dec-05	4.39%	4.36%	0.03%
3-Jan-06	4.40%	4.37%	0.03%
4-Jan-06	4.40%	4.39%	0.01%
5-Jan-06	4.42%	4.40%	0.02%
6-Jan-06	4.42%	4.40%	0.02%
9-Jan-06	4.44%	4.42%	0.02%
10-Jan-06	4.44%	4.43%	0.01%
11-Jan-06	4.44%	4.43%	0.01%
12-Jan-06	4.47%	4.46%	0.01%
13-Jan-06	4.47%	4.47%	0.00%
17-Jan-06	4.48%	4.48%	0.00%
18-Jan-06	4.49%	4.48%	0.01%

19-Jan-06	4.51%	4.51%	0.00%
20-Jan-06	4.52%	4.51%	0.01%
23-Jan-06	4.53%	4.52%	0.01%
24-Jan-06	4.53%	4.53%	0.00%
25-Jan-06	4.54%	4.53%	0.01%
26-Jan-06	4.56%	4.55%	0.01%
27-Jan-06	4.57%	4.56%	0.01%
30-Jan-06	4.57%	4.56%	0.01%
31-Jan-06	4.57%	4.56%	0.01%
1-Feb-06	4.57%	4.57%	0.00%
2-Feb-06	4.57%	4.58%	-0.01%
3-Feb-06	4.57%	4.57%	0.00%
7-Feb-06	4.57%	4.57%	0.00%
8-Feb-06	4.57%	4.57%	0.00%
9-Feb-06	4.57%	4.57%	0.00%
10-Feb-06	4.57%	4.55%	0.02%
13-Feb-06	4.57%	4.57%	0.00%
14-Feb-06	4.57%	4.57%	0.00%
15-Feb-06	4.57%	4.57%	0.00%
16-Feb-06	4.57%	4.57%	0.00%
17-Feb-06	4.57%	4.55%	0.02%
21-Feb-06	4.57%	4.57%	0.00%
22-Feb-06	4.57%	4.57%	0.00%
23-Feb-06	4.58%	4.57%	0.01%
24-Feb-06	4.61%	4.58%	0.03%
27-Feb-06	4.63%	4.62%	0.01%
28-Feb-06	4.63%	4.63%	0.00%
1-Mar-06	4.64%	4.63%	0.01%
2-Mar-06	4.66%	4.65%	0.01%
3-Mar-06	4.67%	4.67%	0.00%
6-Mar-06	4.69%	4.68%	0.01%
7-Mar-06	4.69%	4.68%	0.01%
8-Mar-06	4.70%	4.68%	0.02%
9-Mar-06	4.72%	4.71%	0.01%
10-Mar-06	4.74%	4.73%	0.01%
13-Mar-06	4.75%	4.74%	0.01%
14-Mar-06	4.75%	4.75%	0.00%
15-Mar-06	4.75%	4.75%	0.00%
16-Mar-06	4.78%	4.77%	0.01%
17-Mar-06	4.78%	4.78%	0.00%
20-Mar-06	4.79%	4.80%	-0.01%
21-Mar-06	4.80%	4.79%	0.01%
22-Mar-06	4.81%	4.81%	0.00%
23-Mar-06	4.82%	4.81%	0.01%
24-Mar-06	4.82%	4.82%	0.00%
27-Mar-06	4.82%	4.82%	0.00%
28-Mar-06	4.82%	4.82%	0.00%

29-Mar-06	4.83%	4.83%	0.00%
30-Mar-06	4.83%	4.82%	0.01%
31-Mar-06	4.83%	4.82%	0.01%
3-Apr-06	4.83%	4.81%	0.02%
4-Apr-06	4.84%	4.82%	0.02%
5-Apr-06	4.84%	4.80%	0.04%
6-Apr-06	4.85%	4.81%	0.04%
7-Apr-06	4.85%	4.82%	0.03%
10-Apr-06	4.86%	4.85%	0.01%
11-Apr-06	4.88%	4.87%	0.01%
12-Apr-06	4.90%	4.90%	0.00%
13-Apr-06	4.91%	4.90%	0.01%
18-Apr-06	4.92%	4.92%	0.00%
19-Apr-06	4.93%	4.92%	0.01%
20-Apr-06	4.95%	4.95%	0.00%
21-Apr-06	4.96%	4.95%	0.01%
24-Apr-06	4.97%	4.96%	0.01%
25-Apr-06	4.99%	4.98%	0.01%
26-Apr-06	5.00%	4.99%	0.01%
27-Apr-06	5.02%	5.02%	0.00%
28-Apr-06	5.04%	5.04%	0.00%
2-May-06	5.05%	5.05%	0.00%
3-May-06	5.06%	5.05%	0.01%
4-May-06	5.07%	5.06%	0.01%
5-May-06	5.08%	5.07%	0.01%
8-May-06	5.08%	5.08%	0.00%
9-May-06	5.08%	5.08%	0.00%
10-May-06	5.08%	5.08%	0.00%
11-May-06	5.08%	5.07%	0.01%
12-May-06	5.08%	5.07%	0.01%
15-May-06	5.08%	5.07%	0.01%
16-May-06	5.08%	5.07%	0.01%
17-May-06	5.08%	5.08%	0.00%
18-May-06	5.08%	5.08%	0.00%
19-May-06	5.08%	5.08%	0.00%
22-May-06	5.08%	5.08%	0.00%
23-May-06	5.08%	5.08%	0.00%
24-May-06	5.08%	5.08%	0.00%
25-May-06	5.09%	5.08%	0.01%
26-May-06	5.09%	5.08%	0.01%
30-May-06	5.11%	5.09%	0.02%
31-May-06	5.11%	5.11%	0.00%
1-Jun-06	5.13%	5.12%	0.01%
2-Jun-06	5.14%	5.12%	0.02%
5-Jun-06	5.13%	5.12%	0.01%
6-Jun-06	5.14%	5.13%	0.01%
7-Jun-06	5.15%	5.15%	0.00%

8-Jun-06	5.17%	5.16%	0.01%
9-Jun-06	5.18%	5.17%	0.01%
12-Jun-06	5.18%	5.18%	0.00%
13-Jun-06	5.20%	5.19%	0.01%
14-Jun-06	5.21%	5.22%	-0.01%
15-Jun-06	5.25%	5.25%	0.00%
16-Jun-06	5.27%	5.26%	0.01%
19-Jun-06	5.28%	5.27%	0.01%
20-Jun-06	5.29%	5.29%	0.00%
21-Jun-06	5.30%	5.30%	0.00%
22-Jun-06	5.32%	5.32%	0.00%
23-Jun-06	5.34%	5.33%	0.01%
26-Jun-06	5.34%	5.33%	0.01%
27-Jun-06	5.35%	5.34%	0.01%
28-Jun-06	5.35%	5.34%	0.01%
29-Jun-06	5.35%	5.33%	0.02%
30-Jun-06	5.33%	5.31%	0.02%
3-Jul-06	5.33%	5.33%	0.00%
5-Jul-06	5.34%	5.33%	0.01%
6-Jul-06	5.35%	5.34%	0.01%
7-Jul-06	5.35%	5.34%	0.01%
10-Jul-06	5.36%	5.35%	0.01%
11-Jul-06	5.36%	5.35%	0.01%
12-Jul-06	5.36%	5.35%	0.01%
13-Jul-06	5.37%	5.36%	0.01%
14-Jul-06	5.37%	5.36%	0.01%
17-Jul-06	5.37%	5.36%	0.01%
18-Jul-06	5.38%	5.37%	0.01%
19-Jul-06	5.39%	5.38%	0.01%
20-Jul-06	5.40%	5.39%	0.01%
21-Jul-06	5.39%	5.38%	0.00%
24-Jul-06	5.39%	5.38%	0.01%
25-Jul-06	5.40%	5.39%	0.01%
26-Jul-06	5.40%	5.40%	0.00%
27-Jul-06	5.40%	5.40%	0.00%
28-Jul-06	5.40%	5.40%	0.00%
31-Jul-06	5.39%	5.37%	0.02%
1-Aug-06	5.39%	5.39%	0.00%
2-Aug-06	5.40%	5.38%	0.02%
3-Aug-06	5.41%	5.38%	0.03%
4-Aug-06	5.42%	5.35%	0.07%
7-Aug-06	5.37%	5.36%	0.01%
8-Aug-06	5.37%	5.37%	0.00%
9-Aug-06	5.33%	5.31%	0.02%
10-Aug-06	5.33%	5.30%	0.03%
11-Aug-06	5.33%	5.32%	0.01%
14-Aug-06	5.33%	5.30%	0.03%

15-Aug-06	5.33%	5.33%	0.00%
16-Aug-06	5.33%	5.33%	0.00%
17-Aug-06	5.33%	5.32%	0.00%
18-Aug-06	5.33%	5.32%	0.01%
21-Aug-06	5.32%	5.32%	0.00%
22-Aug-06	5.33%	5.32%	0.01%
23-Aug-06	5.32%	5.32%	0.00%
24-Aug-06	5.33%	5.32%	0.01%
25-Aug-06	5.33%	5.32%	0.01%
29-Aug-06	5.33%	5.33%	0.00%
30-Aug-06	5.33%	5.33%	0.00%
31-Aug-06	5.33%	5.33%	0.00%
1-Sep-06	5.33%	5.33%	0.00%
5-Sep-06	5.33%	5.33%	0.00%
6-Sep-06	5.33%	5.33%	0.00%
7-Sep-06	5.33%	5.33%	0.00%
8-Sep-06	5.33%	5.33%	0.00%
11-Sep-06	5.33%	5.33%	0.00%
12-Sep-06	5.33%	5.33%	0.00%
13-Sep-06	5.33%	5.29%	0.04%
14-Sep-06	5.33%	5.30%	0.03%
15-Sep-06	5.33%	5.30%	0.03%
18-Sep-06	5.33%	5.33%	0.00%
19-Sep-06	5.33%	5.33%	0.00%
20-Sep-06	5.33%	5.33%	0.00%
21-Sep-06	5.33%	5.33%	0.00%
22-Sep-06	5.33%	5.32%	0.01%
25-Sep-06	5.33%	5.32%	0.01%
26-Sep-06	5.32%	5.32%	0.00%
27-Sep-06	5.32%	5.32%	0.00%
28-Sep-06	5.32%	5.32%	0.00%
29-Sep-06	5.32%	5.32%	0.00%
2-Oct-06	5.32%	5.32%	0.00%
3-Oct-06	5.32%	5.32%	0.00%
4-Oct-06	5.32%	5.32%	0.00%
5-Oct-06	5.32%	5.32%	0.00%
6-Oct-06	5.32%	5.32%	0.00%
10-Oct-06	5.32%	5.33%	-0.01%
11-Oct-06	5.32%	5.32%	0.00%
12-Oct-06	5.32%	5.32%	0.00%
13-Oct-06	5.32%	5.32%	0.00%
16-Oct-06	5.32%	5.32%	0.00%
17-Oct-06	5.32%	5.32%	0.00%
18-Oct-06	5.32%	5.32%	0.00%
19-Oct-06	5.32%	5.32%	0.00%
20-Oct-06	5.32%	5.29%	0.03%
23-Oct-06	5.32%	5.32%	0.00%

24-Oct-06	5.32%	5.32%	0.00%
25-Oct-06	5.32%	5.32%	0.00%
26-Oct-06	5.32%	5.32%	0.00%
27-Oct-06	5.32%	5.32%	0.00%
30-Oct-06	5.32%	5.32%	0.00%
31-Oct-06	5.32%	5.32%	0.00%
1-Nov-06	5.32%	5.32%	0.00%
2-Nov-06	5.32%	5.32%	0.00%
3-Nov-06	5.32%	5.32%	0.00%
6-Nov-06	5.32%	5.29%	0.03%
7-Nov-06	5.32%	5.32%	0.00%
8-Nov-06	5.32%	5.32%	0.00%
9-Nov-06	5.32%	5.29%	0.03%
10-Nov-06	5.32%	5.29%	0.03%
13-Nov-06	5.32%	5.32%	0.00%
14-Nov-06	5.32%	5.32%	0.00%
15-Nov-06	5.32%	5.32%	0.00%
16-Nov-06	5.32%	5.32%	0.00%
17-Nov-06	5.32%	5.32%	0.00%
20-Nov-06	5.32%	5.32%	0.00%
21-Nov-06	5.32%	5.32%	0.00%
22-Nov-06	5.32%	5.29%	0.03%
24-Nov-06	5.32%	5.32%	0.00%
27-Nov-06	5.32%	5.32%	0.00%
28-Nov-06	5.32%	5.32%	0.00%
29-Nov-06	5.35%	5.35%	0.00%
30-Nov-06	5.35%	5.35%	0.00%
1-Dec-06	5.35%	5.35%	0.00%
4-Dec-06	5.35%	5.35%	0.00%
5-Dec-06	5.35%	5.35%	0.00%
6-Dec-06	5.35%	5.35%	0.00%
7-Dec-06	5.35%	5.35%	0.00%
8-Dec-06	5.35%	5.35%	0.00%
11-Dec-06	5.35%	5.35%	0.00%
12-Dec-06	5.35%	5.35%	0.00%
13-Dec-06	5.35%	5.32%	0.03%
14-Dec-06	5.35%	5.35%	0.00%
15-Dec-06	5.35%	5.35%	0.00%
18-Dec-06	5.35%	5.35%	0.00%
19-Dec-06	5.35%	5.35%	0.00%
20-Dec-06	5.35%	5.35%	0.00%
21-Dec-06	5.35%	5.35%	0.00%
22-Dec-06	5.35%	5.34%	0.01%
27-Dec-06	5.35%	5.35%	0.00%
28-Dec-06	5.33%	5.33%	0.00%
29-Dec-06	5.32%	5.32%	0.00%
2-Jan-07	5.32%	5.32%	0.00%

3-Jan-07	5.32%	5.32%	0.00%
4-Jan-07	5.32%	5.32%	0.00%
5-Jan-07	5.32%	5.32%	0.00%
8-Jan-07	5.32%	5.32%	0.00%
9-Jan-07	5.32%	5.32%	0.00%
10-Jan-07	5.32%	5.32%	0.00%
11-Jan-07	5.32%	5.32%	0.00%
12-Jan-07	5.32%	5.32%	0.00%
16-Jan-07	5.32%	5.32%	0.00%
17-Jan-07	5.32%	5.30%	0.02%
18-Jan-07	5.32%	5.32%	0.00%
19-Jan-07	5.32%	5.32%	0.00%
22-Jan-07	5.32%	5.32%	0.00%
23-Jan-07	5.32%	5.30%	0.02%
24-Jan-07	5.32%	5.32%	0.00%
25-Jan-07	5.32%	5.32%	0.00%
26-Jan-07	5.32%	5.32%	0.00%
29-Jan-07	5.32%	5.32%	0.00%
30-Jan-07	5.32%	5.32%	0.00%
31-Jan-07	5.32%	5.32%	0.00%
1-Feb-07	5.32%	5.30%	0.02%
2-Feb-07	5.32%	5.32%	0.00%
5-Feb-07	5.32%	5.32%	0.00%
6-Feb-07	5.32%	5.32%	0.00%
7-Feb-07	5.32%	5.32%	0.00%
8-Feb-07	5.32%	5.32%	0.00%
9-Feb-07	5.32%	5.32%	0.00%
12-Feb-07	5.32%	5.32%	0.00%
13-Feb-07	5.32%	5.32%	0.00%
14-Feb-07	5.32%	5.32%	0.00%
15-Feb-07	5.32%	5.32%	0.00%
16-Feb-07	5.32%	5.32%	0.00%
20-Feb-07	5.32%	5.32%	0.00%
21-Feb-07	5.32%	5.32%	0.00%
22-Feb-07	5.32%	5.32%	0.00%
23-Feb-07	5.32%	5.32%	0.00%
26-Feb-07	5.32%	5.32%	0.00%
27-Feb-07	5.32%	5.32%	0.00%
28-Feb-07	5.32%	5.32%	0.00%
1-Mar-07	5.32%	5.32%	0.00%
2-Mar-07	5.32%	5.32%	0.00%
5-Mar-07	5.32%	5.32%	0.00%
6-Mar-07	5.32%	5.32%	0.00%
7-Mar-07	5.32%	5.32%	0.00%
8-Mar-07	5.32%	5.32%	0.00%
9-Mar-07	5.32%	5.32%	0.00%
12-Mar-07	5.32%	5.32%	0.00%

13-Mar-07	5.32%	5.32%	0.00%
14-Mar-07	5.32%	5.32%	0.00%
15-Mar-07	5.32%	5.32%	0.00%
16-Mar-07	5.32%	5.32%	0.00%
19-Mar-07	5.32%	5.32%	0.00%
20-Mar-07	5.32%	5.32%	0.00%
21-Mar-07	5.32%	5.32%	0.00%
22-Mar-07	5.32%	5.32%	0.00%
23-Mar-07	5.32%	5.32%	0.00%
26-Mar-07	5.32%	5.32%	0.00%
27-Mar-07	5.32%	5.32%	0.00%
28-Mar-07	5.32%	5.32%	0.00%
29-Mar-07	5.32%	5.32%	0.00%
30-Mar-07	5.32%	5.32%	0.00%
2-Apr-07	5.32%	5.32%	0.00%
3-Apr-07	5.32%	5.32%	0.00%
4-Apr-07	5.32%	5.32%	0.00%
5-Apr-07	5.32%	5.32%	0.00%
10-Apr-07	5.32%	5.29%	0.03%
11-Apr-07	5.32%	5.30%	0.02%
12-Apr-07	5.32%	5.29%	0.03%
13-Apr-07	5.32%	5.30%	0.02%
16-Apr-07	5.32%	5.30%	0.02%
17-Apr-07	5.32%	5.30%	0.02%
18-Apr-07	5.32%	5.30%	0.02%
19-Apr-07	5.32%	5.32%	0.00%
20-Apr-07	5.32%	5.32%	0.00%
23-Apr-07	5.32%	5.32%	0.00%
24-Apr-07	5.32%	5.32%	0.00%
25-Apr-07	5.32%	5.32%	0.00%
26-Apr-07	5.32%	5.32%	0.00%
27-Apr-07	5.32%	5.32%	0.00%
30-Apr-07	5.32%	5.32%	0.00%
1-May-07	5.32%	5.32%	0.00%
2-May-07	5.32%	5.32%	0.00%
3-May-07	5.32%	5.32%	0.00%
4-May-07	5.32%	5.32%	0.00%
8-May-07	5.32%	5.32%	0.00%
9-May-07	5.32%	5.32%	0.00%
10-May-07	5.32%	5.30%	0.02%
11-May-07	5.32%	5.30%	0.02%
14-May-07	5.32%	5.30%	0.02%
15-May-07	5.32%	5.32%	0.00%
16-May-07	5.32%	5.32%	0.00%
17-May-07	5.32%	5.32%	0.00%
18-May-07	5.32%	5.32%	0.00%
21-May-07	5.32%	5.32%	0.00%

22-May-07	5.32%	5.32%	0.00%
23-May-07	5.32%	5.32%	0.00%
24-May-07	5.32%	5.32%	0.00%
25-May-07	5.32%	5.32%	0.00%
29-May-07	5.32%	5.32%	0.00%
30-May-07	5.32%	5.32%	0.00%
31-May-07	5.32%	5.32%	0.00%
1-Jun-07	5.32%	5.32%	0.00%
4-Jun-07	5.32%	5.32%	0.00%
5-Jun-07	5.32%	5.31%	0.01%
6-Jun-07	5.32%	5.32%	0.00%
7-Jun-07	5.32%	5.32%	0.00%
8-Jun-07	5.32%	5.32%	0.00%
11-Jun-07	5.32%	5.31%	0.01%
12-Jun-07	5.32%	5.32%	0.00%
13-Jun-07	5.32%	5.32%	0.00%
14-Jun-07	5.32%	5.32%	0.00%
15-Jun-07	5.32%	5.32%	0.00%
18-Jun-07	5.32%	5.32%	0.00%
19-Jun-07	5.32%	5.32%	0.00%
20-Jun-07	5.32%	5.32%	0.00%
21-Jun-07	5.32%	5.32%	0.00%
22-Jun-07	5.32%	5.31%	0.01%
25-Jun-07	5.32%	5.32%	0.00%
26-Jun-07	5.32%	5.31%	0.01%
27-Jun-07	5.32%	5.31%	0.01%
28-Jun-07	5.32%	5.32%	0.00%
29-Jun-07	5.32%	5.31%	0.01%
2-Jul-07	5.32%	5.32%	0.00%
3-Jul-07	5.32%	5.32%	0.00%
5-Jul-07	5.32%	5.32%	0.00%
6-Jul-07	5.32%	5.32%	0.00%
9-Jul-07	5.32%	5.31%	0.01%
10-Jul-07	5.32%	5.31%	0.01%
11-Jul-07	5.32%	5.31%	0.01%
12-Jul-07	5.32%	5.31%	0.01%
13-Jul-07	5.32%	5.31%	0.01%
16-Jul-07	5.32%	5.32%	0.00%
17-Jul-07	5.32%	5.32%	0.00%
18-Jul-07	5.32%	5.32%	0.00%
19-Jul-07	5.32%	5.32%	0.00%
20-Jul-07	5.32%	5.32%	0.00%
23-Jul-07	5.32%	5.31%	0.01%
24-Jul-07	5.32%	5.31%	0.01%
25-Jul-07	5.32%	5.31%	0.01%
26-Jul-07	5.32%	5.32%	0.00%
27-Jul-07	5.32%	5.32%	0.00%

30-Jul-07	5.32%	5.32%	0.00%
31-Jul-07	5.32%	5.32%	0.00%
1-Aug-07	5.33%	5.32%	0.01%
2-Aug-07	5.33%	5.33%	0.00%
3-Aug-07	5.33%	5.31%	0.02%
6-Aug-07	5.33%	5.33%	0.00%
7-Aug-07	5.33%	5.33%	0.00%
8-Aug-07	5.35%	5.37%	-0.02%
9-Aug-07	5.54%	5.50%	0.04%
10-Aug-07	5.62%	5.70%	-0.08%
13-Aug-07	5.61%	5.62%	-0.01%
14-Aug-07	5.59%	5.60%	-0.01%
15-Aug-07	5.57%	5.60%	-0.03%
16-Aug-07	5.54%	5.54%	0.00%
17-Aug-07	5.51%	5.52%	-0.01%
20-Aug-07	5.50%	5.53%	-0.03%
21-Aug-07	5.50%	5.55%	-0.05%
22-Aug-07	5.50%	5.55%	-0.05%
23-Aug-07	5.51%	5.55%	-0.04%
24-Aug-07	5.50%	5.57%	-0.07%
28-Aug-07	5.51%	5.57%	-0.06%
29-Aug-07	5.57%	5.68%	-0.11%
30-Aug-07	5.67%	5.80%	-0.14%
31-Aug-07	5.72%	5.85%	-0.13%
4-Sep-07	5.80%	5.90%	-0.10%
5-Sep-07	5.82%	5.90%	-0.08%
6-Sep-07	5.82%	5.90%	-0.08%
7-Sep-07	5.82%	5.90%	-0.08%
10-Sep-07	5.81%	5.85%	-0.04%
11-Sep-07	5.80%	5.85%	-0.05%
12-Sep-07	5.80%	5.85%	-0.05%
13-Sep-07	5.75%	5.76%	-0.01%
14-Sep-07	5.61%	5.55%	0.06%
17-Sep-07	5.50%	5.55%	-0.05%
18-Sep-07	5.50%	5.20%	0.30%
19-Sep-07	5.15%	5.15%	0.00%
20-Sep-07	5.14%	5.15%	-0.01%
21-Sep-07	5.13%	5.15%	-0.02%
24-Sep-07	5.13%	5.15%	-0.02%
25-Sep-07	5.13%	5.15%	-0.02%
26-Sep-07	5.13%	5.15%	-0.02%
27-Sep-07	5.13%	5.15%	-0.02%
28-Sep-07	5.12%	5.15%	-0.03%
1-Oct-07	5.12%	5.20%	-0.08%
2-Oct-07	5.13%	5.18%	-0.05%
3-Oct-07	5.13%	5.20%	-0.08%
4-Oct-07	5.13%	5.20%	-0.08%

5-Oct-07	5.12%	5.15%	-0.03%
9-Oct-07	5.12%	5.15%	-0.03%
10-Oct-07	5.11%	5.15%	-0.04%
11-Oct-07	5.09%	5.15%	-0.06%
12-Oct-07	5.06%	5.15%	-0.09%
15-Oct-07	5.05%	5.08%	-0.03%
16-Oct-07	5.04%	5.08%	-0.04%
17-Oct-07	5.02%	5.05%	-0.03%
18-Oct-07	5.00%	5.00%	0.00%
19-Oct-07	4.95%	4.95%	0.00%
22-Oct-07	4.89%	4.90%	-0.01%
23-Oct-07	4.87%	4.90%	-0.03%
24-Oct-07	4.86%	4.90%	-0.04%
25-Oct-07	4.82%	4.81%	0.01%
26-Oct-07	4.79%	4.80%	-0.01%
29-Oct-07	4.75%	4.75%	0.00%
30-Oct-07	4.72%	4.75%	-0.03%
31-Oct-07	4.71%	4.70%	0.01%
1-Nov-07	4.69%	4.68%	0.01%
2-Nov-07	4.68%	4.68%	0.00%
5-Nov-07	4.67%	4.67%	0.00%
6-Nov-07	4.67%	4.69%	-0.02%
7-Nov-07	4.67%	4.66%	0.00%
8-Nov-07	4.66%	4.66%	0.00%
9-Nov-07	4.66%	4.66%	0.00%
13-Nov-07	4.65%	4.65%	0.00%
14-Nov-07	4.66%	4.68%	-0.02%
15-Nov-07	4.69%	4.75%	-0.06%
16-Nov-07	4.74%	4.78%	-0.04%
19-Nov-07	4.77%	4.82%	-0.05%
20-Nov-07	4.78%	4.85%	-0.07%
21-Nov-07	4.78%	4.85%	-0.07%
23-Nov-07	4.79%	4.85%	-0.06%
26-Nov-07	4.80%	4.85%	-0.05%
27-Nov-07	4.81%	4.90%	-0.09%
28-Nov-07	4.82%	4.90%	-0.08%
29-Nov-07	5.23%	5.60%	-0.38%
30-Nov-07	5.24%	5.50%	-0.26%
3-Dec-07	5.25%	5.60%	-0.35%
4-Dec-07	5.25%	5.50%	-0.25%
5-Dec-07	5.25%	5.45%	-0.20%
6-Dec-07	5.24%	5.50%	-0.26%
7-Dec-07	5.24%	5.50%	-0.26%
10-Dec-07	5.23%	5.40%	-0.17%
11-Dec-07	5.20%	5.35%	-0.15%
12-Dec-07	5.10%	5.25%	-0.15%
13-Dec-07	5.03%	5.20%	-0.17%

14-Dec-07	5.00%	5.20%	-0.20%
17-Dec-07	4.97%	5.25%	-0.29%
18-Dec-07	4.95%	5.20%	-0.25%
19-Dec-07	4.93%	5.20%	-0.27%
20-Dec-07	4.90%	5.15%	-0.25%
21-Dec-07	4.87%	5.10%	-0.24%
27-Dec-07	4.85%	5.05%	-0.21%
28-Dec-07	4.63%	4.70%	-0.07%
31-Dec-07	4.60%	4.70%	-0.10%
2-Jan-08	4.57%	4.65%	-0.08%
3-Jan-08	4.54%	4.60%	-0.06%
4-Jan-08	4.52%	4.55%	-0.04%
7-Jan-08	4.44%	4.50%	-0.06%
8-Jan-08	4.41%	4.45%	-0.04%
9-Jan-08	4.37%	4.40%	-0.03%
10-Jan-08	4.32%	4.35%	-0.03%
11-Jan-08	4.24%	4.25%	-0.01%
14-Jan-08	4.08%	4.10%	-0.02%
15-Jan-08	4.02%	4.05%	-0.03%
16-Jan-08	3.99%	3.98%	0.01%
17-Jan-08	3.96%	4.00%	-0.04%
18-Jan-08	3.93%	3.95%	-0.02%
22-Jan-08	3.77%	3.80%	-0.03%
23-Jan-08	3.38%	3.30%	0.08%
24-Jan-08	3.29%	3.30%	-0.01%
25-Jan-08	3.31%	3.30%	0.01%
28-Jan-08	3.28%	3.30%	-0.02%
29-Jan-08	3.27%	3.30%	-0.03%
30-Jan-08	3.26%	3.25%	0.01%
31-Jan-08	3.14%	3.15%	-0.01%
1-Feb-08	3.14%	3.15%	-0.01%
4-Feb-08	3.18%	3.25%	-0.07%
5-Feb-08	3.22%	3.25%	-0.03%
6-Feb-08	3.19%	3.25%	-0.06%
7-Feb-08	3.17%	3.20%	-0.04%
8-Feb-08	3.15%	3.15%	0.00%
11-Feb-08	3.14%	3.13%	0.01%
12-Feb-08	3.13%	3.13%	0.00%
13-Feb-08	3.12%	3.13%	-0.01%
14-Feb-08	3.12%	3.15%	-0.03%
15-Feb-08	3.12%	3.15%	-0.03%
19-Feb-08	3.11%	3.15%	-0.04%
20-Feb-08	3.12%	3.15%	-0.03%
21-Feb-08	3.14%	3.15%	-0.02%
22-Feb-08	3.12%	3.15%	-0.03%
25-Feb-08	3.12%	3.15%	-0.03%
26-Feb-08	3.13%	3.15%	-0.03%

27-Feb-08	3.12%	3.18%	-0.06%
28-Feb-08	3.12%	3.18%	-0.06%
29-Feb-08	3.11%	3.18%	-0.07%
3-Mar-08	3.09%	3.13%	-0.04%
4-Mar-08	3.08%	3.10%	-0.02%
5-Mar-08	3.08%	3.10%	-0.02%
6-Mar-08	3.06%	3.08%	-0.02%
7-Mar-08	3.00%	3.00%	0.00%
10-Mar-08	2.94%	2.95%	-0.02%
11-Mar-08	2.89%	2.90%	-0.01%
12-Mar-08	2.86%	2.90%	-0.04%
13-Mar-08	2.82%	2.80%	0.02%
14-Mar-08	2.78%	2.70%	0.07%
17-Mar-08	2.56%	2.60%	-0.04%
18-Mar-08	2.54%	2.60%	-0.06%
19-Mar-08	2.60%	2.70%	-0.10%
20-Mar-08	2.61%	2.70%	-0.09%
25-Mar-08	2.65%	2.80%	-0.15%
26-Mar-08	2.68%	2.80%	-0.12%
27-Mar-08	2.70%	2.90%	-0.20%
28-Mar-08	2.71%	2.90%	-0.19%
31-Mar-08	2.70%	3.00%	-0.30%
1-Apr-08	2.70%	3.00%	-0.30%
2-Apr-08	2.71%	3.00%	-0.29%
3-Apr-08	2.74%	3.00%	-0.26%
4-Apr-08	2.74%	3.00%	-0.26%
7-Apr-08	2.72%	2.95%	-0.23%
8-Apr-08	2.72%	3.00%	-0.28%
9-Apr-08	2.73%	3.00%	-0.27%
10-Apr-08	2.72%	3.00%	-0.28%
11-Apr-08	2.72%	2.95%	-0.23%
14-Apr-08	2.71%	2.90%	-0.19%
15-Apr-08	2.72%	2.90%	-0.18%
16-Apr-08	2.73%	2.90%	-0.17%
17-Apr-08	2.80%	2.90%	-0.10%
18-Apr-08	2.87%	3.00%	-0.13%
21-Apr-08	2.90%	3.00%	-0.10%
22-Apr-08	2.90%	3.00%	-0.11%
23-Apr-08	2.90%	3.00%	-0.11%
24-Apr-08	2.89%	2.95%	-0.06%
25-Apr-08	2.88%	3.00%	-0.12%
28-Apr-08	2.86%	3.00%	-0.14%
29-Apr-08	2.83%	2.90%	-0.07%
30-Apr-08	2.80%	2.90%	-0.10%
1-May-08	2.72%	2.90%	-0.18%
2-May-08	2.70%	2.85%	-0.15%
6-May-08	2.67%	2.85%	-0.18%

7-May-08	2.62%	2.75%	-0.13%
8-May-08	2.59%	2.75%	-0.16%
9-May-08	2.55%	2.65%	-0.10%
12-May-08	2.53%	2.60%	-0.07%
13-May-08	2.51%	2.60%	-0.09%
14-May-08	2.51%	2.60%	-0.10%
15-May-08	2.50%	2.60%	-0.10%
16-May-08	2.48%	2.60%	-0.12%
19-May-08	2.45%	2.55%	-0.10%
20-May-08	2.43%	2.50%	-0.07%
21-May-08	2.40%	2.45%	-0.05%
22-May-08	2.39%	2.45%	-0.06%
23-May-08	2.38%	2.45%	-0.07%
27-May-08	2.38%	2.50%	-0.12%
28-May-08	2.38%	2.50%	-0.12%
29-May-08	2.46%	2.60%	-0.14%
30-May-08	2.46%	2.60%	-0.14%
2-Jun-08	2.46%	2.60%	-0.14%
3-Jun-08	2.45%	2.60%	-0.15%
4-Jun-08	2.45%	2.60%	-0.15%
5-Jun-08	2.45%	2.60%	-0.15%
6-Jun-08	2.45%	2.65%	-0.20%
9-Jun-08	2.45%	2.65%	-0.20%
10-Jun-08	2.48%	2.65%	-0.18%
11-Jun-08	2.48%	2.65%	-0.17%
12-Jun-08	2.47%	2.70%	-0.23%
13-Jun-08	2.48%	2.65%	-0.17%
16-Jun-08	2.48%	2.75%	-0.27%
17-Jun-08	2.48%	2.70%	-0.22%
18-Jun-08	2.48%	2.70%	-0.22%
19-Jun-08	2.48%	2.70%	-0.22%
20-Jun-08	2.48%	2.70%	-0.22%
23-Jun-08	2.48%	2.70%	-0.22%
24-Jun-08	2.48%	2.70%	-0.22%
25-Jun-08	2.48%	2.70%	-0.22%
26-Jun-08	2.48%	2.70%	-0.22%
27-Jun-08	2.47%	2.65%	-0.18%
30-Jun-08	2.46%	2.60%	-0.14%
1-Jul-08	2.46%	2.65%	-0.19%
2-Jul-08	2.46%	2.65%	-0.19%
3-Jul-08	2.46%	2.65%	-0.19%
7-Jul-08	2.46%	2.65%	-0.19%
8-Jul-08	2.46%	2.65%	-0.19%
9-Jul-08	2.46%	2.65%	-0.19%
10-Jul-08	2.46%	2.65%	-0.19%
11-Jul-08	2.46%	2.65%	-0.19%
14-Jul-08	2.46%	2.65%	-0.19%

15-Jul-08	2.46%	2.65%	-0.19%
16-Jul-08	2.46%	2.65%	-0.19%
17-Jul-08	2.46%	2.65%	-0.19%
18-Jul-08	2.46%	2.60%	-0.14%
21-Jul-08	2.46%	2.65%	-0.19%
22-Jul-08	2.46%	2.65%	-0.19%
23-Jul-08	2.46%	2.65%	-0.19%
24-Jul-08	2.46%	2.65%	-0.19%
25-Jul-08	2.46%	2.65%	-0.19%
28-Jul-08	2.46%	2.65%	-0.19%
29-Jul-08	2.46%	2.65%	-0.19%
30-Jul-08	2.46%	2.65%	-0.19%
31-Jul-08	2.46%	2.65%	-0.19%
1-Aug-08	2.46%	2.60%	-0.14%
4-Aug-08	2.46%	2.60%	-0.14%
5-Aug-08	2.46%	2.60%	-0.14%
6-Aug-08	2.46%	2.65%	-0.19%
7-Aug-08	2.46%	2.60%	-0.14%
8-Aug-08	2.46%	2.60%	-0.14%
11-Aug-08	2.46%	2.60%	-0.14%
12-Aug-08	2.46%	2.60%	-0.14%
13-Aug-08	2.47%	2.60%	-0.13%
14-Aug-08	2.47%	2.60%	-0.13%
15-Aug-08	2.47%	2.60%	-0.13%
18-Aug-08	2.47%	2.60%	-0.13%
19-Aug-08	2.47%	2.60%	-0.13%
20-Aug-08	2.47%	2.60%	-0.13%
21-Aug-08	2.47%	2.60%	-0.13%
22-Aug-08	2.47%	2.60%	-0.13%
26-Aug-08	2.47%	2.60%	-0.13%
27-Aug-08	2.47%	2.60%	-0.13%
28-Aug-08	2.49%	2.65%	-0.16%
29-Aug-08	2.49%	2.65%	-0.16%
2-Sep-08	2.49%	2.60%	-0.11%
3-Sep-08	2.49%	2.60%	-0.11%
4-Sep-08	2.49%	2.60%	-0.11%
5-Sep-08	2.49%	2.60%	-0.11%
8-Sep-08	2.49%	2.65%	-0.16%
9-Sep-08	2.49%	2.65%	-0.16%
10-Sep-08	2.49%	2.65%	-0.16%
11-Sep-08	2.49%	2.60%	-0.11%
12-Sep-08	2.49%	2.60%	-0.11%
15-Sep-08	2.50%	2.70%	-0.20%
16-Sep-08	2.75%	3.20%	-0.45%
17-Sep-08	3.03%	3.75%	-0.72%
18-Sep-08	3.19%	6.00%	-2.81%
19-Sep-08	3.19%	6.00%	-2.81%

22-Sep-08	3.18%	5.00%	-1.82%
23-Sep-08	3.21%	5.25%	-2.04%
24-Sep-08	3.43%	5.25%	-1.82%
25-Sep-08	3.71%	5.50%	-1.79%
26-Sep-08	3.70%	5.50%	-1.80%
29-Sep-08	3.72%	5.50%	-1.78%
30-Sep-08	3.93%	7.00%	-3.07%
1-Oct-08	4.00%	6.00%	-2.00%
2-Oct-08	4.05%	6.00%	-1.96%
3-Oct-08	4.11%	6.00%	-1.89%
6-Oct-08	4.09%	6.00%	-1.91%
7-Oct-08	4.14%	6.50%	-2.36%
8-Oct-08	4.29%	7.00%	-2.71%
9-Oct-08	4.51%	6.00%	-1.49%
10-Oct-08	4.59%	6.00%	-1.41%
14-Oct-08	4.47%	5.75%	-1.28%
15-Oct-08	4.36%	5.50%	-1.14%
16-Oct-08	4.28%	5.50%	-1.22%
17-Oct-08	4.18%	5.00%	-0.82%
20-Oct-08	3.75%	4.25%	-0.50%
21-Oct-08	3.53%	4.00%	-0.47%
22-Oct-08	3.28%	3.75%	-0.48%
23-Oct-08	3.26%	3.75%	-0.49%
24-Oct-08	3.24%	3.75%	-0.51%
27-Oct-08	3.22%	3.75%	-0.53%
28-Oct-08	3.17%	3.75%	-0.58%
29-Oct-08	3.12%	3.75%	-0.63%
30-Oct-08	2.85%	3.25%	-0.40%
31-Oct-08	2.58%	3.25%	-0.67%
3-Nov-08	2.36%	2.75%	-0.39%
5-Nov-08	1.96%	2.25%	-0.29%
6-Nov-08	1.77%	2.00%	-0.23%
10-Nov-08	1.54%	2.00%	-0.46%
12-Nov-08	1.41%	2.00%	-0.59%
13-Nov-08	1.42%	2.00%	-0.58%
14-Nov-08	1.48%	2.00%	-0.52%
17-Nov-08	1.47%	1.80%	-0.33%
18-Nov-08	1.45%	1.80%	-0.35%
19-Nov-08	1.41%	1.80%	-0.39%
20-Nov-08	1.40%	1.80%	-0.40%
21-Nov-08	1.40%	1.90%	-0.51%
24-Nov-08	1.41%	2.00%	-0.59%
25-Nov-08	1.44%	2.00%	-0.56%
26-Nov-08	1.43%	2.00%	-0.57%
28-Nov-08	1.90%	2.75%	-0.85%
1-Dec-08	1.91%	3.00%	-1.09%
2-Dec-08	1.90%	3.00%	-1.10%

3-Dec-08	1.89%	3.00%	-1.11%
4-Dec-08	1.88%	2.60%	-0.72%
5-Dec-08	1.87%	2.70%	-0.83%
8-Dec-08	1.83%	2.25%	-0.43%
9-Dec-08	1.64%	2.15%	-0.52%
10-Dec-08	1.44%	2.20%	-0.76%
11-Dec-08	1.20%	1.75%	-0.56%
12-Dec-08	1.04%	1.75%	-0.71%
15-Dec-08	0.96%	1.50%	-0.54%
16-Dec-08	0.88%	1.25%	-0.37%
17-Dec-08	0.58%	1.25%	-0.67%
18-Dec-08	0.51%	1.25%	-0.74%
19-Dec-08	0.47%	1.25%	-0.78%
22-Dec-08	0.46%	1.25%	-0.79%
23-Dec-08	0.47%	1.20%	-0.73%
24-Dec-08	0.47%	1.20%	-0.73%
29-Dec-08	0.46%	1.00%	-0.54%
30-Dec-08	0.45%	1.00%	-0.55%
31-Dec-08	0.44%	0.80%	-0.36%
2-Jan-09	0.43%	0.80%	-0.37%
5-Jan-09	0.43%	0.90%	-0.47%
6-Jan-09	0.42%	1.00%	-0.58%
7-Jan-09	0.41%	1.00%	-0.59%
8-Jan-09	0.39%	0.95%	-0.56%
9-Jan-09	0.37%	0.90%	-0.53%
12-Jan-09	0.34%	0.90%	-0.56%
13-Jan-09	0.33%	0.85%	-0.52%
14-Jan-09	0.33%	0.85%	-0.52%
15-Jan-09	0.33%	0.90%	-0.57%
16-Jan-09	0.36%	1.00%	-0.64%
20-Jan-09	0.35%	1.00%	-0.65%
21-Jan-09	0.36%	1.00%	-0.64%
22-Jan-09	0.39%	1.00%	-0.61%
23-Jan-09	0.40%	1.00%	-0.60%
26-Jan-09	0.41%	0.75%	-0.34%
27-Jan-09	0.41%	0.75%	-0.34%
28-Jan-09	0.41%	0.75%	-0.34%
29-Jan-09	0.41%	0.75%	-0.34%
30-Jan-09	0.42%	0.75%	-0.33%
2-Feb-09	0.44%	0.75%	-0.31%
3-Feb-09	0.45%	0.75%	-0.31%
4-Feb-09	0.45%	0.75%	-0.31%
5-Feb-09	0.45%	0.75%	-0.30%
6-Feb-09	0.45%	0.75%	-0.30%
9-Feb-09	0.45%	0.70%	-0.25%
10-Feb-09	0.45%	0.75%	-0.30%
11-Feb-09	0.45%	0.75%	-0.30%

12-Feb-09	0.46%	0.75%	-0.30%
13-Feb-09	0.46%	0.75%	-0.29%
17-Feb-09	0.47%	0.75%	-0.28%
18-Feb-09	0.47%	0.80%	-0.33%
19-Feb-09	0.47%	0.80%	-0.33%
20-Feb-09	0.47%	0.80%	-0.33%
23-Feb-09	0.47%	0.80%	-0.33%
24-Feb-09	0.48%	0.80%	-0.32%
25-Feb-09	0.48%	0.80%	-0.32%
26-Feb-09	0.50%	0.80%	-0.30%
27-Feb-09	0.50%	0.80%	-0.30%
2-Mar-09	0.50%	0.80%	-0.30%
3-Mar-09	0.51%	0.85%	-0.34%
4-Mar-09	0.52%	0.80%	-0.28%
5-Mar-09	0.53%	0.80%	-0.27%
6-Mar-09	0.55%	0.80%	-0.25%
9-Mar-09	0.56%	0.90%	-0.34%
10-Mar-09	0.56%	1.00%	-0.44%
11-Mar-09	0.56%	1.00%	-0.44%
12-Mar-09	0.56%	1.00%	-0.44%
13-Mar-09	0.56%	1.00%	-0.44%
16-Mar-09	0.56%	1.00%	-0.44%
17-Mar-09	0.56%	1.00%	-0.44%
18-Mar-09	0.55%	1.00%	-0.46%
19-Mar-09	0.52%	1.00%	-0.48%
20-Mar-09	0.52%	1.00%	-0.48%
23-Mar-09	0.52%	1.00%	-0.48%
24-Mar-09	0.52%	1.00%	-0.48%
25-Mar-09	0.52%	1.00%	-0.48%
26-Mar-09	0.52%	1.00%	-0.48%
27-Mar-09	0.52%	1.60%	-1.08%
30-Mar-09	0.51%	1.00%	-0.49%
31-Mar-09	0.50%	1.00%	-0.50%
1-Apr-09	0.50%	1.00%	-0.51%
2-Apr-09	0.49%	1.00%	-0.51%
3-Apr-09	0.48%	1.00%	-0.52%
6-Apr-09	0.48%	1.00%	-0.52%
7-Apr-09	0.47%	1.00%	-0.53%
8-Apr-09	0.46%	1.00%	-0.54%
9-Apr-09	0.45%	0.80%	-0.35%
14-Apr-09	0.45%	1.00%	-0.55%
15-Apr-09	0.45%	1.00%	-0.55%
16-Apr-09	0.45%	1.00%	-0.55%
17-Apr-09	0.45%	1.00%	-0.55%
20-Apr-09	0.44%	1.00%	-0.56%
21-Apr-09	0.44%	0.90%	-0.46%
22-Apr-09	0.44%	0.90%	-0.46%

23-Apr-09	0.44%	0.90%	-0.46%
24-Apr-09	0.44%	0.90%	-0.47%
27-Apr-09	0.43%	0.90%	-0.47%
28-Apr-09	0.43%	0.90%	-0.47%
29-Apr-09	0.42%	0.90%	-0.48%
30-Apr-09	0.41%	0.90%	-0.49%
1-May-09	0.41%	0.85%	-0.44%
5-May-09	0.40%	0.80%	-0.40%
6-May-09	0.40%	0.80%	-0.41%
7-May-09	0.38%	0.75%	-0.37%
8-May-09	0.37%	0.75%	-0.38%
11-May-09	0.35%	0.75%	-0.40%
12-May-09	0.35%	0.75%	-0.40%
13-May-09	0.34%	0.65%	-0.31%
14-May-09	0.34%	0.65%	-0.32%
15-May-09	0.33%	0.65%	-0.32%
18-May-09	0.32%	0.65%	-0.33%
19-May-09	0.31%	0.65%	-0.34%
20-May-09	0.31%	0.65%	-0.34%
21-May-09	0.31%	0.65%	-0.34%
22-May-09	0.31%	0.65%	-0.34%
26-May-09	0.32%	0.65%	-0.33%
27-May-09	0.32%	0.65%	-0.33%
28-May-09	0.32%	0.65%	-0.33%
29-May-09	0.32%	0.65%	-0.33%
1-Jun-09	0.32%	0.65%	-0.33%
2-Jun-09	0.32%	0.65%	-0.33%
3-Jun-09	0.32%	0.65%	-0.33%
4-Jun-09	0.32%	0.65%	-0.33%
5-Jun-09	0.32%	0.65%	-0.33%
8-Jun-09	0.32%	0.65%	-0.33%
9-Jun-09	0.32%	0.65%	-0.33%
10-Jun-09	0.32%	0.65%	-0.33%
11-Jun-09	0.32%	0.65%	-0.33%
12-Jun-09	0.32%	0.65%	-0.33%
15-Jun-09	0.32%	0.65%	-0.33%
16-Jun-09	0.32%	0.65%	-0.33%
17-Jun-09	0.31%	0.65%	-0.34%
18-Jun-09	0.32%	0.65%	-0.34%
19-Jun-09	0.32%	0.65%	-0.33%
22-Jun-09	0.32%	0.65%	-0.34%
23-Jun-09	0.31%	0.65%	-0.34%
24-Jun-09	0.31%	0.65%	-0.34%
25-Jun-09	0.31%	0.65%	-0.34%
26-Jun-09	0.31%	0.65%	-0.34%
29-Jun-09	0.31%	0.65%	-0.34%
30-Jun-09	0.31%	0.65%	-0.34%

1-Jul-09	0.31%	0.65%	-0.34%
2-Jul-09	0.30%	0.65%	-0.35%
6-Jul-09	0.30%	0.65%	-0.35%
7-Jul-09	0.30%	0.65%	-0.35%
8-Jul-09	0.30%	0.65%	-0.35%
9-Jul-09	0.30%	0.65%	-0.35%
10-Jul-09	0.29%	0.60%	-0.31%
13-Jul-09	0.29%	0.60%	-0.31%
14-Jul-09	0.29%	0.60%	-0.31%
15-Jul-09	0.29%	0.60%	-0.31%
16-Jul-09	0.29%	0.60%	-0.31%
17-Jul-09	0.29%	0.60%	-0.31%
20-Jul-09	0.29%	0.60%	-0.31%
21-Jul-09	0.29%	0.50%	-0.22%
22-Jul-09	0.29%	0.50%	-0.22%
23-Jul-09	0.29%	0.50%	-0.22%
24-Jul-09	0.29%	0.50%	-0.22%
27-Jul-09	0.29%	0.45%	-0.16%
28-Jul-09	0.29%	0.45%	-0.17%
29-Jul-09	0.29%	0.45%	-0.17%
30-Jul-09	0.28%	0.45%	-0.17%
31-Jul-09	0.28%	0.45%	-0.17%
3-Aug-09	0.28%	0.45%	-0.17%
4-Aug-09	0.28%	0.45%	-0.17%
5-Aug-09	0.28%	0.45%	-0.17%
6-Aug-09	0.28%	0.45%	-0.17%
7-Aug-09	0.28%	0.45%	-0.17%
10-Aug-09	0.28%	0.45%	-0.18%
11-Aug-09	0.27%	0.50%	-0.23%
12-Aug-09	0.27%	0.50%	-0.23%
13-Aug-09	0.27%	0.50%	-0.23%
14-Aug-09	0.27%	0.50%	-0.23%
17-Aug-09	0.28%	0.45%	-0.17%
18-Aug-09	0.27%	0.45%	-0.18%
19-Aug-09	0.27%	0.45%	-0.18%
20-Aug-09	0.27%	0.45%	-0.18%
21-Aug-09	0.27%	0.45%	-0.18%
24-Aug-09	0.26%	0.45%	-0.19%
25-Aug-09	0.26%	0.45%	-0.19%
26-Aug-09	0.26%	0.45%	-0.19%
27-Aug-09	0.26%	0.45%	-0.19%
28-Aug-09	0.26%	0.45%	-0.19%
1-Sep-09	0.26%	0.45%	-0.19%
2-Sep-09	0.25%	0.45%	-0.20%
3-Sep-09	0.25%	0.45%	-0.20%
4-Sep-09	0.25%	0.45%	-0.20%
8-Sep-09	0.25%	0.40%	-0.15%

9-Sep-09	0.25%	0.40%	-0.15%
10-Sep-09	0.24%	0.40%	-0.16%
11-Sep-09	0.24%	0.40%	-0.16%
14-Sep-09	0.24%	0.35%	-0.11%
15-Sep-09	0.24%	0.35%	-0.11%
16-Sep-09	0.24%	0.35%	-0.11%
17-Sep-09	0.25%	0.40%	-0.15%
18-Sep-09	0.25%	0.40%	-0.15%
21-Sep-09	0.25%	0.40%	-0.15%
22-Sep-09	0.25%	0.40%	-0.15%
23-Sep-09	0.25%	0.35%	-0.10%
24-Sep-09	0.25%	0.35%	-0.10%
25-Sep-09	0.25%	0.35%	-0.10%
28-Sep-09	0.25%	0.40%	-0.15%
29-Sep-09	0.25%	0.40%	-0.15%
30-Sep-09	0.25%	0.40%	-0.15%
1-Oct-09	0.25%	0.40%	-0.15%
2-Oct-09	0.24%	0.40%	-0.16%
5-Oct-09	0.24%	0.40%	-0.16%
6-Oct-09	0.24%	0.40%	-0.16%
7-Oct-09	0.24%	0.40%	-0.16%
8-Oct-09	0.24%	0.40%	-0.16%
9-Oct-09	0.25%	0.40%	-0.16%
13-Oct-09	0.25%	0.40%	-0.16%
14-Oct-09	0.25%	0.35%	-0.11%
15-Oct-09	0.25%	0.35%	-0.11%
16-Oct-09	0.25%	0.35%	-0.11%
19-Oct-09	0.25%	0.34%	-0.10%
20-Oct-09	0.25%	0.34%	-0.10%
21-Oct-09	0.24%	0.34%	-0.10%
22-Oct-09	0.24%	0.32%	-0.08%
23-Oct-09	0.24%	0.32%	-0.08%
26-Oct-09	0.24%	0.32%	-0.08%
27-Oct-09	0.24%	0.32%	-0.08%
28-Oct-09	0.24%	0.30%	-0.06%
29-Oct-09	0.24%	0.30%	-0.06%
30-Oct-09	0.24%	0.30%	-0.06%
2-Nov-09	0.24%	0.30%	-0.06%
3-Nov-09	0.24%	0.30%	-0.06%
4-Nov-09	0.24%	0.30%	-0.06%
5-Nov-09	0.24%	0.30%	-0.06%
6-Nov-09	0.24%	0.30%	-0.06%
9-Nov-09	0.24%	0.30%	-0.06%
10-Nov-09	0.24%	0.30%	-0.06%
12-Nov-09	0.24%	0.30%	-0.06%
13-Nov-09	0.24%	0.30%	-0.06%
16-Nov-09	0.24%	0.30%	-0.06%

17-Nov-09	0.24%	0.30%	-0.06%
18-Nov-09	0.24%	0.30%	-0.06%
19-Nov-09	0.24%	0.30%	-0.06%
20-Nov-09	0.24%	0.30%	-0.06%
23-Nov-09	0.24%	0.30%	-0.06%
24-Nov-09	0.24%	0.30%	-0.06%
25-Nov-09	0.23%	0.30%	-0.07%
27-Nov-09	0.24%	0.30%	-0.06%
30-Nov-09	0.24%	0.30%	-0.06%
1-Dec-09	0.23%	0.30%	-0.07%
2-Dec-09	0.23%	0.32%	-0.09%
3-Dec-09	0.23%	0.32%	-0.09%
4-Dec-09	0.23%	0.32%	-0.09%
7-Dec-09	0.23%	0.32%	-0.09%
8-Dec-09	0.23%	0.32%	-0.09%
9-Dec-09	0.23%	0.32%	-0.09%
10-Dec-09	0.23%	0.32%	-0.09%
11-Dec-09	0.23%	0.32%	-0.09%
14-Dec-09	0.23%	0.32%	-0.09%
15-Dec-09	0.23%	0.32%	-0.09%
16-Dec-09	0.23%	0.32%	-0.09%
17-Dec-09	0.23%	0.32%	-0.09%
18-Dec-09	0.23%	0.32%	-0.09%
21-Dec-09	0.23%	0.32%	-0.09%
22-Dec-09	0.23%	0.32%	-0.09%
23-Dec-09	0.23%	0.32%	-0.09%
24-Dec-09	0.23%	0.32%	-0.09%
29-Dec-09	0.23%	0.32%	-0.09%
30-Dec-09	0.23%	0.32%	-0.09%
31-Dec-09	0.23%	0.32%	-0.09%
4-Jan-10	0.23%	0.32%	-0.09%
5-Jan-10	0.23%	0.32%	-0.09%
6-Jan-10	0.23%	0.30%	-0.07%
7-Jan-10	0.23%	0.30%	-0.07%
8-Jan-10	0.23%	0.30%	-0.07%
11-Jan-10	0.23%	0.30%	-0.07%
12-Jan-10	0.23%	0.30%	-0.07%
13-Jan-10	0.23%	0.30%	-0.07%
14-Jan-10	0.23%	0.30%	-0.07%
15-Jan-10	0.23%	0.30%	-0.07%
19-Jan-10	0.23%	0.30%	-0.07%
20-Jan-10	0.23%	0.30%	-0.07%
21-Jan-10	0.23%	0.30%	-0.07%
22-Jan-10	0.23%	0.30%	-0.07%
25-Jan-10	0.23%	0.28%	-0.05%
26-Jan-10	0.23%	0.28%	-0.05%
27-Jan-10	0.23%	0.28%	-0.05%

28-Jan-10	0.23%	0.28%	-0.05%
29-Jan-10	0.23%	0.28%	-0.05%
1-Feb-10	0.23%	0.28%	-0.05%
2-Feb-10	0.23%	0.28%	-0.05%
3-Feb-10	0.23%	0.28%	-0.05%
4-Feb-10	0.23%	0.28%	-0.05%
5-Feb-10	0.23%	0.28%	-0.05%
8-Feb-10	0.23%	0.28%	-0.05%
9-Feb-10	0.23%	0.28%	-0.05%
10-Feb-10	0.23%	0.28%	-0.05%
11-Feb-10	0.23%	0.28%	-0.05%
12-Feb-10	0.23%	0.28%	-0.05%
16-Feb-10	0.23%	0.28%	-0.05%
17-Feb-10	0.23%	0.28%	-0.05%
18-Feb-10	0.23%	0.28%	-0.05%
19-Feb-10	0.23%	0.28%	-0.05%
22-Feb-10	0.23%	0.28%	-0.05%
23-Feb-10	0.23%	0.28%	-0.05%
24-Feb-10	0.23%	0.28%	-0.05%
25-Feb-10	0.23%	0.28%	-0.05%
26-Feb-10	0.23%	0.28%	-0.05%
1-Mar-10	0.23%	0.28%	-0.05%
2-Mar-10	0.23%	0.28%	-0.05%
3-Mar-10	0.23%	0.28%	-0.05%
4-Mar-10	0.23%	0.28%	-0.05%
5-Mar-10	0.23%	0.28%	-0.05%
8-Mar-10	0.23%	0.28%	-0.05%
9-Mar-10	0.23%	0.28%	-0.05%
10-Mar-10	0.23%	0.28%	-0.05%
11-Mar-10	0.23%	0.28%	-0.05%
12-Mar-10	0.23%	0.28%	-0.05%
15-Mar-10	0.23%	0.28%	-0.05%
16-Mar-10	0.24%	0.28%	-0.04%
17-Mar-10	0.24%	0.28%	-0.04%
18-Mar-10	0.24%	0.28%	-0.04%
19-Mar-10	0.25%	0.28%	-0.03%
22-Mar-10	0.25%	0.28%	-0.03%
23-Mar-10	0.25%	0.28%	-0.03%
24-Mar-10	0.25%	0.28%	-0.03%
25-Mar-10	0.25%	0.28%	-0.03%
26-Mar-10	0.25%	0.28%	-0.03%
29-Mar-10	0.25%	0.30%	-0.05%
30-Mar-10	0.25%	0.30%	-0.05%
31-Mar-10	0.25%	0.30%	-0.05%
1-Apr-10	0.25%	0.30%	-0.05%
6-Apr-10	0.25%	0.30%	-0.05%
7-Apr-10	0.25%	0.30%	-0.05%

8-Apr-10	0.25%	0.30%	-0.05%
9-Apr-10	0.25%	0.30%	-0.05%
12-Apr-10	0.25%	0.30%	-0.05%
13-Apr-10	0.25%	0.30%	-0.05%
14-Apr-10	0.26%	0.30%	-0.04%
15-Apr-10	0.26%	0.32%	-0.06%
16-Apr-10	0.26%	0.30%	-0.04%
19-Apr-10	0.26%	0.30%	-0.04%
20-Apr-10	0.26%	0.30%	-0.04%
21-Apr-10	0.26%	0.30%	-0.04%
22-Apr-10	0.26%	0.30%	-0.04%
23-Apr-10	0.26%	0.30%	-0.04%
26-Apr-10	0.26%	0.30%	-0.04%
27-Apr-10	0.27%	0.30%	-0.03%
28-Apr-10	0.27%	0.30%	-0.03%
29-Apr-10	0.28%	0.30%	-0.02%
30-Apr-10	0.28%	0.30%	-0.02%
4-May-10	0.28%	0.32%	-0.04%
5-May-10	0.29%	0.32%	-0.03%
6-May-10	0.30%	0.32%	-0.02%
7-May-10	0.35%	0.40%	-0.05%
10-May-10	0.34%	0.40%	-0.06%
11-May-10	0.34%	0.40%	-0.06%
12-May-10	0.34%	0.40%	-0.06%
13-May-10	0.34%	0.40%	-0.06%
14-May-10	0.34%	0.40%	-0.06%
17-May-10	0.34%	0.40%	-0.06%
18-May-10	0.34%	0.40%	-0.06%
19-May-10	0.34%	0.40%	-0.06%
20-May-10	0.34%	0.40%	-0.06%
21-May-10	0.34%	0.40%	-0.06%
24-May-10	0.35%	0.40%	-0.05%
25-May-10	0.35%	0.40%	-0.05%
26-May-10	0.35%	0.40%	-0.05%
27-May-10	0.35%	0.40%	-0.05%
28-May-10	0.35%	0.40%	-0.05%
1-Jun-10	0.35%	0.40%	-0.05%
2-Jun-10	0.35%	0.40%	-0.05%
3-Jun-10	0.35%	0.40%	-0.05%
4-Jun-10	0.35%	0.40%	-0.05%
7-Jun-10	0.35%	0.40%	-0.05%
8-Jun-10	0.35%	0.40%	-0.05%
9-Jun-10	0.35%	0.45%	-0.10%
10-Jun-10	0.35%	0.45%	-0.10%
11-Jun-10	0.35%	0.45%	-0.10%
14-Jun-10	0.35%	0.45%	-0.10%
15-Jun-10	0.35%	0.45%	-0.10%

16-Jun-10	0.35%	0.45%	-0.10%
17-Jun-10	0.35%	0.45%	-0.10%
18-Jun-10	0.35%	0.45%	-0.10%
21-Jun-10	0.35%	0.45%	-0.10%
22-Jun-10	0.35%	0.48%	-0.13%
23-Jun-10	0.35%	0.45%	-0.10%
24-Jun-10	0.35%	0.45%	-0.10%
25-Jun-10	0.35%	0.45%	-0.10%
28-Jun-10	0.35%	0.45%	-0.10%
29-Jun-10	0.35%	0.45%	-0.10%
30-Jun-10	0.35%	0.45%	-0.10%
1-Jul-10	0.35%	0.45%	-0.10%
2-Jul-10	0.35%	0.45%	-0.10%
6-Jul-10	0.35%	0.45%	-0.10%
7-Jul-10	0.35%	0.40%	-0.06%
8-Jul-10	0.34%	0.45%	-0.11%
9-Jul-10	0.34%	0.45%	-0.11%
12-Jul-10	0.34%	0.45%	-0.11%
13-Jul-10	0.34%	0.45%	-0.11%
14-Jul-10	0.34%	0.45%	-0.11%
15-Jul-10	0.34%	0.45%	-0.11%
16-Jul-10	0.34%	0.45%	-0.11%
19-Jul-10	0.34%	0.45%	-0.11%
20-Jul-10	0.33%	0.45%	-0.12%
21-Jul-10	0.33%	0.45%	-0.12%
22-Jul-10	0.33%	0.45%	-0.12%
23-Jul-10	0.33%	0.45%	-0.12%
26-Jul-10	0.33%	0.45%	-0.13%
27-Jul-10	0.32%	0.45%	-0.13%
28-Jul-10	0.32%	0.40%	-0.08%
29-Jul-10	0.31%	0.40%	-0.09%
30-Jul-10	0.31%	0.40%	-0.10%
2-Aug-10	0.30%	0.40%	-0.10%
3-Aug-10	0.30%	0.40%	-0.10%
4-Aug-10	0.30%	0.38%	-0.08%
5-Aug-10	0.29%	0.38%	-0.09%
6-Aug-10	0.29%	0.38%	-0.09%
9-Aug-10	0.29%	0.38%	-0.09%
10-Aug-10	0.29%	0.37%	-0.08%
11-Aug-10	0.28%	0.37%	-0.09%
12-Aug-10	0.28%	0.37%	-0.09%
13-Aug-10	0.27%	0.37%	-0.10%
16-Aug-10	0.27%	0.37%	-0.10%
17-Aug-10	0.27%	0.37%	-0.10%
18-Aug-10	0.27%	0.36%	-0.09%
19-Aug-10	0.26%	0.36%	-0.10%
20-Aug-10	0.26%	0.36%	-0.10%

24-Aug-10	0.26%	0.36%	-0.10%
26-Aug-10	0.26%	0.36%	-0.10%
27-Aug-10	0.26%	0.36%	-0.10%
31-Aug-10	0.26%	0.36%	-0.10%
1-Sep-10	0.26%	0.36%	-0.10%
2-Sep-10	0.26%	0.36%	-0.10%
3-Sep-10	0.26%	0.36%	-0.10%
8-Sep-10	0.26%	0.36%	-0.10%
9-Sep-10	0.26%	0.36%	-0.10%
10-Sep-10	0.26%	0.36%	-0.10%
13-Sep-10	0.26%	0.35%	-0.09%
14-Sep-10	0.26%	0.35%	-0.09%
15-Sep-10	0.26%	0.35%	-0.09%
16-Sep-10	0.26%	0.35%	-0.09%
17-Sep-10	0.26%	0.35%	-0.09%
20-Sep-10	0.26%	0.32%	-0.06%
21-Sep-10	0.26%	0.32%	-0.06%
22-Sep-10	0.26%	0.32%	-0.06%
23-Sep-10	0.26%	0.32%	-0.06%
24-Sep-10	0.26%	0.32%	-0.06%
27-Sep-10	0.26%	0.32%	-0.06%
28-Sep-10	0.26%	0.35%	-0.09%
29-Sep-10	0.26%	0.35%	-0.09%
30-Sep-10	0.26%	0.35%	-0.09%
1-Oct-10	0.26%	0.35%	-0.09%
4-Oct-10	0.26%	0.35%	-0.09%
5-Oct-10	0.26%	0.35%	-0.09%
6-Oct-10	0.26%	0.35%	-0.09%
8-Oct-10	0.26%	0.35%	-0.09%
12-Oct-10	0.26%	0.35%	-0.09%
13-Oct-10	0.26%	0.35%	-0.09%
14-Oct-10	0.26%	0.35%	-0.09%
15-Oct-10	0.26%	0.35%	-0.09%
18-Oct-10	0.26%	0.35%	-0.09%
19-Oct-10	0.26%	0.35%	-0.09%
20-Oct-10	0.26%	0.33%	-0.07%
21-Oct-10	0.26%	0.33%	-0.07%
22-Oct-10	0.26%	0.33%	-0.07%
25-Oct-10	0.26%	0.33%	-0.07%
26-Oct-10	0.26%	0.33%	-0.07%
27-Oct-10	0.26%	0.33%	-0.07%
28-Oct-10	0.25%	0.33%	-0.08%
29-Oct-10	0.25%	0.33%	-0.08%
1-Nov-10	0.25%	0.33%	-0.08%
2-Nov-10	0.25%	0.33%	-0.08%
3-Nov-10	0.25%	0.33%	-0.08%
4-Nov-10	0.25%	0.33%	-0.08%

5-Nov-10	0.25%	0.31%	-0.06%
8-Nov-10	0.25%	0.33%	-0.08%
9-Nov-10	0.25%	0.33%	-0.08%
10-Nov-10	0.25%	0.33%	-0.08%
12-Nov-10	0.25%	0.33%	-0.08%
15-Nov-10	0.25%	0.33%	-0.08%
16-Nov-10	0.25%	0.33%	-0.08%
17-Nov-10	0.25%	0.33%	-0.08%
18-Nov-10	0.25%	0.33%	-0.08%
19-Nov-10	0.25%	0.33%	-0.08%
22-Nov-10	0.25%	0.33%	-0.08%
23-Nov-10	0.25%	0.33%	-0.08%
24-Nov-10	0.25%	0.33%	-0.08%
26-Nov-10	0.26%	0.33%	-0.07%
29-Nov-10	0.26%	0.33%	-0.07%
30-Nov-10	0.26%	0.33%	-0.07%
1-Dec-10	0.27%	0.33%	-0.06%
2-Dec-10	0.27%	0.33%	-0.06%
3-Dec-10	0.27%	0.33%	-0.07%
6-Dec-10	0.27%	0.33%	-0.07%
7-Dec-10	0.26%	0.33%	-0.07%
8-Dec-10	0.26%	0.33%	-0.07%
9-Dec-10	0.26%	0.32%	-0.06%
10-Dec-10	0.26%	0.32%	-0.06%
13-Dec-10	0.26%	0.32%	-0.06%
14-Dec-10	0.26%	0.32%	-0.06%
15-Dec-10	0.26%	0.32%	-0.06%
16-Dec-10	0.26%	0.32%	-0.06%
17-Dec-10	0.26%	0.32%	-0.06%
20-Dec-10	0.26%	0.32%	-0.06%
21-Dec-10	0.26%	0.32%	-0.06%
22-Dec-10	0.26%	0.32%	-0.06%
23-Dec-10	0.26%	0.32%	-0.06%
29-Dec-10	0.26%	0.32%	-0.06%
31-Dec-10	0.26%	0.32%	-0.06%
4-Jan-11	0.26%	0.32%	-0.06%
5-Jan-11	0.26%	0.32%	-0.06%
6-Jan-11	0.26%	0.32%	-0.06%
7-Jan-11	0.26%	0.32%	-0.06%
10-Jan-11	0.26%	0.32%	-0.06%
11-Jan-11	0.26%	0.32%	-0.06%
12-Jan-11	0.26%	0.32%	-0.06%
13-Jan-11	0.26%	0.32%	-0.06%
14-Jan-11	0.26%	0.32%	-0.06%
18-Jan-11	0.26%	0.32%	-0.06%
19-Jan-11	0.26%	0.32%	-0.06%
20-Jan-11	0.26%	0.32%	-0.06%

21-Jan-11	0.26%	0.32%	-0.06%
24-Jan-11	0.26%	0.32%	-0.06%
25-Jan-11	0.26%	0.32%	-0.06%
26-Jan-11	0.26%	0.32%	-0.06%
27-Jan-11	0.26%	0.32%	-0.06%
28-Jan-11	0.26%	0.32%	-0.06%
31-Jan-11	0.26%	0.32%	-0.06%
1-Feb-11	0.26%	0.32%	-0.06%
2-Feb-11	0.26%	0.32%	-0.06%
3-Feb-11	0.26%	0.32%	-0.06%
4-Feb-11	0.26%	0.32%	-0.06%
7-Feb-11	0.26%	0.32%	-0.06%
8-Feb-11	0.26%	0.32%	-0.06%
9-Feb-11	0.26%	0.32%	-0.06%
10-Feb-11	0.26%	0.32%	-0.06%
11-Feb-11	0.27%	0.32%	-0.05%
14-Feb-11	0.26%	0.32%	-0.06%
15-Feb-11	0.26%	0.32%	-0.06%
16-Feb-11	0.26%	0.32%	-0.06%
17-Feb-11	0.26%	0.32%	-0.06%
18-Feb-11	0.26%	0.32%	-0.06%
22-Feb-11	0.26%	0.32%	-0.06%
23-Feb-11	0.26%	0.31%	-0.05%
24-Feb-11	0.26%	0.31%	-0.05%
25-Feb-11	0.26%	0.31%	-0.05%
28-Feb-11	0.26%	0.31%	-0.05%
1-Mar-11	0.26%	0.31%	-0.05%
2-Mar-11	0.26%	0.31%	-0.05%
3-Mar-11	0.26%	0.31%	-0.05%
4-Mar-11	0.26%	0.31%	-0.05%
7-Mar-11	0.26%	0.31%	-0.05%
8-Mar-11	0.26%	0.31%	-0.05%
9-Mar-11	0.26%	0.31%	-0.05%
10-Mar-11	0.26%	0.31%	-0.05%
11-Mar-11	0.26%	0.31%	-0.06%
14-Mar-11	0.25%	0.31%	-0.06%
15-Mar-11	0.25%	0.31%	-0.06%
16-Mar-11	0.25%	0.30%	-0.05%
17-Mar-11	0.25%	0.30%	-0.05%
18-Mar-11	0.25%	0.30%	-0.05%
21-Mar-11	0.25%	0.30%	-0.05%
22-Mar-11	0.25%	0.30%	-0.05%
23-Mar-11	0.25%	0.30%	-0.05%
24-Mar-11	0.25%	0.30%	-0.05%
25-Mar-11	0.25%	0.30%	-0.05%
28-Mar-11	0.25%	0.30%	-0.05%
29-Mar-11	0.25%	0.29%	-0.04%

30-Mar-11	0.24%	0.29%	-0.05%
31-Mar-11	0.24%	0.29%	-0.05%
1-Apr-11	0.24%	0.29%	-0.05%
4-Apr-11	0.24%	0.29%	-0.05%
5-Apr-11	0.24%	0.29%	-0.05%
6-Apr-11	0.23%	0.29%	-0.06%
7-Apr-11	0.23%	0.29%	-0.06%
8-Apr-11	0.23%	0.29%	-0.06%
11-Apr-11	0.22%	0.24%	-0.02%
12-Apr-11	0.22%	0.24%	-0.02%
13-Apr-11	0.22%	0.25%	-0.03%
14-Apr-11	0.22%	0.25%	-0.03%
15-Apr-11	0.21%	0.25%	-0.04%
18-Apr-11	0.21%	0.25%	-0.04%
19-Apr-11	0.21%	0.25%	-0.04%
20-Apr-11	0.21%	0.25%	-0.04%
21-Apr-11	0.21%	0.25%	-0.04%
26-Apr-11	0.21%	0.25%	-0.04%
27-Apr-11	0.21%	0.25%	-0.04%
28-Apr-11	0.21%	0.25%	-0.04%
3-May-11	0.21%	0.26%	-0.05%
4-May-11	0.21%	0.26%	-0.05%
5-May-11	0.21%	0.26%	-0.05%
6-May-11	0.20%	0.26%	-0.06%
9-May-11	0.20%	0.26%	-0.06%
10-May-11	0.20%	0.26%	-0.06%
11-May-11	0.20%	0.26%	-0.06%
12-May-11	0.20%	0.26%	-0.06%
13-May-11	0.20%	0.26%	-0.06%
16-May-11	0.20%	0.26%	-0.06%
17-May-11	0.20%	0.26%	-0.06%
18-May-11	0.20%	0.26%	-0.06%
19-May-11	0.20%	0.26%	-0.06%
20-May-11	0.19%	0.26%	-0.07%
23-May-11	0.19%	0.26%	-0.07%
24-May-11	0.19%	0.26%	-0.07%
25-May-11	0.19%	0.26%	-0.07%
26-May-11	0.19%	0.26%	-0.07%
27-May-11	0.19%	0.26%	-0.07%
31-May-11	0.19%	0.26%	-0.07%
1-Jun-11	0.19%	0.26%	-0.07%
2-Jun-11	0.19%	0.26%	-0.07%
3-Jun-11	0.19%	0.26%	-0.07%
6-Jun-11	0.19%	0.26%	-0.07%
7-Jun-11	0.19%	0.24%	-0.05%
8-Jun-11	0.19%	0.24%	-0.05%
9-Jun-11	0.19%	0.24%	-0.05%

10-Jun-11	0.19%	0.24%	-0.05%
13-Jun-11	0.19%	0.24%	-0.05%
14-Jun-11	0.19%	0.24%	-0.05%
15-Jun-11	0.19%	0.24%	-0.05%
16-Jun-11	0.19%	0.24%	-0.05%
17-Jun-11	0.19%	0.24%	-0.05%
20-Jun-11	0.19%	0.24%	-0.05%
21-Jun-11	0.19%	0.24%	-0.05%
22-Jun-11	0.19%	0.24%	-0.05%
23-Jun-11	0.19%	0.24%	-0.05%
24-Jun-11	0.19%	0.24%	-0.05%
27-Jun-11	0.19%	0.24%	-0.05%
28-Jun-11	0.19%	0.24%	-0.05%
29-Jun-11	0.19%	0.24%	-0.05%
30-Jun-11	0.19%	0.24%	-0.05%
1-Jul-11	0.19%	0.24%	-0.05%
5-Jul-11	0.19%	0.24%	-0.05%
6-Jul-11	0.19%	0.21%	-0.02%
7-Jul-11	0.19%	0.21%	-0.02%
8-Jul-11	0.19%	0.21%	-0.02%
11-Jul-11	0.19%	0.21%	-0.02%
12-Jul-11	0.19%	0.21%	-0.02%
13-Jul-11	0.19%	0.20%	-0.01%
14-Jul-11	0.19%	0.20%	-0.01%
15-Jul-11	0.19%	0.20%	-0.01%
18-Jul-11	0.19%	0.20%	-0.01%
19-Jul-11	0.19%	0.20%	-0.01%
20-Jul-11	0.19%	0.22%	-0.03%
21-Jul-11	0.19%	0.22%	-0.03%
22-Jul-11	0.19%	0.22%	-0.03%
25-Jul-11	0.19%	0.22%	-0.03%
26-Jul-11	0.19%	0.22%	-0.03%
27-Jul-11	0.19%	0.22%	-0.03%
28-Jul-11	0.19%	0.22%	-0.03%
29-Jul-11	0.19%	0.22%	-0.03%
1-Aug-11	0.19%	0.22%	-0.03%
2-Aug-11	0.20%	0.22%	-0.02%
3-Aug-11	0.21%	0.22%	-0.01%
4-Aug-11	0.21%	0.22%	-0.01%
5-Aug-11	0.21%	0.22%	-0.01%
8-Aug-11	0.21%	0.22%	-0.01%
9-Aug-11	0.21%	0.25%	-0.04%
10-Aug-11	0.21%	0.25%	-0.04%
11-Aug-11	0.21%	0.25%	-0.04%
12-Aug-11	0.21%	0.25%	-0.04%
15-Aug-11	0.21%	0.25%	-0.04%
16-Aug-11	0.21%	0.25%	-0.04%

17-Aug-11	0.21%	0.25%	-0.04%
18-Aug-11	0.21%	0.26%	-0.05%
19-Aug-11	0.22%	0.26%	-0.04%
22-Aug-11	0.22%	0.26%	-0.04%
23-Aug-11	0.22%	0.26%	-0.04%
24-Aug-11	0.22%	0.26%	-0.04%
25-Aug-11	0.22%	0.26%	-0.04%
26-Aug-11	0.22%	0.26%	-0.04%
30-Aug-11	0.22%	0.26%	-0.04%
31-Aug-11	0.22%	0.30%	-0.08%
1-Sep-11	0.22%	0.30%	-0.08%
2-Sep-11	0.22%	0.30%	-0.08%
6-Sep-11	0.23%	0.30%	-0.07%
7-Sep-11	0.23%	0.30%	-0.07%
8-Sep-11	0.23%	0.30%	-0.08%
9-Sep-11	0.23%	0.30%	-0.07%
12-Sep-11	0.23%	0.30%	-0.07%
13-Sep-11	0.23%	0.35%	-0.12%
14-Sep-11	0.23%	0.35%	-0.12%
15-Sep-11	0.23%	0.35%	-0.12%
16-Sep-11	0.23%	0.35%	-0.12%
19-Sep-11	0.23%	0.35%	-0.12%
20-Sep-11	0.23%	0.35%	-0.12%
21-Sep-11	0.23%	0.35%	-0.12%
22-Sep-11	0.23%	0.35%	-0.12%
23-Sep-11	0.24%	0.35%	-0.11%
26-Sep-11	0.24%	0.35%	-0.11%
27-Sep-11	0.24%	0.35%	-0.11%
28-Sep-11	0.24%	0.35%	-0.11%
29-Sep-11	0.24%	0.35%	-0.11%
30-Sep-11	0.24%	0.35%	-0.11%
3-Oct-11	0.24%	0.35%	-0.11%
4-Oct-11	0.24%	0.35%	-0.11%
5-Oct-11	0.24%	0.35%	-0.11%
6-Oct-11	0.24%	0.35%	-0.11%
7-Oct-11	0.24%	0.35%	-0.11%
11-Oct-11	0.24%	0.35%	-0.11%
12-Oct-11	0.24%	0.35%	-0.11%
13-Oct-11	0.24%	0.35%	-0.11%
14-Oct-11	0.24%	0.35%	-0.11%
17-Oct-11	0.24%	0.35%	-0.11%
18-Oct-11	0.24%	0.35%	-0.11%
19-Oct-11	0.24%	0.35%	-0.11%
20-Oct-11	0.24%	0.35%	-0.11%
21-Oct-11	0.24%	0.35%	-0.11%
24-Oct-11	0.24%	0.35%	-0.11%
25-Oct-11	0.24%	0.35%	-0.11%

26-Oct-11	0.25%	0.35%	-0.10%
27-Oct-11	0.25%	0.35%	-0.10%
28-Oct-11	0.25%	0.35%	-0.10%
31-Oct-11	0.25%	0.35%	-0.10%
1-Nov-11	0.25%	0.35%	-0.10%
2-Nov-11	0.25%	0.35%	-0.10%
3-Nov-11	0.25%	0.35%	-0.10%
4-Nov-11	0.25%	0.35%	-0.10%
7-Nov-11	0.25%	0.35%	-0.10%
8-Nov-11	0.25%	0.35%	-0.10%
9-Nov-11	0.25%	0.35%	-0.10%
10-Nov-11	0.25%	0.35%	-0.10%
14-Nov-11	0.25%	0.35%	-0.10%
15-Nov-11	0.25%	0.35%	-0.10%
16-Nov-11	0.25%	0.35%	-0.10%
17-Nov-11	0.25%	0.35%	-0.10%
18-Nov-11	0.26%	0.35%	-0.09%
21-Nov-11	0.26%	0.35%	-0.09%
22-Nov-11	0.26%	0.35%	-0.09%
23-Nov-11	0.26%	0.35%	-0.09%
25-Nov-11	0.26%	0.35%	-0.09%
28-Nov-11	0.26%	0.35%	-0.09%
29-Nov-11	0.27%	0.35%	-0.08%
30-Nov-11	0.27%	0.35%	-0.08%
1-Dec-11	0.27%	0.35%	-0.08%
2-Dec-11	0.27%	0.35%	-0.08%
5-Dec-11	0.27%	0.35%	-0.08%
6-Dec-11	0.28%	0.35%	-0.07%
7-Dec-11	0.28%	0.35%	-0.07%
8-Dec-11	0.28%	0.35%	-0.07%
9-Dec-11	0.28%	0.35%	-0.07%
12-Dec-11	0.28%	0.35%	-0.07%
13-Dec-11	0.28%	0.35%	-0.07%
14-Dec-11	0.28%	0.35%	-0.07%
15-Dec-11	0.28%	0.35%	-0.07%
16-Dec-11	0.28%	0.35%	-0.07%
19-Dec-11	0.29%	0.36%	-0.07%
20-Dec-11	0.29%	0.35%	-0.06%
21-Dec-11	0.29%	0.35%	-0.06%
22-Dec-11	0.29%	0.35%	-0.06%
23-Dec-11	0.29%	0.36%	-0.07%
28-Dec-11	0.30%	0.36%	-0.06%
29-Dec-11	0.30%	0.36%	-0.06%
30-Dec-11	0.30%	0.36%	-0.06%
3-Jan-12	0.30%	0.35%	-0.05%
4-Jan-12	0.30%	0.35%	-0.05%
5-Jan-12	0.30%	0.35%	-0.05%

6-Jan-12	0.30%	0.35%	-0.05%
9-Jan-12	0.30%	0.35%	-0.05%
10-Jan-12	0.30%	0.35%	-0.05%
11-Jan-12	0.29%	0.35%	-0.06%
12-Jan-12	0.29%	0.33%	-0.04%
13-Jan-12	0.29%	0.33%	-0.04%
16-Jan-12	0.28%	0.33%	-0.05%
17-Jan-12	0.28%	0.34%	-0.06%
18-Jan-12	0.28%	0.34%	-0.06%
19-Jan-12	0.28%	0.34%	-0.06%
20-Jan-12	0.28%	0.35%	-0.07%
23-Jan-12	0.28%	0.35%	-0.07%
24-Jan-12	0.28%	0.35%	-0.07%
25-Jan-12	0.27%	0.35%	-0.08%
26-Jan-12	0.27%	0.35%	-0.08%
27-Jan-12	0.27%	0.35%	-0.08%
30-Jan-12	0.27%	0.35%	-0.08%
31-Jan-12	0.26%	0.35%	-0.09%
1-Feb-12	0.26%	0.35%	-0.09%
2-Feb-12	0.26%	0.35%	-0.09%
3-Feb-12	0.26%	0.35%	-0.09%
6-Feb-12	0.26%	0.35%	-0.09%
7-Feb-12	0.26%	0.35%	-0.09%
8-Feb-12	0.25%	0.35%	-0.10%
9-Feb-12	0.25%	0.35%	-0.10%
10-Feb-12	0.25%	0.35%	-0.10%
13-Feb-12	0.25%	0.35%	-0.10%
14-Feb-12	0.25%	0.34%	-0.09%
15-Feb-12	0.25%	0.34%	-0.09%
16-Feb-12	0.25%	0.35%	-0.10%
17-Feb-12	0.25%	0.34%	-0.09%
20-Feb-12	0.25%	0.34%	-0.09%
21-Feb-12	0.25%	0.33%	-0.08%
22-Feb-12	0.24%	0.33%	-0.09%
23-Feb-12	0.24%	0.33%	-0.09%
24-Feb-12	0.24%	0.33%	-0.09%
27-Feb-12	0.24%	0.33%	-0.09%
28-Feb-12	0.24%	0.33%	-0.09%
29-Feb-12	0.24%	0.33%	-0.09%
1-Mar-12	0.24%	0.33%	-0.09%
2-Mar-12	0.24%	0.33%	-0.09%
5-Mar-12	0.24%	0.34%	-0.10%
6-Mar-12	0.24%	0.34%	-0.10%
7-Mar-12	0.24%	0.34%	-0.10%
8-Mar-12	0.24%	0.34%	-0.10%
9-Mar-12	0.24%	0.34%	-0.10%
12-Mar-12	0.24%	0.34%	-0.10%

13-Mar-12	0.24%	0.34%	-0.10%
14-Mar-12	0.24%	0.34%	-0.10%
15-Mar-12	0.24%	0.34%	-0.10%
16-Mar-12	0.24%	0.34%	-0.10%
19-Mar-12	0.24%	0.34%	-0.10%
20-Mar-12	0.24%	0.34%	-0.10%
21-Mar-12	0.24%	0.33%	-0.09%
22-Mar-12	0.24%	0.33%	-0.09%
23-Mar-12	0.24%	0.33%	-0.09%
26-Mar-12	0.24%	0.33%	-0.09%
27-Mar-12	0.24%	0.33%	-0.09%
28-Mar-12	0.24%	0.33%	-0.09%
29-Mar-12	0.24%	0.33%	-0.09%
30-Mar-12	0.24%	0.33%	-0.09%
2-Apr-12	0.24%	0.33%	-0.09%
3-Apr-12	0.24%	0.33%	-0.09%
4-Apr-12	0.24%	0.33%	-0.09%
5-Apr-12	0.24%	0.33%	-0.09%
10-Apr-12	0.24%	0.33%	-0.09%
11-Apr-12	0.24%	0.33%	-0.09%
12-Apr-12	0.24%	0.33%	-0.09%
13-Apr-12	0.24%	0.33%	-0.09%
16-Apr-12	0.24%	0.33%	-0.09%
17-Apr-12	0.24%	0.33%	-0.09%
18-Apr-12	0.24%	0.33%	-0.09%
19-Apr-12	0.24%	0.33%	-0.09%
20-Apr-12	0.24%	0.33%	-0.09%
23-Apr-12	0.24%	0.33%	-0.09%
24-Apr-12	0.24%	0.31%	-0.07%
25-Apr-12	0.24%	0.31%	-0.07%
26-Apr-12	0.24%	0.31%	-0.07%
27-Apr-12	0.24%	0.31%	-0.07%
30-Apr-12	0.24%	0.31%	-0.07%
1-May-12	0.24%	0.31%	-0.07%
2-May-12	0.24%	0.31%	-0.07%
3-May-12	0.24%	0.31%	-0.07%
4-May-12	0.24%	0.31%	-0.07%
8-May-12	0.24%	0.30%	-0.06%
9-May-12	0.24%	0.30%	-0.06%
10-May-12	0.24%	0.30%	-0.06%
11-May-12	0.24%	0.30%	-0.06%
14-May-12	0.24%	0.30%	-0.06%
15-May-12	0.24%	0.30%	-0.06%
16-May-12	0.24%	0.30%	-0.06%
17-May-12	0.24%	0.30%	-0.06%
18-May-12	0.24%	0.30%	-0.06%
21-May-12	0.24%	0.30%	-0.06%

22-May-12	0.24%	0.30%	-0.06%
23-May-12	0.24%	0.30%	-0.06%
24-May-12	0.24%	0.30%	-0.06%
25-May-12	0.24%	0.30%	-0.06%
28-May-12	0.24%	0.30%	-0.06%
29-May-12	0.24%	0.30%	-0.06%
30-May-12	0.24%	0.30%	-0.06%
31-May-12	0.24%	0.30%	-0.06%
1-Jun-12	0.24%	0.30%	-0.06%
6-Jun-12	0.24%	0.30%	-0.06%
7-Jun-12	0.24%	0.30%	-0.06%
8-Jun-12	0.24%	0.30%	-0.06%
11-Jun-12	0.24%	0.30%	-0.06%
12-Jun-12	0.24%	0.30%	-0.06%
13-Jun-12	0.24%	0.30%	-0.06%
14-Jun-12	0.24%	0.30%	-0.06%
15-Jun-12	0.24%	0.30%	-0.06%
18-Jun-12	0.24%	0.30%	-0.06%
19-Jun-12	0.24%	0.30%	-0.06%
20-Jun-12	0.25%	0.30%	-0.05%
21-Jun-12	0.25%	0.30%	-0.05%
22-Jun-12	0.25%	0.30%	-0.05%
25-Jun-12	0.25%	0.30%	-0.05%
26-Jun-12	0.25%	0.30%	-0.05%
27-Jun-12	0.25%	0.30%	-0.05%

Federal Reserve ED Deposits Less LIBOR, 3 month tenor	Average Spread by Quarter
0.06%	30-Jun-07
4.0%	30-Sep-07
0.23%	31-Dec-07
	31-Mar-08
	30-Jun-08
-0.10%	30-Sep-08
86.1%	31-Dec-08
0.39%	31-Mar-09
	30-Jun-09
	30-Sep-09
-0.21%	31-Dec-09
83.62%	31-Mar-10
0.10%	30-Jun-10
	30-Sep-10
	31-Dec-10

Date	3 month LIBOR	3 month Fed ED		3 month Spread	
		Deposit			
					31-Mar-11
					30-Jun-11
4-Jan-00	6.04%	5.94%		0.10%	30-Sep-11
5-Jan-00	6.03%	5.94%		0.09%	31-Dec-11
6-Jan-00	6.03%	5.94%		0.09%	31-Mar-12
7-Jan-00	6.03%	5.94%		0.09%	30-Jun-12
10-Jan-00	6.03%	5.94%		0.09%	
11-Jan-00	6.03%	5.94%		0.09%	
12-Jan-00	6.04%	5.94%		0.10%	
13-Jan-00	6.04%	5.94%		0.10%	
14-Jan-00	6.04%	5.94%		0.10%	
18-Jan-00	6.04%	5.94%		0.09%	
19-Jan-00	6.04%	5.94%		0.10%	
20-Jan-00	6.04%	5.94%		0.10%	
21-Jan-00	6.04%	5.94%		0.10%	
24-Jan-00	6.04%	5.94%		0.10%	
25-Jan-00	6.04%	5.94%		0.10%	
26-Jan-00	6.04%	5.94%		0.10%	
27-Jan-00	6.04%	5.94%		0.10%	
28-Jan-00	6.05%	5.97%		0.08%	
31-Jan-00	6.08%	6.03%		0.05%	
1-Feb-00	6.09%	6.03%		0.06%	
2-Feb-00	6.10%	6.06%		0.04%	
3-Feb-00	6.10%	6.03%		0.07%	
4-Feb-00	6.09%	6.00%		0.09%	

7-Feb-00	6.10%	6.03%	0.07%
8-Feb-00	6.10%	6.00%	0.10%
9-Feb-00	6.10%	6.00%	0.10%
10-Feb-00	6.10%	6.00%	0.10%
11-Feb-00	6.10%	6.00%	0.10%
14-Feb-00	6.09%	6.00%	0.09%
15-Feb-00	6.09%	6.00%	0.09%
16-Feb-00	6.09%	5.97%	0.12%
17-Feb-00	6.09%	6.00%	0.09%
18-Feb-00	6.11%	6.03%	0.08%
22-Feb-00	6.11%	6.03%	0.08%
23-Feb-00	6.11%	6.03%	0.08%
24-Feb-00	6.11%	6.00%	0.11%
25-Feb-00	6.10%	6.03%	0.07%
28-Feb-00	6.10%	6.06%	0.04%
29-Feb-00	6.11%	6.06%	0.05%
1-Mar-00	6.11%	6.06%	0.05%
2-Mar-00	6.12%	6.06%	0.06%
3-Mar-00	6.12%	6.06%	0.06%
6-Mar-00	6.12%	6.00%	0.12%
7-Mar-00	6.13%	6.03%	0.10%
8-Mar-00	6.13%	6.06%	0.07%
9-Mar-00	6.14%	6.09%	0.05%
10-Mar-00	6.14%	6.06%	0.08%
13-Mar-00	6.15%	6.06%	0.09%
14-Mar-00	6.16%	6.09%	0.07%
15-Mar-00	6.17%	6.09%	0.08%
16-Mar-00	6.19%	6.13%	0.06%
17-Mar-00	6.21%	6.16%	0.05%
20-Mar-00	6.23%	6.16%	0.07%
21-Mar-00	6.24%	6.19%	0.05%
22-Mar-00	6.25%	6.19%	0.06%
23-Mar-00	6.25%	6.16%	0.09%
24-Mar-00	6.26%	6.19%	0.06%
27-Mar-00	6.28%	6.22%	0.06%
28-Mar-00	6.28%	6.22%	0.06%
29-Mar-00	6.28%	6.22%	0.06%
30-Mar-00	6.29%	6.22%	0.07%
31-Mar-00	6.29%	6.22%	0.07%
3-Apr-00	6.29%	6.22%	0.07%
4-Apr-00	6.29%	6.22%	0.07%
5-Apr-00	6.27%	6.19%	0.08%
6-Apr-00	6.27%	6.22%	0.05%
7-Apr-00	6.28%	6.22%	0.06%
10-Apr-00	6.28%	6.22%	0.06%
11-Apr-00	6.28%	6.22%	0.06%
12-Apr-00	6.28%	6.22%	0.06%

13-Apr-00	6.28%	6.22%	0.06%
14-Apr-00	6.28%	6.22%	0.06%
17-Apr-00	6.28%	6.22%	0.06%
18-Apr-00	6.29%	6.25%	0.04%
19-Apr-00	6.31%	6.25%	0.06%
20-Apr-00	6.32%	6.25%	0.07%
25-Apr-00	6.33%	6.28%	0.05%
26-Apr-00	6.38%	6.31%	0.07%
27-Apr-00	6.39%	6.34%	0.05%
28-Apr-00	6.50%	6.47%	0.03%
2-May-00	6.57%	6.50%	0.07%
3-May-00	6.60%	6.56%	0.04%
4-May-00	6.65%	6.63%	0.02%
5-May-00	6.67%	6.63%	0.04%
8-May-00	6.70%	6.66%	0.04%
9-May-00	6.72%	6.66%	0.06%
10-May-00	6.72%	6.66%	0.06%
11-May-00	6.72%	6.69%	0.03%
12-May-00	6.73%	6.69%	0.04%
15-May-00	6.76%	6.72%	0.04%
16-May-00	6.76%	6.72%	0.04%
17-May-00	6.81%	6.75%	0.06%
18-May-00	6.82%	6.75%	0.07%
19-May-00	6.82%	6.78%	0.04%
22-May-00	6.82%	6.78%	0.04%
23-May-00	6.82%	6.78%	0.04%
24-May-00	6.82%	6.75%	0.07%
25-May-00	6.83%	6.78%	0.05%
26-May-00	6.83%	6.78%	0.05%
30-May-00	6.84%	6.81%	0.03%
31-May-00	6.86%	6.81%	0.05%
1-Jun-00	6.87%	6.81%	0.06%
2-Jun-00	6.85%	6.75%	0.10%
5-Jun-00	6.79%	6.75%	0.04%
6-Jun-00	6.79%	6.72%	0.07%
7-Jun-00	6.80%	6.72%	0.08%
8-Jun-00	6.80%	6.75%	0.05%
9-Jun-00	6.81%	6.75%	0.06%
12-Jun-00	6.81%	6.75%	0.06%
13-Jun-00	6.81%	6.75%	0.06%
14-Jun-00	6.79%	6.72%	0.07%
15-Jun-00	6.78%	6.72%	0.06%
16-Jun-00	6.78%	6.72%	0.06%
19-Jun-00	6.76%	6.69%	0.07%
20-Jun-00	6.76%	6.69%	0.07%
21-Jun-00	6.77%	6.69%	0.08%
22-Jun-00	6.77%	6.72%	0.05%

23-Jun-00	6.77%	6.72%	0.05%
26-Jun-00	6.77%	6.69%	0.08%
27-Jun-00	6.78%	6.72%	0.06%
28-Jun-00	6.78%	6.75%	0.03%
29-Jun-00	6.78%	6.72%	0.06%
30-Jun-00	6.77%	6.69%	0.08%
3-Jul-00	6.77%	6.72%	0.05%
5-Jul-00	6.75%	6.69%	0.05%
6-Jul-00	6.74%	6.69%	0.05%
7-Jul-00	6.74%	6.66%	0.08%
10-Jul-00	6.73%	6.66%	0.07%
11-Jul-00	6.73%	6.66%	0.07%
12-Jul-00	6.73%	6.66%	0.07%
13-Jul-00	6.73%	6.66%	0.07%
14-Jul-00	6.73%	6.66%	0.07%
17-Jul-00	6.74%	6.66%	0.08%
18-Jul-00	6.74%	6.69%	0.05%
19-Jul-00	6.74%	6.69%	0.05%
20-Jul-00	6.74%	6.69%	0.05%
21-Jul-00	6.72%	6.66%	0.06%
24-Jul-00	6.71%	6.66%	0.05%
25-Jul-00	6.72%	6.66%	0.05%
26-Jul-00	6.71%	6.66%	0.05%
27-Jul-00	6.71%	6.66%	0.05%
28-Jul-00	6.71%	6.66%	0.05%
31-Jul-00	6.72%	6.66%	0.06%
1-Aug-00	6.72%	6.66%	0.06%
2-Aug-00	6.72%	6.66%	0.06%
3-Aug-00	6.71%	6.66%	0.05%
4-Aug-00	6.71%	6.63%	0.08%
7-Aug-00	6.69%	6.63%	0.06%
8-Aug-00	6.69%	6.59%	0.10%
9-Aug-00	6.69%	6.59%	0.10%
10-Aug-00	6.68%	6.59%	0.09%
11-Aug-00	6.68%	6.59%	0.09%
14-Aug-00	6.69%	6.59%	0.10%
15-Aug-00	6.69%	6.59%	0.10%
16-Aug-00	6.69%	6.59%	0.10%
17-Aug-00	6.69%	6.59%	0.10%
18-Aug-00	6.69%	6.60%	0.09%
21-Aug-00	6.69%	6.60%	0.09%
22-Aug-00	6.69%	6.60%	0.09%
23-Aug-00	6.69%	6.60%	0.09%
24-Aug-00	6.68%	6.60%	0.08%
25-Aug-00	6.68%	6.59%	0.09%
29-Aug-00	6.68%	6.58%	0.10%
30-Aug-00	6.68%	6.60%	0.08%

31-Aug-00	6.68%	6.60%	0.08%
1-Sep-00	6.67%	6.60%	0.07%
5-Sep-00	6.65%	6.58%	0.07%
6-Sep-00	6.65%	6.58%	0.07%
7-Sep-00	6.66%	6.59%	0.07%
8-Sep-00	6.66%	6.57%	0.09%
11-Sep-00	6.66%	6.59%	0.07%
12-Sep-00	6.66%	6.59%	0.07%
13-Sep-00	6.66%	6.58%	0.08%
14-Sep-00	6.66%	6.57%	0.09%
15-Sep-00	6.66%	6.58%	0.08%
18-Sep-00	6.66%	6.58%	0.08%
19-Sep-00	6.66%	6.58%	0.08%
20-Sep-00	6.66%	6.58%	0.08%
21-Sep-00	6.66%	6.58%	0.08%
22-Sep-00	6.66%	6.58%	0.08%
25-Sep-00	6.66%	6.56%	0.10%
26-Sep-00	6.66%	6.58%	0.08%
27-Sep-00	6.66%	6.58%	0.08%
28-Sep-00	6.82%	6.69%	0.13%
29-Sep-00	6.81%	6.70%	0.11%
2-Oct-00	6.80%	6.71%	0.09%
3-Oct-00	6.80%	6.70%	0.10%
4-Oct-00	6.80%	6.70%	0.10%
5-Oct-00	6.80%	6.67%	0.13%
6-Oct-00	6.80%	6.67%	0.13%
10-Oct-00	6.80%	6.69%	0.11%
11-Oct-00	6.80%	6.70%	0.10%
12-Oct-00	6.80%	6.68%	0.12%
13-Oct-00	6.77%	6.66%	0.11%
16-Oct-00	6.77%	6.66%	0.11%
17-Oct-00	6.77%	6.66%	0.11%
18-Oct-00	6.76%	6.65%	0.11%
19-Oct-00	6.76%	6.64%	0.12%
20-Oct-00	6.76%	6.64%	0.12%
23-Oct-00	6.76%	6.64%	0.12%
24-Oct-00	6.76%	6.65%	0.11%
25-Oct-00	6.76%	6.64%	0.12%
26-Oct-00	6.76%	6.65%	0.11%
27-Oct-00	6.76%	6.65%	0.11%
30-Oct-00	6.76%	6.63%	0.13%
31-Oct-00	6.76%	6.63%	0.13%
1-Nov-00	6.76%	6.63%	0.13%
2-Nov-00	6.75%	6.63%	0.12%
3-Nov-00	6.75%	6.63%	0.12%
6-Nov-00	6.75%	6.64%	0.11%
7-Nov-00	6.76%	6.68%	0.08%

8-Nov-00	6.76%	6.65%	0.11%
9-Nov-00	6.76%	6.66%	0.10%
10-Nov-00	6.76%	6.64%	0.12%
13-Nov-00	6.76%	6.63%	0.13%
14-Nov-00	6.76%	6.64%	0.12%
15-Nov-00	6.76%	6.65%	0.11%
16-Nov-00	6.76%	6.64%	0.12%
17-Nov-00	6.75%	6.64%	0.11%
20-Nov-00	6.75%	6.64%	0.11%
21-Nov-00	6.75%	6.64%	0.11%
22-Nov-00	6.75%	6.64%	0.11%
24-Nov-00	6.75%	6.64%	0.11%
27-Nov-00	6.75%	6.65%	0.10%
28-Nov-00	6.75%	6.65%	0.10%
29-Nov-00	6.74%	6.63%	0.11%
30-Nov-00	6.72%	6.60%	0.12%
1-Dec-00	6.69%	6.58%	0.11%
4-Dec-00	6.68%	6.58%	0.10%
5-Dec-00	6.68%	6.56%	0.12%
6-Dec-00	6.62%	6.51%	0.11%
7-Dec-00	6.58%	6.47%	0.11%
8-Dec-00	6.57%	6.46%	0.11%
11-Dec-00	6.58%	6.48%	0.10%
12-Dec-00	6.58%	6.47%	0.11%
13-Dec-00	6.58%	6.48%	0.10%
14-Dec-00	6.55%	6.47%	0.08%
15-Dec-00	6.55%	6.45%	0.10%
18-Dec-00	6.54%	6.44%	0.10%
19-Dec-00	6.52%	6.44%	0.08%
20-Dec-00	6.50%	6.39%	0.11%
21-Dec-00	6.46%	6.36%	0.10%
22-Dec-00	6.45%	6.33%	0.12%
27-Dec-00	6.44%	6.32%	0.12%
28-Dec-00	6.40%	6.30%	0.10%
29-Dec-00	6.40%	6.30%	0.10%
2-Jan-01	6.37%	6.27%	0.10%
3-Jan-01	6.29%	6.20%	0.09%
4-Jan-01	5.87%	5.76%	0.11%
5-Jan-01	5.70%	5.61%	0.08%
8-Jan-01	5.62%	5.52%	0.10%
9-Jan-01	5.62%	5.53%	0.09%
10-Jan-01	5.65%	5.59%	0.06%
11-Jan-01	5.68%	5.60%	0.08%
12-Jan-01	5.68%	5.62%	0.06%
16-Jan-01	5.74%	5.66%	0.08%
17-Jan-01	5.74%	5.66%	0.08%
18-Jan-01	5.65%	5.56%	0.09%

19-Jan-01	5.61%	5.56%	0.05%
22-Jan-01	5.58%	5.50%	0.08%
23-Jan-01	5.57%	5.50%	0.07%
24-Jan-01	5.61%	5.51%	0.10%
25-Jan-01	5.60%	5.52%	0.08%
26-Jan-01	5.57%	5.54%	0.03%
29-Jan-01	5.54%	5.44%	0.10%
30-Jan-01	5.53%	5.44%	0.08%
31-Jan-01	5.42%	5.33%	0.09%
1-Feb-01	5.39%	5.30%	0.09%
2-Feb-01	5.40%	5.32%	0.08%
5-Feb-01	5.41%	5.32%	0.09%
6-Feb-01	5.41%	5.33%	0.08%
7-Feb-01	5.41%	5.33%	0.08%
8-Feb-01	5.41%	5.33%	0.08%
9-Feb-01	5.41%	5.32%	0.09%
12-Feb-01	5.39%	5.31%	0.08%
13-Feb-01	5.39%	5.30%	0.09%
14-Feb-01	5.40%	5.32%	0.08%
15-Feb-01	5.41%	5.33%	0.08%
16-Feb-01	5.41%	5.33%	0.08%
20-Feb-01	5.38%	5.29%	0.09%
21-Feb-01	5.37%	5.30%	0.07%
22-Feb-01	5.35%	5.26%	0.08%
23-Feb-01	5.30%	5.15%	0.15%
26-Feb-01	5.19%	5.09%	0.10%
27-Feb-01	5.10%	5.02%	0.08%
28-Feb-01	5.05%	4.97%	0.08%
1-Mar-01	5.09%	5.04%	0.05%
2-Mar-01	5.08%	5.03%	0.05%
5-Mar-01	5.08%	5.02%	0.06%
6-Mar-01	5.09%	5.02%	0.07%
7-Mar-01	5.07%	5.02%	0.05%
8-Mar-01	5.06%	5.01%	0.05%
9-Mar-01	5.04%	5.00%	0.04%
12-Mar-01	5.06%	4.98%	0.08%
13-Mar-01	5.03%	4.98%	0.05%
14-Mar-01	5.02%	4.92%	0.10%
15-Mar-01	4.94%	4.87%	0.07%
16-Mar-01	4.90%	4.81%	0.09%
19-Mar-01	4.88%	4.79%	0.09%
20-Mar-01	4.89%	4.80%	0.09%
21-Mar-01	4.87%	4.78%	0.09%
22-Mar-01	4.86%	4.73%	0.13%
23-Mar-01	4.86%	4.75%	0.11%
26-Mar-01	4.87%	4.78%	0.09%
27-Mar-01	4.86%	4.80%	0.06%

28-Mar-01	4.90%	4.82%	0.08%
29-Mar-01	4.88%	4.80%	0.08%
30-Mar-01	4.88%	4.80%	0.08%
2-Apr-01	4.84%	4.75%	0.09%
3-Apr-01	4.85%	4.76%	0.09%
4-Apr-01	4.81%	4.73%	0.08%
5-Apr-01	4.80%	4.74%	0.06%
6-Apr-01	4.81%	4.68%	0.13%
9-Apr-01	4.74%	4.65%	0.09%
10-Apr-01	4.74%	4.65%	0.09%
11-Apr-01	4.76%	4.70%	0.06%
12-Apr-01	4.78%	4.72%	0.06%
17-Apr-01	4.81%	4.71%	0.10%
18-Apr-01	4.83%	4.75%	0.08%
19-Apr-01	4.41%	4.32%	0.09%
20-Apr-01	4.42%	4.30%	0.12%
23-Apr-01	4.38%	4.28%	0.10%
24-Apr-01	4.36%	4.27%	0.09%
25-Apr-01	4.34%	4.24%	0.10%
26-Apr-01	4.34%	4.25%	0.09%
27-Apr-01	4.31%	4.25%	0.06%
30-Apr-01	4.34%	4.26%	0.08%
1-May-01	4.34%	4.25%	0.09%
2-May-01	4.31%	4.21%	0.10%
3-May-01	4.30%	4.19%	0.11%
4-May-01	4.27%	4.04%	0.23%
8-May-01	4.10%	4.01%	0.09%
9-May-01	4.09%	3.98%	0.11%
10-May-01	4.06%	3.96%	0.10%
11-May-01	4.07%	4.00%	0.07%
14-May-01	4.12%	4.06%	0.06%
15-May-01	4.10%	4.03%	0.07%
16-May-01	4.03%	3.94%	0.09%
17-May-01	4.04%	3.94%	0.10%
18-May-01	4.06%	3.97%	0.08%
21-May-01	4.08%	3.99%	0.09%
22-May-01	4.08%	3.98%	0.09%
23-May-01	4.07%	3.98%	0.09%
24-May-01	4.06%	3.96%	0.10%
25-May-01	4.03%	3.94%	0.09%
29-May-01	4.00%	3.91%	0.09%
30-May-01	4.00%	3.91%	0.09%
31-May-01	3.99%	3.88%	0.11%
1-Jun-01	3.94%	3.88%	0.06%
4-Jun-01	3.94%	3.85%	0.09%
5-Jun-01	3.94%	3.85%	0.09%
6-Jun-01	3.93%	3.83%	0.10%

7-Jun-01	3.92%	3.81%	0.11%
8-Jun-01	3.92%	3.83%	0.09%
11-Jun-01	3.91%	3.78%	0.13%
12-Jun-01	3.90%	3.75%	0.15%
13-Jun-01	3.89%	3.75%	0.14%
14-Jun-01	3.88%	3.75%	0.13%
15-Jun-01	3.85%	3.70%	0.15%
18-Jun-01	3.79%	3.68%	0.11%
19-Jun-01	3.76%	3.64%	0.12%
20-Jun-01	3.75%	3.64%	0.11%
21-Jun-01	3.74%	3.65%	0.09%
22-Jun-01	3.73%	3.64%	0.09%
25-Jun-01	3.71%	3.61%	0.09%
26-Jun-01	3.70%	3.60%	0.10%
27-Jun-01	3.71%	3.62%	0.09%
28-Jun-01	3.79%	3.75%	0.04%
29-Jun-01	3.84%	3.76%	0.08%
2-Jul-01	3.83%	3.76%	0.07%
3-Jul-01	3.82%	3.75%	0.07%
5-Jul-01	3.82%	3.75%	0.07%
6-Jul-01	3.81%	3.71%	0.10%
9-Jul-01	3.79%	3.70%	0.09%
10-Jul-01	3.79%	3.70%	0.09%
11-Jul-01	3.76%	3.67%	0.09%
12-Jul-01	3.77%	3.68%	0.09%
13-Jul-01	3.76%	3.65%	0.11%
16-Jul-01	3.76%	3.66%	0.10%
17-Jul-01	3.76%	3.67%	0.09%
18-Jul-01	3.76%	3.66%	0.10%
19-Jul-01	3.71%	3.62%	0.09%
20-Jul-01	3.71%	3.62%	0.09%
23-Jul-01	3.70%	3.63%	0.07%
24-Jul-01	3.70%	3.62%	0.08%
25-Jul-01	3.70%	3.61%	0.09%
26-Jul-01	3.71%	3.62%	0.08%
27-Jul-01	3.70%	3.60%	0.10%
30-Jul-01	3.68%	3.58%	0.10%
31-Jul-01	3.67%	3.60%	0.07%
1-Aug-01	3.66%	3.58%	0.08%
2-Aug-01	3.65%	3.57%	0.08%
3-Aug-01	3.66%	3.59%	0.07%
6-Aug-01	3.65%	3.57%	0.08%
7-Aug-01	3.64%	3.55%	0.09%
8-Aug-01	3.64%	3.56%	0.08%
9-Aug-01	3.60%	3.50%	0.09%
10-Aug-01	3.59%	3.49%	0.10%
13-Aug-01	3.57%	3.46%	0.11%

14-Aug-01	3.56%	3.45%	0.11%
15-Aug-01	3.56%	3.44%	0.12%
16-Aug-01	3.56%	3.46%	0.10%
17-Aug-01	3.55%	3.45%	0.10%
20-Aug-01	3.53%	3.42%	0.11%
21-Aug-01	3.53%	3.42%	0.11%
22-Aug-01	3.51%	3.41%	0.10%
23-Aug-01	3.51%	3.43%	0.08%
24-Aug-01	3.52%	3.43%	0.09%
28-Aug-01	3.53%	3.45%	0.07%
29-Aug-01	3.50%	3.44%	0.06%
30-Aug-01	3.49%	3.40%	0.09%
31-Aug-01	3.46%	3.40%	0.06%
4-Sep-01	3.47%	3.40%	0.07%
5-Sep-01	3.52%	3.43%	0.09%
6-Sep-01	3.52%	3.43%	0.09%
7-Sep-01	3.49%	3.34%	0.15%
10-Sep-01	3.36%	3.26%	0.10%
17-Sep-01	3.11%	2.88%	0.23%
18-Sep-01	2.97%	2.82%	0.15%
19-Sep-01	2.78%	2.68%	0.10%
20-Sep-01	2.60%	2.57%	0.03%
21-Sep-01	2.62%	2.47%	0.15%
24-Sep-01	2.60%	2.45%	0.15%
25-Sep-01	2.60%	2.51%	0.09%
26-Sep-01	2.59%	2.51%	0.08%
27-Sep-01	2.60%	2.51%	0.09%
28-Sep-01	2.59%	2.50%	0.09%
1-Oct-01	2.60%	2.50%	0.10%
2-Oct-01	2.59%	2.53%	0.06%
3-Oct-01	2.50%	2.42%	0.08%
4-Oct-01	2.50%	2.42%	0.08%
5-Oct-01	2.48%	2.42%	0.06%
9-Oct-01	2.43%	2.37%	0.06%
10-Oct-01	2.43%	2.37%	0.06%
11-Oct-01	2.43%	2.36%	0.07%
12-Oct-01	2.46%	2.37%	0.09%
15-Oct-01	2.43%	2.36%	0.07%
16-Oct-01	2.42%	2.32%	0.10%
17-Oct-01	2.41%	2.32%	0.09%
18-Oct-01	2.39%	2.31%	0.08%
19-Oct-01	2.37%	2.29%	0.08%
22-Oct-01	2.35%	2.27%	0.08%
23-Oct-01	2.35%	2.27%	0.08%
24-Oct-01	2.33%	2.24%	0.09%
25-Oct-01	2.31%	2.18%	0.13%
26-Oct-01	2.28%	2.15%	0.13%

29-Oct-01	2.27%	2.18%	0.09%
30-Oct-01	2.23%	2.14%	0.09%
31-Oct-01	2.20%	2.12%	0.08%
1-Nov-01	2.21%	2.18%	0.03%
2-Nov-01	2.20%	2.07%	0.13%
5-Nov-01	2.17%	2.08%	0.09%
6-Nov-01	2.14%	2.05%	0.09%
7-Nov-01	2.00%	1.92%	0.08%
8-Nov-01	2.00%	1.94%	0.06%
9-Nov-01	2.02%	1.89%	0.13%
13-Nov-01	2.01%	1.94%	0.07%
14-Nov-01	2.02%	1.96%	0.06%
15-Nov-01	2.10%	2.03%	0.07%
16-Nov-01	2.14%	2.07%	0.07%
19-Nov-01	2.15%	2.07%	0.08%
20-Nov-01	2.11%	2.05%	0.06%
21-Nov-01	2.13%	2.06%	0.07%
23-Nov-01	2.16%	2.08%	0.08%
26-Nov-01	2.16%	2.07%	0.09%
27-Nov-01	2.17%	2.08%	0.09%
28-Nov-01	2.10%	2.04%	0.06%
29-Nov-01	2.08%	2.00%	0.08%
30-Nov-01	2.03%	1.96%	0.07%
3-Dec-01	2.01%	1.90%	0.11%
4-Dec-01	2.00%	1.92%	0.08%
5-Dec-01	1.98%	1.90%	0.08%
6-Dec-01	2.02%	1.91%	0.11%
7-Dec-01	2.00%	1.83%	0.17%
10-Dec-01	1.93%	1.79%	0.14%
11-Dec-01	1.90%	1.80%	0.10%
12-Dec-01	1.86%	1.79%	0.07%
13-Dec-01	1.87%	1.81%	0.06%
14-Dec-01	1.90%	1.82%	0.08%
17-Dec-01	1.90%	1.84%	0.06%
18-Dec-01	1.91%	1.85%	0.06%
19-Dec-01	1.90%	1.83%	0.07%
20-Dec-01	1.90%	1.82%	0.08%
21-Dec-01	1.90%	1.82%	0.08%
24-Dec-01	1.90%	1.88%	0.02%
27-Dec-01	1.91%	1.82%	0.09%
28-Dec-01	1.88%	1.78%	0.10%
31-Dec-01	1.88%	1.78%	0.10%
2-Jan-02	1.86%	1.79%	0.07%
3-Jan-02	1.88%	1.82%	0.06%
4-Jan-02	1.87%	1.79%	0.08%
7-Jan-02	1.87%	1.82%	0.05%
8-Jan-02	1.84%	1.75%	0.09%

9-Jan-02	1.84%	1.74%	0.10%
10-Jan-02	1.83%	1.73%	0.10%
11-Jan-02	1.83%	1.74%	0.09%
14-Jan-02	1.72%	1.64%	0.08%
15-Jan-02	1.72%	1.65%	0.07%
16-Jan-02	1.72%	1.64%	0.08%
17-Jan-02	1.74%	1.67%	0.07%
18-Jan-02	1.77%	1.68%	0.09%
22-Jan-02	1.80%	1.73%	0.07%
23-Jan-02	1.80%	1.72%	0.08%
24-Jan-02	1.81%	1.75%	0.06%
25-Jan-02	1.87%	1.80%	0.07%
28-Jan-02	1.87%	1.80%	0.07%
29-Jan-02	1.87%	1.79%	0.08%
30-Jan-02	1.86%	1.78%	0.08%
31-Jan-02	1.88%	1.82%	0.06%
1-Feb-02	1.92%	1.83%	0.09%
4-Feb-02	1.91%	1.83%	0.08%
5-Feb-02	1.90%	1.80%	0.10%
6-Feb-02	1.90%	1.81%	0.09%
7-Feb-02	1.90%	1.83%	0.07%
8-Feb-02	1.90%	1.80%	0.10%
11-Feb-02	1.89%	1.79%	0.10%
12-Feb-02	1.89%	1.79%	0.10%
13-Feb-02	1.90%	1.83%	0.07%
14-Feb-02	1.91%	1.83%	0.08%
15-Feb-02	1.91%	1.82%	0.09%
19-Feb-02	1.90%	1.83%	0.07%
20-Feb-02	1.90%	1.82%	0.08%
21-Feb-02	1.91%	1.83%	0.08%
22-Feb-02	1.90%	1.81%	0.09%
25-Feb-02	1.90%	1.81%	0.09%
26-Feb-02	1.90%	1.80%	0.10%
27-Feb-02	1.91%	1.82%	0.09%
28-Feb-02	1.90%	1.82%	0.08%
1-Mar-02	1.90%	1.80%	0.10%
4-Mar-02	1.92%	1.84%	0.08%
5-Mar-02	1.92%	1.84%	0.08%
6-Mar-02	1.92%	1.84%	0.08%
7-Mar-02	1.92%	1.84%	0.08%
8-Mar-02	1.96%	1.91%	0.05%
11-Mar-02	2.00%	1.91%	0.09%
12-Mar-02	2.00%	1.92%	0.08%
13-Mar-02	2.00%	1.92%	0.08%
14-Mar-02	1.99%	1.91%	0.08%
15-Mar-02	2.01%	1.94%	0.07%
18-Mar-02	2.01%	1.93%	0.08%

19-Mar-02	2.01%	1.93%	0.08%
20-Mar-02	1.99%	1.93%	0.06%
21-Mar-02	2.02%	1.94%	0.08%
22-Mar-02	2.03%	1.93%	0.10%
25-Mar-02	2.04%	1.95%	0.09%
26-Mar-02	2.05%	1.98%	0.07%
27-Mar-02	2.04%	1.96%	0.08%
28-Mar-02	2.03%	1.95%	0.08%
2-Apr-02	2.04%	1.95%	0.09%
3-Apr-02	2.03%	1.94%	0.09%
4-Apr-02	2.01%	1.93%	0.08%
5-Apr-02	2.01%	1.90%	0.11%
8-Apr-02	1.99%	1.91%	0.08%
9-Apr-02	1.99%	1.91%	0.08%
10-Apr-02	1.98%	1.87%	0.11%
11-Apr-02	1.98%	1.88%	0.10%
12-Apr-02	1.98%	1.88%	0.10%
15-Apr-02	1.97%	1.86%	0.11%
16-Apr-02	1.97%	1.85%	0.12%
17-Apr-02	1.97%	1.88%	0.09%
18-Apr-02	1.95%	1.85%	0.10%
19-Apr-02	1.94%	1.84%	0.10%
22-Apr-02	1.94%	1.85%	0.09%
23-Apr-02	1.94%	1.83%	0.11%
24-Apr-02	1.94%	1.84%	0.10%
25-Apr-02	1.93%	1.83%	0.10%
26-Apr-02	1.92%	1.83%	0.09%
29-Apr-02	1.91%	1.83%	0.08%
30-Apr-02	1.92%	1.84%	0.08%
1-May-02	1.92%	1.82%	0.10%
2-May-02	1.92%	1.82%	0.10%
3-May-02	1.92%	1.81%	0.11%
7-May-02	1.90%	1.82%	0.08%
8-May-02	1.90%	1.82%	0.08%
9-May-02	1.92%	1.83%	0.09%
10-May-02	1.90%	1.82%	0.08%
13-May-02	1.90%	1.81%	0.09%
14-May-02	1.90%	1.82%	0.08%
15-May-02	1.92%	1.83%	0.09%
16-May-02	1.91%	1.80%	0.11%
17-May-02	1.90%	1.82%	0.08%
20-May-02	1.91%	1.82%	0.09%
21-May-02	1.90%	1.82%	0.08%
22-May-02	1.90%	1.82%	0.08%
23-May-02	1.90%	1.83%	0.07%
24-May-02	1.90%	1.83%	0.07%
28-May-02	1.90%	1.83%	0.07%

29-May-02	1.90%	1.82%	0.08%
30-May-02	1.90%	1.80%	0.10%
31-May-02	1.90%	1.82%	0.08%
5-Jun-02	1.89%	1.81%	0.08%
6-Jun-02	1.89%	1.82%	0.07%
7-Jun-02	1.89%	1.82%	0.07%
10-Jun-02	1.89%	1.82%	0.07%
11-Jun-02	1.89%	1.82%	0.07%
12-Jun-02	1.89%	1.80%	0.09%
13-Jun-02	1.89%	1.80%	0.09%
14-Jun-02	1.88%	1.81%	0.07%
17-Jun-02	1.88%	1.81%	0.07%
18-Jun-02	1.88%	1.81%	0.07%
19-Jun-02	1.87%	1.80%	0.07%
20-Jun-02	1.87%	1.79%	0.08%
21-Jun-02	1.87%	1.80%	0.07%
24-Jun-02	1.87%	1.80%	0.07%
25-Jun-02	1.87%	1.81%	0.06%
26-Jun-02	1.86%	1.80%	0.05%
27-Jun-02	1.86%	1.80%	0.06%
28-Jun-02	1.86%	1.80%	0.06%
1-Jul-02	1.86%	1.80%	0.06%
2-Jul-02	1.86%	1.80%	0.06%
3-Jul-02	1.86%	1.80%	0.06%
5-Jul-02	1.86%	1.79%	0.07%
8-Jul-02	1.86%	1.80%	0.06%
9-Jul-02	1.86%	1.80%	0.06%
10-Jul-02	1.86%	1.80%	0.06%
11-Jul-02	1.86%	1.79%	0.07%
12-Jul-02	1.86%	1.79%	0.07%
15-Jul-02	1.86%	1.79%	0.07%
16-Jul-02	1.86%	1.79%	0.07%
17-Jul-02	1.86%	1.79%	0.07%
18-Jul-02	1.86%	1.79%	0.07%
19-Jul-02	1.86%	1.79%	0.07%
22-Jul-02	1.85%	1.80%	0.05%
23-Jul-02	1.85%	1.79%	0.06%
24-Jul-02	1.82%	1.75%	0.07%
25-Jul-02	1.83%	1.76%	0.07%
26-Jul-02	1.81%	1.75%	0.06%
29-Jul-02	1.81%	1.75%	0.06%
30-Jul-02	1.82%	1.75%	0.07%
31-Jul-02	1.82%	1.76%	0.06%
1-Aug-02	1.81%	1.76%	0.05%
2-Aug-02	1.80%	1.75%	0.05%
5-Aug-02	1.77%	1.70%	0.07%
6-Aug-02	1.76%	1.70%	0.06%

7-Aug-02	1.76%	1.69%	0.07%
8-Aug-02	1.74%	1.67%	0.07%
9-Aug-02	1.75%	1.69%	0.06%
12-Aug-02	1.75%	1.68%	0.07%
13-Aug-02	1.75%	1.69%	0.06%
14-Aug-02	1.73%	1.66%	0.07%
15-Aug-02	1.76%	1.68%	0.08%
16-Aug-02	1.76%	1.70%	0.06%
19-Aug-02	1.77%	1.71%	0.06%
20-Aug-02	1.77%	1.72%	0.05%
21-Aug-02	1.77%	1.72%	0.05%
22-Aug-02	1.78%	1.73%	0.05%
23-Aug-02	1.80%	1.74%	0.06%
27-Aug-02	1.80%	1.75%	0.05%
28-Aug-02	1.82%	1.77%	0.05%
29-Aug-02	1.81%	1.77%	0.04%
30-Aug-02	1.81%	1.75%	0.06%
3-Sep-02	1.80%	1.76%	0.04%
4-Sep-02	1.78%	1.74%	0.04%
5-Sep-02	1.78%	1.73%	0.05%
6-Sep-02	1.78%	1.72%	0.05%
9-Sep-02	1.80%	1.75%	0.05%
10-Sep-02	1.82%	1.75%	0.07%
11-Sep-02	1.82%	1.75%	0.07%
12-Sep-02	1.83%	1.76%	0.07%
13-Sep-02	1.82%	1.76%	0.06%
16-Sep-02	1.82%	1.76%	0.06%
17-Sep-02	1.83%	1.77%	0.06%
18-Sep-02	1.82%	1.76%	0.06%
19-Sep-02	1.82%	1.74%	0.08%
20-Sep-02	1.80%	1.75%	0.05%
23-Sep-02	1.80%	1.74%	0.06%
24-Sep-02	1.79%	1.75%	0.04%
25-Sep-02	1.79%	1.74%	0.05%
26-Sep-02	1.80%	1.74%	0.06%
27-Sep-02	1.81%	1.73%	0.08%
30-Sep-02	1.79%	1.75%	0.04%
1-Oct-02	1.76%	1.70%	0.06%
2-Oct-02	1.77%	1.70%	0.07%
3-Oct-02	1.76%	1.70%	0.06%
4-Oct-02	1.76%	1.72%	0.04%
7-Oct-02	1.76%	1.70%	0.06%
8-Oct-02	1.77%	1.71%	0.06%
9-Oct-02	1.77%	1.72%	0.05%
10-Oct-02	1.76%	1.71%	0.05%
11-Oct-02	1.78%	1.72%	0.05%
15-Oct-02	1.80%	1.75%	0.05%

16-Oct-02	1.82%	1.77%	0.05%
17-Oct-02	1.84%	1.77%	0.07%
18-Oct-02	1.83%	1.78%	0.05%
21-Oct-02	1.83%	1.77%	0.06%
22-Oct-02	1.84%	1.78%	0.06%
23-Oct-02	1.84%	1.77%	0.07%
24-Oct-02	1.83%	1.78%	0.05%
25-Oct-02	1.82%	1.77%	0.05%
28-Oct-02	1.78%	1.74%	0.04%
29-Oct-02	1.76%	1.71%	0.05%
30-Oct-02	1.71%	1.63%	0.08%
31-Oct-02	1.69%	1.62%	0.07%
1-Nov-02	1.66%	1.59%	0.07%
4-Nov-02	1.63%	1.55%	0.08%
5-Nov-02	1.62%	1.55%	0.07%
6-Nov-02	1.61%	1.54%	0.07%
7-Nov-02	1.40%	1.34%	0.06%
8-Nov-02	1.40%	1.33%	0.07%
12-Nov-02	1.40%	1.34%	0.06%
13-Nov-02	1.40%	1.34%	0.06%
14-Nov-02	1.41%	1.34%	0.07%
15-Nov-02	1.42%	1.35%	0.07%
18-Nov-02	1.42%	1.36%	0.06%
19-Nov-02	1.42%	1.36%	0.06%
20-Nov-02	1.42%	1.34%	0.08%
21-Nov-02	1.42%	1.36%	0.06%
22-Nov-02	1.43%	1.35%	0.08%
25-Nov-02	1.43%	1.37%	0.06%
26-Nov-02	1.43%	1.36%	0.07%
27-Nov-02	1.42%	1.36%	0.06%
29-Nov-02	1.43%	1.37%	0.06%
2-Dec-02	1.42%	1.37%	0.05%
3-Dec-02	1.42%	1.37%	0.05%
4-Dec-02	1.42%	1.37%	0.05%
5-Dec-02	1.42%	1.37%	0.05%
6-Dec-02	1.42%	1.34%	0.08%
9-Dec-02	1.41%	1.35%	0.06%
10-Dec-02	1.41%	1.36%	0.05%
11-Dec-02	1.41%	1.35%	0.06%
12-Dec-02	1.41%	1.34%	0.07%
13-Dec-02	1.41%	1.34%	0.07%
16-Dec-02	1.41%	1.34%	0.07%
17-Dec-02	1.41%	1.34%	0.07%
18-Dec-02	1.41%	1.35%	0.06%
19-Dec-02	1.40%	1.34%	0.06%
20-Dec-02	1.40%	1.34%	0.06%
23-Dec-02	1.40%	1.34%	0.06%

24-Dec-02	1.40%	1.34%	0.06%
27-Dec-02	1.40%	1.34%	0.06%
30-Dec-02	1.38%	1.32%	0.06%
31-Dec-02	1.38%	1.30%	0.08%
2-Jan-03	1.38%	1.32%	0.06%
3-Jan-03	1.39%	1.32%	0.07%
6-Jan-03	1.39%	1.32%	0.07%
7-Jan-03	1.39%	1.30%	0.09%
8-Jan-03	1.38%	1.30%	0.08%
9-Jan-03	1.38%	1.30%	0.08%
10-Jan-03	1.38%	1.28%	0.10%
13-Jan-03	1.38%	1.30%	0.08%
14-Jan-03	1.37%	1.30%	0.07%
15-Jan-03	1.37%	1.30%	0.07%
16-Jan-03	1.37%	1.30%	0.07%
17-Jan-03	1.37%	1.29%	0.08%
21-Jan-03	1.36%	1.28%	0.08%
22-Jan-03	1.36%	1.28%	0.08%
23-Jan-03	1.35%	1.28%	0.07%
24-Jan-03	1.35%	1.27%	0.08%
27-Jan-03	1.34%	1.26%	0.08%
28-Jan-03	1.34%	1.25%	0.09%
29-Jan-03	1.34%	1.26%	0.08%
30-Jan-03	1.35%	1.27%	0.08%
31-Jan-03	1.35%	1.26%	0.09%
3-Feb-03	1.35%	1.27%	0.08%
4-Feb-03	1.35%	1.27%	0.08%
5-Feb-03	1.35%	1.25%	0.10%
6-Feb-03	1.35%	1.26%	0.09%
7-Feb-03	1.35%	1.26%	0.09%
10-Feb-03	1.35%	1.25%	0.10%
11-Feb-03	1.35%	1.26%	0.09%
12-Feb-03	1.34%	1.26%	0.08%
13-Feb-03	1.34%	1.26%	0.08%
14-Feb-03	1.34%	1.26%	0.08%
18-Feb-03	1.34%	1.31%	0.03%
19-Feb-03	1.34%	1.26%	0.08%
20-Feb-03	1.34%	1.26%	0.08%
21-Feb-03	1.34%	1.26%	0.08%
24-Feb-03	1.34%	1.26%	0.08%
25-Feb-03	1.34%	1.25%	0.09%
26-Feb-03	1.34%	1.26%	0.08%
27-Feb-03	1.34%	1.26%	0.08%
28-Feb-03	1.34%	1.26%	0.08%
3-Mar-03	1.34%	1.25%	0.09%
4-Mar-03	1.33%	1.25%	0.08%
5-Mar-03	1.32%	1.25%	0.07%

6-Mar-03	1.32%	1.25%	0.07%
7-Mar-03	1.31%	1.21%	0.10%
10-Mar-03	1.26%	1.18%	0.08%
11-Mar-03	1.23%	1.17%	0.06%
12-Mar-03	1.23%	1.15%	0.08%
13-Mar-03	1.26%	1.18%	0.08%
14-Mar-03	1.28%	1.20%	0.08%
17-Mar-03	1.26%	1.17%	0.09%
18-Mar-03	1.27%	1.20%	0.07%
19-Mar-03	1.29%	1.22%	0.07%
20-Mar-03	1.29%	1.23%	0.06%
21-Mar-03	1.29%	1.22%	0.07%
24-Mar-03	1.29%	1.22%	0.07%
25-Mar-03	1.29%	1.23%	0.06%
26-Mar-03	1.29%	1.23%	0.06%
27-Mar-03	1.29%	1.23%	0.06%
28-Mar-03	1.29%	1.22%	0.07%
31-Mar-03	1.28%	1.22%	0.06%
1-Apr-03	1.28%	1.22%	0.06%
2-Apr-03	1.28%	1.21%	0.07%
3-Apr-03	1.28%	1.21%	0.07%
4-Apr-03	1.28%	1.21%	0.07%
7-Apr-03	1.29%	1.22%	0.07%
8-Apr-03	1.29%	1.22%	0.07%
9-Apr-03	1.29%	1.22%	0.07%
10-Apr-03	1.28%	1.21%	0.07%
11-Apr-03	1.29%	1.23%	0.06%
14-Apr-03	1.30%	1.23%	0.07%
15-Apr-03	1.32%	1.25%	0.07%
16-Apr-03	1.33%	1.25%	0.08%
17-Apr-03	1.32%	1.27%	0.05%
22-Apr-03	1.32%	1.26%	0.06%
23-Apr-03	1.32%	1.25%	0.07%
24-Apr-03	1.32%	1.25%	0.07%
25-Apr-03	1.31%	1.25%	0.06%
28-Apr-03	1.30%	1.23%	0.07%
29-Apr-03	1.31%	1.24%	0.07%
30-Apr-03	1.31%	1.25%	0.06%
1-May-03	1.30%	1.22%	0.08%
2-May-03	1.29%	1.22%	0.07%
6-May-03	1.29%	1.23%	0.06%
7-May-03	1.28%	1.20%	0.08%
8-May-03	1.28%	1.22%	0.06%
9-May-03	1.29%	1.22%	0.07%
12-May-03	1.29%	1.22%	0.07%
13-May-03	1.29%	1.22%	0.07%
14-May-03	1.29%	1.23%	0.06%

15-May-03	1.29%	1.22%	0.07%
16-May-03	1.29%	1.21%	0.08%
19-May-03	1.28%	1.19%	0.09%
20-May-03	1.28%	1.20%	0.08%
21-May-03	1.27%	1.19%	0.08%
22-May-03	1.28%	1.20%	0.08%
23-May-03	1.28%	1.19%	0.09%
27-May-03	1.28%	1.19%	0.09%
28-May-03	1.28%	1.21%	0.07%
29-May-03	1.28%	1.20%	0.08%
30-May-03	1.28%	1.21%	0.07%
2-Jun-03	1.28%	1.21%	0.07%
3-Jun-03	1.28%	1.20%	0.08%
4-Jun-03	1.26%	1.16%	0.10%
5-Jun-03	1.24%	1.12%	0.12%
6-Jun-03	1.21%	1.12%	0.09%
9-Jun-03	1.20%	1.09%	0.11%
10-Jun-03	1.18%	1.09%	0.09%
11-Jun-03	1.14%	1.02%	0.12%
12-Jun-03	1.12%	1.01%	0.11%
13-Jun-03	1.09%	0.98%	0.11%
16-Jun-03	1.06%	0.95%	0.11%
17-Jun-03	1.06%	0.93%	0.13%
18-Jun-03	1.07%	0.97%	0.09%
19-Jun-03	1.03%	0.93%	0.10%
20-Jun-03	1.02%	0.92%	0.10%
23-Jun-03	1.02%	0.93%	0.09%
24-Jun-03	1.01%	0.91%	0.10%
25-Jun-03	1.00%	0.90%	0.10%
26-Jun-03	1.10%	1.03%	0.07%
27-Jun-03	1.11%	1.04%	0.07%
30-Jun-03	1.12%	1.04%	0.08%
1-Jul-03	1.11%	1.04%	0.07%
2-Jul-03	1.11%	1.05%	0.06%
3-Jul-03	1.11%	1.05%	0.06%
7-Jul-03	1.11%	1.04%	0.07%
8-Jul-03	1.11%	1.05%	0.06%
9-Jul-03	1.11%	1.04%	0.07%
10-Jul-03	1.11%	1.04%	0.07%
11-Jul-03	1.11%	1.03%	0.08%
14-Jul-03	1.10%	1.03%	0.07%
15-Jul-03	1.10%	1.04%	0.06%
16-Jul-03	1.11%	1.06%	0.05%
17-Jul-03	1.11%	1.08%	0.03%
18-Jul-03	1.11%	1.03%	0.08%
21-Jul-03	1.11%	1.05%	0.06%
22-Jul-03	1.11%	1.03%	0.08%

23-Jul-03	1.11%	1.04%	0.07%
24-Jul-03	1.11%	1.04%	0.07%
25-Jul-03	1.11%	1.04%	0.07%
28-Jul-03	1.11%	1.04%	0.07%
29-Jul-03	1.11%	1.05%	0.06%
30-Jul-03	1.12%	1.05%	0.07%
31-Jul-03	1.11%	1.05%	0.06%
1-Aug-03	1.14%	1.06%	0.08%
4-Aug-03	1.14%	1.06%	0.08%
5-Aug-03	1.14%	1.07%	0.07%
6-Aug-03	1.14%	1.06%	0.08%
7-Aug-03	1.14%	1.07%	0.07%
8-Aug-03	1.13%	1.06%	0.07%
11-Aug-03	1.13%	1.07%	0.06%
12-Aug-03	1.13%	1.06%	0.07%
13-Aug-03	1.13%	1.06%	0.07%
14-Aug-03	1.13%	1.07%	0.06%
15-Aug-03	1.13%	1.11%	0.02%
18-Aug-03	1.13%	1.06%	0.07%
19-Aug-03	1.13%	1.07%	0.06%
20-Aug-03	1.13%	1.07%	0.06%
21-Aug-03	1.13%	1.07%	0.06%
22-Aug-03	1.14%	1.07%	0.07%
26-Aug-03	1.14%	1.08%	0.06%
27-Aug-03	1.14%	1.07%	0.07%
28-Aug-03	1.14%	1.08%	0.06%
29-Aug-03	1.14%	1.07%	0.07%
2-Sep-03	1.14%	1.08%	0.06%
3-Sep-03	1.15%	1.09%	0.06%
4-Sep-03	1.15%	1.09%	0.06%
5-Sep-03	1.14%	1.08%	0.06%
8-Sep-03	1.14%	1.08%	0.06%
9-Sep-03	1.14%	1.08%	0.06%
10-Sep-03	1.14%	1.08%	0.06%
11-Sep-03	1.14%	1.06%	0.08%
12-Sep-03	1.14%	1.07%	0.07%
15-Sep-03	1.14%	1.09%	0.05%
16-Sep-03	1.14%	1.08%	0.06%
17-Sep-03	1.14%	1.08%	0.06%
18-Sep-03	1.14%	1.12%	0.02%
19-Sep-03	1.14%	1.12%	0.02%
22-Sep-03	1.14%	1.06%	0.08%
23-Sep-03	1.14%	1.07%	0.07%
24-Sep-03	1.14%	1.08%	0.06%
25-Sep-03	1.14%	1.07%	0.07%
26-Sep-03	1.14%	1.07%	0.07%
29-Sep-03	1.16%	1.08%	0.08%

30-Sep-03	1.16%	1.09%	0.07%
1-Oct-03	1.15%	1.08%	0.07%
2-Oct-03	1.15%	1.08%	0.07%
3-Oct-03	1.15%	1.09%	0.06%
6-Oct-03	1.15%	1.08%	0.07%
7-Oct-03	1.15%	1.08%	0.07%
8-Oct-03	1.15%	1.08%	0.07%
9-Oct-03	1.15%	1.08%	0.07%
10-Oct-03	1.15%	1.09%	0.06%
14-Oct-03	1.15%	1.09%	0.06%
15-Oct-03	1.16%	1.09%	0.07%
16-Oct-03	1.16%	1.09%	0.07%
17-Oct-03	1.17%	1.10%	0.07%
20-Oct-03	1.17%	1.11%	0.06%
21-Oct-03	1.17%	1.11%	0.06%
22-Oct-03	1.17%	1.11%	0.06%
23-Oct-03	1.16%	1.09%	0.07%
24-Oct-03	1.16%	1.10%	0.06%
27-Oct-03	1.16%	1.09%	0.07%
28-Oct-03	1.17%	1.10%	0.07%
29-Oct-03	1.16%	1.10%	0.06%
30-Oct-03	1.16%	1.10%	0.06%
31-Oct-03	1.17%	1.10%	0.07%
3-Nov-03	1.17%	1.12%	0.05%
4-Nov-03	1.17%	1.10%	0.07%
5-Nov-03	1.17%	1.10%	0.07%
6-Nov-03	1.17%	1.10%	0.07%
7-Nov-03	1.17%	1.10%	0.07%
10-Nov-03	1.18%	1.10%	0.08%
12-Nov-03	1.18%	1.12%	0.06%
13-Nov-03	1.18%	1.12%	0.06%
14-Nov-03	1.17%	1.09%	0.08%
17-Nov-03	1.17%	1.09%	0.08%
18-Nov-03	1.17%	1.10%	0.07%
19-Nov-03	1.17%	1.09%	0.08%
20-Nov-03	1.17%	1.11%	0.06%
21-Nov-03	1.17%	1.08%	0.09%
24-Nov-03	1.17%	1.08%	0.09%
25-Nov-03	1.17%	1.10%	0.07%
26-Nov-03	1.17%	1.11%	0.06%
28-Nov-03	1.17%	1.10%	0.07%
1-Dec-03	1.18%	1.10%	0.08%
2-Dec-03	1.18%	1.10%	0.08%
3-Dec-03	1.18%	1.11%	0.07%
4-Dec-03	1.18%	1.10%	0.08%
5-Dec-03	1.18%	1.10%	0.08%
8-Dec-03	1.17%	1.08%	0.09%

9-Dec-03	1.17%	1.10%	0.07%
10-Dec-03	1.17%	1.09%	0.08%
11-Dec-03	1.17%	1.09%	0.08%
12-Dec-03	1.17%	1.08%	0.09%
15-Dec-03	1.17%	1.10%	0.07%
16-Dec-03	1.17%	1.10%	0.07%
17-Dec-03	1.17%	1.08%	0.09%
18-Dec-03	1.17%	1.08%	0.09%
19-Dec-03	1.17%	1.08%	0.09%
22-Dec-03	1.17%	1.08%	0.09%
23-Dec-03	1.17%	1.09%	0.08%
24-Dec-03	1.17%	1.09%	0.08%
29-Dec-03	1.16%	1.08%	0.08%
30-Dec-03	1.16%	1.08%	0.07%
31-Dec-03	1.15%	1.07%	0.08%
2-Jan-04	1.15%	1.07%	0.08%
5-Jan-04	1.15%	1.09%	0.06%
6-Jan-04	1.15%	1.08%	0.07%
7-Jan-04	1.14%	1.06%	0.08%
8-Jan-04	1.14%	1.08%	0.06%
9-Jan-04	1.14%	1.05%	0.09%
12-Jan-04	1.12%	1.05%	0.07%
13-Jan-04	1.12%	1.05%	0.07%
14-Jan-04	1.12%	1.05%	0.07%
15-Jan-04	1.12%	1.05%	0.07%
16-Jan-04	1.12%	1.05%	0.07%
20-Jan-04	1.12%	1.04%	0.08%
21-Jan-04	1.12%	1.04%	0.08%
22-Jan-04	1.12%	1.04%	0.08%
23-Jan-04	1.12%	1.04%	0.08%
26-Jan-04	1.12%	1.04%	0.08%
27-Jan-04	1.12%	1.04%	0.08%
28-Jan-04	1.12%	1.04%	0.08%
29-Jan-04	1.13%	1.05%	0.08%
30-Jan-04	1.13%	1.06%	0.07%
2-Feb-04	1.13%	1.05%	0.08%
3-Feb-04	1.13%	1.06%	0.07%
4-Feb-04	1.13%	1.04%	0.09%
5-Feb-04	1.13%	1.05%	0.08%
6-Feb-04	1.13%	1.04%	0.09%
9-Feb-04	1.13%	1.05%	0.08%
10-Feb-04	1.13%	1.04%	0.09%
11-Feb-04	1.13%	1.05%	0.08%
12-Feb-04	1.12%	1.04%	0.08%
13-Feb-04	1.12%	1.05%	0.07%
17-Feb-04	1.12%	1.04%	0.08%
18-Feb-04	1.12%	1.03%	0.09%

19-Feb-04	1.12%	1.05%	0.07%
20-Feb-04	1.12%	1.03%	0.09%
23-Feb-04	1.12%	1.03%	0.09%
24-Feb-04	1.12%	1.03%	0.09%
25-Feb-04	1.12%	1.04%	0.08%
26-Feb-04	1.12%	1.04%	0.08%
27-Feb-04	1.12%	1.05%	0.07%
1-Mar-04	1.12%	1.04%	0.08%
2-Mar-04	1.12%	1.04%	0.08%
3-Mar-04	1.12%	1.05%	0.07%
4-Mar-04	1.12%	1.05%	0.07%
5-Mar-04	1.12%	1.03%	0.09%
8-Mar-04	1.11%	1.04%	0.07%
9-Mar-04	1.11%	1.03%	0.08%
10-Mar-04	1.11%	1.04%	0.07%
11-Mar-04	1.11%	1.04%	0.07%
12-Mar-04	1.11%	1.04%	0.07%
15-Mar-04	1.11%	1.04%	0.07%
16-Mar-04	1.11%	1.04%	0.07%
17-Mar-04	1.11%	1.04%	0.07%
18-Mar-04	1.11%	1.04%	0.07%
19-Mar-04	1.11%	1.04%	0.07%
22-Mar-04	1.11%	1.04%	0.07%
23-Mar-04	1.11%	1.03%	0.08%
24-Mar-04	1.11%	1.04%	0.07%
25-Mar-04	1.11%	1.04%	0.07%
26-Mar-04	1.11%	1.04%	0.07%
29-Mar-04	1.11%	1.03%	0.08%
30-Mar-04	1.11%	1.04%	0.07%
31-Mar-04	1.11%	1.05%	0.06%
1-Apr-04	1.11%	1.04%	0.07%
2-Apr-04	1.11%	1.04%	0.07%
5-Apr-04	1.14%	1.06%	0.08%
6-Apr-04	1.14%	1.07%	0.07%
7-Apr-04	1.14%	1.06%	0.08%
8-Apr-04	1.14%	1.06%	0.08%
13-Apr-04	1.14%	1.05%	0.09%
14-Apr-04	1.14%	1.07%	0.07%
15-Apr-04	1.15%	1.07%	0.08%
16-Apr-04	1.15%	1.07%	0.08%
19-Apr-04	1.15%	1.05%	0.10%
20-Apr-04	1.15%	1.07%	0.08%
21-Apr-04	1.17%	1.08%	0.09%
22-Apr-04	1.17%	1.08%	0.09%
23-Apr-04	1.17%	1.07%	0.10%
26-Apr-04	1.17%	1.09%	0.08%
27-Apr-04	1.17%	1.09%	0.08%

28-Apr-04	1.17%	1.08%	0.09%
29-Apr-04	1.18%	1.10%	0.08%
30-Apr-04	1.18%	1.10%	0.08%
4-May-04	1.18%	1.10%	0.08%
5-May-04	1.18%	1.10%	0.08%
6-May-04	1.18%	1.10%	0.08%
7-May-04	1.19%	1.16%	0.03%
10-May-04	1.24%	1.14%	0.10%
11-May-04	1.24%	1.18%	0.06%
12-May-04	1.24%	1.17%	0.07%
13-May-04	1.25%	1.17%	0.08%
14-May-04	1.26%	1.19%	0.07%
17-May-04	1.26%	1.18%	0.08%
18-May-04	1.26%	1.18%	0.08%
19-May-04	1.27%	1.20%	0.07%
20-May-04	1.28%	1.21%	0.07%
21-May-04	1.28%	1.21%	0.07%
24-May-04	1.29%	1.22%	0.07%
25-May-04	1.29%	1.22%	0.07%
26-May-04	1.30%	1.23%	0.07%
27-May-04	1.31%	1.24%	0.07%
28-May-04	1.32%	1.25%	0.07%
1-Jun-04	1.33%	1.25%	0.08%
2-Jun-04	1.34%	1.27%	0.07%
3-Jun-04	1.36%	1.30%	0.06%
4-Jun-04	1.37%	1.32%	0.05%
7-Jun-04	1.40%	1.34%	0.06%
8-Jun-04	1.41%	1.34%	0.07%
9-Jun-04	1.43%	1.35%	0.08%
10-Jun-04	1.47%	1.42%	0.05%
14-Jun-04	1.54%	1.49%	0.05%
15-Jun-04	1.56%	1.49%	0.07%
16-Jun-04	1.53%	1.47%	0.06%
17-Jun-04	1.55%	1.48%	0.07%
18-Jun-04	1.55%	1.47%	0.08%
21-Jun-04	1.56%	1.48%	0.08%
22-Jun-04	1.56%	1.48%	0.08%
23-Jun-04	1.57%	1.49%	0.08%
24-Jun-04	1.59%	1.50%	0.09%
25-Jun-04	1.58%	1.50%	0.08%
28-Jun-04	1.59%	1.51%	0.08%
29-Jun-04	1.60%	1.53%	0.07%
30-Jun-04	1.61%	1.55%	0.06%
1-Jul-04	1.60%	1.53%	0.07%
2-Jul-04	1.60%	1.49%	0.11%
6-Jul-04	1.58%	1.51%	0.07%
7-Jul-04	1.58%	1.52%	0.06%

8-Jul-04	1.59%	1.52%	0.07%
9-Jul-04	1.59%	1.52%	0.07%
12-Jul-04	1.60%	1.51%	0.09%
13-Jul-04	1.60%	1.53%	0.07%
14-Jul-04	1.61%	1.53%	0.08%
15-Jul-04	1.62%	1.55%	0.07%
16-Jul-04	1.63%	1.55%	0.08%
19-Jul-04	1.63%	1.54%	0.09%
20-Jul-04	1.63%	1.54%	0.09%
21-Jul-04	1.65%	1.55%	0.10%
22-Jul-04	1.66%	1.57%	0.09%
23-Jul-04	1.66%	1.58%	0.08%
26-Jul-04	1.66%	1.58%	0.08%
27-Jul-04	1.67%	1.60%	0.07%
28-Jul-04	1.68%	1.62%	0.06%
29-Jul-04	1.69%	1.63%	0.06%
30-Jul-04	1.70%	1.63%	0.07%
2-Aug-04	1.69%	1.62%	0.07%
3-Aug-04	1.70%	1.64%	0.06%
4-Aug-04	1.70%	1.66%	0.04%
5-Aug-04	1.71%	1.64%	0.07%
6-Aug-04	1.71%	1.60%	0.11%
9-Aug-04	1.67%	1.60%	0.07%
10-Aug-04	1.68%	1.61%	0.07%
11-Aug-04	1.71%	1.65%	0.06%
12-Aug-04	1.71%	1.65%	0.06%
13-Aug-04	1.72%	1.65%	0.07%
16-Aug-04	1.72%	1.65%	0.07%
17-Aug-04	1.73%	1.67%	0.06%
18-Aug-04	1.73%	1.66%	0.07%
19-Aug-04	1.74%	1.67%	0.07%
20-Aug-04	1.74%	1.66%	0.08%
23-Aug-04	1.75%	1.67%	0.08%
24-Aug-04	1.76%	1.69%	0.07%
25-Aug-04	1.77%	1.70%	0.07%
26-Aug-04	1.78%	1.72%	0.06%
27-Aug-04	1.79%	1.73%	0.06%
31-Aug-04	1.80%	1.73%	0.07%
1-Sep-04	1.80%	1.73%	0.07%
2-Sep-04	1.81%	1.75%	0.06%
3-Sep-04	1.82%	1.76%	0.06%
7-Sep-04	1.86%	1.79%	0.07%
8-Sep-04	1.86%	1.80%	0.06%
9-Sep-04	1.87%	1.80%	0.07%
10-Sep-04	1.87%	1.82%	0.05%
13-Sep-04	1.88%	1.81%	0.07%
14-Sep-04	1.88%	1.82%	0.06%

15-Sep-04	1.89%	1.83%	0.06%
16-Sep-04	1.91%	1.85%	0.06%
17-Sep-04	1.91%	1.85%	0.06%
20-Sep-04	1.92%	1.87%	0.05%
21-Sep-04	1.93%	1.86%	0.07%
22-Sep-04	1.94%	1.88%	0.06%
23-Sep-04	1.95%	1.88%	0.07%
24-Sep-04	1.96%	1.89%	0.07%
27-Sep-04	1.97%	1.88%	0.09%
28-Sep-04	1.98%	1.90%	0.08%
29-Sep-04	2.01%	1.95%	0.06%
30-Sep-04	2.02%	1.95%	0.07%
1-Oct-04	2.03%	1.97%	0.06%
4-Oct-04	2.03%	1.96%	0.07%
5-Oct-04	2.04%	1.97%	0.07%
6-Oct-04	2.05%	1.97%	0.08%
7-Oct-04	2.06%	1.98%	0.08%
8-Oct-04	2.06%	2.02%	0.04%
12-Oct-04	2.06%	1.99%	0.07%
13-Oct-04	2.07%	1.99%	0.08%
14-Oct-04	2.07%	2.00%	0.07%
15-Oct-04	2.07%	2.00%	0.07%
18-Oct-04	2.08%	2.00%	0.08%
19-Oct-04	2.08%	2.01%	0.07%
20-Oct-04	2.09%	2.03%	0.06%
21-Oct-04	2.10%	2.05%	0.05%
22-Oct-04	2.11%	2.06%	0.05%
25-Oct-04	2.11%	2.04%	0.07%
26-Oct-04	2.12%	2.05%	0.07%
27-Oct-04	2.13%	2.05%	0.08%
28-Oct-04	2.16%	2.09%	0.07%
29-Oct-04	2.17%	2.09%	0.08%
1-Nov-04	2.18%	2.10%	0.08%
2-Nov-04	2.19%	2.12%	0.07%
3-Nov-04	2.20%	2.12%	0.08%
4-Nov-04	2.21%	2.14%	0.07%
5-Nov-04	2.22%	2.14%	0.08%
8-Nov-04	2.26%	2.20%	0.06%
9-Nov-04	2.27%	2.20%	0.07%
10-Nov-04	2.28%	2.22%	0.06%
12-Nov-04	2.29%	2.22%	0.07%
15-Nov-04	2.30%	2.22%	0.08%
16-Nov-04	2.31%	2.27%	0.04%
17-Nov-04	2.33%	2.26%	0.07%
18-Nov-04	2.34%	2.26%	0.08%
19-Nov-04	2.35%	2.28%	0.07%
22-Nov-04	2.36%	2.28%	0.08%

23-Nov-04	2.38%	2.31%	0.07%
24-Nov-04	2.38%	2.31%	0.07%
26-Nov-04	2.40%	2.33%	0.07%
29-Nov-04	2.40%	2.34%	0.06%
30-Nov-04	2.41%	2.34%	0.07%
1-Dec-04	2.42%	2.34%	0.08%
2-Dec-04	2.44%	2.35%	0.09%
3-Dec-04	2.44%	2.36%	0.08%
6-Dec-04	2.44%	2.37%	0.07%
7-Dec-04	2.45%	2.38%	0.07%
8-Dec-04	2.46%	2.38%	0.08%
9-Dec-04	2.47%	2.38%	0.09%
10-Dec-04	2.48%	2.41%	0.07%
13-Dec-04	2.49%	2.42%	0.07%
14-Dec-04	2.50%	2.43%	0.07%
15-Dec-04	2.50%	2.44%	0.06%
16-Dec-04	2.51%	2.44%	0.07%
17-Dec-04	2.52%	2.45%	0.07%
20-Dec-04	2.52%	2.46%	0.06%
21-Dec-04	2.53%	2.45%	0.08%
22-Dec-04	2.53%	2.45%	0.08%
23-Dec-04	2.55%	2.47%	0.08%
24-Dec-04	2.55%	2.47%	0.08%
29-Dec-04	2.56%	2.48%	0.08%
30-Dec-04	2.56%	2.49%	0.07%
31-Dec-04	2.56%	2.49%	0.07%
4-Jan-05	2.57%	2.51%	0.06%
5-Jan-05	2.59%	2.52%	0.07%
6-Jan-05	2.61%	2.55%	0.06%
7-Jan-05	2.61%	2.55%	0.06%
10-Jan-05	2.62%	2.56%	0.06%
11-Jan-05	2.63%	2.57%	0.06%
12-Jan-05	2.64%	2.56%	0.08%
13-Jan-05	2.66%	2.57%	0.09%
14-Jan-05	2.66%	2.59%	0.07%
18-Jan-05	2.67%	2.60%	0.07%
19-Jan-05	2.68%	2.62%	0.06%
20-Jan-05	2.69%	2.63%	0.06%
21-Jan-05	2.70%	2.63%	0.07%
24-Jan-05	2.70%	2.63%	0.07%
25-Jan-05	2.70%	2.63%	0.07%
26-Jan-05	2.71%	2.65%	0.06%
27-Jan-05	2.73%	2.67%	0.06%
28-Jan-05	2.74%	2.68%	0.06%
31-Jan-05	2.75%	2.69%	0.06%
1-Feb-05	2.75%	2.68%	0.07%
2-Feb-05	2.75%	2.68%	0.07%

3-Feb-05	2.77%	2.71%	0.06%
4-Feb-05	2.77%	2.70%	0.07%
7-Feb-05	2.77%	2.70%	0.07%
8-Feb-05	2.77%	2.71%	0.06%
9-Feb-05	2.77%	2.71%	0.06%
10-Feb-05	2.79%	2.73%	0.06%
11-Feb-05	2.79%	2.74%	0.05%
14-Feb-05	2.80%	2.73%	0.07%
15-Feb-05	2.81%	2.74%	0.07%
16-Feb-05	2.82%	2.75%	0.07%
17-Feb-05	2.85%	2.78%	0.07%
18-Feb-05	2.85%	2.78%	0.07%
22-Feb-05	2.87%	2.79%	0.08%
23-Feb-05	2.87%	2.81%	0.06%
24-Feb-05	2.89%	2.83%	0.06%
25-Feb-05	2.91%	2.85%	0.06%
28-Feb-05	2.92%	2.84%	0.08%
1-Mar-05	2.93%	2.85%	0.08%
2-Mar-05	2.94%	2.87%	0.07%
3-Mar-05	2.95%	2.90%	0.05%
4-Mar-05	2.96%	2.88%	0.08%
7-Mar-05	2.96%	2.89%	0.07%
8-Mar-05	2.97%	2.89%	0.08%
9-Mar-05	2.98%	2.90%	0.08%
10-Mar-05	3.00%	2.93%	0.07%
11-Mar-05	3.01%	2.94%	0.07%
14-Mar-05	3.02%	2.95%	0.07%
15-Mar-05	3.03%	2.96%	0.07%
16-Mar-05	3.04%	2.97%	0.07%
17-Mar-05	3.05%	2.97%	0.08%
18-Mar-05	3.05%	2.98%	0.07%
21-Mar-05	3.05%	2.98%	0.07%
22-Mar-05	3.06%	2.98%	0.08%
23-Mar-05	3.09%	3.02%	0.07%
24-Mar-05	3.09%	3.02%	0.07%
29-Mar-05	3.09%	3.02%	0.07%
30-Mar-05	3.10%	3.04%	0.06%
31-Mar-05	3.12%	3.05%	0.07%
1-Apr-05	3.12%	3.02%	0.10%
4-Apr-05	3.12%	3.03%	0.09%
5-Apr-05	3.12%	3.04%	0.08%
6-Apr-05	3.12%	3.04%	0.08%
7-Apr-05	3.13%	3.05%	0.08%
8-Apr-05	3.13%	3.06%	0.07%
11-Apr-05	3.14%	3.05%	0.09%
12-Apr-05	3.14%	3.06%	0.08%
13-Apr-05	3.14%	3.07%	0.07%

14-Apr-05	3.15%	3.07%	0.08%
15-Apr-05	3.15%	3.07%	0.08%
18-Apr-05	3.14%	3.08%	0.06%
19-Apr-05	3.15%	3.07%	0.08%
20-Apr-05	3.15%	3.08%	0.07%
21-Apr-05	3.16%	3.09%	0.07%
22-Apr-05	3.17%	3.10%	0.07%
25-Apr-05	3.18%	3.12%	0.06%
26-Apr-05	3.19%	3.13%	0.06%
27-Apr-05	3.19%	3.13%	0.06%
28-Apr-05	3.21%	3.13%	0.08%
29-Apr-05	3.21%	3.14%	0.07%
3-May-05	3.22%	3.15%	0.07%
4-May-05	3.22%	3.15%	0.07%
5-May-05	3.23%	3.16%	0.07%
6-May-05	3.23%	3.16%	0.07%
9-May-05	3.25%	3.18%	0.07%
10-May-05	3.25%	3.19%	0.06%
11-May-05	3.26%	3.20%	0.06%
12-May-05	3.27%	3.20%	0.07%
13-May-05	3.27%	3.20%	0.07%
16-May-05	3.27%	3.21%	0.06%
17-May-05	3.27%	3.20%	0.07%
18-May-05	3.28%	3.21%	0.07%
19-May-05	3.28%	3.22%	0.06%
20-May-05	3.29%	3.22%	0.07%
23-May-05	3.29%	3.23%	0.06%
24-May-05	3.30%	3.23%	0.07%
25-May-05	3.31%	3.23%	0.08%
26-May-05	3.32%	3.25%	0.07%
27-May-05	3.33%	3.25%	0.08%
31-May-05	3.34%	3.26%	0.08%
1-Jun-05	3.35%	3.28%	0.07%
2-Jun-05	3.35%	3.28%	0.07%
3-Jun-05	3.36%	3.27%	0.09%
6-Jun-05	3.37%	3.28%	0.09%
7-Jun-05	3.37%	3.30%	0.07%
8-Jun-05	3.38%	3.30%	0.08%
9-Jun-05	3.39%	3.33%	0.06%
10-Jun-05	3.40%	3.33%	0.07%
13-Jun-05	3.41%	3.34%	0.07%
14-Jun-05	3.41%	3.35%	0.06%
15-Jun-05	3.42%	3.35%	0.07%
16-Jun-05	3.43%	3.37%	0.06%
17-Jun-05	3.44%	3.38%	0.06%
20-Jun-05	3.44%	3.39%	0.05%
21-Jun-05	3.45%	3.39%	0.06%

22-Jun-05	3.46%	3.41%	0.05%
23-Jun-05	3.47%	3.41%	0.06%
24-Jun-05	3.48%	3.42%	0.06%
27-Jun-05	3.48%	3.41%	0.07%
28-Jun-05	3.49%	3.44%	0.05%
29-Jun-05	3.50%	3.44%	0.06%
30-Jun-05	3.52%	3.46%	0.06%
1-Jul-05	3.53%	3.49%	0.04%
5-Jul-05	3.55%	3.48%	0.07%
6-Jul-05	3.56%	3.51%	0.05%
7-Jul-05	3.55%	3.50%	0.05%
8-Jul-05	3.56%	3.50%	0.06%
11-Jul-05	3.57%	3.51%	0.06%
12-Jul-05	3.58%	3.52%	0.06%
13-Jul-05	3.60%	3.54%	0.06%
14-Jul-05	3.61%	3.55%	0.06%
15-Jul-05	3.61%	3.55%	0.06%
18-Jul-05	3.62%	3.47%	0.15%
19-Jul-05	3.63%	3.55%	0.08%
20-Jul-05	3.64%	3.58%	0.06%
21-Jul-05	3.65%	3.59%	0.06%
22-Jul-05	3.66%	3.60%	0.06%
25-Jul-05	3.66%	3.60%	0.06%
26-Jul-05	3.67%	3.61%	0.06%
27-Jul-05	3.68%	3.62%	0.06%
28-Jul-05	3.69%	3.64%	0.05%
29-Jul-05	3.70%	3.64%	0.06%
1-Aug-05	3.71%	3.65%	0.06%
2-Aug-05	3.72%	3.66%	0.06%
3-Aug-05	3.73%	3.68%	0.05%
4-Aug-05	3.75%	3.69%	0.06%
5-Aug-05	3.75%	3.70%	0.05%
8-Aug-05	3.76%	3.70%	0.06%
9-Aug-05	3.78%	3.71%	0.07%
10-Aug-05	3.78%	3.71%	0.07%
11-Aug-05	3.79%	3.74%	0.05%
12-Aug-05	3.79%	3.72%	0.07%
15-Aug-05	3.80%	3.75%	0.05%
16-Aug-05	3.80%	3.74%	0.06%
17-Aug-05	3.81%	3.75%	0.06%
18-Aug-05	3.82%	3.76%	0.06%
19-Aug-05	3.82%	3.77%	0.05%
22-Aug-05	3.83%	3.79%	0.04%
23-Aug-05	3.84%	3.79%	0.05%
24-Aug-05	3.84%	3.79%	0.05%
25-Aug-05	3.86%	3.81%	0.05%
26-Aug-05	3.86%	3.80%	0.06%

30-Aug-05	3.87%	3.82%	0.05%
31-Aug-05	3.87%	3.80%	0.07%
1-Sep-05	3.86%	3.80%	0.06%
2-Sep-05	3.76%	3.68%	0.08%
6-Sep-05	3.79%	3.73%	0.06%
7-Sep-05	3.80%	3.70%	0.10%
8-Sep-05	3.83%	3.78%	0.05%
9-Sep-05	3.85%	3.79%	0.06%
12-Sep-05	3.86%	3.80%	0.06%
13-Sep-05	3.87%	3.81%	0.06%
14-Sep-05	3.87%	3.81%	0.06%
15-Sep-05	3.89%	3.83%	0.06%
16-Sep-05	3.89%	3.83%	0.06%
19-Sep-05	3.92%	3.85%	0.07%
20-Sep-05	3.92%	3.86%	0.06%
21-Sep-05	3.96%	3.90%	0.06%
22-Sep-05	3.96%	3.90%	0.06%
23-Sep-05	3.97%	3.91%	0.06%
26-Sep-05	4.00%	3.94%	0.06%
27-Sep-05	4.01%	3.95%	0.06%
28-Sep-05	4.02%	3.96%	0.06%
29-Sep-05	4.05%	4.00%	0.05%
30-Sep-05	4.07%	4.00%	0.07%
3-Oct-05	4.08%	4.01%	0.07%
4-Oct-05	4.09%	4.03%	0.06%
5-Oct-05	4.10%	4.04%	0.06%
6-Oct-05	4.11%	4.05%	0.06%
7-Oct-05	4.12%	4.04%	0.08%
11-Oct-05	4.13%	4.07%	0.06%
12-Oct-05	4.14%	4.08%	0.06%
13-Oct-05	4.15%	4.10%	0.05%
14-Oct-05	4.16%	4.10%	0.06%
17-Oct-05	4.17%	4.11%	0.06%
18-Oct-05	4.17%	4.11%	0.06%
19-Oct-05	4.18%	4.12%	0.06%
20-Oct-05	4.19%	4.18%	0.01%
21-Oct-05	4.20%	4.19%	0.01%
24-Oct-05	4.21%	4.19%	0.02%
25-Oct-05	4.22%	4.20%	0.02%
26-Oct-05	4.23%	4.20%	0.03%
27-Oct-05	4.24%	4.24%	0.00%
28-Oct-05	4.25%	4.24%	0.01%
31-Oct-05	4.26%	4.25%	0.01%
1-Nov-05	4.26%	4.25%	0.01%
2-Nov-05	4.28%	4.28%	0.00%
3-Nov-05	4.29%	4.27%	0.02%
4-Nov-05	4.30%	4.27%	0.03%

7-Nov-05	4.30%	4.28%	0.02%
8-Nov-05	4.31%	4.28%	0.03%
9-Nov-05	4.33%	4.31%	0.02%
10-Nov-05	4.33%	4.31%	0.02%
14-Nov-05	4.34%	4.33%	0.01%
15-Nov-05	4.35%	4.34%	0.01%
16-Nov-05	4.37%	4.35%	0.02%
17-Nov-05	4.37%	4.36%	0.01%
18-Nov-05	4.37%	4.36%	0.01%
21-Nov-05	4.38%	4.36%	0.02%
22-Nov-05	4.39%	4.38%	0.01%
23-Nov-05	4.39%	4.38%	0.01%
25-Nov-05	4.40%	4.39%	0.01%
28-Nov-05	4.41%	4.39%	0.02%
29-Nov-05	4.41%	4.40%	0.01%
30-Nov-05	4.42%	4.41%	0.01%
1-Dec-05	4.44%	4.41%	0.03%
2-Dec-05	4.45%	4.44%	0.01%
5-Dec-05	4.45%	4.42%	0.03%
6-Dec-05	4.46%	4.43%	0.03%
7-Dec-05	4.46%	4.44%	0.02%
8-Dec-05	4.48%	4.47%	0.01%
9-Dec-05	4.48%	4.46%	0.02%
12-Dec-05	4.49%	4.47%	0.02%
13-Dec-05	4.49%	4.47%	0.02%
14-Dec-05	4.49%	4.47%	0.02%
15-Dec-05	4.50%	4.47%	0.03%
16-Dec-05	4.50%	4.48%	0.02%
19-Dec-05	4.50%	4.48%	0.02%
20-Dec-05	4.50%	4.48%	0.02%
21-Dec-05	4.50%	4.48%	0.02%
22-Dec-05	4.52%	4.50%	0.02%
23-Dec-05	4.52%	4.50%	0.02%
28-Dec-05	4.53%	4.50%	0.03%
29-Dec-05	4.53%	4.50%	0.03%
30-Dec-05	4.54%	4.52%	0.02%
3-Jan-06	4.54%	4.53%	0.01%
4-Jan-06	4.54%	4.53%	0.01%
5-Jan-06	4.55%	4.54%	0.01%
6-Jan-06	4.55%	4.54%	0.01%
9-Jan-06	4.56%	4.55%	0.01%
10-Jan-06	4.57%	4.56%	0.01%
11-Jan-06	4.58%	4.56%	0.02%
12-Jan-06	4.60%	4.58%	0.02%
13-Jan-06	4.60%	4.58%	0.02%
17-Jan-06	4.60%	4.59%	0.01%
18-Jan-06	4.60%	4.60%	0.00%

19-Jan-06	4.61%	4.60%	0.01%
20-Jan-06	4.62%	4.61%	0.01%
23-Jan-06	4.62%	4.61%	0.01%
24-Jan-06	4.63%	4.62%	0.01%
25-Jan-06	4.64%	4.62%	0.02%
26-Jan-06	4.66%	4.65%	0.01%
27-Jan-06	4.67%	4.65%	0.02%
30-Jan-06	4.68%	4.67%	0.01%
31-Jan-06	4.68%	4.67%	0.01%
1-Feb-06	4.69%	4.68%	0.01%
2-Feb-06	4.71%	4.69%	0.02%
3-Feb-06	4.71%	4.70%	0.01%
7-Feb-06	4.72%	4.71%	0.01%
8-Feb-06	4.72%	4.71%	0.01%
9-Feb-06	4.74%	4.73%	0.01%
10-Feb-06	4.74%	4.72%	0.02%
13-Feb-06	4.75%	4.74%	0.01%
14-Feb-06	4.75%	4.75%	0.00%
15-Feb-06	4.75%	4.75%	0.00%
16-Feb-06	4.77%	4.77%	0.00%
17-Feb-06	4.77%	4.75%	0.02%
21-Feb-06	4.77%	4.77%	0.00%
22-Feb-06	4.78%	4.77%	0.01%
23-Feb-06	4.80%	4.79%	0.01%
24-Feb-06	4.81%	4.80%	0.01%
27-Feb-06	4.82%	4.81%	0.01%
28-Feb-06	4.82%	4.82%	0.00%
1-Mar-06	4.83%	4.82%	0.01%
2-Mar-06	4.84%	4.83%	0.01%
3-Mar-06	4.85%	4.85%	0.00%
6-Mar-06	4.86%	4.85%	0.01%
7-Mar-06	4.87%	4.86%	0.01%
8-Mar-06	4.88%	4.85%	0.03%
9-Mar-06	4.89%	4.87%	0.02%
10-Mar-06	4.90%	4.90%	0.00%
13-Mar-06	4.91%	4.90%	0.01%
14-Mar-06	4.92%	4.90%	0.02%
15-Mar-06	4.92%	4.90%	0.02%
16-Mar-06	4.93%	4.92%	0.01%
17-Mar-06	4.93%	4.92%	0.01%
20-Mar-06	4.94%	4.92%	0.02%
21-Mar-06	4.94%	4.92%	0.02%
22-Mar-06	4.95%	4.95%	0.00%
23-Mar-06	4.96%	4.95%	0.01%
24-Mar-06	4.96%	4.96%	0.00%
27-Mar-06	4.96%	4.96%	0.00%
28-Mar-06	4.96%	4.96%	0.00%

29-Mar-06	4.98%	4.97%	0.01%
30-Mar-06	4.99%	4.98%	0.01%
31-Mar-06	5.00%	4.99%	0.01%
3-Apr-06	5.00%	4.98%	0.02%
4-Apr-06	5.01%	5.00%	0.01%
5-Apr-06	5.01%	5.01%	0.00%
6-Apr-06	5.02%	5.00%	0.02%
7-Apr-06	5.03%	5.00%	0.03%
10-Apr-06	5.04%	5.02%	0.02%
11-Apr-06	5.05%	5.05%	0.00%
12-Apr-06	5.07%	5.06%	0.01%
13-Apr-06	5.08%	5.07%	0.01%
18-Apr-06	5.08%	5.07%	0.01%
19-Apr-06	5.07%	5.07%	0.00%
20-Apr-06	5.09%	5.08%	0.01%
21-Apr-06	5.10%	5.09%	0.01%
24-Apr-06	5.11%	5.09%	0.02%
25-Apr-06	5.11%	5.10%	0.01%
26-Apr-06	5.13%	5.12%	0.01%
27-Apr-06	5.15%	5.14%	0.01%
28-Apr-06	5.13%	5.13%	0.00%
2-May-06	5.15%	5.14%	0.01%
3-May-06	5.15%	5.14%	0.01%
4-May-06	5.16%	5.14%	0.02%
5-May-06	5.17%	5.14%	0.03%
8-May-06	5.16%	5.15%	0.01%
9-May-06	5.16%	5.16%	0.00%
10-May-06	5.16%	5.16%	0.00%
11-May-06	5.17%	5.16%	0.01%
12-May-06	5.17%	5.16%	0.01%
15-May-06	5.17%	5.17%	0.00%
16-May-06	5.17%	5.17%	0.00%
17-May-06	5.17%	5.17%	0.00%
18-May-06	5.19%	5.18%	0.01%
19-May-06	5.19%	5.19%	0.00%
22-May-06	5.21%	5.20%	0.01%
23-May-06	5.21%	5.21%	0.00%
24-May-06	5.21%	5.21%	0.00%
25-May-06	5.22%	5.22%	0.00%
26-May-06	5.23%	5.22%	0.01%
30-May-06	5.23%	5.23%	0.00%
31-May-06	5.24%	5.23%	0.01%
1-Jun-06	5.27%	5.26%	0.01%
2-Jun-06	5.27%	5.26%	0.01%
5-Jun-06	5.24%	5.23%	0.01%
6-Jun-06	5.27%	5.26%	0.01%
7-Jun-06	5.28%	5.28%	0.00%

8-Jun-06	5.30%	5.29%	0.01%
9-Jun-06	5.31%	5.30%	0.01%
12-Jun-06	5.32%	5.31%	0.01%
13-Jun-06	5.33%	5.32%	0.01%
14-Jun-06	5.34%	5.35%	-0.01%
15-Jun-06	5.40%	5.39%	0.01%
16-Jun-06	5.41%	5.41%	0.00%
19-Jun-06	5.42%	5.42%	0.00%
20-Jun-06	5.44%	5.43%	0.01%
21-Jun-06	5.45%	5.43%	0.02%
22-Jun-06	5.46%	5.45%	0.01%
23-Jun-06	5.48%	5.47%	0.01%
26-Jun-06	5.49%	5.47%	0.02%
27-Jun-06	5.50%	5.50%	0.00%
28-Jun-06	5.50%	5.48%	0.02%
29-Jun-06	5.51%	5.49%	0.02%
30-Jun-06	5.48%	5.48%	0.00%
3-Jul-06	5.48%	5.47%	0.01%
5-Jul-06	5.49%	5.48%	0.01%
6-Jul-06	5.51%	5.50%	0.01%
7-Jul-06	5.51%	5.50%	0.01%
10-Jul-06	5.50%	5.50%	0.00%
11-Jul-06	5.50%	5.50%	0.00%
12-Jul-06	5.50%	5.50%	0.00%
13-Jul-06	5.51%	5.50%	0.01%
14-Jul-06	5.50%	5.49%	0.01%
17-Jul-06	5.49%	5.49%	0.00%
18-Jul-06	5.50%	5.49%	0.01%
19-Jul-06	5.52%	5.51%	0.01%
20-Jul-06	5.51%	5.51%	0.00%
21-Jul-06	5.49%	5.48%	0.01%
24-Jul-06	5.49%	5.48%	0.01%
25-Jul-06	5.49%	5.48%	0.01%
26-Jul-06	5.50%	5.49%	0.01%
27-Jul-06	5.49%	5.49%	-0.01%
28-Jul-06	5.49%	5.47%	0.02%
31-Jul-06	5.47%	5.45%	0.02%
1-Aug-06	5.47%	5.45%	0.02%
2-Aug-06	5.47%	5.45%	0.02%
3-Aug-06	5.48%	5.47%	0.01%
4-Aug-06	5.50%	5.41%	0.09%
7-Aug-06	5.44%	5.43%	0.01%
8-Aug-06	5.45%	5.44%	0.01%
9-Aug-06	5.40%	5.39%	0.01%
10-Aug-06	5.40%	5.36%	0.04%
11-Aug-06	5.41%	5.38%	0.03%
14-Aug-06	5.42%	5.39%	0.03%

15-Aug-06	5.43%	5.42%	0.01%
16-Aug-06	5.41%	5.41%	0.00%
17-Aug-06	5.39%	5.39%	0.00%
18-Aug-06	5.40%	5.39%	0.01%
21-Aug-06	5.40%	5.39%	0.01%
22-Aug-06	5.40%	5.39%	0.01%
23-Aug-06	5.40%	5.40%	0.00%
24-Aug-06	5.40%	5.40%	0.00%
25-Aug-06	5.40%	5.40%	0.00%
29-Aug-06	5.40%	5.40%	0.00%
30-Aug-06	5.40%	5.39%	0.01%
31-Aug-06	5.40%	5.39%	0.01%
1-Sep-06	5.39%	5.39%	0.00%
5-Sep-06	5.39%	5.39%	0.00%
6-Sep-06	5.39%	5.39%	0.00%
7-Sep-06	5.39%	5.39%	0.00%
8-Sep-06	5.39%	5.39%	0.00%
11-Sep-06	5.39%	5.39%	0.00%
12-Sep-06	5.39%	5.39%	0.00%
13-Sep-06	5.39%	5.36%	0.03%
14-Sep-06	5.39%	5.37%	0.02%
15-Sep-06	5.39%	5.36%	0.03%
18-Sep-06	5.39%	5.39%	0.00%
19-Sep-06	5.39%	5.39%	0.00%
20-Sep-06	5.39%	5.38%	0.01%
21-Sep-06	5.39%	5.38%	0.01%
22-Sep-06	5.37%	5.36%	0.01%
25-Sep-06	5.37%	5.36%	0.01%
26-Sep-06	5.36%	5.36%	0.00%
27-Sep-06	5.37%	5.36%	0.01%
28-Sep-06	5.37%	5.36%	0.01%
29-Sep-06	5.37%	5.36%	0.01%
2-Oct-06	5.37%	5.36%	0.01%
3-Oct-06	5.37%	5.36%	0.01%
4-Oct-06	5.37%	5.36%	0.01%
5-Oct-06	5.37%	5.36%	0.01%
6-Oct-06	5.37%	5.36%	0.01%
10-Oct-06	5.37%	5.36%	0.01%
11-Oct-06	5.37%	5.36%	0.01%
12-Oct-06	5.37%	5.36%	0.01%
13-Oct-06	5.37%	5.36%	0.01%
16-Oct-06	5.37%	5.36%	0.01%
17-Oct-06	5.37%	5.36%	0.01%
18-Oct-06	5.37%	5.36%	0.01%
19-Oct-06	5.37%	5.36%	0.01%
20-Oct-06	5.38%	5.34%	0.04%
23-Oct-06	5.38%	5.37%	0.01%

24-Oct-06	5.38%	5.38%	0.00%
25-Oct-06	5.38%	5.38%	0.00%
26-Oct-06	5.38%	5.37%	0.01%
27-Oct-06	5.38%	5.37%	0.01%
30-Oct-06	5.37%	5.37%	0.00%
31-Oct-06	5.37%	5.37%	0.00%
1-Nov-06	5.37%	5.37%	0.00%
2-Nov-06	5.37%	5.37%	0.00%
3-Nov-06	5.37%	5.37%	0.00%
6-Nov-06	5.38%	5.36%	0.02%
7-Nov-06	5.38%	5.37%	0.01%
8-Nov-06	5.37%	5.37%	0.00%
9-Nov-06	5.38%	5.34%	0.04%
10-Nov-06	5.37%	5.35%	0.02%
13-Nov-06	5.37%	5.37%	0.00%
14-Nov-06	5.38%	5.37%	0.01%
15-Nov-06	5.37%	5.37%	0.00%
16-Nov-06	5.38%	5.37%	0.01%
17-Nov-06	5.38%	5.37%	0.01%
20-Nov-06	5.37%	5.37%	0.00%
21-Nov-06	5.37%	5.37%	0.00%
22-Nov-06	5.37%	5.34%	0.03%
24-Nov-06	5.37%	5.37%	0.00%
27-Nov-06	5.37%	5.37%	0.00%
28-Nov-06	5.37%	5.36%	0.01%
29-Nov-06	5.37%	5.36%	0.01%
30-Nov-06	5.37%	5.36%	0.01%
1-Dec-06	5.37%	5.35%	0.02%
4-Dec-06	5.35%	5.35%	0.00%
5-Dec-06	5.35%	5.35%	0.00%
6-Dec-06	5.35%	5.35%	0.00%
7-Dec-06	5.35%	5.35%	0.00%
8-Dec-06	5.36%	5.35%	0.01%
11-Dec-06	5.36%	5.35%	0.01%
12-Dec-06	5.36%	5.35%	0.01%
13-Dec-06	5.36%	5.34%	0.02%
14-Dec-06	5.36%	5.36%	0.00%
15-Dec-06	5.37%	5.35%	0.02%
18-Dec-06	5.37%	5.35%	0.02%
19-Dec-06	5.37%	5.36%	0.01%
20-Dec-06	5.37%	5.36%	0.01%
21-Dec-06	5.37%	5.36%	0.01%
22-Dec-06	5.36%	5.34%	0.02%
27-Dec-06	5.36%	5.36%	0.00%
28-Dec-06	5.36%	5.36%	0.00%
29-Dec-06	5.36%	5.36%	0.00%
2-Jan-07	5.36%	5.36%	0.00%

3-Jan-07	5.36%	5.35%	0.01%
4-Jan-07	5.36%	5.35%	0.01%
5-Jan-07	5.36%	5.35%	0.01%
8-Jan-07	5.36%	5.35%	0.01%
9-Jan-07	5.36%	5.35%	0.01%
10-Jan-07	5.36%	5.35%	0.01%
11-Jan-07	5.36%	5.35%	0.01%
12-Jan-07	5.36%	5.35%	0.01%
16-Jan-07	5.36%	5.35%	0.01%
17-Jan-07	5.36%	5.34%	0.02%
18-Jan-07	5.36%	5.36%	0.00%
19-Jan-07	5.36%	5.36%	0.00%
22-Jan-07	5.36%	5.36%	0.00%
23-Jan-07	5.36%	5.33%	0.03%
24-Jan-07	5.36%	5.36%	0.00%
25-Jan-07	5.36%	5.36%	0.00%
26-Jan-07	5.36%	5.36%	0.00%
29-Jan-07	5.36%	5.36%	0.00%
30-Jan-07	5.36%	5.36%	0.00%
31-Jan-07	5.36%	5.36%	0.00%
1-Feb-07	5.36%	5.33%	0.03%
2-Feb-07	5.36%	5.36%	0.00%
5-Feb-07	5.36%	5.36%	0.00%
6-Feb-07	5.36%	5.36%	0.00%
7-Feb-07	5.36%	5.36%	0.00%
8-Feb-07	5.36%	5.36%	0.00%
9-Feb-07	5.36%	5.36%	0.00%
12-Feb-07	5.36%	5.36%	0.00%
13-Feb-07	5.36%	5.36%	0.00%
14-Feb-07	5.36%	5.36%	0.00%
15-Feb-07	5.36%	5.35%	0.01%
16-Feb-07	5.36%	5.35%	0.01%
20-Feb-07	5.36%	5.35%	0.01%
21-Feb-07	5.36%	5.35%	0.01%
22-Feb-07	5.36%	5.35%	0.01%
23-Feb-07	5.36%	5.35%	0.01%
26-Feb-07	5.36%	5.35%	0.01%
27-Feb-07	5.36%	5.34%	0.02%
28-Feb-07	5.35%	5.34%	0.01%
1-Mar-07	5.35%	5.34%	0.01%
2-Mar-07	5.35%	5.34%	0.01%
5-Mar-07	5.33%	5.33%	0.00%
6-Mar-07	5.34%	5.34%	0.00%
7-Mar-07	5.34%	5.34%	0.00%
8-Mar-07	5.34%	5.33%	0.01%
9-Mar-07	5.34%	5.34%	0.00%
12-Mar-07	5.36%	5.35%	0.01%

13-Mar-07	5.35%	5.34%	0.01%
14-Mar-07	5.35%	5.34%	0.01%
15-Mar-07	5.35%	5.34%	0.01%
16-Mar-07	5.35%	5.34%	0.01%
19-Mar-07	5.35%	5.34%	0.01%
20-Mar-07	5.35%	5.34%	0.01%
21-Mar-07	5.35%	5.33%	0.02%
22-Mar-07	5.35%	5.33%	0.02%
23-Mar-07	5.35%	5.33%	0.02%
26-Mar-07	5.35%	5.34%	0.01%
27-Mar-07	5.35%	5.34%	0.01%
28-Mar-07	5.35%	5.34%	0.01%
29-Mar-07	5.35%	5.34%	0.01%
30-Mar-07	5.35%	5.34%	0.01%
2-Apr-07	5.35%	5.34%	0.01%
3-Apr-07	5.35%	5.34%	0.01%
4-Apr-07	5.35%	5.34%	0.01%
5-Apr-07	5.35%	5.34%	0.01%
10-Apr-07	5.36%	5.32%	0.04%
11-Apr-07	5.36%	5.32%	0.04%
12-Apr-07	5.36%	5.33%	0.03%
13-Apr-07	5.36%	5.33%	0.03%
16-Apr-07	5.36%	5.32%	0.04%
17-Apr-07	5.36%	5.33%	0.03%
18-Apr-07	5.36%	5.32%	0.04%
19-Apr-07	5.36%	5.35%	0.01%
20-Apr-07	5.36%	5.35%	0.01%
23-Apr-07	5.36%	5.35%	0.01%
24-Apr-07	5.36%	5.35%	0.01%
25-Apr-07	5.36%	5.35%	0.01%
26-Apr-07	5.36%	5.35%	0.01%
27-Apr-07	5.36%	5.35%	0.01%
30-Apr-07	5.36%	5.35%	0.01%
1-May-07	5.36%	5.35%	0.01%
2-May-07	5.36%	5.35%	0.01%
3-May-07	5.36%	5.35%	0.01%
4-May-07	5.36%	5.34%	0.02%
8-May-07	5.36%	5.35%	0.01%
9-May-07	5.36%	5.35%	0.01%
10-May-07	5.36%	5.32%	0.04%
11-May-07	5.36%	5.32%	0.04%
14-May-07	5.36%	5.32%	0.04%
15-May-07	5.36%	5.35%	0.01%
16-May-07	5.36%	5.35%	0.01%
17-May-07	5.36%	5.35%	0.01%
18-May-07	5.36%	5.35%	0.01%
21-May-07	5.36%	5.35%	0.01%

22-May-07	5.36%	5.35%	0.01%
23-May-07	5.36%	5.35%	0.01%
24-May-07	5.36%	5.35%	0.01%
25-May-07	5.36%	5.35%	0.01%
29-May-07	5.36%	5.35%	0.01%
30-May-07	5.36%	5.35%	0.01%
31-May-07	5.36%	5.35%	0.01%
1-Jun-07	5.36%	5.35%	0.01%
4-Jun-07	5.36%	5.36%	0.00%
5-Jun-07	5.36%	5.33%	0.03%
6-Jun-07	5.36%	5.36%	0.00%
7-Jun-07	5.36%	5.36%	0.00%
8-Jun-07	5.36%	5.36%	0.00%
11-Jun-07	5.36%	5.33%	0.03%
12-Jun-07	5.36%	5.36%	0.00%
13-Jun-07	5.36%	5.36%	0.00%
14-Jun-07	5.36%	5.36%	0.00%
15-Jun-07	5.36%	5.36%	0.00%
18-Jun-07	5.36%	5.36%	0.00%
19-Jun-07	5.36%	5.36%	0.00%
20-Jun-07	5.36%	5.36%	0.00%
21-Jun-07	5.36%	5.36%	0.00%
22-Jun-07	5.36%	5.34%	0.02%
25-Jun-07	5.36%	5.36%	0.00%
26-Jun-07	5.36%	5.34%	0.02%
27-Jun-07	5.36%	5.34%	0.02%
28-Jun-07	5.36%	5.36%	0.00%
29-Jun-07	5.36%	5.34%	0.02%
2-Jul-07	5.36%	5.36%	0.00%
3-Jul-07	5.36%	5.36%	0.00%
5-Jul-07	5.36%	5.36%	0.00%
6-Jul-07	5.36%	5.36%	0.00%
9-Jul-07	5.36%	5.34%	0.02%
10-Jul-07	5.36%	5.34%	0.02%
11-Jul-07	5.36%	5.34%	0.02%
12-Jul-07	5.36%	5.34%	0.02%
13-Jul-07	5.36%	5.34%	0.02%
16-Jul-07	5.36%	5.36%	0.00%
17-Jul-07	5.36%	5.36%	0.00%
18-Jul-07	5.36%	5.36%	0.00%
19-Jul-07	5.36%	5.36%	0.00%
20-Jul-07	5.36%	5.36%	0.00%
23-Jul-07	5.36%	5.34%	0.02%
24-Jul-07	5.36%	5.34%	0.02%
25-Jul-07	5.36%	5.34%	0.02%
26-Jul-07	5.36%	5.35%	0.01%
27-Jul-07	5.36%	5.34%	0.02%

30-Jul-07	5.36%	5.34%	0.02%
31-Jul-07	5.36%	5.35%	0.01%
1-Aug-07	5.36%	5.35%	0.01%
2-Aug-07	5.36%	5.35%	0.01%
3-Aug-07	5.36%	5.34%	0.02%
6-Aug-07	5.36%	5.35%	0.01%
7-Aug-07	5.36%	5.36%	0.00%
8-Aug-07	5.38%	5.41%	-0.03%
9-Aug-07	5.50%	5.45%	0.05%
10-Aug-07	5.58%	5.60%	-0.02%
13-Aug-07	5.56%	5.56%	0.00%
14-Aug-07	5.53%	5.55%	-0.02%
15-Aug-07	5.52%	5.53%	-0.01%
16-Aug-07	5.51%	5.52%	-0.01%
17-Aug-07	5.50%	5.52%	-0.02%
20-Aug-07	5.50%	5.55%	-0.06%
21-Aug-07	5.49%	5.53%	-0.04%
22-Aug-07	5.50%	5.53%	-0.03%
23-Aug-07	5.51%	5.53%	-0.03%
24-Aug-07	5.51%	5.57%	-0.06%
28-Aug-07	5.51%	5.57%	-0.06%
29-Aug-07	5.54%	5.65%	-0.11%
30-Aug-07	5.58%	5.68%	-0.10%
31-Aug-07	5.62%	5.78%	-0.16%
4-Sep-07	5.70%	5.85%	-0.15%
5-Sep-07	5.72%	5.85%	-0.13%
6-Sep-07	5.72%	5.85%	-0.13%
7-Sep-07	5.73%	5.85%	-0.13%
10-Sep-07	5.70%	5.85%	-0.15%
11-Sep-07	5.70%	5.85%	-0.15%
12-Sep-07	5.70%	5.80%	-0.10%
13-Sep-07	5.69%	5.75%	-0.06%
14-Sep-07	5.65%	5.65%	0.00%
17-Sep-07	5.60%	5.60%	0.00%
18-Sep-07	5.59%	5.20%	0.39%
19-Sep-07	5.24%	5.22%	0.02%
20-Sep-07	5.21%	5.25%	-0.04%
21-Sep-07	5.20%	5.25%	-0.05%
24-Sep-07	5.20%	5.25%	-0.05%
25-Sep-07	5.20%	5.30%	-0.10%
26-Sep-07	5.20%	5.23%	-0.03%
27-Sep-07	5.23%	5.25%	-0.02%
28-Sep-07	5.23%	5.25%	-0.02%
1-Oct-07	5.23%	5.30%	-0.07%
2-Oct-07	5.24%	5.25%	-0.01%
3-Oct-07	5.24%	5.30%	-0.06%
4-Oct-07	5.24%	5.25%	-0.01%

5-Oct-07	5.24%	5.30%	-0.06%
9-Oct-07	5.25%	5.25%	0.00%
10-Oct-07	5.25%	5.25%	0.00%
11-Oct-07	5.24%	5.25%	-0.01%
12-Oct-07	5.22%	5.25%	-0.03%
15-Oct-07	5.21%	5.23%	-0.02%
16-Oct-07	5.21%	5.21%	0.00%
17-Oct-07	5.20%	5.25%	-0.05%
18-Oct-07	5.18%	5.20%	-0.02%
19-Oct-07	5.15%	5.15%	0.00%
22-Oct-07	5.09%	5.10%	-0.01%
23-Oct-07	5.08%	5.09%	-0.01%
24-Oct-07	5.07%	5.06%	0.01%
25-Oct-07	5.01%	5.00%	0.01%
26-Oct-07	4.98%	4.95%	0.03%
29-Oct-07	4.96%	4.95%	0.01%
30-Oct-07	4.91%	4.85%	0.06%
31-Oct-07	4.89%	4.85%	0.04%
1-Nov-07	4.88%	4.83%	0.05%
2-Nov-07	4.87%	4.83%	0.03%
5-Nov-07	4.88%	4.83%	0.04%
6-Nov-07	4.90%	4.90%	0.00%
7-Nov-07	4.90%	4.91%	-0.01%
8-Nov-07	4.89%	4.90%	-0.01%
9-Nov-07	4.88%	4.90%	-0.02%
13-Nov-07	4.87%	4.90%	-0.03%
14-Nov-07	4.88%	4.90%	-0.02%
15-Nov-07	4.91%	4.95%	-0.04%
16-Nov-07	4.95%	5.05%	-0.10%
19-Nov-07	4.98%	5.05%	-0.07%
20-Nov-07	5.00%	5.10%	-0.10%
21-Nov-07	5.02%	5.10%	-0.08%
23-Nov-07	5.04%	5.15%	-0.11%
26-Nov-07	5.05%	5.20%	-0.15%
27-Nov-07	5.06%	5.15%	-0.09%
28-Nov-07	5.08%	5.25%	-0.17%
29-Nov-07	5.12%	5.25%	-0.13%
30-Nov-07	5.13%	5.25%	-0.12%
3-Dec-07	5.14%	5.30%	-0.16%
4-Dec-07	5.15%	5.25%	-0.10%
5-Dec-07	5.15%	5.25%	-0.10%
6-Dec-07	5.15%	5.30%	-0.15%
7-Dec-07	5.14%	5.30%	-0.16%
10-Dec-07	5.13%	5.25%	-0.12%
11-Dec-07	5.11%	5.25%	-0.14%
12-Dec-07	5.06%	5.20%	-0.14%
13-Dec-07	4.99%	5.15%	-0.16%

14-Dec-07	4.97%	5.15%	-0.18%
17-Dec-07	4.94%	5.25%	-0.31%
18-Dec-07	4.93%	5.20%	-0.27%
19-Dec-07	4.91%	5.20%	-0.29%
20-Dec-07	4.88%	5.20%	-0.32%
21-Dec-07	4.86%	5.10%	-0.24%
27-Dec-07	4.83%	5.05%	-0.22%
28-Dec-07	4.73%	4.85%	-0.12%
31-Dec-07	4.70%	4.85%	-0.15%
2-Jan-08	4.68%	4.73%	-0.05%
3-Jan-08	4.65%	4.80%	-0.15%
4-Jan-08	4.62%	4.75%	-0.13%
7-Jan-08	4.54%	4.60%	-0.06%
8-Jan-08	4.51%	4.55%	-0.04%
9-Jan-08	4.44%	4.40%	0.04%
10-Jan-08	4.38%	4.40%	-0.02%
11-Jan-08	4.26%	4.25%	0.01%
14-Jan-08	4.06%	4.05%	0.00%
15-Jan-08	4.00%	4.05%	-0.05%
16-Jan-08	3.95%	3.92%	0.03%
17-Jan-08	3.93%	3.95%	-0.02%
18-Jan-08	3.89%	3.90%	-0.01%
22-Jan-08	3.72%	3.70%	0.02%
23-Jan-08	3.33%	3.30%	0.03%
24-Jan-08	3.24%	3.25%	-0.01%
25-Jan-08	3.31%	3.30%	0.01%
28-Jan-08	3.25%	3.30%	-0.05%
29-Jan-08	3.24%	3.30%	-0.06%
30-Jan-08	3.24%	3.30%	-0.06%
31-Jan-08	3.11%	3.15%	-0.04%
1-Feb-08	3.10%	3.15%	-0.05%
4-Feb-08	3.15%	3.20%	-0.06%
5-Feb-08	3.16%	3.25%	-0.09%
6-Feb-08	3.13%	3.15%	-0.02%
7-Feb-08	3.10%	3.10%	0.00%
8-Feb-08	3.09%	3.10%	-0.01%
11-Feb-08	3.07%	3.10%	-0.03%
12-Feb-08	3.07%	3.10%	-0.03%
13-Feb-08	3.07%	3.07%	0.00%
14-Feb-08	3.07%	3.08%	-0.02%
15-Feb-08	3.07%	3.08%	-0.01%
19-Feb-08	3.07%	3.10%	-0.03%
20-Feb-08	3.08%	3.10%	-0.02%
21-Feb-08	3.09%	3.15%	-0.06%
22-Feb-08	3.08%	3.10%	-0.02%
25-Feb-08	3.09%	3.10%	-0.01%
26-Feb-08	3.09%	3.10%	-0.01%

27-Feb-08	3.09%	3.12%	-0.04%
28-Feb-08	3.08%	3.12%	-0.04%
29-Feb-08	3.06%	3.10%	-0.04%
3-Mar-08	3.01%	3.07%	-0.06%
4-Mar-08	3.01%	3.05%	-0.04%
5-Mar-08	3.00%	3.05%	-0.05%
6-Mar-08	2.99%	3.02%	-0.03%
7-Mar-08	2.94%	3.00%	-0.06%
10-Mar-08	2.90%	2.90%	0.00%
11-Mar-08	2.87%	2.90%	-0.03%
12-Mar-08	2.85%	2.90%	-0.05%
13-Mar-08	2.80%	2.85%	-0.05%
14-Mar-08	2.76%	2.80%	-0.04%
17-Mar-08	2.58%	2.55%	0.03%
18-Mar-08	2.54%	2.65%	-0.11%
19-Mar-08	2.60%	2.70%	-0.10%
20-Mar-08	2.61%	2.70%	-0.09%
25-Mar-08	2.66%	2.80%	-0.15%
26-Mar-08	2.67%	2.80%	-0.13%
27-Mar-08	2.70%	2.90%	-0.20%
28-Mar-08	2.70%	2.95%	-0.25%
31-Mar-08	2.69%	2.95%	-0.26%
1-Apr-08	2.68%	2.95%	-0.27%
2-Apr-08	2.70%	2.95%	-0.25%
3-Apr-08	2.73%	3.00%	-0.27%
4-Apr-08	2.73%	3.00%	-0.27%
7-Apr-08	2.71%	3.00%	-0.29%
8-Apr-08	2.71%	3.00%	-0.29%
9-Apr-08	2.72%	3.00%	-0.28%
10-Apr-08	2.71%	3.00%	-0.29%
11-Apr-08	2.71%	3.00%	-0.29%
14-Apr-08	2.71%	2.85%	-0.14%
15-Apr-08	2.72%	2.90%	-0.18%
16-Apr-08	2.73%	2.95%	-0.22%
17-Apr-08	2.82%	2.95%	-0.13%
18-Apr-08	2.91%	3.10%	-0.19%
21-Apr-08	2.92%	3.10%	-0.18%
22-Apr-08	2.92%	3.10%	-0.18%
23-Apr-08	2.92%	3.10%	-0.18%
24-Apr-08	2.91%	3.05%	-0.14%
25-Apr-08	2.91%	3.10%	-0.19%
28-Apr-08	2.90%	3.15%	-0.25%
29-Apr-08	2.87%	3.15%	-0.28%
30-Apr-08	2.85%	3.15%	-0.30%
1-May-08	2.78%	3.00%	-0.22%
2-May-08	2.77%	2.90%	-0.13%
6-May-08	2.76%	2.90%	-0.14%

7-May-08	2.73%	2.85%	-0.12%
8-May-08	2.72%	2.85%	-0.13%
9-May-08	2.69%	2.75%	-0.07%
12-May-08	2.68%	2.90%	-0.22%
13-May-08	2.68%	2.80%	-0.12%
14-May-08	2.72%	2.85%	-0.13%
15-May-08	2.72%	2.85%	-0.13%
16-May-08	2.70%	2.85%	-0.16%
19-May-08	2.68%	2.75%	-0.07%
20-May-08	2.66%	2.75%	-0.09%
21-May-08	2.64%	2.75%	-0.11%
22-May-08	2.64%	2.75%	-0.11%
23-May-08	2.65%	2.75%	-0.10%
27-May-08	2.64%	2.80%	-0.16%
28-May-08	2.65%	2.80%	-0.15%
29-May-08	2.68%	2.90%	-0.22%
30-May-08	2.68%	2.90%	-0.22%
2-Jun-08	2.68%	2.90%	-0.22%
3-Jun-08	2.67%	2.90%	-0.23%
4-Jun-08	2.67%	2.85%	-0.18%
5-Jun-08	2.68%	2.85%	-0.17%
6-Jun-08	2.70%	2.85%	-0.15%
9-Jun-08	2.69%	2.85%	-0.16%
10-Jun-08	2.79%	2.90%	-0.11%
11-Jun-08	2.79%	2.90%	-0.11%
12-Jun-08	2.78%	2.95%	-0.17%
13-Jun-08	2.81%	2.95%	-0.14%
16-Jun-08	2.81%	3.10%	-0.29%
17-Jun-08	2.81%	3.05%	-0.24%
18-Jun-08	2.80%	3.00%	-0.20%
19-Jun-08	2.80%	2.95%	-0.15%
20-Jun-08	2.80%	3.00%	-0.20%
23-Jun-08	2.80%	3.00%	-0.20%
24-Jun-08	2.81%	3.00%	-0.19%
25-Jun-08	2.81%	3.00%	-0.19%
26-Jun-08	2.80%	3.00%	-0.20%
27-Jun-08	2.79%	3.00%	-0.21%
30-Jun-08	2.78%	3.00%	-0.22%
1-Jul-08	2.79%	3.00%	-0.21%
2-Jul-08	2.79%	3.00%	-0.21%
3-Jul-08	2.79%	3.00%	-0.21%
7-Jul-08	2.79%	3.00%	-0.21%
8-Jul-08	2.79%	3.00%	-0.21%
9-Jul-08	2.79%	3.00%	-0.21%
10-Jul-08	2.79%	3.00%	-0.21%
11-Jul-08	2.79%	3.00%	-0.21%
14-Jul-08	2.79%	3.00%	-0.21%

15-Jul-08	2.79%	3.00%	-0.21%
16-Jul-08	2.79%	3.00%	-0.22%
17-Jul-08	2.79%	3.00%	-0.21%
18-Jul-08	2.79%	3.00%	-0.21%
21-Jul-08	2.80%	3.00%	-0.20%
22-Jul-08	2.80%	3.00%	-0.20%
23-Jul-08	2.80%	3.00%	-0.20%
24-Jul-08	2.80%	3.00%	-0.21%
25-Jul-08	2.79%	3.00%	-0.21%
28-Jul-08	2.80%	3.00%	-0.20%
29-Jul-08	2.80%	3.00%	-0.20%
30-Jul-08	2.80%	3.00%	-0.20%
31-Jul-08	2.79%	3.00%	-0.21%
1-Aug-08	2.79%	3.00%	-0.21%
4-Aug-08	2.80%	3.00%	-0.20%
5-Aug-08	2.80%	3.00%	-0.20%
6-Aug-08	2.80%	3.00%	-0.20%
7-Aug-08	2.80%	3.00%	-0.20%
8-Aug-08	2.80%	3.00%	-0.20%
11-Aug-08	2.80%	3.00%	-0.20%
12-Aug-08	2.80%	3.00%	-0.20%
13-Aug-08	2.80%	3.00%	-0.20%
14-Aug-08	2.81%	2.95%	-0.14%
15-Aug-08	2.81%	2.95%	-0.14%
18-Aug-08	2.81%	3.00%	-0.19%
19-Aug-08	2.81%	3.00%	-0.19%
20-Aug-08	2.81%	3.00%	-0.19%
21-Aug-08	2.81%	3.00%	-0.19%
22-Aug-08	2.81%	3.00%	-0.19%
26-Aug-08	2.81%	3.00%	-0.19%
27-Aug-08	2.81%	3.00%	-0.19%
28-Aug-08	2.81%	3.00%	-0.19%
29-Aug-08	2.81%	3.00%	-0.19%
2-Sep-08	2.81%	3.00%	-0.19%
3-Sep-08	2.81%	3.00%	-0.19%
4-Sep-08	2.82%	3.00%	-0.19%
5-Sep-08	2.81%	3.00%	-0.19%
8-Sep-08	2.82%	3.00%	-0.18%
9-Sep-08	2.82%	3.00%	-0.18%
10-Sep-08	2.82%	3.00%	-0.18%
11-Sep-08	2.82%	3.00%	-0.18%
12-Sep-08	2.82%	3.00%	-0.18%
15-Sep-08	2.82%	3.00%	-0.18%
16-Sep-08	2.88%	3.20%	-0.32%
17-Sep-08	3.06%	3.75%	-0.69%
18-Sep-08	3.20%	5.00%	-1.80%
19-Sep-08	3.21%	5.00%	-1.79%

22-Sep-08	3.20%	5.00%	-1.80%
23-Sep-08	3.21%	5.00%	-1.79%
24-Sep-08	3.48%	5.00%	-1.52%
25-Sep-08	3.77%	5.00%	-1.23%
26-Sep-08	3.76%	5.00%	-1.24%
29-Sep-08	3.88%	5.00%	-1.12%
30-Sep-08	4.05%	6.00%	-1.95%
1-Oct-08	4.15%	6.00%	-1.85%
2-Oct-08	4.21%	6.00%	-1.79%
3-Oct-08	4.33%	6.00%	-1.67%
6-Oct-08	4.29%	6.00%	-1.71%
7-Oct-08	4.32%	6.00%	-1.68%
8-Oct-08	4.52%	6.00%	-1.48%
9-Oct-08	4.75%	6.00%	-1.25%
10-Oct-08	4.82%	6.00%	-1.18%
14-Oct-08	4.64%	6.00%	-1.37%
15-Oct-08	4.55%	5.75%	-1.20%
16-Oct-08	4.50%	5.75%	-1.25%
17-Oct-08	4.42%	5.75%	-1.33%
20-Oct-08	4.06%	5.00%	-0.94%
21-Oct-08	3.83%	4.50%	-0.67%
22-Oct-08	3.54%	4.50%	-0.96%
23-Oct-08	3.54%	4.50%	-0.97%
24-Oct-08	3.52%	4.50%	-0.98%
27-Oct-08	3.51%	4.50%	-0.99%
28-Oct-08	3.47%	4.50%	-1.04%
29-Oct-08	3.42%	4.50%	-1.08%
30-Oct-08	3.19%	4.50%	-1.31%
31-Oct-08	3.03%	4.50%	-1.47%
3-Nov-08	2.86%	4.25%	-1.39%
5-Nov-08	2.51%	3.25%	-0.74%
6-Nov-08	2.39%	3.00%	-0.61%
10-Nov-08	2.24%	3.00%	-0.77%
12-Nov-08	2.13%	2.75%	-0.62%
13-Nov-08	2.15%	2.75%	-0.60%
14-Nov-08	2.24%	3.00%	-0.76%
17-Nov-08	2.24%	3.00%	-0.76%
18-Nov-08	2.22%	3.00%	-0.78%
19-Nov-08	2.17%	3.00%	-0.83%
20-Nov-08	2.15%	3.00%	-0.85%
21-Nov-08	2.16%	3.00%	-0.84%
24-Nov-08	2.17%	3.00%	-0.83%
25-Nov-08	2.20%	3.00%	-0.80%
26-Nov-08	2.18%	3.00%	-0.82%
28-Nov-08	2.22%	3.00%	-0.78%
1-Dec-08	2.22%	3.00%	-0.78%
2-Dec-08	2.21%	3.00%	-0.79%

3-Dec-08	2.20%	3.00%	-0.80%
4-Dec-08	2.19%	3.00%	-0.81%
5-Dec-08	2.19%	3.00%	-0.81%
8-Dec-08	2.19%	3.00%	-0.81%
9-Dec-08	2.16%	3.00%	-0.84%
10-Dec-08	2.10%	3.00%	-0.90%
11-Dec-08	2.00%	3.00%	-1.00%
12-Dec-08	1.92%	2.90%	-0.98%
15-Dec-08	1.87%	2.55%	-0.68%
16-Dec-08	1.85%	2.15%	-0.30%
17-Dec-08	1.58%	2.00%	-0.42%
18-Dec-08	1.53%	2.00%	-0.48%
19-Dec-08	1.50%	2.00%	-0.50%
22-Dec-08	1.47%	2.00%	-0.53%
23-Dec-08	1.47%	2.00%	-0.53%
24-Dec-08	1.47%	2.00%	-0.53%
29-Dec-08	1.46%	2.00%	-0.54%
30-Dec-08	1.44%	2.00%	-0.57%
31-Dec-08	1.43%	1.75%	-0.33%
2-Jan-09	1.41%	1.75%	-0.34%
5-Jan-09	1.42%	1.75%	-0.33%
6-Jan-09	1.41%	1.75%	-0.34%
7-Jan-09	1.40%	1.85%	-0.45%
8-Jan-09	1.35%	1.85%	-0.50%
9-Jan-09	1.26%	1.85%	-0.59%
12-Jan-09	1.16%	1.75%	-0.59%
13-Jan-09	1.09%	1.75%	-0.66%
14-Jan-09	1.08%	1.75%	-0.67%
15-Jan-09	1.09%	1.75%	-0.66%
16-Jan-09	1.14%	1.75%	-0.61%
20-Jan-09	1.12%	1.75%	-0.63%
21-Jan-09	1.13%	1.75%	-0.63%
22-Jan-09	1.16%	1.80%	-0.64%
23-Jan-09	1.17%	1.80%	-0.63%
26-Jan-09	1.18%	1.75%	-0.57%
27-Jan-09	1.18%	1.75%	-0.57%
28-Jan-09	1.17%	1.50%	-0.33%
29-Jan-09	1.17%	1.50%	-0.33%
30-Jan-09	1.18%	1.50%	-0.32%
2-Feb-09	1.23%	1.65%	-0.43%
3-Feb-09	1.23%	1.65%	-0.42%
4-Feb-09	1.24%	1.65%	-0.41%
5-Feb-09	1.24%	1.65%	-0.41%
6-Feb-09	1.24%	1.65%	-0.41%
9-Feb-09	1.23%	1.65%	-0.42%
10-Feb-09	1.22%	1.65%	-0.43%
11-Feb-09	1.23%	1.65%	-0.42%

12-Feb-09	1.23%	1.65%	-0.42%
13-Feb-09	1.24%	1.65%	-0.41%
17-Feb-09	1.25%	1.65%	-0.40%
18-Feb-09	1.25%	1.65%	-0.40%
19-Feb-09	1.25%	1.65%	-0.40%
20-Feb-09	1.25%	1.65%	-0.40%
23-Feb-09	1.25%	1.65%	-0.40%
24-Feb-09	1.25%	1.65%	-0.40%
25-Feb-09	1.26%	1.65%	-0.39%
26-Feb-09	1.26%	1.65%	-0.39%
27-Feb-09	1.26%	1.65%	-0.39%
2-Mar-09	1.27%	1.65%	-0.38%
3-Mar-09	1.27%	1.65%	-0.38%
4-Mar-09	1.28%	1.65%	-0.37%
5-Mar-09	1.28%	1.65%	-0.37%
6-Mar-09	1.29%	1.65%	-0.36%
9-Mar-09	1.31%	1.65%	-0.34%
10-Mar-09	1.33%	1.65%	-0.32%
11-Mar-09	1.33%	1.65%	-0.32%
12-Mar-09	1.32%	1.65%	-0.33%
13-Mar-09	1.32%	1.65%	-0.33%
16-Mar-09	1.31%	1.65%	-0.34%
17-Mar-09	1.30%	1.65%	-0.35%
18-Mar-09	1.29%	1.65%	-0.36%
19-Mar-09	1.23%	1.60%	-0.37%
20-Mar-09	1.22%	1.60%	-0.38%
23-Mar-09	1.22%	1.60%	-0.38%
24-Mar-09	1.23%	1.60%	-0.37%
25-Mar-09	1.23%	1.60%	-0.37%
26-Mar-09	1.23%	1.60%	-0.37%
27-Mar-09	1.22%	1.60%	-0.38%
30-Mar-09	1.21%	1.55%	-0.34%
31-Mar-09	1.19%	1.55%	-0.36%
1-Apr-09	1.18%	1.55%	-0.37%
2-Apr-09	1.17%	1.55%	-0.38%
3-Apr-09	1.16%	1.55%	-0.39%
6-Apr-09	1.16%	1.55%	-0.39%
7-Apr-09	1.15%	1.55%	-0.40%
8-Apr-09	1.14%	1.55%	-0.41%
9-Apr-09	1.13%	1.50%	-0.37%
14-Apr-09	1.12%	1.50%	-0.38%
15-Apr-09	1.11%	1.50%	-0.39%
16-Apr-09	1.11%	1.50%	-0.39%
17-Apr-09	1.10%	1.50%	-0.40%
20-Apr-09	1.10%	1.50%	-0.40%
21-Apr-09	1.10%	1.50%	-0.40%
22-Apr-09	1.10%	1.50%	-0.40%

23-Apr-09	1.09%	1.50%	-0.41%
24-Apr-09	1.07%	1.40%	-0.33%
27-Apr-09	1.05%	1.40%	-0.35%
28-Apr-09	1.04%	1.40%	-0.36%
29-Apr-09	1.03%	1.40%	-0.37%
30-Apr-09	1.02%	1.40%	-0.38%
1-May-09	1.01%	1.40%	-0.39%
5-May-09	0.99%	1.40%	-0.41%
6-May-09	0.97%	1.40%	-0.43%
7-May-09	0.96%	1.35%	-0.39%
8-May-09	0.94%	1.35%	-0.41%
11-May-09	0.92%	1.35%	-0.43%
12-May-09	0.91%	1.35%	-0.44%
13-May-09	0.88%	1.25%	-0.37%
14-May-09	0.85%	1.25%	-0.40%
15-May-09	0.83%	1.25%	-0.42%
18-May-09	0.79%	1.25%	-0.47%
19-May-09	0.75%	1.25%	-0.50%
20-May-09	0.72%	1.25%	-0.53%
21-May-09	0.66%	1.25%	-0.59%
22-May-09	0.66%	1.25%	-0.59%
26-May-09	0.66%	1.25%	-0.59%
27-May-09	0.67%	1.25%	-0.58%
28-May-09	0.67%	1.25%	-0.58%
29-May-09	0.66%	1.25%	-0.59%
1-Jun-09	0.65%	1.25%	-0.60%
2-Jun-09	0.65%	1.20%	-0.55%
3-Jun-09	0.64%	1.20%	-0.56%
4-Jun-09	0.63%	1.15%	-0.52%
5-Jun-09	0.63%	1.15%	-0.52%
8-Jun-09	0.65%	1.15%	-0.50%
9-Jun-09	0.65%	1.15%	-0.50%
10-Jun-09	0.64%	1.15%	-0.51%
11-Jun-09	0.63%	1.15%	-0.52%
12-Jun-09	0.62%	1.15%	-0.53%
15-Jun-09	0.61%	1.15%	-0.54%
16-Jun-09	0.61%	1.15%	-0.54%
17-Jun-09	0.61%	1.15%	-0.54%
18-Jun-09	0.61%	1.15%	-0.54%
19-Jun-09	0.61%	1.15%	-0.54%
22-Jun-09	0.61%	1.05%	-0.44%
23-Jun-09	0.61%	1.05%	-0.44%
24-Jun-09	0.60%	1.05%	-0.45%
25-Jun-09	0.60%	1.05%	-0.45%
26-Jun-09	0.60%	1.05%	-0.45%
29-Jun-09	0.60%	1.05%	-0.45%
30-Jun-09	0.60%	1.05%	-0.46%



1-Jul-09	0.59%	1.05%	-0.46%
2-Jul-09	0.58%	1.02%	-0.44%
6-Jul-09	0.55%	1.05%	-0.50%
7-Jul-09	0.54%	1.05%	-0.51%
8-Jul-09	0.53%	1.05%	-0.53%
9-Jul-09	0.51%	1.05%	-0.54%
10-Jul-09	0.51%	1.03%	-0.53%
13-Jul-09	0.51%	1.05%	-0.54%
14-Jul-09	0.51%	1.00%	-0.49%
15-Jul-09	0.51%	0.90%	-0.39%
16-Jul-09	0.51%	0.90%	-0.39%
17-Jul-09	0.50%	0.90%	-0.40%
20-Jul-09	0.51%	0.90%	-0.40%
21-Jul-09	0.50%	0.85%	-0.35%
22-Jul-09	0.50%	0.85%	-0.35%
23-Jul-09	0.50%	0.85%	-0.35%
24-Jul-09	0.50%	0.85%	-0.35%
27-Jul-09	0.50%	0.75%	-0.25%
28-Jul-09	0.49%	0.75%	-0.26%
29-Jul-09	0.49%	0.75%	-0.26%
30-Jul-09	0.48%	0.75%	-0.27%
31-Jul-09	0.48%	0.75%	-0.27%
3-Aug-09	0.47%	0.75%	-0.28%
4-Aug-09	0.47%	0.75%	-0.28%
5-Aug-09	0.47%	0.75%	-0.28%
6-Aug-09	0.46%	0.75%	-0.29%
7-Aug-09	0.46%	0.75%	-0.29%
10-Aug-09	0.46%	0.75%	-0.29%
11-Aug-09	0.45%	0.80%	-0.35%
12-Aug-09	0.45%	0.80%	-0.35%
13-Aug-09	0.44%	0.75%	-0.31%
14-Aug-09	0.43%	0.75%	-0.32%
17-Aug-09	0.43%	0.70%	-0.27%
18-Aug-09	0.43%	0.70%	-0.28%
19-Aug-09	0.42%	0.70%	-0.28%
20-Aug-09	0.41%	0.70%	-0.29%
21-Aug-09	0.39%	0.70%	-0.31%
24-Aug-09	0.39%	0.55%	-0.16%
25-Aug-09	0.38%	0.55%	-0.17%
26-Aug-09	0.37%	0.55%	-0.18%
27-Aug-09	0.36%	0.55%	-0.19%
28-Aug-09	0.35%	0.55%	-0.20%
1-Sep-09	0.33%	0.55%	-0.22%
2-Sep-09	0.33%	0.45%	-0.12%
3-Sep-09	0.32%	0.55%	-0.23%
4-Sep-09	0.31%	0.55%	-0.24%
8-Sep-09	0.30%	0.55%	-0.25%

9-Sep-09	0.30%	0.55%	-0.25%
10-Sep-09	0.30%	0.55%	-0.25%
11-Sep-09	0.30%	0.55%	-0.25%
14-Sep-09	0.30%	0.50%	-0.21%
15-Sep-09	0.29%	0.50%	-0.21%
16-Sep-09	0.29%	0.50%	-0.21%
17-Sep-09	0.29%	0.55%	-0.26%
18-Sep-09	0.29%	0.55%	-0.26%
21-Sep-09	0.29%	0.55%	-0.26%
22-Sep-09	0.29%	0.55%	-0.26%
23-Sep-09	0.29%	0.45%	-0.17%
24-Sep-09	0.28%	0.45%	-0.17%
25-Sep-09	0.28%	0.45%	-0.17%
28-Sep-09	0.28%	0.55%	-0.27%
29-Sep-09	0.29%	0.55%	-0.26%
30-Sep-09	0.29%	0.55%	-0.26%
1-Oct-09	0.28%	0.55%	-0.27%
2-Oct-09	0.28%	0.55%	-0.27%
5-Oct-09	0.28%	0.55%	-0.27%
6-Oct-09	0.28%	0.55%	-0.27%
7-Oct-09	0.28%	0.55%	-0.27%
8-Oct-09	0.28%	0.55%	-0.27%
9-Oct-09	0.28%	0.55%	-0.27%
13-Oct-09	0.28%	0.55%	-0.27%
14-Oct-09	0.28%	0.45%	-0.17%
15-Oct-09	0.28%	0.45%	-0.17%
16-Oct-09	0.28%	0.45%	-0.17%
19-Oct-09	0.28%	0.45%	-0.17%
20-Oct-09	0.28%	0.45%	-0.17%
21-Oct-09	0.28%	0.45%	-0.17%
22-Oct-09	0.28%	0.45%	-0.17%
23-Oct-09	0.28%	0.45%	-0.17%
26-Oct-09	0.28%	0.45%	-0.17%
27-Oct-09	0.28%	0.45%	-0.17%
28-Oct-09	0.28%	0.45%	-0.17%
29-Oct-09	0.28%	0.45%	-0.17%
30-Oct-09	0.28%	0.45%	-0.17%
2-Nov-09	0.28%	0.45%	-0.17%
3-Nov-09	0.28%	0.45%	-0.17%
4-Nov-09	0.28%	0.45%	-0.17%
5-Nov-09	0.28%	0.45%	-0.17%
6-Nov-09	0.27%	0.45%	-0.18%
9-Nov-09	0.27%	0.45%	-0.18%
10-Nov-09	0.27%	0.45%	-0.18%
12-Nov-09	0.27%	0.45%	-0.18%
13-Nov-09	0.27%	0.45%	-0.18%
16-Nov-09	0.27%	0.45%	-0.18%

17-Nov-09	0.27%	0.45%	-0.18%
18-Nov-09	0.27%	0.45%	-0.18%
19-Nov-09	0.27%	0.45%	-0.18%
20-Nov-09	0.26%	0.45%	-0.19%
23-Nov-09	0.26%	0.45%	-0.19%
24-Nov-09	0.26%	0.45%	-0.19%
25-Nov-09	0.26%	0.45%	-0.19%
27-Nov-09	0.26%	0.45%	-0.19%
30-Nov-09	0.26%	0.45%	-0.19%
1-Dec-09	0.26%	0.45%	-0.19%
2-Dec-09	0.26%	0.45%	-0.20%
3-Dec-09	0.26%	0.45%	-0.19%
4-Dec-09	0.26%	0.45%	-0.19%
7-Dec-09	0.26%	0.45%	-0.19%
8-Dec-09	0.26%	0.45%	-0.19%
9-Dec-09	0.26%	0.45%	-0.19%
10-Dec-09	0.25%	0.45%	-0.20%
11-Dec-09	0.25%	0.45%	-0.20%
14-Dec-09	0.25%	0.45%	-0.20%
15-Dec-09	0.25%	0.45%	-0.20%
16-Dec-09	0.25%	0.45%	-0.20%
17-Dec-09	0.25%	0.45%	-0.20%
18-Dec-09	0.25%	0.45%	-0.20%
21-Dec-09	0.25%	0.45%	-0.20%
22-Dec-09	0.25%	0.45%	-0.20%
23-Dec-09	0.25%	0.45%	-0.20%
24-Dec-09	0.25%	0.45%	-0.20%
29-Dec-09	0.25%	0.45%	-0.20%
30-Dec-09	0.25%	0.45%	-0.20%
31-Dec-09	0.25%	0.45%	-0.20%
4-Jan-10	0.25%	0.45%	-0.20%
5-Jan-10	0.25%	0.45%	-0.20%
6-Jan-10	0.25%	0.45%	-0.20%
7-Jan-10	0.25%	0.45%	-0.20%
8-Jan-10	0.25%	0.45%	-0.20%
11-Jan-10	0.25%	0.45%	-0.20%
12-Jan-10	0.25%	0.45%	-0.20%
13-Jan-10	0.25%	0.45%	-0.20%
14-Jan-10	0.25%	0.45%	-0.20%
15-Jan-10	0.25%	0.45%	-0.20%
19-Jan-10	0.25%	0.45%	-0.20%
20-Jan-10	0.25%	0.40%	-0.15%
21-Jan-10	0.25%	0.40%	-0.15%
22-Jan-10	0.25%	0.40%	-0.15%
25-Jan-10	0.25%	0.40%	-0.15%
26-Jan-10	0.25%	0.40%	-0.15%
27-Jan-10	0.25%	0.40%	-0.15%

28-Jan-10	0.25%	0.40%	-0.15%
29-Jan-10	0.25%	0.40%	-0.15%
1-Feb-10	0.25%	0.40%	-0.15%
2-Feb-10	0.25%	0.40%	-0.15%
3-Feb-10	0.25%	0.40%	-0.15%
4-Feb-10	0.25%	0.40%	-0.15%
5-Feb-10	0.25%	0.40%	-0.15%
8-Feb-10	0.25%	0.40%	-0.15%
9-Feb-10	0.25%	0.40%	-0.15%
10-Feb-10	0.25%	0.40%	-0.15%
11-Feb-10	0.25%	0.40%	-0.15%
12-Feb-10	0.25%	0.40%	-0.15%
16-Feb-10	0.25%	0.40%	-0.15%
17-Feb-10	0.25%	0.40%	-0.15%
18-Feb-10	0.25%	0.40%	-0.15%
19-Feb-10	0.25%	0.40%	-0.15%
22-Feb-10	0.25%	0.40%	-0.15%
23-Feb-10	0.25%	0.40%	-0.15%
24-Feb-10	0.25%	0.40%	-0.15%
25-Feb-10	0.25%	0.40%	-0.15%
26-Feb-10	0.25%	0.40%	-0.15%
1-Mar-10	0.25%	0.40%	-0.15%
2-Mar-10	0.25%	0.40%	-0.15%
3-Mar-10	0.25%	0.40%	-0.15%
4-Mar-10	0.25%	0.40%	-0.15%
5-Mar-10	0.25%	0.40%	-0.15%
8-Mar-10	0.25%	0.40%	-0.15%
9-Mar-10	0.26%	0.40%	-0.14%
10-Mar-10	0.26%	0.40%	-0.14%
11-Mar-10	0.26%	0.40%	-0.14%
12-Mar-10	0.26%	0.40%	-0.14%
15-Mar-10	0.26%	0.40%	-0.14%
16-Mar-10	0.26%	0.40%	-0.14%
17-Mar-10	0.27%	0.41%	-0.14%
18-Mar-10	0.27%	0.41%	-0.14%
19-Mar-10	0.28%	0.40%	-0.12%
22-Mar-10	0.28%	0.40%	-0.12%
23-Mar-10	0.28%	0.40%	-0.12%
24-Mar-10	0.28%	0.40%	-0.12%
25-Mar-10	0.29%	0.40%	-0.11%
26-Mar-10	0.29%	0.40%	-0.11%
29-Mar-10	0.29%	0.40%	-0.11%
30-Mar-10	0.29%	0.40%	-0.11%
31-Mar-10	0.29%	0.40%	-0.11%
1-Apr-10	0.29%	0.40%	-0.11%
6-Apr-10	0.29%	0.40%	-0.11%
7-Apr-10	0.30%	0.40%	-0.10%

8-Apr-10	0.29%	0.40%	-0.11%
9-Apr-10	0.30%	0.40%	-0.10%
12-Apr-10	0.30%	0.40%	-0.10%
13-Apr-10	0.30%	0.40%	-0.10%
14-Apr-10	0.30%	0.40%	-0.10%
15-Apr-10	0.30%	0.40%	-0.10%
16-Apr-10	0.31%	0.40%	-0.09%
19-Apr-10	0.31%	0.40%	-0.09%
20-Apr-10	0.31%	0.40%	-0.09%
21-Apr-10	0.31%	0.40%	-0.09%
22-Apr-10	0.32%	0.40%	-0.08%
23-Apr-10	0.32%	0.40%	-0.08%
26-Apr-10	0.32%	0.40%	-0.08%
27-Apr-10	0.33%	0.40%	-0.07%
28-Apr-10	0.34%	0.40%	-0.06%
29-Apr-10	0.34%	0.40%	-0.06%
30-Apr-10	0.35%	0.40%	-0.05%
4-May-10	0.35%	0.40%	-0.05%
5-May-10	0.36%	0.40%	-0.04%
6-May-10	0.37%	0.40%	-0.03%
7-May-10	0.43%	0.50%	-0.07%
10-May-10	0.42%	0.45%	-0.03%
11-May-10	0.42%	0.45%	-0.03%
12-May-10	0.43%	0.45%	-0.02%
13-May-10	0.44%	0.45%	-0.01%
14-May-10	0.45%	0.45%	0.00%
17-May-10	0.46%	0.45%	0.01%
18-May-10	0.46%	0.45%	0.01%
19-May-10	0.48%	0.50%	-0.02%
20-May-10	0.48%	0.50%	-0.02%
21-May-10	0.50%	0.55%	-0.05%
24-May-10	0.51%	0.55%	-0.04%
25-May-10	0.54%	0.55%	-0.01%
26-May-10	0.54%	0.55%	-0.01%
27-May-10	0.54%	0.60%	-0.06%
28-May-10	0.54%	0.60%	-0.06%
1-Jun-10	0.54%	0.60%	-0.06%
2-Jun-10	0.54%	0.60%	-0.06%
3-Jun-10	0.54%	0.60%	-0.06%
4-Jun-10	0.54%	0.60%	-0.06%
7-Jun-10	0.54%	0.60%	-0.06%
8-Jun-10	0.54%	0.60%	-0.06%
9-Jun-10	0.54%	0.60%	-0.06%
10-Jun-10	0.54%	0.60%	-0.06%
11-Jun-10	0.54%	0.60%	-0.06%
14-Jun-10	0.54%	0.60%	-0.06%
15-Jun-10	0.54%	0.60%	-0.06%

16-Jun-10	0.54%	0.60%	-0.06%
17-Jun-10	0.54%	0.60%	-0.06%
18-Jun-10	0.54%	0.60%	-0.06%
21-Jun-10	0.54%	0.60%	-0.06%
22-Jun-10	0.54%	0.62%	-0.08%
23-Jun-10	0.54%	0.62%	-0.08%
24-Jun-10	0.54%	0.62%	-0.08%
25-Jun-10	0.53%	0.62%	-0.09%
28-Jun-10	0.53%	0.62%	-0.09%
29-Jun-10	0.53%	0.62%	-0.09%
30-Jun-10	0.53%	0.62%	-0.09%
1-Jul-10	0.53%	0.62%	-0.09%
2-Jul-10	0.53%	0.62%	-0.09%
6-Jul-10	0.53%	0.62%	-0.09%
7-Jul-10	0.53%	0.50%	0.03%
8-Jul-10	0.53%	0.62%	-0.09%
9-Jul-10	0.53%	0.62%	-0.09%
12-Jul-10	0.53%	0.62%	-0.09%
13-Jul-10	0.53%	0.62%	-0.09%
14-Jul-10	0.53%	0.62%	-0.09%
15-Jul-10	0.52%	0.62%	-0.10%
16-Jul-10	0.52%	0.62%	-0.10%
19-Jul-10	0.52%	0.60%	-0.08%
20-Jul-10	0.51%	0.60%	-0.09%
21-Jul-10	0.51%	0.60%	-0.09%
22-Jul-10	0.50%	0.60%	-0.10%
23-Jul-10	0.49%	0.60%	-0.11%
26-Jul-10	0.49%	0.62%	-0.13%
27-Jul-10	0.48%	0.62%	-0.14%
28-Jul-10	0.48%	0.60%	-0.13%
29-Jul-10	0.47%	0.60%	-0.13%
30-Jul-10	0.45%	0.60%	-0.15%
2-Aug-10	0.44%	0.60%	-0.16%
3-Aug-10	0.43%	0.60%	-0.17%
4-Aug-10	0.42%	0.55%	-0.13%
5-Aug-10	0.42%	0.55%	-0.13%
6-Aug-10	0.41%	0.55%	-0.14%
9-Aug-10	0.40%	0.55%	-0.15%
10-Aug-10	0.40%	0.55%	-0.15%
11-Aug-10	0.38%	0.55%	-0.17%
12-Aug-10	0.38%	0.55%	-0.17%
13-Aug-10	0.37%	0.55%	-0.18%
16-Aug-10	0.36%	0.55%	-0.19%
17-Aug-10	0.35%	0.55%	-0.20%
18-Aug-10	0.35%	0.55%	-0.20%
19-Aug-10	0.34%	0.45%	-0.11%
20-Aug-10	0.33%	0.45%	-0.12%

24-Aug-10	0.31%	0.45%	-0.14%
26-Aug-10	0.30%	0.45%	-0.15%
27-Aug-10	0.30%	0.45%	-0.15%
31-Aug-10	0.30%	0.45%	-0.15%
1-Sep-10	0.30%	0.45%	-0.15%
2-Sep-10	0.29%	0.45%	-0.16%
3-Sep-10	0.29%	0.45%	-0.16%
8-Sep-10	0.29%	0.45%	-0.16%
9-Sep-10	0.29%	0.45%	-0.16%
10-Sep-10	0.29%	0.45%	-0.16%
13-Sep-10	0.29%	0.42%	-0.13%
14-Sep-10	0.29%	0.42%	-0.13%
15-Sep-10	0.29%	0.42%	-0.13%
16-Sep-10	0.29%	0.42%	-0.13%
17-Sep-10	0.29%	0.42%	-0.13%
20-Sep-10	0.29%	0.40%	-0.11%
21-Sep-10	0.29%	0.40%	-0.11%
22-Sep-10	0.29%	0.40%	-0.11%
23-Sep-10	0.29%	0.40%	-0.11%
24-Sep-10	0.29%	0.40%	-0.11%
27-Sep-10	0.29%	0.40%	-0.11%
28-Sep-10	0.29%	0.42%	-0.13%
29-Sep-10	0.29%	0.42%	-0.13%
30-Sep-10	0.29%	0.41%	-0.12%
1-Oct-10	0.29%	0.41%	-0.12%
4-Oct-10	0.29%	0.39%	-0.10%
5-Oct-10	0.29%	0.41%	-0.12%
6-Oct-10	0.29%	0.41%	-0.12%
8-Oct-10	0.29%	0.41%	-0.12%
12-Oct-10	0.29%	0.40%	-0.11%
13-Oct-10	0.29%	0.40%	-0.11%
14-Oct-10	0.29%	0.40%	-0.11%
15-Oct-10	0.29%	0.40%	-0.11%
18-Oct-10	0.29%	0.40%	-0.11%
19-Oct-10	0.29%	0.40%	-0.11%
20-Oct-10	0.29%	0.40%	-0.11%
21-Oct-10	0.29%	0.40%	-0.11%
22-Oct-10	0.29%	0.40%	-0.11%
25-Oct-10	0.29%	0.40%	-0.11%
26-Oct-10	0.29%	0.40%	-0.11%
27-Oct-10	0.29%	0.40%	-0.11%
28-Oct-10	0.29%	0.40%	-0.11%
29-Oct-10	0.29%	0.40%	-0.11%
1-Nov-10	0.29%	0.40%	-0.11%
2-Nov-10	0.29%	0.40%	-0.11%
3-Nov-10	0.29%	0.40%	-0.11%
4-Nov-10	0.29%	0.40%	-0.11%

5-Nov-10	0.29%	0.40%	-0.11%
8-Nov-10	0.29%	0.40%	-0.11%
9-Nov-10	0.29%	0.40%	-0.11%
10-Nov-10	0.29%	0.40%	-0.11%
12-Nov-10	0.28%	0.40%	-0.12%
15-Nov-10	0.28%	0.40%	-0.12%
16-Nov-10	0.28%	0.40%	-0.12%
17-Nov-10	0.28%	0.40%	-0.12%
18-Nov-10	0.28%	0.40%	-0.12%
19-Nov-10	0.28%	0.40%	-0.12%
22-Nov-10	0.28%	0.39%	-0.11%
23-Nov-10	0.28%	0.39%	-0.11%
24-Nov-10	0.29%	0.39%	-0.10%
26-Nov-10	0.29%	0.39%	-0.10%
29-Nov-10	0.30%	0.39%	-0.09%
30-Nov-10	0.30%	0.39%	-0.09%
1-Dec-10	0.30%	0.40%	-0.10%
2-Dec-10	0.30%	0.40%	-0.10%
3-Dec-10	0.30%	0.40%	-0.10%
6-Dec-10	0.30%	0.40%	-0.10%
7-Dec-10	0.30%	0.40%	-0.10%
8-Dec-10	0.30%	0.40%	-0.10%
9-Dec-10	0.30%	0.38%	-0.08%
10-Dec-10	0.30%	0.38%	-0.08%
13-Dec-10	0.30%	0.38%	-0.08%
14-Dec-10	0.30%	0.38%	-0.08%
15-Dec-10	0.30%	0.39%	-0.09%
16-Dec-10	0.30%	0.39%	-0.09%
17-Dec-10	0.30%	0.39%	-0.09%
20-Dec-10	0.30%	0.39%	-0.09%
21-Dec-10	0.30%	0.39%	-0.09%
22-Dec-10	0.30%	0.39%	-0.09%
23-Dec-10	0.30%	0.39%	-0.09%
29-Dec-10	0.30%	0.39%	-0.09%
31-Dec-10	0.30%	0.39%	-0.09%
4-Jan-11	0.30%	0.39%	-0.09%
5-Jan-11	0.30%	0.39%	-0.09%
6-Jan-11	0.30%	0.39%	-0.09%
7-Jan-11	0.30%	0.39%	-0.09%
10-Jan-11	0.30%	0.39%	-0.09%
11-Jan-11	0.30%	0.39%	-0.09%
12-Jan-11	0.30%	0.39%	-0.09%
13-Jan-11	0.30%	0.39%	-0.09%
14-Jan-11	0.30%	0.39%	-0.09%
18-Jan-11	0.30%	0.39%	-0.09%
19-Jan-11	0.30%	0.39%	-0.09%
20-Jan-11	0.30%	0.39%	-0.09%

21-Jan-11	0.30%	0.39%	-0.09%
24-Jan-11	0.30%	0.39%	-0.09%
25-Jan-11	0.30%	0.39%	-0.09%
26-Jan-11	0.30%	0.39%	-0.09%
27-Jan-11	0.30%	0.39%	-0.09%
28-Jan-11	0.30%	0.39%	-0.09%
31-Jan-11	0.30%	0.39%	-0.09%
1-Feb-11	0.31%	0.40%	-0.09%
2-Feb-11	0.31%	0.40%	-0.09%
3-Feb-11	0.31%	0.40%	-0.09%
4-Feb-11	0.31%	0.40%	-0.09%
7-Feb-11	0.31%	0.40%	-0.09%
8-Feb-11	0.31%	0.40%	-0.09%
9-Feb-11	0.31%	0.40%	-0.09%
10-Feb-11	0.31%	0.41%	-0.10%
11-Feb-11	0.31%	0.41%	-0.10%
14-Feb-11	0.31%	0.41%	-0.10%
15-Feb-11	0.31%	0.41%	-0.10%
16-Feb-11	0.31%	0.41%	-0.10%
17-Feb-11	0.31%	0.41%	-0.10%
18-Feb-11	0.31%	0.41%	-0.10%
22-Feb-11	0.31%	0.41%	-0.10%
23-Feb-11	0.31%	0.41%	-0.10%
24-Feb-11	0.31%	0.41%	-0.10%
25-Feb-11	0.31%	0.41%	-0.10%
28-Feb-11	0.31%	0.41%	-0.10%
1-Mar-11	0.31%	0.41%	-0.10%
2-Mar-11	0.31%	0.41%	-0.10%
3-Mar-11	0.31%	0.41%	-0.10%
4-Mar-11	0.31%	0.41%	-0.10%
7-Mar-11	0.31%	0.41%	-0.10%
8-Mar-11	0.31%	0.41%	-0.10%
9-Mar-11	0.31%	0.41%	-0.10%
10-Mar-11	0.31%	0.41%	-0.10%
11-Mar-11	0.31%	0.41%	-0.10%
14-Mar-11	0.31%	0.41%	-0.10%
15-Mar-11	0.31%	0.41%	-0.10%
16-Mar-11	0.31%	0.42%	-0.11%
17-Mar-11	0.31%	0.42%	-0.11%
18-Mar-11	0.31%	0.42%	-0.11%
21-Mar-11	0.31%	0.42%	-0.11%
22-Mar-11	0.31%	0.42%	-0.11%
23-Mar-11	0.31%	0.42%	-0.11%
24-Mar-11	0.31%	0.42%	-0.11%
25-Mar-11	0.31%	0.42%	-0.11%
28-Mar-11	0.31%	0.42%	-0.11%
29-Mar-11	0.31%	0.42%	-0.11%



30-Mar-11	0.30%	0.42%	-0.12%
31-Mar-11	0.30%	0.42%	-0.12%
1-Apr-11	0.30%	0.42%	-0.12%
4-Apr-11	0.30%	0.42%	-0.12%
5-Apr-11	0.29%	0.42%	-0.13%
6-Apr-11	0.29%	0.42%	-0.13%
7-Apr-11	0.29%	0.42%	-0.13%
8-Apr-11	0.29%	0.42%	-0.13%
11-Apr-11	0.28%	0.42%	-0.14%
12-Apr-11	0.28%	0.42%	-0.14%
13-Apr-11	0.28%	0.40%	-0.12%
14-Apr-11	0.28%	0.40%	-0.12%
15-Apr-11	0.27%	0.40%	-0.13%
18-Apr-11	0.27%	0.40%	-0.13%
19-Apr-11	0.27%	0.40%	-0.13%
20-Apr-11	0.27%	0.40%	-0.13%
21-Apr-11	0.27%	0.40%	-0.13%
26-Apr-11	0.27%	0.38%	-0.11%
27-Apr-11	0.27%	0.38%	-0.11%
28-Apr-11	0.27%	0.38%	-0.11%
3-May-11	0.27%	0.38%	-0.11%
4-May-11	0.27%	0.38%	-0.11%
5-May-11	0.27%	0.38%	-0.11%
6-May-11	0.27%	0.38%	-0.11%
9-May-11	0.27%	0.38%	-0.11%
10-May-11	0.26%	0.38%	-0.12%
11-May-11	0.26%	0.38%	-0.12%
12-May-11	0.26%	0.38%	-0.12%
13-May-11	0.26%	0.38%	-0.12%
16-May-11	0.26%	0.38%	-0.12%
17-May-11	0.26%	0.38%	-0.12%
18-May-11	0.26%	0.38%	-0.12%
19-May-11	0.26%	0.38%	-0.12%
20-May-11	0.26%	0.38%	-0.12%
23-May-11	0.26%	0.38%	-0.12%
24-May-11	0.26%	0.38%	-0.13%
25-May-11	0.25%	0.38%	-0.13%
26-May-11	0.25%	0.38%	-0.13%
27-May-11	0.25%	0.38%	-0.13%
31-May-11	0.25%	0.38%	-0.13%
1-Jun-11	0.25%	0.38%	-0.13%
2-Jun-11	0.25%	0.38%	-0.13%
3-Jun-11	0.25%	0.38%	-0.13%
6-Jun-11	0.25%	0.38%	-0.13%
7-Jun-11	0.25%	0.35%	-0.10%
8-Jun-11	0.25%	0.35%	-0.10%
9-Jun-11	0.25%	0.35%	-0.10%

10-Jun-11	0.25%	0.35%	-0.10%
13-Jun-11	0.25%	0.35%	-0.10%
14-Jun-11	0.25%	0.35%	-0.10%
15-Jun-11	0.25%	0.35%	-0.11%
16-Jun-11	0.25%	0.35%	-0.10%
17-Jun-11	0.25%	0.35%	-0.10%
20-Jun-11	0.25%	0.35%	-0.10%
21-Jun-11	0.25%	0.35%	-0.10%
22-Jun-11	0.25%	0.35%	-0.10%
23-Jun-11	0.25%	0.35%	-0.10%
24-Jun-11	0.25%	0.35%	-0.10%
27-Jun-11	0.25%	0.35%	-0.10%
28-Jun-11	0.25%	0.35%	-0.10%
29-Jun-11	0.25%	0.35%	-0.10%
30-Jun-11	0.25%	0.35%	-0.10%
1-Jul-11	0.25%	0.35%	-0.10%
5-Jul-11	0.25%	0.35%	-0.10%
6-Jul-11	0.25%	0.30%	-0.05%
7-Jul-11	0.25%	0.30%	-0.05%
8-Jul-11	0.25%	0.30%	-0.05%
11-Jul-11	0.25%	0.30%	-0.05%
12-Jul-11	0.25%	0.30%	-0.05%
13-Jul-11	0.25%	0.30%	-0.05%
14-Jul-11	0.25%	0.31%	-0.06%
15-Jul-11	0.25%	0.31%	-0.06%
18-Jul-11	0.25%	0.31%	-0.06%
19-Jul-11	0.25%	0.31%	-0.06%
20-Jul-11	0.25%	0.34%	-0.09%
21-Jul-11	0.25%	0.34%	-0.09%
22-Jul-11	0.25%	0.34%	-0.09%
25-Jul-11	0.25%	0.34%	-0.09%
26-Jul-11	0.25%	0.34%	-0.09%
27-Jul-11	0.25%	0.34%	-0.09%
28-Jul-11	0.25%	0.34%	-0.09%
29-Jul-11	0.26%	0.34%	-0.08%
1-Aug-11	0.26%	0.37%	-0.11%
2-Aug-11	0.26%	0.37%	-0.11%
3-Aug-11	0.27%	0.37%	-0.10%
4-Aug-11	0.27%	0.37%	-0.10%
5-Aug-11	0.27%	0.37%	-0.10%
8-Aug-11	0.27%	0.37%	-0.10%
9-Aug-11	0.28%	0.37%	-0.09%
10-Aug-11	0.28%	0.37%	-0.09%
11-Aug-11	0.29%	0.37%	-0.08%
12-Aug-11	0.29%	0.37%	-0.08%
15-Aug-11	0.29%	0.37%	-0.08%
16-Aug-11	0.29%	0.37%	-0.08%

17-Aug-11	0.30%	0.37%	-0.07%
18-Aug-11	0.30%	0.37%	-0.07%
19-Aug-11	0.30%	0.37%	-0.07%
22-Aug-11	0.31%	0.37%	-0.06%
23-Aug-11	0.31%	0.37%	-0.06%
24-Aug-11	0.31%	0.37%	-0.06%
25-Aug-11	0.32%	0.37%	-0.05%
26-Aug-11	0.32%	0.37%	-0.05%
30-Aug-11	0.33%	0.37%	-0.04%
31-Aug-11	0.33%	0.38%	-0.05%
1-Sep-11	0.33%	0.38%	-0.05%
2-Sep-11	0.33%	0.38%	-0.05%
6-Sep-11	0.34%	0.38%	-0.04%
7-Sep-11	0.34%	0.38%	-0.04%
8-Sep-11	0.34%	0.38%	-0.04%
9-Sep-11	0.34%	0.38%	-0.04%
12-Sep-11	0.34%	0.39%	-0.05%
13-Sep-11	0.35%	0.42%	-0.07%
14-Sep-11	0.35%	0.42%	-0.07%
15-Sep-11	0.35%	0.42%	-0.07%
16-Sep-11	0.35%	0.42%	-0.07%
19-Sep-11	0.35%	0.45%	-0.10%
20-Sep-11	0.36%	0.45%	-0.10%
21-Sep-11	0.36%	0.45%	-0.09%
22-Sep-11	0.36%	0.45%	-0.09%
23-Sep-11	0.36%	0.45%	-0.09%
26-Sep-11	0.36%	0.45%	-0.09%
27-Sep-11	0.37%	0.45%	-0.08%
28-Sep-11	0.37%	0.45%	-0.08%
29-Sep-11	0.37%	0.45%	-0.08%
30-Sep-11	0.37%	0.45%	-0.08%
3-Oct-11	0.38%	0.47%	-0.09%
4-Oct-11	0.38%	0.49%	-0.11%
5-Oct-11	0.38%	0.49%	-0.11%
6-Oct-11	0.39%	0.49%	-0.10%
7-Oct-11	0.39%	0.49%	-0.10%
11-Oct-11	0.40%	0.49%	-0.09%
12-Oct-11	0.40%	0.49%	-0.09%
13-Oct-11	0.40%	0.49%	-0.09%
14-Oct-11	0.40%	0.49%	-0.09%
17-Oct-11	0.41%	0.49%	-0.08%
18-Oct-11	0.41%	0.49%	-0.08%
19-Oct-11	0.41%	0.49%	-0.08%
20-Oct-11	0.42%	0.49%	-0.07%
21-Oct-11	0.42%	0.49%	-0.07%
24-Oct-11	0.42%	0.49%	-0.07%
25-Oct-11	0.42%	0.49%	-0.07%

26-Oct-11	0.42%	0.49%	-0.07%
27-Oct-11	0.43%	0.49%	-0.06%
28-Oct-11	0.43%	0.49%	-0.06%
31-Oct-11	0.43%	0.49%	-0.06%
1-Nov-11	0.43%	0.49%	-0.06%
2-Nov-11	0.43%	0.49%	-0.06%
3-Nov-11	0.44%	0.49%	-0.06%
4-Nov-11	0.44%	0.49%	-0.05%
7-Nov-11	0.44%	0.49%	-0.05%
8-Nov-11	0.44%	0.50%	-0.06%
9-Nov-11	0.45%	0.50%	-0.05%
10-Nov-11	0.45%	0.50%	-0.05%
14-Nov-11	0.46%	0.50%	-0.04%
15-Nov-11	0.47%	0.49%	-0.02%
16-Nov-11	0.47%	0.49%	-0.02%
17-Nov-11	0.48%	0.49%	-0.01%
18-Nov-11	0.49%	0.49%	0.00%
21-Nov-11	0.50%	0.49%	0.00%
22-Nov-11	0.50%	0.49%	0.01%
23-Nov-11	0.51%	0.49%	0.02%
25-Nov-11	0.52%	0.49%	0.03%
28-Nov-11	0.52%	0.49%	0.03%
29-Nov-11	0.53%	0.49%	0.04%
30-Nov-11	0.53%	0.49%	0.04%
1-Dec-11	0.53%	0.49%	0.04%
2-Dec-11	0.53%	0.49%	0.04%
5-Dec-11	0.53%	0.49%	0.04%
6-Dec-11	0.54%	0.49%	0.05%
7-Dec-11	0.54%	0.49%	0.05%
8-Dec-11	0.54%	0.49%	0.05%
9-Dec-11	0.54%	0.49%	0.05%
12-Dec-11	0.54%	0.49%	0.05%
13-Dec-11	0.55%	0.49%	0.06%
14-Dec-11	0.56%	0.49%	0.07%
15-Dec-11	0.56%	0.49%	0.07%
16-Dec-11	0.56%	0.49%	0.07%
19-Dec-11	0.57%	0.50%	0.07%
20-Dec-11	0.57%	0.50%	0.07%
21-Dec-11	0.57%	0.50%	0.07%
22-Dec-11	0.57%	0.50%	0.07%
23-Dec-11	0.58%	0.51%	0.07%
28-Dec-11	0.58%	0.51%	0.07%
29-Dec-11	0.58%	0.51%	0.07%
30-Dec-11	0.58%	0.51%	0.07%
3-Jan-12	0.58%	0.49%	0.09%
4-Jan-12	0.58%	0.49%	0.09%
5-Jan-12	0.58%	0.49%	0.09%

6-Jan-12	0.58%	0.49%	0.09%
9-Jan-12	0.58%	0.49%	0.09%
10-Jan-12	0.58%	0.49%	0.09%
11-Jan-12	0.58%	0.49%	0.09%
12-Jan-12	0.57%	0.47%	0.10%
13-Jan-12	0.57%	0.47%	0.10%
16-Jan-12	0.56%	0.47%	0.09%
17-Jan-12	0.56%	0.48%	0.08%
18-Jan-12	0.56%	0.48%	0.08%
19-Jan-12	0.56%	0.48%	0.08%
20-Jan-12	0.56%	0.50%	0.06%
23-Jan-12	0.56%	0.50%	0.06%
24-Jan-12	0.56%	0.50%	0.06%
25-Jan-12	0.56%	0.50%	0.06%
26-Jan-12	0.55%	0.50%	0.05%
27-Jan-12	0.55%	0.50%	0.05%
30-Jan-12	0.55%	0.50%	0.05%
31-Jan-12	0.54%	0.50%	0.04%
1-Feb-12	0.54%	0.49%	0.05%
2-Feb-12	0.53%	0.49%	0.04%
3-Feb-12	0.53%	0.50%	0.03%
6-Feb-12	0.52%	0.49%	0.03%
7-Feb-12	0.52%	0.49%	0.03%
8-Feb-12	0.51%	0.49%	0.02%
9-Feb-12	0.51%	0.49%	0.02%
10-Feb-12	0.51%	0.49%	0.02%
13-Feb-12	0.50%	0.49%	0.01%
14-Feb-12	0.50%	0.49%	0.01%
15-Feb-12	0.50%	0.48%	0.02%
16-Feb-12	0.49%	0.48%	0.01%
17-Feb-12	0.49%	0.47%	0.02%
20-Feb-12	0.49%	0.47%	0.02%
21-Feb-12	0.49%	0.47%	0.02%
22-Feb-12	0.49%	0.45%	0.04%
23-Feb-12	0.49%	0.45%	0.04%
24-Feb-12	0.49%	0.45%	0.04%
27-Feb-12	0.49%	0.45%	0.04%
28-Feb-12	0.49%	0.45%	0.04%
29-Feb-12	0.48%	0.45%	0.03%
1-Mar-12	0.48%	0.45%	0.03%
2-Mar-12	0.48%	0.45%	0.03%
5-Mar-12	0.47%	0.45%	0.02%
6-Mar-12	0.47%	0.45%	0.02%
7-Mar-12	0.47%	0.45%	0.02%
8-Mar-12	0.47%	0.45%	0.02%
9-Mar-12	0.47%	0.45%	0.02%
12-Mar-12	0.47%	0.45%	0.02%

13-Mar-12	0.47%	0.45%	0.02%
14-Mar-12	0.47%	0.45%	0.02%
15-Mar-12	0.47%	0.45%	0.02%
16-Mar-12	0.47%	0.45%	0.02%
19-Mar-12	0.47%	0.45%	0.02%
20-Mar-12	0.47%	0.45%	0.02%
21-Mar-12	0.47%	0.45%	0.02%
22-Mar-12	0.47%	0.45%	0.02%
23-Mar-12	0.47%	0.45%	0.02%
26-Mar-12	0.47%	0.45%	0.02%
27-Mar-12	0.47%	0.45%	0.02%
28-Mar-12	0.47%	0.46%	0.01%
29-Mar-12	0.47%	0.46%	0.01%
30-Mar-12	0.47%	0.46%	0.01%
2-Apr-12	0.47%	0.46%	0.01%
3-Apr-12	0.47%	0.46%	0.01%
4-Apr-12	0.47%	0.46%	0.01%
5-Apr-12	0.47%	0.46%	0.01%
10-Apr-12	0.47%	0.46%	0.01%
11-Apr-12	0.47%	0.46%	0.01%
12-Apr-12	0.47%	0.46%	0.01%
13-Apr-12	0.47%	0.46%	0.01%
16-Apr-12	0.47%	0.46%	0.01%
17-Apr-12	0.47%	0.46%	0.01%
18-Apr-12	0.47%	0.46%	0.01%
19-Apr-12	0.47%	0.46%	0.01%
20-Apr-12	0.47%	0.46%	0.01%
23-Apr-12	0.47%	0.46%	0.01%
24-Apr-12	0.47%	0.44%	0.03%
25-Apr-12	0.47%	0.44%	0.03%
26-Apr-12	0.47%	0.44%	0.03%
27-Apr-12	0.47%	0.44%	0.03%
30-Apr-12	0.47%	0.44%	0.03%
1-May-12	0.47%	0.44%	0.03%
2-May-12	0.47%	0.44%	0.03%
3-May-12	0.47%	0.44%	0.03%
4-May-12	0.47%	0.44%	0.03%
8-May-12	0.47%	0.43%	0.04%
9-May-12	0.47%	0.43%	0.04%
10-May-12	0.47%	0.43%	0.04%
11-May-12	0.47%	0.43%	0.04%
14-May-12	0.47%	0.43%	0.04%
15-May-12	0.47%	0.43%	0.04%
16-May-12	0.47%	0.43%	0.04%
17-May-12	0.47%	0.43%	0.04%
18-May-12	0.47%	0.43%	0.04%
21-May-12	0.47%	0.43%	0.04%

22-May-12	0.47%	0.43%	0.04%
23-May-12	0.47%	0.43%	0.04%
24-May-12	0.47%	0.43%	0.04%
25-May-12	0.47%	0.43%	0.04%
28-May-12	0.47%	0.43%	0.04%
29-May-12	0.47%	0.43%	0.04%
30-May-12	0.47%	0.43%	0.04%
31-May-12	0.47%	0.43%	0.04%
1-Jun-12	0.47%	0.43%	0.04%
6-Jun-12	0.47%	0.43%	0.04%
7-Jun-12	0.47%	0.43%	0.04%
8-Jun-12	0.47%	0.43%	0.04%
11-Jun-12	0.47%	0.43%	0.04%
12-Jun-12	0.47%	0.43%	0.04%
13-Jun-12	0.47%	0.43%	0.04%
14-Jun-12	0.47%	0.43%	0.04%
15-Jun-12	0.47%	0.43%	0.04%
18-Jun-12	0.47%	0.43%	0.04%
19-Jun-12	0.47%	0.43%	0.04%
20-Jun-12	0.47%	0.43%	0.04%
21-Jun-12	0.47%	0.43%	0.04%
22-Jun-12	0.46%	0.43%	0.03%
25-Jun-12	0.46%	0.43%	0.03%
26-Jun-12	0.46%	0.43%	0.03%
27-Jun-12	0.46%	0.43%	0.03%

1 month 3 month

0.00%	0.01%
-0.02%	-0.02%
-0.10%	-0.08%
-0.04%	-0.05%
-0.16%	-0.19%
-0.16%	-0.20%
-0.87%	-0.90%
-0.42%	-0.43%
-0.40%	-0.46%
-0.20%	-0.30%
-0.09%	-0.19%
-0.05%	-0.15%
-0.06%	-0.06%
-0.10%	-0.13%
-0.07%	-0.10%
-0.05%	-0.10%
-0.05%	-0.12%
-0.06%	-0.07%
-0.09%	-0.01%
-0.08%	0.04%
-0.07%	0.03%

USD3MTD156N		USD1MTD156N		DED1		DED3	
lin	Percent	lin	Percent	lin	Percent	lin	
D	Daily	D	Daily	D	Daily	D	
1/1/2000	1986-01-02 to	1/1/2000	1986-01-02 to	1/1/2000	1971-01-04 to	1/1/2000	
3-Month London Interbank Offered Rate		1-Month London Interbank Offered Rate		1-Month Eurodollar Deposit Rate		3-Month Eurodollar Deposit Rate	
British Bankers' Association		British Bankers' Association		Board of Governors of the Federal Reserve System		Board of Governors of the Federal Reserve System	
date	value	date	value	date	value	date	
1/4/2000	6.0	1/4/2000	5.8	1/3/2000	5.7	1/3/2000	
1/5/2000	6.0	1/5/2000	5.8	1/4/2000	5.7	1/4/2000	
1/6/2000	6.0	1/6/2000	5.8	1/5/2000	5.7	1/5/2000	
1/7/2000	6.0	1/7/2000	5.8	1/6/2000	5.7	1/6/2000	
1/10/2000	6.0	1/10/2000	5.8	1/7/2000	5.7	1/7/2000	
1/11/2000	6.0	1/11/2000	5.8	1/10/2000	5.7	1/10/2000	
1/12/2000	6.0	1/12/2000	5.8	1/11/2000	5.7	1/11/2000	
1/13/2000	6.0	1/13/2000	5.8	1/12/2000	5.7	1/12/2000	
1/14/2000	6.0	1/14/2000	5.8	1/13/2000	5.7	1/13/2000	
1/17/2000	6.0	1/17/2000	5.8	1/14/2000	5.7	1/14/2000	
1/18/2000	6.0	1/18/2000	5.8	1/17/2000	#N/A	1/17/2000	
1/19/2000	6.0	1/19/2000	5.8	1/18/2000	5.7	1/18/2000	
1/20/2000	6.0	1/20/2000	5.8	1/19/2000	5.7	1/19/2000	
1/21/2000	6.0	1/21/2000	5.8	1/20/2000	5.7	1/20/2000	
1/24/2000	6.0	1/24/2000	5.8	1/21/2000	5.7	1/21/2000	
1/25/2000	6.0	1/25/2000	5.8	1/24/2000	5.8	1/24/2000	
1/26/2000	6.0	1/26/2000	5.8	1/25/2000	5.8	1/25/2000	
1/27/2000	6.0	1/27/2000	5.8	1/26/2000	5.8	1/26/2000	
1/28/2000	6.0	1/28/2000	5.9	1/27/2000	5.7	1/27/2000	
1/31/2000	6.1	1/31/2000	5.9	1/28/2000	5.8	1/28/2000	
2/1/2000	6.1	2/1/2000	5.9	1/31/2000	5.8	1/31/2000	
2/2/2000	6.1	2/2/2000	5.9	2/1/2000	5.8	2/1/2000	
2/3/2000	6.1	2/3/2000	5.9	2/2/2000	5.9	2/2/2000	
2/4/2000	6.1	2/4/2000	5.9	2/3/2000	5.8	2/3/2000	
2/7/2000	6.1	2/7/2000	5.9	2/4/2000	5.8	2/4/2000	
2/8/2000	6.1	2/8/2000	5.9	2/7/2000	5.8	2/7/2000	
2/9/2000	6.1	2/9/2000	5.9	2/8/2000	5.8	2/8/2000	
2/10/2000	6.1	2/10/2000	5.9	2/9/2000	5.8	2/9/2000	
2/11/2000	6.1	2/11/2000	5.9	2/10/2000	5.8	2/10/2000	
2/14/2000	6.1	2/14/2000	5.9	2/11/2000	5.8	2/11/2000	
2/15/2000	6.1	2/15/2000	5.9	2/14/2000	5.8	2/14/2000	
2/16/2000	6.1	2/16/2000	5.9	2/15/2000	5.8	2/15/2000	
2/17/2000	6.1	2/17/2000	5.9	2/16/2000	5.8	2/16/2000	
2/18/2000	6.1	2/18/2000	5.9	2/17/2000	5.8	2/17/2000	
2/21/2000	6.1	2/21/2000	5.9	2/18/2000	5.8	2/18/2000	
2/22/2000	6.1	2/22/2000	5.9	2/21/2000	#N/A	2/21/2000	
2/23/2000	6.1	2/23/2000	5.9	2/22/2000	5.8	2/22/2000	
2/24/2000	6.1	2/24/2000	5.9	2/23/2000	5.8	2/23/2000	
2/25/2000	6.1	2/25/2000	5.9	2/24/2000	5.8	2/24/2000	
2/28/2000	6.1	2/28/2000	5.9	2/25/2000	5.8	2/25/2000	
2/29/2000	6.1	2/29/2000	5.9	2/28/2000	5.8	2/28/2000	

3/1/2000	6.1	3/1/2000	5.9	2/29/2000	5.8	2/29/2000
3/2/2000	6.1	3/2/2000	5.9	3/1/2000	5.8	3/1/2000
3/3/2000	6.1	3/3/2000	5.9	3/2/2000	5.8	3/2/2000
3/6/2000	6.1	3/6/2000	6.0	3/3/2000	5.8	3/3/2000
3/7/2000	6.1	3/7/2000	6.0	3/6/2000	5.8	3/6/2000
3/8/2000	6.1	3/8/2000	6.0	3/7/2000	5.9	3/7/2000
3/9/2000	6.1	3/9/2000	6.0	3/8/2000	5.9	3/8/2000
3/10/2000	6.1	3/10/2000	6.0	3/9/2000	5.9	3/9/2000
3/13/2000	6.2	3/13/2000	6.0	3/10/2000	5.8	3/10/2000
3/14/2000	6.2	3/14/2000	6.0	3/13/2000	5.9	3/13/2000
3/15/2000	6.2	3/15/2000	6.0	3/14/2000	6.0	3/14/2000
3/16/2000	6.2	3/16/2000	6.1	3/15/2000	6.0	3/15/2000
3/17/2000	6.2	3/17/2000	6.1	3/16/2000	6.0	3/16/2000
3/20/2000	6.2	3/20/2000	6.1	3/17/2000	6.0	3/17/2000
3/21/2000	6.2	3/21/2000	6.1	3/20/2000	6.1	3/20/2000
3/22/2000	6.2	3/22/2000	6.1	3/21/2000	6.1	3/21/2000
3/23/2000	6.2	3/23/2000	6.1	3/22/2000	6.1	3/22/2000
3/24/2000	6.3	3/24/2000	6.1	3/23/2000	6.1	3/23/2000
3/27/2000	6.3	3/27/2000	6.1	3/24/2000	6.1	3/24/2000
3/28/2000	6.3	3/28/2000	6.1	3/27/2000	6.1	3/27/2000
3/29/2000	6.3	3/29/2000	6.1	3/28/2000	6.1	3/28/2000
3/30/2000	6.3	3/30/2000	6.1	3/29/2000	6.1	3/29/2000
3/31/2000	6.3	3/31/2000	6.1	3/30/2000	6.1	3/30/2000
4/3/2000	6.3	4/3/2000	6.1	3/31/2000	6.1	3/31/2000
4/4/2000	6.3	4/4/2000	6.1	4/3/2000	6.1	4/3/2000
4/5/2000	6.3	4/5/2000	6.1	4/4/2000	6.1	4/4/2000
4/6/2000	6.3	4/6/2000	6.1	4/5/2000	6.1	4/5/2000
4/7/2000	6.3	4/7/2000	6.1	4/6/2000	6.1	4/6/2000
4/10/2000	6.3	4/10/2000	6.1	4/7/2000	6.0	4/7/2000
4/11/2000	6.3	4/11/2000	6.1	4/10/2000	6.1	4/10/2000
4/12/2000	6.3	4/12/2000	6.1	4/11/2000	6.0	4/11/2000
4/13/2000	6.3	4/13/2000	6.1	4/12/2000	6.0	4/12/2000
4/14/2000	6.3	4/14/2000	6.1	4/13/2000	6.0	4/13/2000
4/17/2000	6.3	4/17/2000	6.1	4/14/2000	6.0	4/14/2000
4/18/2000	6.3	4/18/2000	6.1	4/17/2000	6.0	4/17/2000
4/19/2000	6.3	4/19/2000	6.1	4/18/2000	6.0	4/18/2000
4/20/2000	6.3	4/20/2000	6.2	4/19/2000	6.1	4/19/2000
4/25/2000	6.3	4/25/2000	6.2	4/20/2000	6.1	4/20/2000
4/26/2000	6.4	4/26/2000	6.2	4/21/2000	6.1	4/21/2000
4/27/2000	6.4	4/27/2000	6.2	4/24/2000	6.1	4/24/2000
4/28/2000	6.5	4/28/2000	6.3	4/25/2000	6.1	4/25/2000
5/2/2000	6.6	5/2/2000	6.4	4/26/2000	6.1	4/26/2000
5/3/2000	6.6	5/3/2000	6.4	4/27/2000	6.1	4/27/2000
5/4/2000	6.7	5/4/2000	6.4	4/28/2000	6.3	4/28/2000
5/5/2000	6.7	5/5/2000	6.4	5/1/2000	6.3	5/1/2000
5/8/2000	6.7	5/8/2000	6.5	5/2/2000	6.3	5/2/2000
5/9/2000	6.7	5/9/2000	6.5	5/3/2000	6.3	5/3/2000

5/10/2000	6.7	5/10/2000	6.5	5/4/2000	6.4	5/4/2000
5/11/2000	6.7	5/11/2000	6.5	5/5/2000	6.4	5/5/2000
5/12/2000	6.7	5/12/2000	6.5	5/8/2000	6.4	5/8/2000
5/15/2000	6.8	5/15/2000	6.6	5/9/2000	6.4	5/9/2000
5/16/2000	6.8	5/16/2000	6.6	5/10/2000	6.4	5/10/2000
5/17/2000	6.8	5/17/2000	6.6	5/11/2000	6.5	5/11/2000
5/18/2000	6.8	5/18/2000	6.6	5/12/2000	6.5	5/12/2000
5/19/2000	6.8	5/19/2000	6.6	5/15/2000	6.5	5/15/2000
5/22/2000	6.8	5/22/2000	6.6	5/16/2000	6.5	5/16/2000
5/23/2000	6.8	5/23/2000	6.6	5/17/2000	6.5	5/17/2000
5/24/2000	6.8	5/24/2000	6.6	5/18/2000	6.5	5/18/2000
5/25/2000	6.8	5/25/2000	6.6	5/19/2000	6.5	5/19/2000
5/26/2000	6.8	5/26/2000	6.6	5/22/2000	6.5	5/22/2000
5/30/2000	6.8	5/30/2000	6.6	5/23/2000	6.5	5/23/2000
5/31/2000	6.9	5/31/2000	6.7	5/24/2000	6.5	5/24/2000
6/1/2000	6.9	6/1/2000	6.7	5/25/2000	6.6	5/25/2000
6/2/2000	6.9	6/2/2000	6.7	5/26/2000	6.5	5/26/2000
6/5/2000	6.8	6/5/2000	6.6	5/29/2000	#N/A	5/29/2000
6/6/2000	6.8	6/6/2000	6.6	5/30/2000	6.6	5/30/2000
6/7/2000	6.8	6/7/2000	6.6	5/31/2000	6.6	5/31/2000
6/8/2000	6.8	6/8/2000	6.6	6/1/2000	6.6	6/1/2000
6/9/2000	6.8	6/9/2000	6.6	6/2/2000	6.5	6/2/2000
6/12/2000	6.8	6/12/2000	6.6	6/5/2000	6.5	6/5/2000
6/13/2000	6.8	6/13/2000	6.7	6/6/2000	6.5	6/6/2000
6/14/2000	6.8	6/14/2000	6.7	6/7/2000	6.5	6/7/2000
6/15/2000	6.8	6/15/2000	6.6	6/8/2000	6.6	6/8/2000
6/16/2000	6.8	6/16/2000	6.7	6/9/2000	6.6	6/9/2000
6/19/2000	6.8	6/19/2000	6.6	6/12/2000	6.6	6/12/2000
6/20/2000	6.8	6/20/2000	6.7	6/13/2000	6.6	6/13/2000
6/21/2000	6.8	6/21/2000	6.7	6/14/2000	6.6	6/14/2000
6/22/2000	6.8	6/22/2000	6.7	6/15/2000	6.6	6/15/2000
6/23/2000	6.8	6/23/2000	6.7	6/16/2000	6.6	6/16/2000
6/26/2000	6.8	6/26/2000	6.7	6/19/2000	6.6	6/19/2000
6/27/2000	6.8	6/27/2000	6.7	6/20/2000	6.6	6/20/2000
6/28/2000	6.8	6/28/2000	6.7	6/21/2000	6.6	6/21/2000
6/29/2000	6.8	6/29/2000	6.6	6/22/2000	6.6	6/22/2000
6/30/2000	6.8	6/30/2000	6.6	6/23/2000	6.6	6/23/2000
7/3/2000	6.8	7/3/2000	6.6	6/26/2000	6.6	6/26/2000
7/4/2000	6.8	7/4/2000	6.6	6/27/2000	6.7	6/27/2000
7/5/2000	6.7	7/5/2000	6.6	6/28/2000	6.7	6/28/2000
7/6/2000	6.7	7/6/2000	6.6	6/29/2000	6.6	6/29/2000
7/7/2000	6.7	7/7/2000	6.6	6/30/2000	6.6	6/30/2000
7/10/2000	6.7	7/10/2000	6.6	7/3/2000	6.6	7/3/2000
7/11/2000	6.7	7/11/2000	6.6	7/4/2000	#N/A	7/4/2000
7/12/2000	6.7	7/12/2000	6.6	7/5/2000	6.6	7/5/2000
7/13/2000	6.7	7/13/2000	6.6	7/6/2000	6.6	7/6/2000
7/14/2000	6.7	7/14/2000	6.6	7/7/2000	6.5	7/7/2000

7/17/2000	6.7	7/17/2000	6.6	7/10/2000	6.6	7/10/2000
7/18/2000	6.7	7/18/2000	6.6	7/11/2000	6.6	7/11/2000
7/19/2000	6.7	7/19/2000	6.6	7/12/2000	6.6	7/12/2000
7/20/2000	6.7	7/20/2000	6.6	7/13/2000	6.5	7/13/2000
7/21/2000	6.7	7/21/2000	6.6	7/14/2000	6.5	7/14/2000
7/24/2000	6.7	7/24/2000	6.6	7/17/2000	6.5	7/17/2000
7/25/2000	6.7	7/25/2000	6.6	7/18/2000	6.5	7/18/2000
7/26/2000	6.7	7/26/2000	6.6	7/19/2000	6.5	7/19/2000
7/27/2000	6.7	7/27/2000	6.6	7/20/2000	6.5	7/20/2000
7/28/2000	6.7	7/28/2000	6.6	7/21/2000	6.5	7/21/2000
7/31/2000	6.7	7/31/2000	6.6	7/24/2000	6.5	7/24/2000
8/1/2000	6.7	8/1/2000	6.6	7/25/2000	6.5	7/25/2000
8/2/2000	6.7	8/2/2000	6.6	7/26/2000	6.5	7/26/2000
8/3/2000	6.7	8/3/2000	6.6	7/27/2000	6.5	7/27/2000
8/4/2000	6.7	8/4/2000	6.6	7/28/2000	6.5	7/28/2000
8/7/2000	6.7	8/7/2000	6.6	7/31/2000	6.5	7/31/2000
8/8/2000	6.7	8/8/2000	6.6	8/1/2000	6.5	8/1/2000
8/9/2000	6.7	8/9/2000	6.6	8/2/2000	6.5	8/2/2000
8/10/2000	6.7	8/10/2000	6.6	8/3/2000	6.5	8/3/2000
8/11/2000	6.7	8/11/2000	6.6	8/4/2000	6.5	8/4/2000
8/14/2000	6.7	8/14/2000	6.6	8/7/2000	6.5	8/7/2000
8/15/2000	6.7	8/15/2000	6.6	8/8/2000	6.5	8/8/2000
8/16/2000	6.7	8/16/2000	6.6	8/9/2000	6.5	8/9/2000
8/17/2000	6.7	8/17/2000	6.6	8/10/2000	6.5	8/10/2000
8/18/2000	6.7	8/18/2000	6.6	8/11/2000	6.5	8/11/2000
8/21/2000	6.7	8/21/2000	6.6	8/14/2000	6.5	8/14/2000
8/22/2000	6.7	8/22/2000	6.6	8/15/2000	6.5	8/15/2000
8/23/2000	6.7	8/23/2000	6.6	8/16/2000	6.5	8/16/2000
8/24/2000	6.7	8/24/2000	6.6	8/17/2000	6.5	8/17/2000
8/25/2000	6.7	8/25/2000	6.6	8/18/2000	6.5	8/18/2000
8/29/2000	6.7	8/29/2000	6.6	8/21/2000	6.5	8/21/2000
8/30/2000	6.7	8/30/2000	6.6	8/22/2000	6.5	8/22/2000
8/31/2000	6.7	8/31/2000	6.6	8/23/2000	6.5	8/23/2000
9/1/2000	6.7	9/1/2000	6.6	8/24/2000	6.5	8/24/2000
9/4/2000	6.7	9/4/2000	6.6	8/25/2000	6.5	8/25/2000
9/5/2000	6.7	9/5/2000	6.6	8/28/2000	6.5	8/28/2000
9/6/2000	6.7	9/6/2000	6.6	8/29/2000	6.5	8/29/2000
9/7/2000	6.7	9/7/2000	6.6	8/30/2000	6.5	8/30/2000
9/8/2000	6.7	9/8/2000	6.6	8/31/2000	6.5	8/31/2000
9/11/2000	6.7	9/11/2000	6.6	9/1/2000	6.5	9/1/2000
9/12/2000	6.7	9/12/2000	6.6	9/4/2000	#N/A	9/4/2000
9/13/2000	6.7	9/13/2000	6.6	9/5/2000	6.5	9/5/2000
9/14/2000	6.7	9/14/2000	6.6	9/6/2000	6.5	9/6/2000
9/15/2000	6.7	9/15/2000	6.6	9/7/2000	6.5	9/7/2000
9/18/2000	6.7	9/18/2000	6.6	9/8/2000	6.5	9/8/2000
9/19/2000	6.7	9/19/2000	6.6	9/11/2000	6.5	9/11/2000
9/20/2000	6.7	9/20/2000	6.6	9/12/2000	6.5	9/12/2000

9/21/2000	6.7	9/21/2000	6.6	9/13/2000	6.5	9/13/2000
9/22/2000	6.7	9/22/2000	6.6	9/14/2000	6.6	9/14/2000
9/25/2000	6.7	9/25/2000	6.6	9/15/2000	6.5	9/15/2000
9/26/2000	6.7	9/26/2000	6.6	9/18/2000	6.5	9/18/2000
9/27/2000	6.7	9/27/2000	6.6	9/19/2000	6.5	9/19/2000
9/28/2000	6.8	9/28/2000	6.6	9/20/2000	6.5	9/20/2000
9/29/2000	6.8	9/29/2000	6.6	9/21/2000	6.5	9/21/2000
10/2/2000	6.8	10/2/2000	6.6	9/22/2000	6.5	9/22/2000
10/3/2000	6.8	10/3/2000	6.6	9/25/2000	6.5	9/25/2000
10/4/2000	6.8	10/4/2000	6.6	9/26/2000	6.5	9/26/2000
10/5/2000	6.8	10/5/2000	6.6	9/27/2000	6.5	9/27/2000
10/6/2000	6.8	10/6/2000	6.6	9/28/2000	6.5	9/28/2000
10/9/2000	6.8	10/9/2000	6.6	9/29/2000	6.5	9/29/2000
10/10/2000	6.8	10/10/2000	6.6	10/2/2000	6.5	10/2/2000
10/11/2000	6.8	10/11/2000	6.6	10/3/2000	6.5	10/3/2000
10/12/2000	6.8	10/12/2000	6.6	10/4/2000	6.5	10/4/2000
10/13/2000	6.8	10/13/2000	6.6	10/5/2000	6.5	10/5/2000
10/16/2000	6.8	10/16/2000	6.6	10/6/2000	6.5	10/6/2000
10/17/2000	6.8	10/17/2000	6.6	10/9/2000	#N/A	10/9/2000
10/18/2000	6.8	10/18/2000	6.6	10/10/2000	6.5	10/10/2000
10/19/2000	6.8	10/19/2000	6.6	10/11/2000	6.5	10/11/2000
10/20/2000	6.8	10/20/2000	6.6	10/12/2000	6.5	10/12/2000
10/23/2000	6.8	10/23/2000	6.6	10/13/2000	6.5	10/13/2000
10/24/2000	6.8	10/24/2000	6.6	10/16/2000	6.5	10/16/2000
10/25/2000	6.8	10/25/2000	6.6	10/17/2000	6.5	10/17/2000
10/26/2000	6.8	10/26/2000	6.6	10/18/2000	6.5	10/18/2000
10/27/2000	6.8	10/27/2000	6.6	10/19/2000	6.5	10/19/2000
10/30/2000	6.8	10/30/2000	6.6	10/20/2000	6.5	10/20/2000
10/31/2000	6.8	10/31/2000	6.6	10/23/2000	6.5	10/23/2000
11/1/2000	6.8	11/1/2000	6.6	10/24/2000	6.5	10/24/2000
11/2/2000	6.8	11/2/2000	6.6	10/25/2000	6.5	10/25/2000
11/3/2000	6.8	11/3/2000	6.6	10/26/2000	6.5	10/26/2000
11/6/2000	6.8	11/6/2000	6.6	10/27/2000	6.5	10/27/2000
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4/28/2004	1.2	4/28/2004	1.1	3/9/2004	1.0	3/9/2004
4/29/2004	1.2	4/29/2004	1.1	3/10/2004	1.0	3/10/2004
4/30/2004	1.2	4/30/2004	1.1	3/11/2004	1.0	3/11/2004
5/4/2004	1.2	5/4/2004	1.1	3/12/2004	1.0	3/12/2004
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6/3/2004	1.4	6/3/2004	1.2	4/12/2004	1.0	4/12/2004
6/4/2004	1.4	6/4/2004	1.2	4/13/2004	1.0	4/13/2004
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6/14/2004	1.5	6/14/2004	1.3	4/21/2004	1.0	4/21/2004
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8/18/2004	1.7	8/18/2004	1.6	6/25/2004	1.3	6/25/2004
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10/25/2004	2.1	10/25/2004	2.0	8/31/2004	1.6	8/31/2004
10/26/2004	2.1	10/26/2004	2.0	9/1/2004	1.6	9/1/2004
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12/31/2004	2.6	12/31/2004	2.4	11/4/2004	2.0	11/4/2004
1/4/2005	2.6	1/4/2005	2.4	11/5/2004	2.0	11/5/2004
1/5/2005	2.6	1/5/2005	2.4	11/8/2004	2.0	11/8/2004
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3/7/2005	3.0	3/7/2005	2.8	1/6/2005	2.4	1/6/2005
3/8/2005	3.0	3/8/2005	2.8	1/7/2005	2.4	1/7/2005

3/9/2005	3.0	3/9/2005	2.8	1/10/2005	2.4	1/10/2005
3/10/2005	3.0	3/10/2005	2.8	1/11/2005	2.4	1/11/2005
3/11/2005	3.0	3/11/2005	2.8	1/12/2005	2.4	1/12/2005
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3/15/2005	3.0	3/15/2005	2.8	1/14/2005	2.4	1/14/2005
3/16/2005	3.0	3/16/2005	2.8	1/17/2005	#N/A	1/17/2005
3/17/2005	3.1	3/17/2005	2.9	1/18/2005	2.4	1/18/2005
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3/24/2005	3.1	3/24/2005	2.9	1/25/2005	2.5	1/25/2005
3/29/2005	3.1	3/29/2005	2.9	1/26/2005	2.5	1/26/2005
3/30/2005	3.1	3/30/2005	2.9	1/27/2005	2.5	1/27/2005
3/31/2005	3.1	3/31/2005	2.9	1/28/2005	2.5	1/28/2005
4/1/2005	3.1	4/1/2005	2.9	1/31/2005	2.5	1/31/2005
4/4/2005	3.1	4/4/2005	2.9	2/1/2005	2.5	2/1/2005
4/5/2005	3.1	4/5/2005	2.9	2/2/2005	2.5	2/2/2005
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4/7/2005	3.1	4/7/2005	2.9	2/4/2005	2.5	2/4/2005
4/8/2005	3.1	4/8/2005	2.9	2/7/2005	2.5	2/7/2005
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4/14/2005	3.2	4/14/2005	3.0	2/11/2005	2.5	2/11/2005
4/15/2005	3.2	4/15/2005	3.0	2/14/2005	2.5	2/14/2005
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4/19/2005	3.2	4/19/2005	3.0	2/16/2005	2.5	2/16/2005
4/20/2005	3.2	4/20/2005	3.0	2/17/2005	2.5	2/17/2005
4/21/2005	3.2	4/21/2005	3.0	2/18/2005	2.5	2/18/2005
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4/26/2005	3.2	4/26/2005	3.1	2/23/2005	2.6	2/23/2005
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5/6/2005	3.2	5/6/2005	3.1	3/4/2005	2.7	3/4/2005
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5/17/2005	3.3	5/17/2005	3.1	3/15/2005	2.8	3/15/2005

5/18/2005	3.3	5/18/2005	3.1	3/16/2005	2.8	3/16/2005
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6/3/2005	3.4	6/3/2005	3.2	3/31/2005	2.8	3/31/2005
6/6/2005	3.4	6/6/2005	3.2	4/1/2005	2.8	4/1/2005
6/7/2005	3.4	6/7/2005	3.2	4/4/2005	2.8	4/4/2005
6/8/2005	3.4	6/8/2005	3.2	4/5/2005	2.9	4/5/2005
6/9/2005	3.4	6/9/2005	3.2	4/6/2005	2.9	4/6/2005
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6/29/2005	3.5	6/29/2005	3.3	4/26/2005	3.0	4/26/2005
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7/21/2005	3.7	7/21/2005	3.5	5/18/2005	3.0	5/18/2005
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7/25/2005	3.7	7/25/2005	3.5	5/20/2005	3.0	5/20/2005
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7/28/2005	3.7	7/28/2005	3.5	5/25/2005	3.0	5/25/2005
7/29/2005	3.7	7/29/2005	3.5	5/26/2005	3.0	5/26/2005
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8/8/2005	3.8	8/8/2005	3.6	6/3/2005	3.1	6/3/2005
8/9/2005	3.8	8/9/2005	3.6	6/6/2005	3.1	6/6/2005
8/10/2005	3.8	8/10/2005	3.6	6/7/2005	3.1	6/7/2005
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8/12/2005	3.8	8/12/2005	3.6	6/9/2005	3.1	6/9/2005
8/15/2005	3.8	8/15/2005	3.6	6/10/2005	3.2	6/10/2005
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8/17/2005	3.8	8/17/2005	3.6	6/14/2005	3.2	6/14/2005
8/18/2005	3.8	8/18/2005	3.6	6/15/2005	3.2	6/15/2005
8/19/2005	3.8	8/19/2005	3.6	6/16/2005	3.2	6/16/2005
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8/23/2005	3.8	8/23/2005	3.6	6/20/2005	3.2	6/20/2005
8/24/2005	3.8	8/24/2005	3.6	6/21/2005	3.2	6/21/2005
8/25/2005	3.9	8/25/2005	3.7	6/22/2005	3.3	6/22/2005
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8/30/2005	3.9	8/30/2005	3.7	6/24/2005	3.3	6/24/2005
8/31/2005	3.9	8/31/2005	3.7	6/27/2005	3.3	6/27/2005
9/1/2005	3.9	9/1/2005	3.7	6/28/2005	3.3	6/28/2005
9/2/2005	3.8	9/2/2005	3.7	6/29/2005	3.3	6/29/2005
9/5/2005	3.8	9/5/2005	3.7	6/30/2005	3.3	6/30/2005
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9/8/2005	3.8	9/8/2005	3.7	7/5/2005	3.3	7/5/2005
9/9/2005	3.9	9/9/2005	3.7	7/6/2005	3.3	7/6/2005
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9/29/2005	4.1	9/29/2005	3.9	7/26/2005	3.4	7/26/2005
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11/7/2005	4.3	11/7/2005	4.1	9/1/2005	3.7	9/1/2005
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12/5/2005	4.5	12/5/2005	4.3	9/29/2005	3.8	9/29/2005
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12/7/2005	4.5	12/7/2005	4.3	10/3/2005	3.8	10/3/2005
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1/3/2006	4.5	1/3/2006	4.4	10/25/2005	4.1	10/25/2005
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8/27/2008	2.8	8/27/2008	2.5	5/20/2008	2.5	5/20/2008
8/28/2008	2.8	8/28/2008	2.5	5/21/2008	2.5	5/21/2008
8/29/2008	2.8	8/29/2008	2.5	5/22/2008	2.5	5/22/2008
9/1/2008	2.8	9/1/2008	2.5	5/23/2008	2.5	5/23/2008
9/2/2008	2.8	9/2/2008	2.5	5/26/2008	#N/A	5/26/2008
9/3/2008	2.8	9/3/2008	2.5	5/27/2008	2.5	5/27/2008
9/4/2008	2.8	9/4/2008	2.5	5/28/2008	2.5	5/28/2008
9/5/2008	2.8	9/5/2008	2.5	5/29/2008	2.6	5/29/2008
9/8/2008	2.8	9/8/2008	2.5	5/30/2008	2.6	5/30/2008
9/9/2008	2.8	9/9/2008	2.5	6/2/2008	2.6	6/2/2008
9/10/2008	2.8	9/10/2008	2.5	6/3/2008	2.6	6/3/2008
9/11/2008	2.8	9/11/2008	2.5	6/4/2008	2.6	6/4/2008
9/12/2008	2.8	9/12/2008	2.5	6/5/2008	2.6	6/5/2008
9/15/2008	2.8	9/15/2008	2.5	6/6/2008	2.7	6/6/2008
9/16/2008	2.9	9/16/2008	2.7	6/9/2008	2.7	6/9/2008
9/17/2008	3.1	9/17/2008	3.0	6/10/2008	2.7	6/10/2008
9/18/2008	3.2	9/18/2008	3.2	6/11/2008	2.7	6/11/2008

9/19/2008	3.2	9/19/2008	3.2	6/12/2008	2.7	6/12/2008
9/22/2008	3.2	9/22/2008	3.2	6/13/2008	2.7	6/13/2008
9/23/2008	3.2	9/23/2008	3.2	6/16/2008	2.8	6/16/2008
9/24/2008	3.5	9/24/2008	3.4	6/17/2008	2.7	6/17/2008
9/25/2008	3.8	9/25/2008	3.7	6/18/2008	2.7	6/18/2008
9/26/2008	3.8	9/26/2008	3.7	6/19/2008	2.7	6/19/2008
9/29/2008	3.9	9/29/2008	3.7	6/20/2008	2.7	6/20/2008
9/30/2008	4.1	9/30/2008	3.9	6/23/2008	2.7	6/23/2008
10/1/2008	4.2	10/1/2008	4.0	6/24/2008	2.7	6/24/2008
10/2/2008	4.2	10/2/2008	4.0	6/25/2008	2.7	6/25/2008
10/3/2008	4.3	10/3/2008	4.1	6/26/2008	2.7	6/26/2008
10/6/2008	4.3	10/6/2008	4.1	6/27/2008	2.7	6/27/2008
10/7/2008	4.3	10/7/2008	4.1	6/30/2008	2.6	6/30/2008
10/8/2008	4.5	10/8/2008	4.3	7/1/2008	2.7	7/1/2008
10/9/2008	4.8	10/9/2008	4.5	7/2/2008	2.7	7/2/2008
10/10/2008	4.8	10/10/2008	4.6	7/3/2008	2.7	7/3/2008
10/13/2008	4.8	10/13/2008	4.6	7/4/2008	#N/A	7/4/2008
10/14/2008	4.6	10/14/2008	4.5	7/7/2008	2.7	7/7/2008
10/15/2008	4.6	10/15/2008	4.4	7/8/2008	2.7	7/8/2008
10/16/2008	4.5	10/16/2008	4.3	7/9/2008	2.7	7/9/2008
10/17/2008	4.4	10/17/2008	4.2	7/10/2008	2.7	7/10/2008
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10/21/2008	3.8	10/21/2008	3.5	7/14/2008	2.7	7/14/2008
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10/23/2008	3.5	10/23/2008	3.3	7/16/2008	2.7	7/16/2008
10/24/2008	3.5	10/24/2008	3.2	7/17/2008	2.7	7/17/2008
10/27/2008	3.5	10/27/2008	3.2	7/18/2008	2.6	7/18/2008
10/28/2008	3.5	10/28/2008	3.2	7/21/2008	2.7	7/21/2008
10/29/2008	3.4	10/29/2008	3.1	7/22/2008	2.7	7/22/2008
10/30/2008	3.2	10/30/2008	2.9	7/23/2008	2.7	7/23/2008
10/31/2008	3.0	10/31/2008	2.6	7/24/2008	2.7	7/24/2008
11/3/2008	2.9	11/3/2008	2.4	7/25/2008	2.7	7/25/2008
11/4/2008	2.7	11/4/2008	2.2	7/28/2008	2.7	7/28/2008
11/5/2008	2.5	11/5/2008	2.0	7/29/2008	2.7	7/29/2008
11/6/2008	2.4	11/6/2008	1.8	7/30/2008	2.7	7/30/2008
11/7/2008	2.3	11/7/2008	1.6	7/31/2008	2.7	7/31/2008
11/10/2008	2.2	11/10/2008	1.5	8/1/2008	2.6	8/1/2008
11/11/2008	2.2	11/11/2008	1.5	8/4/2008	2.6	8/4/2008
11/12/2008	2.1	11/12/2008	1.4	8/5/2008	2.6	8/5/2008
11/13/2008	2.1	11/13/2008	1.4	8/6/2008	2.7	8/6/2008
11/14/2008	2.2	11/14/2008	1.5	8/7/2008	2.6	8/7/2008
11/17/2008	2.2	11/17/2008	1.5	8/8/2008	2.6	8/8/2008
11/18/2008	2.2	11/18/2008	1.5	8/11/2008	2.6	8/11/2008
11/19/2008	2.2	11/19/2008	1.4	8/12/2008	2.6	8/12/2008
11/20/2008	2.2	11/20/2008	1.4	8/13/2008	2.6	8/13/2008
11/21/2008	2.2	11/21/2008	1.4	8/14/2008	2.6	8/14/2008
11/24/2008	2.2	11/24/2008	1.4	8/15/2008	2.6	8/15/2008

11/25/2008	2.2	11/25/2008	1.4	8/18/2008	2.6	8/18/2008
11/26/2008	2.2	11/26/2008	1.4	8/19/2008	2.6	8/19/2008
11/27/2008	2.2	11/27/2008	1.9	8/20/2008	2.6	8/20/2008
11/28/2008	2.2	11/28/2008	1.9	8/21/2008	2.6	8/21/2008
12/1/2008	2.2	12/1/2008	1.9	8/22/2008	2.6	8/22/2008
12/2/2008	2.2	12/2/2008	1.9	8/25/2008	2.6	8/25/2008
12/3/2008	2.2	12/3/2008	1.9	8/26/2008	2.6	8/26/2008
12/4/2008	2.2	12/4/2008	1.9	8/27/2008	2.6	8/27/2008
12/5/2008	2.2	12/5/2008	1.9	8/28/2008	2.7	8/28/2008
12/8/2008	2.2	12/8/2008	1.8	8/29/2008	2.7	8/29/2008
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12/10/2008	2.1	12/10/2008	1.4	9/2/2008	2.6	9/2/2008
12/11/2008	2.0	12/11/2008	1.2	9/3/2008	2.6	9/3/2008
12/12/2008	1.9	12/12/2008	1.0	9/4/2008	2.6	9/4/2008
12/15/2008	1.9	12/15/2008	1.0	9/5/2008	2.6	9/5/2008
12/16/2008	1.8	12/16/2008	0.9	9/8/2008	2.7	9/8/2008
12/17/2008	1.6	12/17/2008	0.6	9/9/2008	2.7	9/9/2008
12/18/2008	1.5	12/18/2008	0.5	9/10/2008	2.7	9/10/2008
12/19/2008	1.5	12/19/2008	0.5	9/11/2008	2.6	9/11/2008
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12/23/2008	1.5	12/23/2008	0.5	9/15/2008	2.7	9/15/2008
12/24/2008	1.5	12/24/2008	0.5	9/16/2008	3.2	9/16/2008
12/29/2008	1.5	12/29/2008	0.5	9/17/2008	3.8	9/17/2008
12/30/2008	1.4	12/30/2008	0.4	9/18/2008	6.0	9/18/2008
12/31/2008	1.4	12/31/2008	0.4	9/19/2008	6.0	9/19/2008
1/2/2009	1.4	1/2/2009	0.4	9/22/2008	5.0	9/22/2008
1/5/2009	1.4	1/5/2009	0.4	9/23/2008	5.3	9/23/2008
1/6/2009	1.4	1/6/2009	0.4	9/24/2008	5.3	9/24/2008
1/7/2009	1.4	1/7/2009	0.4	9/25/2008	5.5	9/25/2008
1/8/2009	1.4	1/8/2009	0.4	9/26/2008	5.5	9/26/2008
1/9/2009	1.3	1/9/2009	0.4	9/29/2008	5.5	9/29/2008
1/12/2009	1.2	1/12/2009	0.3	9/30/2008	7.0	9/30/2008
1/13/2009	1.1	1/13/2009	0.3	10/1/2008	6.0	10/1/2008
1/14/2009	1.1	1/14/2009	0.3	10/2/2008	6.0	10/2/2008
1/15/2009	1.1	1/15/2009	0.3	10/3/2008	6.0	10/3/2008
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1/19/2009	1.1	1/19/2009	0.4	10/7/2008	6.5	10/7/2008
1/20/2009	1.1	1/20/2009	0.4	10/8/2008	7.0	10/8/2008
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1/29/2009	1.2	1/29/2009	0.4	10/17/2008	5.0	10/17/2008
1/30/2009	1.2	1/30/2009	0.4	10/20/2008	4.3	10/20/2008
2/2/2009	1.2	2/2/2009	0.4	10/21/2008	4.0	10/21/2008

2/3/2009	1.2	2/3/2009	0.4	10/22/2008	3.8	10/22/2008
2/4/2009	1.2	2/4/2009	0.4	10/23/2008	3.8	10/23/2008
2/5/2009	1.2	2/5/2009	0.4	10/24/2008	3.8	10/24/2008
2/6/2009	1.2	2/6/2009	0.4	10/27/2008	3.8	10/27/2008
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2/11/2009	1.2	2/11/2009	0.5	10/30/2008	3.3	10/30/2008
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2/13/2009	1.2	2/13/2009	0.5	11/3/2008	2.8	11/3/2008
2/16/2009	1.2	2/16/2009	0.5	11/4/2008	2.5	11/4/2008
2/17/2009	1.2	2/17/2009	0.5	11/5/2008	2.3	11/5/2008
2/18/2009	1.3	2/18/2009	0.5	11/6/2008	2.0	11/6/2008
2/19/2009	1.3	2/19/2009	0.5	11/7/2008	2.0	11/7/2008
2/20/2009	1.2	2/20/2009	0.5	11/10/2008	2.0	11/10/2008
2/23/2009	1.2	2/23/2009	0.5	11/11/2008	#N/A	11/11/2008
2/24/2009	1.3	2/24/2009	0.5	11/12/2008	2.0	11/12/2008
2/25/2009	1.3	2/25/2009	0.5	11/13/2008	2.0	11/13/2008
2/26/2009	1.3	2/26/2009	0.5	11/14/2008	2.0	11/14/2008
2/27/2009	1.3	2/27/2009	0.5	11/17/2008	1.8	11/17/2008
3/2/2009	1.3	3/2/2009	0.5	11/18/2008	1.8	11/18/2008
3/3/2009	1.3	3/3/2009	0.5	11/19/2008	1.8	11/19/2008
3/4/2009	1.3	3/4/2009	0.5	11/20/2008	1.8	11/20/2008
3/5/2009	1.3	3/5/2009	0.5	11/21/2008	1.9	11/21/2008
3/6/2009	1.3	3/6/2009	0.5	11/24/2008	2.0	11/24/2008
3/9/2009	1.3	3/9/2009	0.6	11/25/2008	2.0	11/25/2008
3/10/2009	1.3	3/10/2009	0.6	11/26/2008	2.0	11/26/2008
3/11/2009	1.3	3/11/2009	0.6	11/27/2008	#N/A	11/27/2008
3/12/2009	1.3	3/12/2009	0.6	11/28/2008	2.8	11/28/2008
3/13/2009	1.3	3/13/2009	0.6	12/1/2008	3.0	12/1/2008
3/16/2009	1.3	3/16/2009	0.6	12/2/2008	3.0	12/2/2008
3/17/2009	1.3	3/17/2009	0.6	12/3/2008	3.0	12/3/2008
3/18/2009	1.3	3/18/2009	0.5	12/4/2008	2.6	12/4/2008
3/19/2009	1.2	3/19/2009	0.5	12/5/2008	2.7	12/5/2008
3/20/2009	1.2	3/20/2009	0.5	12/8/2008	2.3	12/8/2008
3/23/2009	1.2	3/23/2009	0.5	12/9/2008	2.2	12/9/2008
3/24/2009	1.2	3/24/2009	0.5	12/10/2008	2.2	12/10/2008
3/25/2009	1.2	3/25/2009	0.5	12/11/2008	1.8	12/11/2008
3/26/2009	1.2	3/26/2009	0.5	12/12/2008	1.8	12/12/2008
3/27/2009	1.2	3/27/2009	0.5	12/15/2008	1.5	12/15/2008
3/30/2009	1.2	3/30/2009	0.5	12/16/2008	1.3	12/16/2008
3/31/2009	1.2	3/31/2009	0.5	12/17/2008	1.3	12/17/2008
4/1/2009	1.2	4/1/2009	0.5	12/18/2008	1.3	12/18/2008
4/2/2009	1.2	4/2/2009	0.5	12/19/2008	1.3	12/19/2008
4/3/2009	1.2	4/3/2009	0.5	12/22/2008	1.3	12/22/2008
4/6/2009	1.2	4/6/2009	0.5	12/23/2008	1.2	12/23/2008
4/7/2009	1.1	4/7/2009	0.5	12/24/2008	1.2	12/24/2008
4/8/2009	1.1	4/8/2009	0.5	12/25/2008	#N/A	12/25/2008

4/9/2009	1.1	4/9/2009	0.5	12/26/2008	1.2	12/26/2008
4/14/2009	1.1	4/14/2009	0.5	12/29/2008	1.0	12/29/2008
4/15/2009	1.1	4/15/2009	0.4	12/30/2008	1.0	12/30/2008
4/16/2009	1.1	4/16/2009	0.4	12/31/2008	0.8	12/31/2008
4/17/2009	1.1	4/17/2009	0.4	1/1/2009	#N/A	1/1/2009
4/20/2009	1.1	4/20/2009	0.4	1/2/2009	0.8	1/2/2009
4/21/2009	1.1	4/21/2009	0.4	1/5/2009	0.9	1/5/2009
4/22/2009	1.1	4/22/2009	0.4	1/6/2009	1.0	1/6/2009
4/23/2009	1.1	4/23/2009	0.4	1/7/2009	1.0	1/7/2009
4/24/2009	1.1	4/24/2009	0.4	1/8/2009	1.0	1/8/2009
4/27/2009	1.1	4/27/2009	0.4	1/9/2009	0.9	1/9/2009
4/28/2009	1.0	4/28/2009	0.4	1/12/2009	0.9	1/12/2009
4/29/2009	1.0	4/29/2009	0.4	1/13/2009	0.9	1/13/2009
4/30/2009	1.0	4/30/2009	0.4	1/14/2009	0.9	1/14/2009
5/1/2009	1.0	5/1/2009	0.4	1/15/2009	0.9	1/15/2009
5/5/2009	1.0	5/5/2009	0.4	1/16/2009	1.0	1/16/2009
5/6/2009	1.0	5/6/2009	0.4	1/19/2009	#N/A	1/19/2009
5/7/2009	1.0	5/7/2009	0.4	1/20/2009	1.0	1/20/2009
5/8/2009	0.9	5/8/2009	0.4	1/21/2009	1.0	1/21/2009
5/11/2009	0.9	5/11/2009	0.4	1/22/2009	1.0	1/22/2009
5/12/2009	0.9	5/12/2009	0.3	1/23/2009	1.0	1/23/2009
5/13/2009	0.9	5/13/2009	0.3	1/26/2009	0.8	1/26/2009
5/14/2009	0.9	5/14/2009	0.3	1/27/2009	0.8	1/27/2009
5/15/2009	0.8	5/15/2009	0.3	1/28/2009	0.8	1/28/2009
5/18/2009	0.8	5/18/2009	0.3	1/29/2009	0.8	1/29/2009
5/19/2009	0.8	5/19/2009	0.3	1/30/2009	0.8	1/30/2009
5/20/2009	0.7	5/20/2009	0.3	2/2/2009	0.8	2/2/2009
5/21/2009	0.7	5/21/2009	0.3	2/3/2009	0.8	2/3/2009
5/22/2009	0.7	5/22/2009	0.3	2/4/2009	0.8	2/4/2009
5/26/2009	0.7	5/26/2009	0.3	2/5/2009	0.8	2/5/2009
5/27/2009	0.7	5/27/2009	0.3	2/6/2009	0.8	2/6/2009
5/28/2009	0.7	5/28/2009	0.3	2/9/2009	0.7	2/9/2009
5/29/2009	0.7	5/29/2009	0.3	2/10/2009	0.8	2/10/2009
6/1/2009	0.7	6/1/2009	0.3	2/11/2009	0.8	2/11/2009
6/2/2009	0.6	6/2/2009	0.3	2/12/2009	0.8	2/12/2009
6/3/2009	0.6	6/3/2009	0.3	2/13/2009	0.8	2/13/2009
6/4/2009	0.6	6/4/2009	0.3	2/16/2009	#N/A	2/16/2009
6/5/2009	0.6	6/5/2009	0.3	2/17/2009	0.8	2/17/2009
6/8/2009	0.7	6/8/2009	0.3	2/18/2009	0.8	2/18/2009
6/9/2009	0.6	6/9/2009	0.3	2/19/2009	0.8	2/19/2009
6/10/2009	0.6	6/10/2009	0.3	2/20/2009	0.8	2/20/2009
6/11/2009	0.6	6/11/2009	0.3	2/23/2009	0.8	2/23/2009
6/12/2009	0.6	6/12/2009	0.3	2/24/2009	0.8	2/24/2009
6/15/2009	0.6	6/15/2009	0.3	2/25/2009	0.8	2/25/2009
6/16/2009	0.6	6/16/2009	0.3	2/26/2009	0.8	2/26/2009
6/17/2009	0.6	6/17/2009	0.3	2/27/2009	0.8	2/27/2009
6/18/2009	0.6	6/18/2009	0.3	3/2/2009	0.8	3/2/2009

6/19/2009	0.6	6/19/2009	0.3	3/3/2009	0.9	3/3/2009
6/22/2009	0.6	6/22/2009	0.3	3/4/2009	0.8	3/4/2009
6/23/2009	0.6	6/23/2009	0.3	3/5/2009	0.8	3/5/2009
6/24/2009	0.6	6/24/2009	0.3	3/6/2009	0.8	3/6/2009
6/25/2009	0.6	6/25/2009	0.3	3/9/2009	0.9	3/9/2009
6/26/2009	0.6	6/26/2009	0.3	3/10/2009	1.0	3/10/2009
6/29/2009	0.6	6/29/2009	0.3	3/11/2009	1.0	3/11/2009
6/30/2009	0.6	6/30/2009	0.3	3/12/2009	1.0	3/12/2009
7/1/2009	0.6	7/1/2009	0.3	3/13/2009	1.0	3/13/2009
7/2/2009	0.6	7/2/2009	0.3	3/16/2009	1.0	3/16/2009
7/3/2009	0.6	7/3/2009	0.3	3/17/2009	1.0	3/17/2009
7/6/2009	0.5	7/6/2009	0.3	3/18/2009	1.0	3/18/2009
7/7/2009	0.5	7/7/2009	0.3	3/19/2009	1.0	3/19/2009
7/8/2009	0.5	7/8/2009	0.3	3/20/2009	1.0	3/20/2009
7/9/2009	0.5	7/9/2009	0.3	3/23/2009	1.0	3/23/2009
7/10/2009	0.5	7/10/2009	0.3	3/24/2009	1.0	3/24/2009
7/13/2009	0.5	7/13/2009	0.3	3/25/2009	1.0	3/25/2009
7/14/2009	0.5	7/14/2009	0.3	3/26/2009	1.0	3/26/2009
7/15/2009	0.5	7/15/2009	0.3	3/27/2009	1.6	3/27/2009
7/16/2009	0.5	7/16/2009	0.3	3/30/2009	1.0	3/30/2009
7/17/2009	0.5	7/17/2009	0.3	3/31/2009	1.0	3/31/2009
7/20/2009	0.5	7/20/2009	0.3	4/1/2009	1.0	4/1/2009
7/21/2009	0.5	7/21/2009	0.3	4/2/2009	1.0	4/2/2009
7/22/2009	0.5	7/22/2009	0.3	4/3/2009	1.0	4/3/2009
7/23/2009	0.5	7/23/2009	0.3	4/6/2009	1.0	4/6/2009
7/24/2009	0.5	7/24/2009	0.3	4/7/2009	1.0	4/7/2009
7/27/2009	0.5	7/27/2009	0.3	4/8/2009	1.0	4/8/2009
7/28/2009	0.5	7/28/2009	0.3	4/9/2009	0.8	4/9/2009
7/29/2009	0.5	7/29/2009	0.3	4/10/2009	#N/A	4/10/2009
7/30/2009	0.5	7/30/2009	0.3	4/13/2009	0.8	4/13/2009
7/31/2009	0.5	7/31/2009	0.3	4/14/2009	1.0	4/14/2009
8/3/2009	0.5	8/3/2009	0.3	4/15/2009	1.0	4/15/2009
8/4/2009	0.5	8/4/2009	0.3	4/16/2009	1.0	4/16/2009
8/5/2009	0.5	8/5/2009	0.3	4/17/2009	1.0	4/17/2009
8/6/2009	0.5	8/6/2009	0.3	4/20/2009	1.0	4/20/2009
8/7/2009	0.5	8/7/2009	0.3	4/21/2009	0.9	4/21/2009
8/10/2009	0.5	8/10/2009	0.3	4/22/2009	0.9	4/22/2009
8/11/2009	0.5	8/11/2009	0.3	4/23/2009	0.9	4/23/2009
8/12/2009	0.4	8/12/2009	0.3	4/24/2009	0.9	4/24/2009
8/13/2009	0.4	8/13/2009	0.3	4/27/2009	0.9	4/27/2009
8/14/2009	0.4	8/14/2009	0.3	4/28/2009	0.9	4/28/2009
8/17/2009	0.4	8/17/2009	0.3	4/29/2009	0.9	4/29/2009
8/18/2009	0.4	8/18/2009	0.3	4/30/2009	0.9	4/30/2009
8/19/2009	0.4	8/19/2009	0.3	5/1/2009	0.9	5/1/2009
8/20/2009	0.4	8/20/2009	0.3	5/4/2009	0.9	5/4/2009
8/21/2009	0.4	8/21/2009	0.3	5/5/2009	0.8	5/5/2009
8/24/2009	0.4	8/24/2009	0.3	5/6/2009	0.8	5/6/2009

8/25/2009	0.4	8/25/2009	0.3	5/7/2009	0.8	5/7/2009
8/26/2009	0.4	8/26/2009	0.3	5/8/2009	0.8	5/8/2009
8/27/2009	0.4	8/27/2009	0.3	5/11/2009	0.8	5/11/2009
8/28/2009	0.3	8/28/2009	0.3	5/12/2009	0.8	5/12/2009
9/1/2009	0.3	9/1/2009	0.3	5/13/2009	0.7	5/13/2009
9/2/2009	0.3	9/2/2009	0.3	5/14/2009	0.7	5/14/2009
9/3/2009	0.3	9/3/2009	0.3	5/15/2009	0.7	5/15/2009
9/4/2009	0.3	9/4/2009	0.3	5/18/2009	0.7	5/18/2009
9/7/2009	0.3	9/7/2009	0.3	5/19/2009	0.7	5/19/2009
9/8/2009	0.3	9/8/2009	0.2	5/20/2009	0.7	5/20/2009
9/9/2009	0.3	9/9/2009	0.2	5/21/2009	0.7	5/21/2009
9/10/2009	0.3	9/10/2009	0.2	5/22/2009	0.7	5/22/2009
9/11/2009	0.3	9/11/2009	0.2	5/25/2009	#N/A	5/25/2009
9/14/2009	0.3	9/14/2009	0.2	5/26/2009	0.7	5/26/2009
9/15/2009	0.3	9/15/2009	0.2	5/27/2009	0.7	5/27/2009
9/16/2009	0.3	9/16/2009	0.2	5/28/2009	0.7	5/28/2009
9/17/2009	0.3	9/17/2009	0.2	5/29/2009	0.7	5/29/2009
9/18/2009	0.3	9/18/2009	0.2	6/1/2009	0.7	6/1/2009
9/21/2009	0.3	9/21/2009	0.2	6/2/2009	0.7	6/2/2009
9/22/2009	0.3	9/22/2009	0.2	6/3/2009	0.7	6/3/2009
9/23/2009	0.3	9/23/2009	0.2	6/4/2009	0.7	6/4/2009
9/24/2009	0.3	9/24/2009	0.2	6/5/2009	0.7	6/5/2009
9/25/2009	0.3	9/25/2009	0.2	6/8/2009	0.7	6/8/2009
9/28/2009	0.3	9/28/2009	0.2	6/9/2009	0.7	6/9/2009
9/29/2009	0.3	9/29/2009	0.2	6/10/2009	0.7	6/10/2009
9/30/2009	0.3	9/30/2009	0.2	6/11/2009	0.7	6/11/2009
10/1/2009	0.3	10/1/2009	0.2	6/12/2009	0.7	6/12/2009
10/2/2009	0.3	10/2/2009	0.2	6/15/2009	0.7	6/15/2009
10/5/2009	0.3	10/5/2009	0.2	6/16/2009	0.7	6/16/2009
10/6/2009	0.3	10/6/2009	0.2	6/17/2009	0.7	6/17/2009
10/7/2009	0.3	10/7/2009	0.2	6/18/2009	0.7	6/18/2009
10/8/2009	0.3	10/8/2009	0.2	6/19/2009	0.7	6/19/2009
10/9/2009	0.3	10/9/2009	0.2	6/22/2009	0.7	6/22/2009
10/12/2009	0.3	10/12/2009	0.2	6/23/2009	0.7	6/23/2009
10/13/2009	0.3	10/13/2009	0.2	6/24/2009	0.7	6/24/2009
10/14/2009	0.3	10/14/2009	0.2	6/25/2009	0.7	6/25/2009
10/15/2009	0.3	10/15/2009	0.2	6/26/2009	0.7	6/26/2009
10/16/2009	0.3	10/16/2009	0.2	6/29/2009	0.7	6/29/2009
10/19/2009	0.3	10/19/2009	0.2	6/30/2009	0.7	6/30/2009
10/20/2009	0.3	10/20/2009	0.2	7/1/2009	0.7	7/1/2009
10/21/2009	0.3	10/21/2009	0.2	7/2/2009	0.7	7/2/2009
10/22/2009	0.3	10/22/2009	0.2	7/3/2009	#N/A	7/3/2009
10/23/2009	0.3	10/23/2009	0.2	7/6/2009	0.7	7/6/2009
10/26/2009	0.3	10/26/2009	0.2	7/7/2009	0.7	7/7/2009
10/27/2009	0.3	10/27/2009	0.2	7/8/2009	0.7	7/8/2009
10/28/2009	0.3	10/28/2009	0.2	7/9/2009	0.7	7/9/2009
10/29/2009	0.3	10/29/2009	0.2	7/10/2009	0.6	7/10/2009

10/30/2009	0.3	10/30/2009	0.2	7/13/2009	0.6	7/13/2009
11/2/2009	0.3	11/2/2009	0.2	7/14/2009	0.6	7/14/2009
11/3/2009	0.3	11/3/2009	0.2	7/15/2009	0.6	7/15/2009
11/4/2009	0.3	11/4/2009	0.2	7/16/2009	0.6	7/16/2009
11/5/2009	0.3	11/5/2009	0.2	7/17/2009	0.6	7/17/2009
11/6/2009	0.3	11/6/2009	0.2	7/20/2009	0.6	7/20/2009
11/9/2009	0.3	11/9/2009	0.2	7/21/2009	0.5	7/21/2009
11/10/2009	0.3	11/10/2009	0.2	7/22/2009	0.5	7/22/2009
11/11/2009	0.3	11/11/2009	0.2	7/23/2009	0.5	7/23/2009
11/12/2009	0.3	11/12/2009	0.2	7/24/2009	0.5	7/24/2009
11/13/2009	0.3	11/13/2009	0.2	7/27/2009	0.5	7/27/2009
11/16/2009	0.3	11/16/2009	0.2	7/28/2009	0.5	7/28/2009
11/17/2009	0.3	11/17/2009	0.2	7/29/2009	0.5	7/29/2009
11/18/2009	0.3	11/18/2009	0.2	7/30/2009	0.5	7/30/2009
11/19/2009	0.3	11/19/2009	0.2	7/31/2009	0.5	7/31/2009
11/20/2009	0.3	11/20/2009	0.2	8/3/2009	0.5	8/3/2009
11/23/2009	0.3	11/23/2009	0.2	8/4/2009	0.5	8/4/2009
11/24/2009	0.3	11/24/2009	0.2	8/5/2009	0.5	8/5/2009
11/25/2009	0.3	11/25/2009	0.2	8/6/2009	0.5	8/6/2009
11/26/2009	0.3	11/26/2009	0.2	8/7/2009	0.5	8/7/2009
11/27/2009	0.3	11/27/2009	0.2	8/10/2009	0.5	8/10/2009
11/30/2009	0.3	11/30/2009	0.2	8/11/2009	0.5	8/11/2009
12/1/2009	0.3	12/1/2009	0.2	8/12/2009	0.5	8/12/2009
12/2/2009	0.3	12/2/2009	0.2	8/13/2009	0.5	8/13/2009
12/3/2009	0.3	12/3/2009	0.2	8/14/2009	0.5	8/14/2009
12/4/2009	0.3	12/4/2009	0.2	8/17/2009	0.5	8/17/2009
12/7/2009	0.3	12/7/2009	0.2	8/18/2009	0.5	8/18/2009
12/8/2009	0.3	12/8/2009	0.2	8/19/2009	0.5	8/19/2009
12/9/2009	0.3	12/9/2009	0.2	8/20/2009	0.5	8/20/2009
12/10/2009	0.3	12/10/2009	0.2	8/21/2009	0.5	8/21/2009
12/11/2009	0.3	12/11/2009	0.2	8/24/2009	0.5	8/24/2009
12/14/2009	0.3	12/14/2009	0.2	8/25/2009	0.5	8/25/2009
12/15/2009	0.3	12/15/2009	0.2	8/26/2009	0.5	8/26/2009
12/16/2009	0.3	12/16/2009	0.2	8/27/2009	0.5	8/27/2009
12/17/2009	0.3	12/17/2009	0.2	8/28/2009	0.5	8/28/2009
12/18/2009	0.3	12/18/2009	0.2	8/31/2009	0.5	8/31/2009
12/21/2009	0.2	12/21/2009	0.2	9/1/2009	0.5	9/1/2009
12/22/2009	0.2	12/22/2009	0.2	9/2/2009	0.5	9/2/2009
12/23/2009	0.3	12/23/2009	0.2	9/3/2009	0.5	9/3/2009
12/24/2009	0.3	12/24/2009	0.2	9/4/2009	0.5	9/4/2009
12/29/2009	0.3	12/29/2009	0.2	9/7/2009	#N/A	9/7/2009
12/30/2009	0.3	12/30/2009	0.2	9/8/2009	0.4	9/8/2009
12/31/2009	0.3	12/31/2009	0.2	9/9/2009	0.4	9/9/2009
1/4/2010	0.3	1/4/2010	0.2	9/10/2009	0.4	9/10/2009
1/5/2010	0.3	1/5/2010	0.2	9/11/2009	0.4	9/11/2009
1/6/2010	0.3	1/6/2010	0.2	9/14/2009	0.4	9/14/2009
1/7/2010	0.2	1/7/2010	0.2	9/15/2009	0.4	9/15/2009

1/8/2010	0.3	1/8/2010	0.2	9/16/2009	0.4	9/16/2009
1/11/2010	0.3	1/11/2010	0.2	9/17/2009	0.4	9/17/2009
1/12/2010	0.3	1/12/2010	0.2	9/18/2009	0.4	9/18/2009
1/13/2010	0.3	1/13/2010	0.2	9/21/2009	0.4	9/21/2009
1/14/2010	0.3	1/14/2010	0.2	9/22/2009	0.4	9/22/2009
1/15/2010	0.3	1/15/2010	0.2	9/23/2009	0.4	9/23/2009
1/18/2010	0.2	1/18/2010	0.2	9/24/2009	0.4	9/24/2009
1/19/2010	0.2	1/19/2010	0.2	9/25/2009	0.4	9/25/2009
1/20/2010	0.2	1/20/2010	0.2	9/28/2009	0.4	9/28/2009
1/21/2010	0.2	1/21/2010	0.2	9/29/2009	0.4	9/29/2009
1/22/2010	0.2	1/22/2010	0.2	9/30/2009	0.4	9/30/2009
1/25/2010	0.2	1/25/2010	0.2	10/1/2009	0.4	10/1/2009
1/26/2010	0.2	1/26/2010	0.2	10/2/2009	0.4	10/2/2009
1/27/2010	0.2	1/27/2010	0.2	10/5/2009	0.4	10/5/2009
1/28/2010	0.2	1/28/2010	0.2	10/6/2009	0.4	10/6/2009
1/29/2010	0.2	1/29/2010	0.2	10/7/2009	0.4	10/7/2009
2/1/2010	0.2	2/1/2010	0.2	10/8/2009	0.4	10/8/2009
2/2/2010	0.3	2/2/2010	0.2	10/9/2009	0.4	10/9/2009
2/3/2010	0.2	2/3/2010	0.2	10/12/2009	#N/A	10/12/2009
2/4/2010	0.2	2/4/2010	0.2	10/13/2009	0.4	10/13/2009
2/5/2010	0.2	2/5/2010	0.2	10/14/2009	0.4	10/14/2009
2/8/2010	0.3	2/8/2010	0.2	10/15/2009	0.4	10/15/2009
2/9/2010	0.3	2/9/2010	0.2	10/16/2009	0.4	10/16/2009
2/10/2010	0.3	2/10/2010	0.2	10/19/2009	0.3	10/19/2009
2/11/2010	0.3	2/11/2010	0.2	10/20/2009	0.3	10/20/2009
2/12/2010	0.3	2/12/2010	0.2	10/21/2009	0.3	10/21/2009
2/15/2010	0.3	2/15/2010	0.2	10/22/2009	0.3	10/22/2009
2/16/2010	0.3	2/16/2010	0.2	10/23/2009	0.3	10/23/2009
2/17/2010	0.3	2/17/2010	0.2	10/26/2009	0.3	10/26/2009
2/18/2010	0.3	2/18/2010	0.2	10/27/2009	0.3	10/27/2009
2/19/2010	0.3	2/19/2010	0.2	10/28/2009	0.3	10/28/2009
2/22/2010	0.3	2/22/2010	0.2	10/29/2009	0.3	10/29/2009
2/23/2010	0.3	2/23/2010	0.2	10/30/2009	0.3	10/30/2009
2/24/2010	0.3	2/24/2010	0.2	11/2/2009	0.3	11/2/2009
2/25/2010	0.3	2/25/2010	0.2	11/3/2009	0.3	11/3/2009
2/26/2010	0.3	2/26/2010	0.2	11/4/2009	0.3	11/4/2009
3/1/2010	0.3	3/1/2010	0.2	11/5/2009	0.3	11/5/2009
3/2/2010	0.3	3/2/2010	0.2	11/6/2009	0.3	11/6/2009
3/3/2010	0.3	3/3/2010	0.2	11/9/2009	0.3	11/9/2009
3/4/2010	0.3	3/4/2010	0.2	11/10/2009	0.3	11/10/2009
3/5/2010	0.3	3/5/2010	0.2	11/11/2009	#N/A	11/11/2009
3/8/2010	0.3	3/8/2010	0.2	11/12/2009	0.3	11/12/2009
3/9/2010	0.3	3/9/2010	0.2	11/13/2009	0.3	11/13/2009
3/10/2010	0.3	3/10/2010	0.2	11/16/2009	0.3	11/16/2009
3/11/2010	0.3	3/11/2010	0.2	11/17/2009	0.3	11/17/2009
3/12/2010	0.3	3/12/2010	0.2	11/18/2009	0.3	11/18/2009
3/15/2010	0.3	3/15/2010	0.2	11/19/2009	0.3	11/19/2009

3/16/2010	0.3	3/16/2010	0.2	11/20/2009	0.3	11/20/2009
3/17/2010	0.3	3/17/2010	0.2	11/23/2009	0.3	11/23/2009
3/18/2010	0.3	3/18/2010	0.2	11/24/2009	0.3	11/24/2009
3/19/2010	0.3	3/19/2010	0.2	11/25/2009	0.3	11/25/2009
3/22/2010	0.3	3/22/2010	0.2	11/26/2009	#N/A	11/26/2009
3/23/2010	0.3	3/23/2010	0.2	11/27/2009	0.3	11/27/2009
3/24/2010	0.3	3/24/2010	0.2	11/30/2009	0.3	11/30/2009
3/25/2010	0.3	3/25/2010	0.2	12/1/2009	0.3	12/1/2009
3/26/2010	0.3	3/26/2010	0.2	12/2/2009	0.3	12/2/2009
3/29/2010	0.3	3/29/2010	0.2	12/3/2009	0.3	12/3/2009
3/30/2010	0.3	3/30/2010	0.2	12/4/2009	0.3	12/4/2009
3/31/2010	0.3	3/31/2010	0.2	12/7/2009	0.3	12/7/2009
4/1/2010	0.3	4/1/2010	0.2	12/8/2009	0.3	12/8/2009
4/6/2010	0.3	4/6/2010	0.3	12/9/2009	0.3	12/9/2009
4/7/2010	0.3	4/7/2010	0.3	12/10/2009	0.3	12/10/2009
4/8/2010	0.3	4/8/2010	0.3	12/11/2009	0.3	12/11/2009
4/9/2010	0.3	4/9/2010	0.3	12/14/2009	0.3	12/14/2009
4/12/2010	0.3	4/12/2010	0.3	12/15/2009	0.3	12/15/2009
4/13/2010	0.3	4/13/2010	0.3	12/16/2009	0.3	12/16/2009
4/14/2010	0.3	4/14/2010	0.3	12/17/2009	0.3	12/17/2009
4/15/2010	0.3	4/15/2010	0.3	12/18/2009	0.3	12/18/2009
4/16/2010	0.3	4/16/2010	0.3	12/21/2009	0.3	12/21/2009
4/19/2010	0.3	4/19/2010	0.3	12/22/2009	0.3	12/22/2009
4/20/2010	0.3	4/20/2010	0.3	12/23/2009	0.3	12/23/2009
4/21/2010	0.3	4/21/2010	0.3	12/24/2009	0.3	12/24/2009
4/22/2010	0.3	4/22/2010	0.3	12/25/2009	#N/A	12/25/2009
4/23/2010	0.3	4/23/2010	0.3	12/28/2009	0.3	12/28/2009
4/26/2010	0.3	4/26/2010	0.3	12/29/2009	0.3	12/29/2009
4/27/2010	0.3	4/27/2010	0.3	12/30/2009	0.3	12/30/2009
4/28/2010	0.3	4/28/2010	0.3	12/31/2009	0.3	12/31/2009
4/29/2010	0.3	4/29/2010	0.3	1/1/2010	#N/A	1/1/2010
4/30/2010	0.3	4/30/2010	0.3	1/4/2010	0.3	1/4/2010
5/4/2010	0.4	5/4/2010	0.3	1/5/2010	0.3	1/5/2010
5/5/2010	0.4	5/5/2010	0.3	1/6/2010	0.3	1/6/2010
5/6/2010	0.4	5/6/2010	0.3	1/7/2010	0.3	1/7/2010
5/7/2010	0.4	5/7/2010	0.3	1/8/2010	0.3	1/8/2010
5/10/2010	0.4	5/10/2010	0.3	1/11/2010	0.3	1/11/2010
5/11/2010	0.4	5/11/2010	0.3	1/12/2010	0.3	1/12/2010
5/12/2010	0.4	5/12/2010	0.3	1/13/2010	0.3	1/13/2010
5/13/2010	0.4	5/13/2010	0.3	1/14/2010	0.3	1/14/2010
5/14/2010	0.4	5/14/2010	0.3	1/15/2010	0.3	1/15/2010
5/17/2010	0.5	5/17/2010	0.3	1/18/2010	#N/A	1/18/2010
5/18/2010	0.5	5/18/2010	0.3	1/19/2010	0.3	1/19/2010
5/19/2010	0.5	5/19/2010	0.3	1/20/2010	0.3	1/20/2010
5/20/2010	0.5	5/20/2010	0.3	1/21/2010	0.3	1/21/2010
5/21/2010	0.5	5/21/2010	0.3	1/22/2010	0.3	1/22/2010
5/24/2010	0.5	5/24/2010	0.3	1/25/2010	0.3	1/25/2010

5/25/2010	0.5	5/25/2010	0.4	1/26/2010	0.3	1/26/2010
5/26/2010	0.5	5/26/2010	0.4	1/27/2010	0.3	1/27/2010
5/27/2010	0.5	5/27/2010	0.4	1/28/2010	0.3	1/28/2010
5/28/2010	0.5	5/28/2010	0.4	1/29/2010	0.3	1/29/2010
6/1/2010	0.5	6/1/2010	0.4	2/1/2010	0.3	2/1/2010
6/2/2010	0.5	6/2/2010	0.4	2/2/2010	0.3	2/2/2010
6/3/2010	0.5	6/3/2010	0.4	2/3/2010	0.3	2/3/2010
6/4/2010	0.5	6/4/2010	0.4	2/4/2010	0.3	2/4/2010
6/7/2010	0.5	6/7/2010	0.4	2/5/2010	0.3	2/5/2010
6/8/2010	0.5	6/8/2010	0.4	2/8/2010	0.3	2/8/2010
6/9/2010	0.5	6/9/2010	0.4	2/9/2010	0.3	2/9/2010
6/10/2010	0.5	6/10/2010	0.3	2/10/2010	0.3	2/10/2010
6/11/2010	0.5	6/11/2010	0.3	2/11/2010	0.3	2/11/2010
6/14/2010	0.5	6/14/2010	0.3	2/12/2010	0.3	2/12/2010
6/15/2010	0.5	6/15/2010	0.3	2/15/2010	#N/A	2/15/2010
6/16/2010	0.5	6/16/2010	0.3	2/16/2010	0.3	2/16/2010
6/17/2010	0.5	6/17/2010	0.3	2/17/2010	0.3	2/17/2010
6/18/2010	0.5	6/18/2010	0.3	2/18/2010	0.3	2/18/2010
6/21/2010	0.5	6/21/2010	0.3	2/19/2010	0.3	2/19/2010
6/22/2010	0.5	6/22/2010	0.3	2/22/2010	0.3	2/22/2010
6/23/2010	0.5	6/23/2010	0.3	2/23/2010	0.3	2/23/2010
6/24/2010	0.5	6/24/2010	0.3	2/24/2010	0.3	2/24/2010
6/25/2010	0.5	6/25/2010	0.3	2/25/2010	0.3	2/25/2010
6/28/2010	0.5	6/28/2010	0.3	2/26/2010	0.3	2/26/2010
6/29/2010	0.5	6/29/2010	0.3	3/1/2010	0.3	3/1/2010
6/30/2010	0.5	6/30/2010	0.3	3/2/2010	0.3	3/2/2010
7/1/2010	0.5	7/1/2010	0.3	3/3/2010	0.3	3/3/2010
7/2/2010	0.5	7/2/2010	0.3	3/4/2010	0.3	3/4/2010
7/5/2010	0.5	7/5/2010	0.3	3/5/2010	0.3	3/5/2010
7/6/2010	0.5	7/6/2010	0.3	3/8/2010	0.3	3/8/2010
7/7/2010	0.5	7/7/2010	0.3	3/9/2010	0.3	3/9/2010
7/8/2010	0.5	7/8/2010	0.3	3/10/2010	0.3	3/10/2010
7/9/2010	0.5	7/9/2010	0.3	3/11/2010	0.3	3/11/2010
7/12/2010	0.5	7/12/2010	0.3	3/12/2010	0.3	3/12/2010
7/13/2010	0.5	7/13/2010	0.3	3/15/2010	0.3	3/15/2010
7/14/2010	0.5	7/14/2010	0.3	3/16/2010	0.3	3/16/2010
7/15/2010	0.5	7/15/2010	0.3	3/17/2010	0.3	3/17/2010
7/16/2010	0.5	7/16/2010	0.3	3/18/2010	0.3	3/18/2010
7/19/2010	0.5	7/19/2010	0.3	3/19/2010	0.3	3/19/2010
7/20/2010	0.5	7/20/2010	0.3	3/22/2010	0.3	3/22/2010
7/21/2010	0.5	7/21/2010	0.3	3/23/2010	0.3	3/23/2010
7/22/2010	0.5	7/22/2010	0.3	3/24/2010	0.3	3/24/2010
7/23/2010	0.5	7/23/2010	0.3	3/25/2010	0.3	3/25/2010
7/26/2010	0.5	7/26/2010	0.3	3/26/2010	0.3	3/26/2010
7/27/2010	0.5	7/27/2010	0.3	3/29/2010	0.3	3/29/2010
7/28/2010	0.5	7/28/2010	0.3	3/30/2010	0.3	3/30/2010
7/29/2010	0.5	7/29/2010	0.3	3/31/2010	0.3	3/31/2010

7/30/2010	0.5	7/30/2010	0.3	4/1/2010	0.3	4/1/2010
8/2/2010	0.4	8/2/2010	0.3	4/2/2010	#N/A	4/2/2010
8/3/2010	0.4	8/3/2010	0.3	4/5/2010	0.3	4/5/2010
8/4/2010	0.4	8/4/2010	0.3	4/6/2010	0.3	4/6/2010
8/5/2010	0.4	8/5/2010	0.3	4/7/2010	0.3	4/7/2010
8/6/2010	0.4	8/6/2010	0.3	4/8/2010	0.3	4/8/2010
8/9/2010	0.4	8/9/2010	0.3	4/9/2010	0.3	4/9/2010
8/10/2010	0.4	8/10/2010	0.3	4/12/2010	0.3	4/12/2010
8/11/2010	0.4	8/11/2010	0.3	4/13/2010	0.3	4/13/2010
8/12/2010	0.4	8/12/2010	0.3	4/14/2010	0.3	4/14/2010
8/13/2010	0.4	8/13/2010	0.3	4/15/2010	0.3	4/15/2010
8/16/2010	0.4	8/16/2010	0.3	4/16/2010	0.3	4/16/2010
8/17/2010	0.4	8/17/2010	0.3	4/19/2010	0.3	4/19/2010
8/18/2010	0.3	8/18/2010	0.3	4/20/2010	0.3	4/20/2010
8/19/2010	0.3	8/19/2010	0.3	4/21/2010	0.3	4/21/2010
8/20/2010	0.3	8/20/2010	0.3	4/22/2010	0.3	4/22/2010
8/23/2010	0.3	8/23/2010	0.3	4/23/2010	0.3	4/23/2010
8/24/2010	0.3	8/24/2010	0.3	4/26/2010	0.3	4/26/2010
8/25/2010	0.3	8/25/2010	0.3	4/27/2010	0.3	4/27/2010
8/26/2010	0.3	8/26/2010	0.3	4/28/2010	0.3	4/28/2010
8/27/2010	0.3	8/27/2010	0.3	4/29/2010	0.3	4/29/2010
8/31/2010	0.3	8/31/2010	0.3	4/30/2010	0.3	4/30/2010
9/1/2010	0.3	9/1/2010	0.3	5/3/2010	0.3	5/3/2010
9/2/2010	0.3	9/2/2010	0.3	5/4/2010	0.3	5/4/2010
9/3/2010	0.3	9/3/2010	0.3	5/5/2010	0.3	5/5/2010
9/6/2010	0.3	9/6/2010	0.3	5/6/2010	0.3	5/6/2010
9/7/2010	0.3	9/7/2010	0.3	5/7/2010	0.4	5/7/2010
9/8/2010	0.3	9/8/2010	0.3	5/10/2010	0.4	5/10/2010
9/9/2010	0.3	9/9/2010	0.3	5/11/2010	0.4	5/11/2010
9/10/2010	0.3	9/10/2010	0.3	5/12/2010	0.4	5/12/2010
9/13/2010	0.3	9/13/2010	0.3	5/13/2010	0.4	5/13/2010
9/14/2010	0.3	9/14/2010	0.3	5/14/2010	0.4	5/14/2010
9/15/2010	0.3	9/15/2010	0.3	5/17/2010	0.4	5/17/2010
9/16/2010	0.3	9/16/2010	0.3	5/18/2010	0.4	5/18/2010
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9/22/2010	0.3	9/22/2010	0.3	5/24/2010	0.4	5/24/2010
9/23/2010	0.3	9/23/2010	0.3	5/25/2010	0.4	5/25/2010
9/24/2010	0.3	9/24/2010	0.3	5/26/2010	0.4	5/26/2010
9/27/2010	0.3	9/27/2010	0.3	5/27/2010	0.4	5/27/2010
9/28/2010	0.3	9/28/2010	0.3	5/28/2010	0.4	5/28/2010
9/29/2010	0.3	9/29/2010	0.3	5/31/2010	#N/A	5/31/2010
9/30/2010	0.3	9/30/2010	0.3	6/1/2010	0.4	6/1/2010
10/1/2010	0.3	10/1/2010	0.3	6/2/2010	0.4	6/2/2010
10/4/2010	0.3	10/4/2010	0.3	6/3/2010	0.4	6/3/2010
10/5/2010	0.3	10/5/2010	0.3	6/4/2010	0.4	6/4/2010

10/6/2010	0.3	10/6/2010	0.3	6/7/2010	0.4	6/7/2010
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10/12/2010	0.3	10/12/2010	0.3	6/11/2010	0.5	6/11/2010
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10/15/2010	0.3	10/15/2010	0.3	6/16/2010	0.5	6/16/2010
10/18/2010	0.3	10/18/2010	0.3	6/17/2010	0.5	6/17/2010
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10/20/2010	0.3	10/20/2010	0.3	6/21/2010	0.5	6/21/2010
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10/22/2010	0.3	10/22/2010	0.3	6/23/2010	0.5	6/23/2010
10/25/2010	0.3	10/25/2010	0.3	6/24/2010	0.5	6/24/2010
10/26/2010	0.3	10/26/2010	0.3	6/25/2010	0.5	6/25/2010
10/27/2010	0.3	10/27/2010	0.3	6/28/2010	0.5	6/28/2010
10/28/2010	0.3	10/28/2010	0.3	6/29/2010	0.5	6/29/2010
10/29/2010	0.3	10/29/2010	0.3	6/30/2010	0.5	6/30/2010
11/1/2010	0.3	11/1/2010	0.3	7/1/2010	0.5	7/1/2010
11/2/2010	0.3	11/2/2010	0.3	7/2/2010	0.5	7/2/2010
11/3/2010	0.3	11/3/2010	0.3	7/5/2010	#N/A	7/5/2010
11/4/2010	0.3	11/4/2010	0.3	7/6/2010	0.5	7/6/2010
11/5/2010	0.3	11/5/2010	0.3	7/7/2010	0.4	7/7/2010
11/8/2010	0.3	11/8/2010	0.3	7/8/2010	0.5	7/8/2010
11/9/2010	0.3	11/9/2010	0.3	7/9/2010	0.5	7/9/2010
11/10/2010	0.3	11/10/2010	0.3	7/12/2010	0.5	7/12/2010
11/11/2010	0.3	11/11/2010	0.3	7/13/2010	0.5	7/13/2010
11/12/2010	0.3	11/12/2010	0.3	7/14/2010	0.5	7/14/2010
11/15/2010	0.3	11/15/2010	0.3	7/15/2010	0.5	7/15/2010
11/16/2010	0.3	11/16/2010	0.3	7/16/2010	0.5	7/16/2010
11/17/2010	0.3	11/17/2010	0.3	7/19/2010	0.5	7/19/2010
11/18/2010	0.3	11/18/2010	0.3	7/20/2010	0.5	7/20/2010
11/19/2010	0.3	11/19/2010	0.3	7/21/2010	0.5	7/21/2010
11/22/2010	0.3	11/22/2010	0.3	7/22/2010	0.5	7/22/2010
11/23/2010	0.3	11/23/2010	0.3	7/23/2010	0.5	7/23/2010
11/24/2010	0.3	11/24/2010	0.3	7/26/2010	0.5	7/26/2010
11/25/2010	0.3	11/25/2010	0.3	7/27/2010	0.5	7/27/2010
11/26/2010	0.3	11/26/2010	0.3	7/28/2010	0.4	7/28/2010
11/29/2010	0.3	11/29/2010	0.3	7/29/2010	0.4	7/29/2010
11/30/2010	0.3	11/30/2010	0.3	7/30/2010	0.4	7/30/2010
12/1/2010	0.3	12/1/2010	0.3	8/2/2010	0.4	8/2/2010
12/2/2010	0.3	12/2/2010	0.3	8/3/2010	0.4	8/3/2010
12/3/2010	0.3	12/3/2010	0.3	8/4/2010	0.4	8/4/2010
12/6/2010	0.3	12/6/2010	0.3	8/5/2010	0.4	8/5/2010
12/7/2010	0.3	12/7/2010	0.3	8/6/2010	0.4	8/6/2010
12/8/2010	0.3	12/8/2010	0.3	8/9/2010	0.4	8/9/2010
12/9/2010	0.3	12/9/2010	0.3	8/10/2010	0.4	8/10/2010

12/10/2010	0.3	12/10/2010	0.3	8/11/2010	0.4	8/11/2010
12/13/2010	0.3	12/13/2010	0.3	8/12/2010	0.4	8/12/2010
12/14/2010	0.3	12/14/2010	0.3	8/13/2010	0.4	8/13/2010
12/15/2010	0.3	12/15/2010	0.3	8/16/2010	0.4	8/16/2010
12/16/2010	0.3	12/16/2010	0.3	8/17/2010	0.4	8/17/2010
12/17/2010	0.3	12/17/2010	0.3	8/18/2010	0.4	8/18/2010
12/20/2010	0.3	12/20/2010	0.3	8/19/2010	0.4	8/19/2010
12/21/2010	0.3	12/21/2010	0.3	8/20/2010	0.4	8/20/2010
12/22/2010	0.3	12/22/2010	0.3	8/23/2010	#N/A	8/23/2010
12/23/2010	0.3	12/23/2010	0.3	8/24/2010	0.4	8/24/2010
12/24/2010	0.3	12/24/2010	0.3	8/25/2010	#N/A	8/25/2010
12/29/2010	0.3	12/29/2010	0.3	8/26/2010	0.4	8/26/2010
12/30/2010	0.3	12/30/2010	0.3	8/27/2010	0.4	8/27/2010
12/31/2010	0.3	12/31/2010	0.3	8/30/2010	0.4	8/30/2010
1/4/2011	0.3	1/4/2011	0.3	8/31/2010	0.4	8/31/2010
1/5/2011	0.3	1/5/2011	0.3	9/1/2010	0.4	9/1/2010
1/6/2011	0.3	1/6/2011	0.3	9/2/2010	0.4	9/2/2010
1/7/2011	0.3	1/7/2011	0.3	9/3/2010	0.4	9/3/2010
1/10/2011	0.3	1/10/2011	0.3	9/6/2010	0.4	9/6/2010
1/11/2011	0.3	1/11/2011	0.3	9/7/2010	#N/A	9/7/2010
1/12/2011	0.3	1/12/2011	0.3	9/8/2010	0.4	9/8/2010
1/13/2011	0.3	1/13/2011	0.3	9/9/2010	0.4	9/9/2010
1/14/2011	0.3	1/14/2011	0.3	9/10/2010	0.4	9/10/2010
1/17/2011	0.3	1/17/2011	0.3	9/13/2010	0.4	9/13/2010
1/18/2011	0.3	1/18/2011	0.3	9/14/2010	0.4	9/14/2010
1/19/2011	0.3	1/19/2011	0.3	9/15/2010	0.4	9/15/2010
1/20/2011	0.3	1/20/2011	0.3	9/16/2010	0.4	9/16/2010
1/21/2011	0.3	1/21/2011	0.3	9/17/2010	0.4	9/17/2010
1/24/2011	0.3	1/24/2011	0.3	9/20/2010	0.3	9/20/2010
1/25/2011	0.3	1/25/2011	0.3	9/21/2010	0.3	9/21/2010
1/26/2011	0.3	1/26/2011	0.3	9/22/2010	0.3	9/22/2010
1/27/2011	0.3	1/27/2011	0.3	9/23/2010	0.3	9/23/2010
1/28/2011	0.3	1/28/2011	0.3	9/24/2010	0.3	9/24/2010
1/31/2011	0.3	1/31/2011	0.3	9/27/2010	0.3	9/27/2010
2/1/2011	0.3	2/1/2011	0.3	9/28/2010	0.4	9/28/2010
2/2/2011	0.3	2/2/2011	0.3	9/29/2010	0.4	9/29/2010
2/3/2011	0.3	2/3/2011	0.3	9/30/2010	0.4	9/30/2010
2/4/2011	0.3	2/4/2011	0.3	10/1/2010	0.4	10/1/2010
2/7/2011	0.3	2/7/2011	0.3	10/4/2010	0.4	10/4/2010
2/8/2011	0.3	2/8/2011	0.3	10/5/2010	0.4	10/5/2010
2/9/2011	0.3	2/9/2011	0.3	10/6/2010	0.4	10/6/2010
2/10/2011	0.3	2/10/2011	0.3	10/7/2010	#N/A	10/7/2010
2/11/2011	0.3	2/11/2011	0.3	10/8/2010	0.4	10/8/2010
2/14/2011	0.3	2/14/2011	0.3	10/11/2010	0.4	10/11/2010
2/15/2011	0.3	2/15/2011	0.3	10/12/2010	0.4	10/12/2010
2/16/2011	0.3	2/16/2011	0.3	10/13/2010	0.4	10/13/2010
2/17/2011	0.3	2/17/2011	0.3	10/14/2010	0.4	10/14/2010

2/18/2011	0.3	2/18/2011	0.3	10/15/2010	0.4	10/15/2010
2/21/2011	0.3	2/21/2011	0.3	10/18/2010	0.4	10/18/2010
2/22/2011	0.3	2/22/2011	0.3	10/19/2010	0.4	10/19/2010
2/23/2011	0.3	2/23/2011	0.3	10/20/2010	0.3	10/20/2010
2/24/2011	0.3	2/24/2011	0.3	10/21/2010	0.3	10/21/2010
2/25/2011	0.3	2/25/2011	0.3	10/22/2010	0.3	10/22/2010
2/28/2011	0.3	2/28/2011	0.3	10/25/2010	0.3	10/25/2010
3/1/2011	0.3	3/1/2011	0.3	10/26/2010	0.3	10/26/2010
3/2/2011	0.3	3/2/2011	0.3	10/27/2010	0.3	10/27/2010
3/3/2011	0.3	3/3/2011	0.3	10/28/2010	0.3	10/28/2010
3/4/2011	0.3	3/4/2011	0.3	10/29/2010	0.3	10/29/2010
3/7/2011	0.3	3/7/2011	0.3	11/1/2010	0.3	11/1/2010
3/8/2011	0.3	3/8/2011	0.3	11/2/2010	0.3	11/2/2010
3/9/2011	0.3	3/9/2011	0.3	11/3/2010	0.3	11/3/2010
3/10/2011	0.3	3/10/2011	0.3	11/4/2010	0.3	11/4/2010
3/11/2011	0.3	3/11/2011	0.3	11/5/2010	0.3	11/5/2010
3/14/2011	0.3	3/14/2011	0.3	11/8/2010	0.3	11/8/2010
3/15/2011	0.3	3/15/2011	0.3	11/9/2010	0.3	11/9/2010
3/16/2011	0.3	3/16/2011	0.3	11/10/2010	0.3	11/10/2010
3/17/2011	0.3	3/17/2011	0.3	11/11/2010	0.3	11/11/2010
3/18/2011	0.3	3/18/2011	0.3	11/12/2010	0.3	11/12/2010
3/21/2011	0.3	3/21/2011	0.3	11/15/2010	0.3	11/15/2010
3/22/2011	0.3	3/22/2011	0.3	11/16/2010	0.3	11/16/2010
3/23/2011	0.3	3/23/2011	0.2	11/17/2010	0.3	11/17/2010
3/24/2011	0.3	3/24/2011	0.2	11/18/2010	0.3	11/18/2010
3/25/2011	0.3	3/25/2011	0.2	11/19/2010	0.3	11/19/2010
3/28/2011	0.3	3/28/2011	0.2	11/22/2010	0.3	11/22/2010
3/29/2011	0.3	3/29/2011	0.2	11/23/2010	0.3	11/23/2010
3/30/2011	0.3	3/30/2011	0.2	11/24/2010	0.3	11/24/2010
3/31/2011	0.3	3/31/2011	0.2	11/25/2010	0.3	11/25/2010
4/1/2011	0.3	4/1/2011	0.2	11/26/2010	0.3	11/26/2010
4/4/2011	0.3	4/4/2011	0.2	11/29/2010	0.3	11/29/2010
4/5/2011	0.3	4/5/2011	0.2	11/30/2010	0.3	11/30/2010
4/6/2011	0.3	4/6/2011	0.2	12/1/2010	0.3	12/1/2010
4/7/2011	0.3	4/7/2011	0.2	12/2/2010	0.3	12/2/2010
4/8/2011	0.3	4/8/2011	0.2	12/3/2010	0.3	12/3/2010
4/11/2011	0.3	4/11/2011	0.2	12/6/2010	0.3	12/6/2010
4/12/2011	0.3	4/12/2011	0.2	12/7/2010	0.3	12/7/2010
4/13/2011	0.3	4/13/2011	0.2	12/8/2010	0.3	12/8/2010
4/14/2011	0.3	4/14/2011	0.2	12/9/2010	0.3	12/9/2010
4/15/2011	0.3	4/15/2011	0.2	12/10/2010	0.3	12/10/2010
4/18/2011	0.3	4/18/2011	0.2	12/13/2010	0.3	12/13/2010
4/19/2011	0.3	4/19/2011	0.2	12/14/2010	0.3	12/14/2010
4/20/2011	0.3	4/20/2011	0.2	12/15/2010	0.3	12/15/2010
4/21/2011	0.3	4/21/2011	0.2	12/16/2010	0.3	12/16/2010
4/26/2011	0.3	4/26/2011	0.2	12/17/2010	0.3	12/17/2010
4/27/2011	0.3	4/27/2011	0.2	12/20/2010	0.3	12/20/2010

4/28/2011	0.3	4/28/2011	0.2	12/21/2010	0.3	12/21/2010
5/3/2011	0.3	5/3/2011	0.2	12/22/2010	0.3	12/22/2010
5/4/2011	0.3	5/4/2011	0.2	12/23/2010	0.3	12/23/2010
5/5/2011	0.3	5/5/2011	0.2	12/24/2010	0.3	12/24/2010
5/6/2011	0.3	5/6/2011	0.2	12/27/2010	0.3	12/27/2010
5/9/2011	0.3	5/9/2011	0.2	12/28/2010	0.3	12/28/2010
5/10/2011	0.3	5/10/2011	0.2	12/29/2010	0.3	12/29/2010
5/11/2011	0.3	5/11/2011	0.2	12/30/2010	0.3	12/30/2010
5/12/2011	0.3	5/12/2011	0.2	12/31/2010	0.3	12/31/2010
5/13/2011	0.3	5/13/2011	0.2	1/3/2011	0.3	1/3/2011
5/16/2011	0.3	5/16/2011	0.2	1/4/2011	0.3	1/4/2011
5/17/2011	0.3	5/17/2011	0.2	1/5/2011	0.3	1/5/2011
5/18/2011	0.3	5/18/2011	0.2	1/6/2011	0.3	1/6/2011
5/19/2011	0.3	5/19/2011	0.2	1/7/2011	0.3	1/7/2011
5/20/2011	0.3	5/20/2011	0.2	1/10/2011	0.3	1/10/2011
5/23/2011	0.3	5/23/2011	0.2	1/11/2011	0.3	1/11/2011
5/24/2011	0.3	5/24/2011	0.2	1/12/2011	0.3	1/12/2011
5/25/2011	0.3	5/25/2011	0.2	1/13/2011	0.3	1/13/2011
5/26/2011	0.3	5/26/2011	0.2	1/14/2011	0.3	1/14/2011
5/27/2011	0.3	5/27/2011	0.2	1/17/2011	0.3	1/17/2011
5/31/2011	0.3	5/31/2011	0.2	1/18/2011	0.3	1/18/2011
6/1/2011	0.3	6/1/2011	0.2	1/19/2011	0.3	1/19/2011
6/2/2011	0.3	6/2/2011	0.2	1/20/2011	0.3	1/20/2011
6/3/2011	0.3	6/3/2011	0.2	1/21/2011	0.3	1/21/2011
6/6/2011	0.3	6/6/2011	0.2	1/24/2011	0.3	1/24/2011
6/7/2011	0.3	6/7/2011	0.2	1/25/2011	0.3	1/25/2011
6/8/2011	0.3	6/8/2011	0.2	1/26/2011	0.3	1/26/2011
6/9/2011	0.2	6/9/2011	0.2	1/27/2011	0.3	1/27/2011
6/10/2011	0.2	6/10/2011	0.2	1/28/2011	0.3	1/28/2011
6/13/2011	0.2	6/13/2011	0.2	1/31/2011	0.3	1/31/2011
6/14/2011	0.2	6/14/2011	0.2	2/1/2011	0.3	2/1/2011
6/15/2011	0.2	6/15/2011	0.2	2/2/2011	0.3	2/2/2011
6/16/2011	0.2	6/16/2011	0.2	2/3/2011	0.3	2/3/2011
6/17/2011	0.2	6/17/2011	0.2	2/4/2011	0.3	2/4/2011
6/20/2011	0.2	6/20/2011	0.2	2/7/2011	0.3	2/7/2011
6/21/2011	0.2	6/21/2011	0.2	2/8/2011	0.3	2/8/2011
6/22/2011	0.2	6/22/2011	0.2	2/9/2011	0.3	2/9/2011
6/23/2011	0.2	6/23/2011	0.2	2/10/2011	0.3	2/10/2011
6/24/2011	0.2	6/24/2011	0.2	2/11/2011	0.3	2/11/2011
6/27/2011	0.2	6/27/2011	0.2	2/14/2011	0.3	2/14/2011
6/28/2011	0.2	6/28/2011	0.2	2/15/2011	0.3	2/15/2011
6/29/2011	0.2	6/29/2011	0.2	2/16/2011	0.3	2/16/2011
6/30/2011	0.2	6/30/2011	0.2	2/17/2011	0.3	2/17/2011
7/1/2011	0.2	7/1/2011	0.2	2/18/2011	0.3	2/18/2011
7/4/2011	0.2	7/4/2011	0.2	2/21/2011	0.3	2/21/2011
7/5/2011	0.2	7/5/2011	0.2	2/22/2011	0.3	2/22/2011
7/6/2011	0.2	7/6/2011	0.2	2/23/2011	0.3	2/23/2011

7/7/2011	0.2	7/7/2011	0.2	2/24/2011	0.3	2/24/2011
7/8/2011	0.2	7/8/2011	0.2	2/25/2011	0.3	2/25/2011
7/11/2011	0.2	7/11/2011	0.2	2/28/2011	0.3	2/28/2011
7/12/2011	0.2	7/12/2011	0.2	3/1/2011	0.3	3/1/2011
7/13/2011	0.2	7/13/2011	0.2	3/2/2011	0.3	3/2/2011
7/14/2011	0.2	7/14/2011	0.2	3/3/2011	0.3	3/3/2011
7/15/2011	0.2	7/15/2011	0.2	3/4/2011	0.3	3/4/2011
7/18/2011	0.3	7/18/2011	0.2	3/7/2011	0.3	3/7/2011
7/19/2011	0.3	7/19/2011	0.2	3/8/2011	0.3	3/8/2011
7/20/2011	0.3	7/20/2011	0.2	3/9/2011	0.3	3/9/2011
7/21/2011	0.3	7/21/2011	0.2	3/10/2011	0.3	3/10/2011
7/22/2011	0.3	7/22/2011	0.2	3/11/2011	0.3	3/11/2011
7/25/2011	0.3	7/25/2011	0.2	3/14/2011	0.3	3/14/2011
7/26/2011	0.3	7/26/2011	0.2	3/15/2011	0.3	3/15/2011
7/27/2011	0.3	7/27/2011	0.2	3/16/2011	0.3	3/16/2011
7/28/2011	0.3	7/28/2011	0.2	3/17/2011	0.3	3/17/2011
7/29/2011	0.3	7/29/2011	0.2	3/18/2011	0.3	3/18/2011
8/1/2011	0.3	8/1/2011	0.2	3/21/2011	0.3	3/21/2011
8/2/2011	0.3	8/2/2011	0.2	3/22/2011	0.3	3/22/2011
8/3/2011	0.3	8/3/2011	0.2	3/23/2011	0.3	3/23/2011
8/4/2011	0.3	8/4/2011	0.2	3/24/2011	0.3	3/24/2011
8/5/2011	0.3	8/5/2011	0.2	3/25/2011	0.3	3/25/2011
8/8/2011	0.3	8/8/2011	0.2	3/28/2011	0.3	3/28/2011
8/9/2011	0.3	8/9/2011	0.2	3/29/2011	0.3	3/29/2011
8/10/2011	0.3	8/10/2011	0.2	3/30/2011	0.3	3/30/2011
8/11/2011	0.3	8/11/2011	0.2	3/31/2011	0.3	3/31/2011
8/12/2011	0.3	8/12/2011	0.2	4/1/2011	0.3	4/1/2011
8/15/2011	0.3	8/15/2011	0.2	4/4/2011	0.3	4/4/2011
8/16/2011	0.3	8/16/2011	0.2	4/5/2011	0.3	4/5/2011
8/17/2011	0.3	8/17/2011	0.2	4/6/2011	0.3	4/6/2011
8/18/2011	0.3	8/18/2011	0.2	4/7/2011	0.3	4/7/2011
8/19/2011	0.3	8/19/2011	0.2	4/8/2011	0.3	4/8/2011
8/22/2011	0.3	8/22/2011	0.2	4/11/2011	0.2	4/11/2011
8/23/2011	0.3	8/23/2011	0.2	4/12/2011	0.2	4/12/2011
8/24/2011	0.3	8/24/2011	0.2	4/13/2011	0.3	4/13/2011
8/25/2011	0.3	8/25/2011	0.2	4/14/2011	0.3	4/14/2011
8/26/2011	0.3	8/26/2011	0.2	4/15/2011	0.3	4/15/2011
8/30/2011	0.3	8/30/2011	0.2	4/18/2011	0.3	4/18/2011
8/31/2011	0.3	8/31/2011	0.2	4/19/2011	0.3	4/19/2011
9/1/2011	0.3	9/1/2011	0.2	4/20/2011	0.3	4/20/2011
9/2/2011	0.3	9/2/2011	0.2	4/21/2011	0.3	4/21/2011
9/5/2011	0.3	9/5/2011	0.2	4/22/2011	0.3	4/22/2011
9/6/2011	0.3	9/6/2011	0.2	4/25/2011	0.3	4/25/2011
9/7/2011	0.3	9/7/2011	0.2	4/26/2011	0.3	4/26/2011
9/8/2011	0.3	9/8/2011	0.2	4/27/2011	0.3	4/27/2011
9/9/2011	0.3	9/9/2011	0.2	4/28/2011	0.3	4/28/2011
9/12/2011	0.3	9/12/2011	0.2	4/29/2011	0.3	4/29/2011

9/13/2011	0.3	9/13/2011	0.2	5/2/2011	0.3	5/2/2011
9/14/2011	0.3	9/14/2011	0.2	5/3/2011	0.3	5/3/2011
9/15/2011	0.4	9/15/2011	0.2	5/4/2011	0.3	5/4/2011
9/16/2011	0.4	9/16/2011	0.2	5/5/2011	0.3	5/5/2011
9/19/2011	0.4	9/19/2011	0.2	5/6/2011	0.3	5/6/2011
9/20/2011	0.4	9/20/2011	0.2	5/9/2011	0.3	5/9/2011
9/21/2011	0.4	9/21/2011	0.2	5/10/2011	0.3	5/10/2011
9/22/2011	0.4	9/22/2011	0.2	5/11/2011	0.3	5/11/2011
9/23/2011	0.4	9/23/2011	0.2	5/12/2011	0.3	5/12/2011
9/26/2011	0.4	9/26/2011	0.2	5/13/2011	0.3	5/13/2011
9/27/2011	0.4	9/27/2011	0.2	5/16/2011	0.3	5/16/2011
9/28/2011	0.4	9/28/2011	0.2	5/17/2011	0.3	5/17/2011
9/29/2011	0.4	9/29/2011	0.2	5/18/2011	0.3	5/18/2011
9/30/2011	0.4	9/30/2011	0.2	5/19/2011	0.3	5/19/2011
10/3/2011	0.4	10/3/2011	0.2	5/20/2011	0.3	5/20/2011
10/4/2011	0.4	10/4/2011	0.2	5/23/2011	0.3	5/23/2011
10/5/2011	0.4	10/5/2011	0.2	5/24/2011	0.3	5/24/2011
10/6/2011	0.4	10/6/2011	0.2	5/25/2011	0.3	5/25/2011
10/7/2011	0.4	10/7/2011	0.2	5/26/2011	0.3	5/26/2011
10/10/2011	0.4	10/10/2011	0.2	5/27/2011	0.3	5/27/2011
10/11/2011	0.4	10/11/2011	0.2	5/30/2011	0.3	5/30/2011
10/12/2011	0.4	10/12/2011	0.2	5/31/2011	0.3	5/31/2011
10/13/2011	0.4	10/13/2011	0.2	6/1/2011	0.3	6/1/2011
10/14/2011	0.4	10/14/2011	0.2	6/2/2011	0.3	6/2/2011
10/17/2011	0.4	10/17/2011	0.2	6/3/2011	0.3	6/3/2011
10/18/2011	0.4	10/18/2011	0.2	6/6/2011	0.3	6/6/2011
10/19/2011	0.4	10/19/2011	0.2	6/7/2011	0.2	6/7/2011
10/20/2011	0.4	10/20/2011	0.2	6/8/2011	0.2	6/8/2011
10/21/2011	0.4	10/21/2011	0.2	6/9/2011	0.2	6/9/2011
10/24/2011	0.4	10/24/2011	0.2	6/10/2011	0.2	6/10/2011
10/25/2011	0.4	10/25/2011	0.2	6/13/2011	0.2	6/13/2011
10/26/2011	0.4	10/26/2011	0.2	6/14/2011	0.2	6/14/2011
10/27/2011	0.4	10/27/2011	0.2	6/15/2011	0.2	6/15/2011
10/28/2011	0.4	10/28/2011	0.2	6/16/2011	0.2	6/16/2011
10/31/2011	0.4	10/31/2011	0.2	6/17/2011	0.2	6/17/2011
11/1/2011	0.4	11/1/2011	0.2	6/20/2011	0.2	6/20/2011
11/2/2011	0.4	11/2/2011	0.2	6/21/2011	0.2	6/21/2011
11/3/2011	0.4	11/3/2011	0.2	6/22/2011	0.2	6/22/2011
11/4/2011	0.4	11/4/2011	0.2	6/23/2011	0.2	6/23/2011
11/7/2011	0.4	11/7/2011	0.2	6/24/2011	0.2	6/24/2011
11/8/2011	0.4	11/8/2011	0.2	6/27/2011	0.2	6/27/2011
11/9/2011	0.4	11/9/2011	0.2	6/28/2011	0.2	6/28/2011
11/10/2011	0.5	11/10/2011	0.2	6/29/2011	0.2	6/29/2011
11/11/2011	0.5	11/11/2011	0.2	6/30/2011	0.2	6/30/2011
11/14/2011	0.5	11/14/2011	0.3	7/1/2011	0.2	7/1/2011
11/15/2011	0.5	11/15/2011	0.3	7/4/2011	0.2	7/4/2011
11/16/2011	0.5	11/16/2011	0.3	7/5/2011	0.2	7/5/2011

11/17/2011	0.5	11/17/2011	0.3	7/6/2011	0.2	7/6/2011
11/18/2011	0.5	11/18/2011	0.3	7/7/2011	0.2	7/7/2011
11/21/2011	0.5	11/21/2011	0.3	7/8/2011	0.2	7/8/2011
11/22/2011	0.5	11/22/2011	0.3	7/11/2011	0.2	7/11/2011
11/23/2011	0.5	11/23/2011	0.3	7/12/2011	0.2	7/12/2011
11/24/2011	0.5	11/24/2011	0.3	7/13/2011	0.2	7/13/2011
11/25/2011	0.5	11/25/2011	0.3	7/14/2011	0.2	7/14/2011
11/28/2011	0.5	11/28/2011	0.3	7/15/2011	0.2	7/15/2011
11/29/2011	0.5	11/29/2011	0.3	7/18/2011	0.2	7/18/2011
11/30/2011	0.5	11/30/2011	0.3	7/19/2011	0.2	7/19/2011
12/1/2011	0.5	12/1/2011	0.3	7/20/2011	0.2	7/20/2011
12/2/2011	0.5	12/2/2011	0.3	7/21/2011	0.2	7/21/2011
12/5/2011	0.5	12/5/2011	0.3	7/22/2011	0.2	7/22/2011
12/6/2011	0.5	12/6/2011	0.3	7/25/2011	0.2	7/25/2011
12/7/2011	0.5	12/7/2011	0.3	7/26/2011	0.2	7/26/2011
12/8/2011	0.5	12/8/2011	0.3	7/27/2011	0.2	7/27/2011
12/9/2011	0.5	12/9/2011	0.3	7/28/2011	0.2	7/28/2011
12/12/2011	0.5	12/12/2011	0.3	7/29/2011	0.2	7/29/2011
12/13/2011	0.5	12/13/2011	0.3	8/1/2011	0.2	8/1/2011
12/14/2011	0.6	12/14/2011	0.3	8/2/2011	0.2	8/2/2011
12/15/2011	0.6	12/15/2011	0.3	8/3/2011	0.2	8/3/2011
12/16/2011	0.6	12/16/2011	0.3	8/4/2011	0.2	8/4/2011
12/19/2011	0.6	12/19/2011	0.3	8/5/2011	0.2	8/5/2011
12/20/2011	0.6	12/20/2011	0.3	8/8/2011	0.2	8/8/2011
12/21/2011	0.6	12/21/2011	0.3	8/9/2011	0.3	8/9/2011
12/22/2011	0.6	12/22/2011	0.3	8/10/2011	0.3	8/10/2011
12/23/2011	0.6	12/23/2011	0.3	8/11/2011	0.3	8/11/2011
12/28/2011	0.6	12/28/2011	0.3	8/12/2011	0.3	8/12/2011
12/29/2011	0.6	12/29/2011	0.3	8/15/2011	0.3	8/15/2011
12/30/2011	0.6	12/30/2011	0.3	8/16/2011	0.3	8/16/2011
1/3/2012	0.6	1/3/2012	0.3	8/17/2011	0.3	8/17/2011
1/4/2012	0.6	1/4/2012	0.3	8/18/2011	0.3	8/18/2011
1/5/2012	0.6	1/5/2012	0.3	8/19/2011	0.3	8/19/2011
1/6/2012	0.6	1/6/2012	0.3	8/22/2011	0.3	8/22/2011
1/9/2012	0.6	1/9/2012	0.3	8/23/2011	0.3	8/23/2011
1/10/2012	0.6	1/10/2012	0.3	8/24/2011	0.3	8/24/2011
1/11/2012	0.6	1/11/2012	0.3	8/25/2011	0.3	8/25/2011
1/12/2012	0.6	1/12/2012	0.3	8/26/2011	0.3	8/26/2011
1/13/2012	0.6	1/13/2012	0.3	8/29/2011	0.3	8/29/2011
1/16/2012	0.6	1/16/2012	0.3	8/30/2011	0.3	8/30/2011
1/17/2012	0.6	1/17/2012	0.3	8/31/2011	0.3	8/31/2011
1/18/2012	0.6	1/18/2012	0.3	9/1/2011	0.3	9/1/2011
1/19/2012	0.6	1/19/2012	0.3	9/2/2011	0.3	9/2/2011
1/20/2012	0.6	1/20/2012	0.3	9/5/2011	0.3	9/5/2011
1/23/2012	0.6	1/23/2012	0.3	9/6/2011	0.3	9/6/2011
1/24/2012	0.6	1/24/2012	0.3	9/7/2011	0.3	9/7/2011
1/25/2012	0.6	1/25/2012	0.3	9/8/2011	0.3	9/8/2011

1/26/2012	0.6	1/26/2012	0.3	9/9/2011	0.3	9/9/2011
1/27/2012	0.6	1/27/2012	0.3	9/12/2011	0.3	9/12/2011
1/30/2012	0.5	1/30/2012	0.3	9/13/2011	0.4	9/13/2011
1/31/2012	0.5	1/31/2012	0.3	9/14/2011	0.4	9/14/2011
2/1/2012	0.5	2/1/2012	0.3	9/15/2011	0.4	9/15/2011
2/2/2012	0.5	2/2/2012	0.3	9/16/2011	0.4	9/16/2011
2/3/2012	0.5	2/3/2012	0.3	9/19/2011	0.4	9/19/2011
2/6/2012	0.5	2/6/2012	0.3	9/20/2011	0.4	9/20/2011
2/7/2012	0.5	2/7/2012	0.3	9/21/2011	0.4	9/21/2011
2/8/2012	0.5	2/8/2012	0.3	9/22/2011	0.4	9/22/2011
2/9/2012	0.5	2/9/2012	0.3	9/23/2011	0.4	9/23/2011
2/10/2012	0.5	2/10/2012	0.3	9/26/2011	0.4	9/26/2011
2/13/2012	0.5	2/13/2012	0.2	9/27/2011	0.4	9/27/2011
2/14/2012	0.5	2/14/2012	0.2	9/28/2011	0.4	9/28/2011
2/15/2012	0.5	2/15/2012	0.2	9/29/2011	0.4	9/29/2011
2/16/2012	0.5	2/16/2012	0.2	9/30/2011	0.4	9/30/2011
2/17/2012	0.5	2/17/2012	0.2	10/3/2011	0.4	10/3/2011
2/20/2012	0.5	2/20/2012	0.2	10/4/2011	0.4	10/4/2011
2/21/2012	0.5	2/21/2012	0.2	10/5/2011	0.4	10/5/2011
2/22/2012	0.5	2/22/2012	0.2	10/6/2011	0.4	10/6/2011
2/23/2012	0.5	2/23/2012	0.2	10/7/2011	0.4	10/7/2011
2/24/2012	0.5	2/24/2012	0.2	10/10/2011	0.4	10/10/2011
2/27/2012	0.5	2/27/2012	0.2	10/11/2011	0.4	10/11/2011
2/28/2012	0.5	2/28/2012	0.2	10/12/2011	0.4	10/12/2011
2/29/2012	0.5	2/29/2012	0.2	10/13/2011	0.4	10/13/2011
3/1/2012	0.5	3/1/2012	0.2	10/14/2011	0.4	10/14/2011
3/2/2012	0.5	3/2/2012	0.2	10/17/2011	0.4	10/17/2011
3/5/2012	0.5	3/5/2012	0.2	10/18/2011	0.4	10/18/2011
3/6/2012	0.5	3/6/2012	0.2	10/19/2011	0.4	10/19/2011
3/7/2012	0.5	3/7/2012	0.2	10/20/2011	0.4	10/20/2011
3/8/2012	0.5	3/8/2012	0.2	10/21/2011	0.4	10/21/2011
3/9/2012	0.5	3/9/2012	0.2	10/24/2011	0.4	10/24/2011
3/12/2012	0.5	3/12/2012	0.2	10/25/2011	0.4	10/25/2011
3/13/2012	0.5	3/13/2012	0.2	10/26/2011	0.4	10/26/2011
3/14/2012	0.5	3/14/2012	0.2	10/27/2011	0.4	10/27/2011
3/15/2012	0.5	3/15/2012	0.2	10/28/2011	0.4	10/28/2011
3/16/2012	0.5	3/16/2012	0.2	10/31/2011	0.4	10/31/2011
3/19/2012	0.5	3/19/2012	0.2	11/1/2011	0.4	11/1/2011
3/20/2012	0.5	3/20/2012	0.2	11/2/2011	0.4	11/2/2011
3/21/2012	0.5	3/21/2012	0.2	11/3/2011	0.4	11/3/2011
3/22/2012	0.5	3/22/2012	0.2	11/4/2011	0.4	11/4/2011
3/23/2012	0.5	3/23/2012	0.2	11/7/2011	0.4	11/7/2011
3/26/2012	0.5	3/26/2012	0.2	11/8/2011	0.4	11/8/2011
3/27/2012	0.5	3/27/2012	0.2	11/9/2011	0.4	11/9/2011
3/28/2012	0.5	3/28/2012	0.2	11/10/2011	0.4	11/10/2011
3/29/2012	0.5	3/29/2012	0.2	11/11/2011	0.4	11/11/2011
3/30/2012	0.5	3/30/2012	0.2	11/14/2011	0.4	11/14/2011

4/2/2012	0.5	4/2/2012	0.2	11/15/2011	0.4	11/15/2011
4/3/2012	0.5	4/3/2012	0.2	11/16/2011	0.4	11/16/2011
4/4/2012	0.5	4/4/2012	0.2	11/17/2011	0.4	11/17/2011
4/5/2012	0.5	4/5/2012	0.2	11/18/2011	0.4	11/18/2011
4/10/2012	0.5	4/10/2012	0.2	11/21/2011	0.4	11/21/2011
4/11/2012	0.5	4/11/2012	0.2	11/22/2011	0.4	11/22/2011
4/12/2012	0.5	4/12/2012	0.2	11/23/2011	0.4	11/23/2011
4/13/2012	0.5	4/13/2012	0.2	11/24/2011	0.4	11/24/2011
4/16/2012	0.5	4/16/2012	0.2	11/25/2011	0.4	11/25/2011
4/17/2012	0.5	4/17/2012	0.2	11/28/2011	0.4	11/28/2011
4/18/2012	0.5	4/18/2012	0.2	11/29/2011	0.4	11/29/2011
4/19/2012	0.5	4/19/2012	0.2	11/30/2011	0.4	11/30/2011
4/20/2012	0.5	4/20/2012	0.2	12/1/2011	0.4	12/1/2011
4/23/2012	0.5	4/23/2012	0.2	12/2/2011	0.4	12/2/2011
4/24/2012	0.5	4/24/2012	0.2	12/5/2011	0.4	12/5/2011
4/25/2012	0.5	4/25/2012	0.2	12/6/2011	0.4	12/6/2011
4/26/2012	0.5	4/26/2012	0.2	12/7/2011	0.4	12/7/2011
4/27/2012	0.5	4/27/2012	0.2	12/8/2011	0.4	12/8/2011
4/30/2012	0.5	4/30/2012	0.2	12/9/2011	0.4	12/9/2011
5/1/2012	0.5	5/1/2012	0.2	12/12/2011	0.4	12/12/2011
5/2/2012	0.5	5/2/2012	0.2	12/13/2011	0.4	12/13/2011
5/3/2012	0.5	5/3/2012	0.2	12/14/2011	0.4	12/14/2011
5/4/2012	0.5	5/4/2012	0.2	12/15/2011	0.4	12/15/2011
5/8/2012	0.5	5/8/2012	0.2	12/16/2011	0.4	12/16/2011
5/9/2012	0.5	5/9/2012	0.2	12/19/2011	0.4	12/19/2011
5/10/2012	0.5	5/10/2012	0.2	12/20/2011	0.4	12/20/2011
5/11/2012	0.5	5/11/2012	0.2	12/21/2011	0.4	12/21/2011
5/14/2012	0.5	5/14/2012	0.2	12/22/2011	0.4	12/22/2011
5/15/2012	0.5	5/15/2012	0.2	12/23/2011	0.4	12/23/2011
5/16/2012	0.5	5/16/2012	0.2	12/26/2011	0.4	12/26/2011
5/17/2012	0.5	5/17/2012	0.2	12/27/2011	0.4	12/27/2011
5/18/2012	0.5	5/18/2012	0.2	12/28/2011	0.4	12/28/2011
5/21/2012	0.5	5/21/2012	0.2	12/29/2011	0.4	12/29/2011
5/22/2012	0.5	5/22/2012	0.2	12/30/2011	0.4	12/30/2011
5/23/2012	0.5	5/23/2012	0.2	1/2/2012	0.4	1/2/2012
5/24/2012	0.5	5/24/2012	0.2	1/3/2012	0.4	1/3/2012
5/25/2012	0.5	5/25/2012	0.2	1/4/2012	0.4	1/4/2012
5/28/2012	0.5	5/28/2012	0.2	1/5/2012	0.4	1/5/2012
5/29/2012	0.5	5/29/2012	0.2	1/6/2012	0.4	1/6/2012
5/30/2012	0.5	5/30/2012	0.2	1/9/2012	0.4	1/9/2012
5/31/2012	0.5	5/31/2012	0.2	1/10/2012	0.4	1/10/2012
6/1/2012	0.5	6/1/2012	0.2	1/11/2012	0.4	1/11/2012
6/4/2012	#N/A	6/4/2012	#N/A	1/12/2012	0.3	1/12/2012
6/5/2012	#N/A	6/5/2012	#N/A	1/13/2012	0.3	1/13/2012
6/6/2012	0.5	6/6/2012	0.2	1/16/2012	0.3	1/16/2012
6/7/2012	0.5	6/7/2012	0.2	1/17/2012	0.3	1/17/2012
6/8/2012	0.5	6/8/2012	0.2	1/18/2012	0.3	1/18/2012

6/11/2012	0.5	6/11/2012	0.2	1/19/2012	0.3	1/19/2012
6/12/2012	0.5	6/12/2012	0.2	1/20/2012	0.4	1/20/2012
6/13/2012	0.5	6/13/2012	0.2	1/23/2012	0.4	1/23/2012
6/14/2012	0.5	6/14/2012	0.2	1/24/2012	0.4	1/24/2012
6/15/2012	0.5	6/15/2012	0.2	1/25/2012	0.4	1/25/2012
6/18/2012	0.5	6/18/2012	0.2	1/26/2012	0.4	1/26/2012
6/19/2012	0.5	6/19/2012	0.2	1/27/2012	0.4	1/27/2012
6/20/2012	0.5	6/20/2012	0.2	1/30/2012	0.4	1/30/2012
6/21/2012	0.5	6/21/2012	0.2	1/31/2012	0.4	1/31/2012
6/22/2012	0.5	6/22/2012	0.2	2/1/2012	0.4	2/1/2012
6/25/2012	0.5	6/25/2012	0.2	2/2/2012	0.4	2/2/2012
6/26/2012	0.5	6/26/2012	0.2	2/3/2012	0.4	2/3/2012
6/27/2012	0.5	6/27/2012	0.2	2/6/2012	0.4	2/6/2012
6/28/2012	0.5	6/28/2012	0.2	2/7/2012	0.4	2/7/2012
6/29/2012	0.5	6/29/2012	0.2	2/8/2012	0.4	2/8/2012
7/2/2012	0.5	7/2/2012	0.2	2/9/2012	0.4	2/9/2012
7/3/2012	0.5	7/3/2012	0.2	2/10/2012	0.4	2/10/2012
7/4/2012	0.5	7/4/2012	0.2	2/13/2012	0.4	2/13/2012
7/5/2012	0.5	7/5/2012	0.2	2/14/2012	0.3	2/14/2012
7/6/2012	0.5	7/6/2012	0.2	2/15/2012	0.3	2/15/2012
7/9/2012	0.5	7/9/2012	0.2	2/16/2012	0.4	2/16/2012
7/10/2012	0.5	7/10/2012	0.2	2/17/2012	0.3	2/17/2012
7/11/2012	0.5	7/11/2012	0.2	2/20/2012	0.3	2/20/2012
7/12/2012	0.5	7/12/2012	0.2	2/21/2012	0.3	2/21/2012
7/13/2012	0.5	7/13/2012	0.2	2/22/2012	0.3	2/22/2012
7/16/2012	0.5	7/16/2012	0.2	2/23/2012	0.3	2/23/2012
7/17/2012	0.5	7/17/2012	0.2	2/24/2012	0.3	2/24/2012
7/18/2012	0.5	7/18/2012	0.2	2/27/2012	0.3	2/27/2012
7/19/2012	0.5	7/19/2012	0.2	2/28/2012	0.3	2/28/2012
7/20/2012	0.5	7/20/2012	0.2	2/29/2012	0.3	2/29/2012
7/23/2012	0.5	7/23/2012	0.2	3/1/2012	0.3	3/1/2012
7/24/2012	0.4	7/24/2012	0.2	3/2/2012	0.3	3/2/2012
7/25/2012	0.4	7/25/2012	0.2	3/5/2012	0.3	3/5/2012
7/26/2012	0.4	7/26/2012	0.2	3/6/2012	0.3	3/6/2012
7/27/2012	0.4	7/27/2012	0.2	3/7/2012	0.3	3/7/2012
7/30/2012	0.4	7/30/2012	0.2	3/8/2012	0.3	3/8/2012
7/31/2012	0.4	7/31/2012	0.2	3/9/2012	0.3	3/9/2012
8/1/2012	0.4	8/1/2012	0.2	3/12/2012	0.3	3/12/2012
8/2/2012	0.4	8/2/2012	0.2	3/13/2012	0.3	3/13/2012
8/3/2012	0.4	8/3/2012	0.2	3/14/2012	0.3	3/14/2012
8/6/2012	0.4	8/6/2012	0.2	3/15/2012	0.3	3/15/2012
8/7/2012	0.4	8/7/2012	0.2	3/16/2012	0.3	3/16/2012
8/8/2012	0.4	8/8/2012	0.2	3/19/2012	0.3	3/19/2012
8/9/2012	0.4	8/9/2012	0.2	3/20/2012	0.3	3/20/2012
8/10/2012	0.4	8/10/2012	0.2	3/21/2012	0.3	3/21/2012
8/13/2012	0.4	8/13/2012	0.2	3/22/2012	0.3	3/22/2012
8/14/2012	0.4	8/14/2012	0.2	3/23/2012	0.3	3/23/2012

8/15/2012	0.4	8/15/2012	0.2	3/26/2012	0.3	3/26/2012
8/16/2012	0.4	8/16/2012	0.2	3/27/2012	0.3	3/27/2012
8/17/2012	0.4	8/17/2012	0.2	3/28/2012	0.3	3/28/2012
8/20/2012	0.4	8/20/2012	0.2	3/29/2012	0.3	3/29/2012
8/21/2012	0.4	8/21/2012	0.2	3/30/2012	0.3	3/30/2012
8/22/2012	0.4	8/22/2012	0.2	4/2/2012	0.3	4/2/2012
8/23/2012	0.4	8/23/2012	0.2	4/3/2012	0.3	4/3/2012
8/24/2012	0.4	8/24/2012	0.2	4/4/2012	0.3	4/4/2012
8/27/2012	#N/A	8/27/2012	#N/A	4/5/2012	0.3	4/5/2012
8/28/2012	0.4	8/28/2012	0.2	4/6/2012	0.3	4/6/2012
8/29/2012	0.4	8/29/2012	0.2	4/9/2012	0.3	4/9/2012
8/30/2012	0.4	8/30/2012	0.2	4/10/2012	0.3	4/10/2012
8/31/2012	0.4	8/31/2012	0.2	4/11/2012	0.3	4/11/2012
9/3/2012	0.4	9/3/2012	0.2	4/12/2012	0.3	4/12/2012
9/4/2012	0.4	9/4/2012	0.2	4/13/2012	0.3	4/13/2012
9/5/2012	0.4	9/5/2012	0.2	4/16/2012	0.3	4/16/2012
9/6/2012	0.4	9/6/2012	0.2	4/17/2012	0.3	4/17/2012
9/7/2012	0.4	9/7/2012	0.2	4/18/2012	0.3	4/18/2012
9/10/2012	0.4	9/10/2012	0.2	4/19/2012	0.3	4/19/2012
9/11/2012	0.4	9/11/2012	0.2	4/20/2012	0.3	4/20/2012
9/12/2012	0.4	9/12/2012	0.2	4/23/2012	0.3	4/23/2012
9/13/2012	0.4	9/13/2012	0.2	4/24/2012	0.3	4/24/2012
9/14/2012	0.4	9/14/2012	0.2	4/25/2012	0.3	4/25/2012
9/17/2012	0.4	9/17/2012	0.2	4/26/2012	0.3	4/26/2012
9/18/2012	0.4	9/18/2012	0.2	4/27/2012	0.3	4/27/2012
9/19/2012	0.4	9/19/2012	0.2	4/30/2012	0.3	4/30/2012
9/20/2012	0.4	9/20/2012	0.2	5/1/2012	0.3	5/1/2012
9/21/2012	0.4	9/21/2012	0.2	5/2/2012	0.3	5/2/2012
				5/3/2012	0.3	5/3/2012
				5/4/2012	0.3	5/4/2012
				5/7/2012	0.3	5/7/2012
				5/8/2012	0.3	5/8/2012
				5/9/2012	0.3	5/9/2012
				5/10/2012	0.3	5/10/2012
				5/11/2012	0.3	5/11/2012
				5/14/2012	0.3	5/14/2012
				5/15/2012	0.3	5/15/2012
				5/16/2012	0.3	5/16/2012
				5/17/2012	0.3	5/17/2012
				5/18/2012	0.3	5/18/2012
				5/21/2012	0.3	5/21/2012
				5/22/2012	0.3	5/22/2012
				5/23/2012	0.3	5/23/2012
				5/24/2012	0.3	5/24/2012
				5/25/2012	0.3	5/25/2012
				5/28/2012	0.3	5/28/2012
				5/29/2012	0.3	5/29/2012

5/30/2012	0.3	5/30/2012
5/31/2012	0.3	5/31/2012
6/1/2012	0.3	6/1/2012
6/4/2012	0.3	6/4/2012
6/5/2012	0.3	6/5/2012
6/6/2012	0.3	6/6/2012
6/7/2012	0.3	6/7/2012
6/8/2012	0.3	6/8/2012
6/11/2012	0.3	6/11/2012
6/12/2012	0.3	6/12/2012
6/13/2012	0.3	6/13/2012
6/14/2012	0.3	6/14/2012
6/15/2012	0.3	6/15/2012
6/18/2012	0.3	6/18/2012
6/19/2012	0.3	6/19/2012
6/20/2012	0.3	6/20/2012
6/21/2012	0.3	6/21/2012
6/22/2012	0.3	6/22/2012
6/25/2012	0.3	6/25/2012
6/26/2012	0.3	6/26/2012
6/27/2012	0.3	6/27/2012
6/28/2012	0.3	6/28/2012
6/29/2012	0.3	6/29/2012
7/2/2012	0.3	7/2/2012
7/3/2012	0.3	7/3/2012
7/4/2012	#N/A	7/4/2012
7/5/2012	0.3	7/5/2012
7/6/2012	0.3	7/6/2012
7/9/2012	0.3	7/9/2012
7/10/2012	0.3	7/10/2012
7/11/2012	0.3	7/11/2012
7/12/2012	0.3	7/12/2012
7/13/2012	0.3	7/13/2012
7/16/2012	0.3	7/16/2012
7/17/2012	0.3	7/17/2012
7/18/2012	0.3	7/18/2012
7/19/2012	0.3	7/19/2012
7/20/2012	0.3	7/20/2012
7/23/2012	0.3	7/23/2012
7/24/2012	0.3	7/24/2012
7/25/2012	0.3	7/25/2012
7/26/2012	0.3	7/26/2012
7/27/2012	0.3	7/27/2012
7/30/2012	0.3	7/30/2012
7/31/2012	0.3	7/31/2012
8/1/2012	0.3	8/1/2012
8/2/2012	0.3	8/2/2012

8/3/2012	0.3	8/3/2012
8/6/2012	0.3	8/6/2012
8/7/2012	0.3	8/7/2012
8/8/2012	0.3	8/8/2012
8/9/2012	0.3	8/9/2012
8/10/2012	0.3	8/10/2012
8/13/2012	0.3	8/13/2012
8/14/2012	0.3	8/14/2012
8/15/2012	0.3	8/15/2012
8/16/2012	0.3	8/16/2012
8/17/2012	0.3	8/17/2012
8/20/2012	0.3	8/20/2012
8/21/2012	0.3	8/21/2012
8/22/2012	0.3	8/22/2012
8/23/2012	0.3	8/23/2012
8/24/2012	0.3	8/24/2012
8/27/2012	0.3	8/27/2012
8/28/2012	0.3	8/28/2012
8/29/2012	0.3	8/29/2012
8/30/2012	0.3	8/30/2012
8/31/2012	0.3	8/31/2012
9/3/2012	0.3	9/3/2012
9/4/2012	0.3	9/4/2012
9/5/2012	0.3	9/5/2012
9/6/2012	0.3	9/6/2012
9/7/2012	0.3	9/7/2012
9/10/2012	0.3	9/10/2012
9/11/2012	0.3	9/11/2012
9/12/2012	0.3	9/12/2012
9/13/2012	0.3	9/13/2012
9/14/2012	0.3	9/14/2012
9/17/2012	0.3	9/17/2012
9/18/2012	0.3	9/18/2012
9/19/2012	0.3	9/19/2012
9/20/2012	0.3	9/20/2012
9/21/2012	0.3	9/21/2012
9/24/2012	0.3	9/24/2012
9/25/2012	0.3	9/25/2012
9/26/2012	0.3	9/26/2012

Percent

Daily

1971-01-04 to 2012-09-26

[Dollar Deposit Rate \(London\)](#)

Announcements of the Federal Reserve System

Value

5.9

5.9

5.9

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#N/A

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#N/A

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6.7

#N/A

6.7
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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
		Tied to mortgage rates, which are keyed inter alia to 6m and 12m LIBOR			
Citibank	CMLTI 2007-AR7 A2A	1mL + 19	17312YAB8	FALSE	Timothy Lee
Deutsche Bank	DBALT 2007-OA4 IIIA1	1mL + 13	25151XAE1	FALSE	Timothy Lee
JPMorgan	JPMAC 2006-WMC4	1mL + 14	46630BAA4	FALSE	Timothy Lee
RBS	OOMLT 2007-CP1 1A1	1mL + 25	68402YAA4	FALSE	Timothy Lee
UBS	MABS 2005-WF1 A-1A	1mL + 13	57643LJR8	FALSE	Timothy Lee
HSBC	FFML 2006-FF11 1A1		32028PAA3	FALSE	Timothy Lee

Balmaseda, Kat

From: Lee, Timothy
Sent: Friday, November 16, 2012 4:36 PM
To: Parker, Richard; Grob, George
Subject: LIBOR memo
Attachments: LIBOR memo final.docx

Hi gents,

If we do decide to distribute, please use this version of the memo. Somehow, in the recommendations, the memo uses “affect” instead of “effect”. I have corrected the mistake, which should not have slipped past me in the first place, and ask that I be spared the humiliation of letting anyone else see such an obvious blunder. (Also, we should circulate a version with working hyperlinks.)

Thanks,
Tim

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



OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Edward J. DeMarco, Acting Director
From: Steve A. Linick, Inspector General
Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation
Date: November 1, 2012

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

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

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



OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

Date: October 26, 2012

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

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

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

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

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

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

Background

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

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

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

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

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

Analysis

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

- 1-month¹¹ LIBOR rates; and
- The Federal Reserve's published Eurodollar deposit rates (Fed ED) for 1-month¹² obligations. Like LIBOR, this data series is designed to measure short-term bank borrowing costs via polling of financial institutions. However, the Federal Reserve measure polls a broader range of institutions and is rarely referenced in floating rate financial obligations.

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

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

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

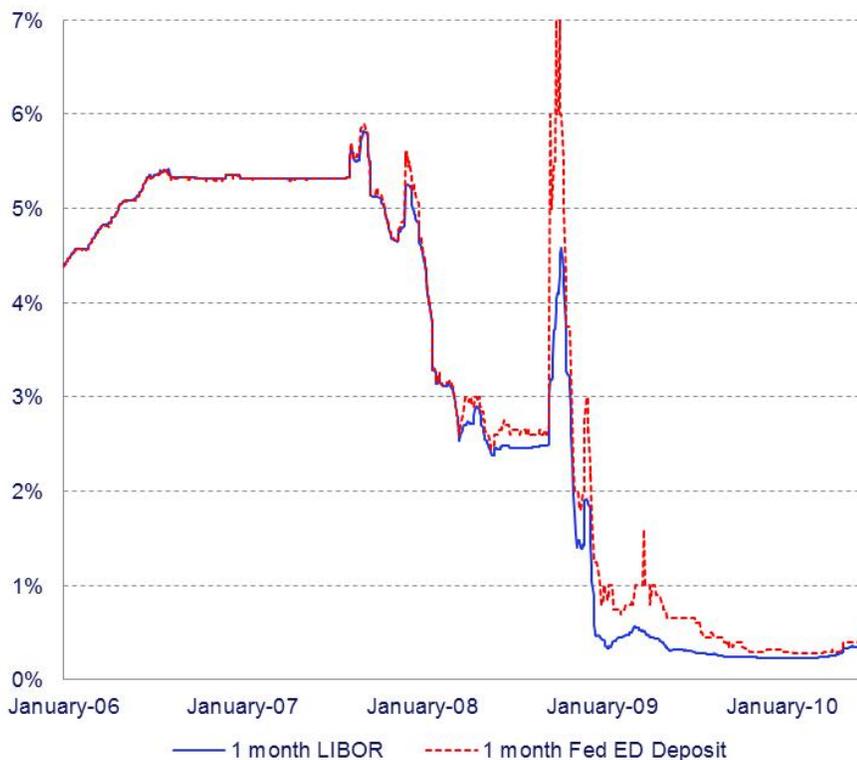
investment bank. These began to emerge in mid-June,¹⁵ followed promptly by the funds' bankruptcy filings at the end of July.¹⁶

As the financial crisis began to metastasize, LIBOR and Fed ED began to diverge substantially, eventually by as much as three percentage points at the end of September 2008. Moreover, in a marked contrast with

previous behavior, LIBOR began to fall below Fed ED consistently. Figure 1 illustrates the recent divergence of these two measures, beginning in mid-2007.

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:

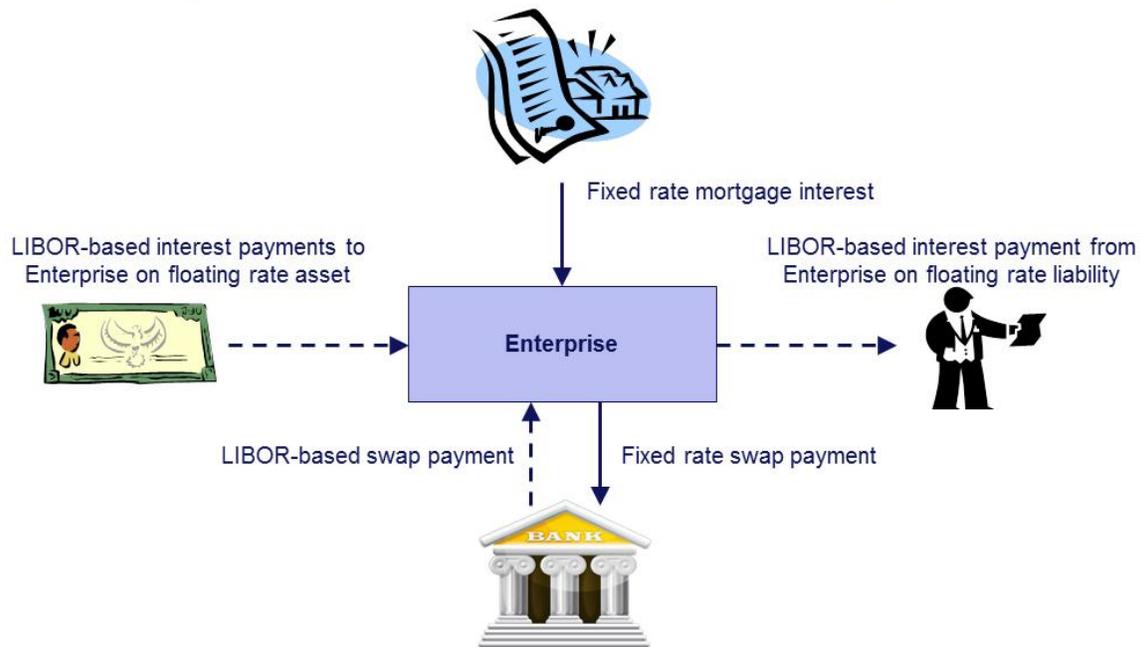
Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10



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

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

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



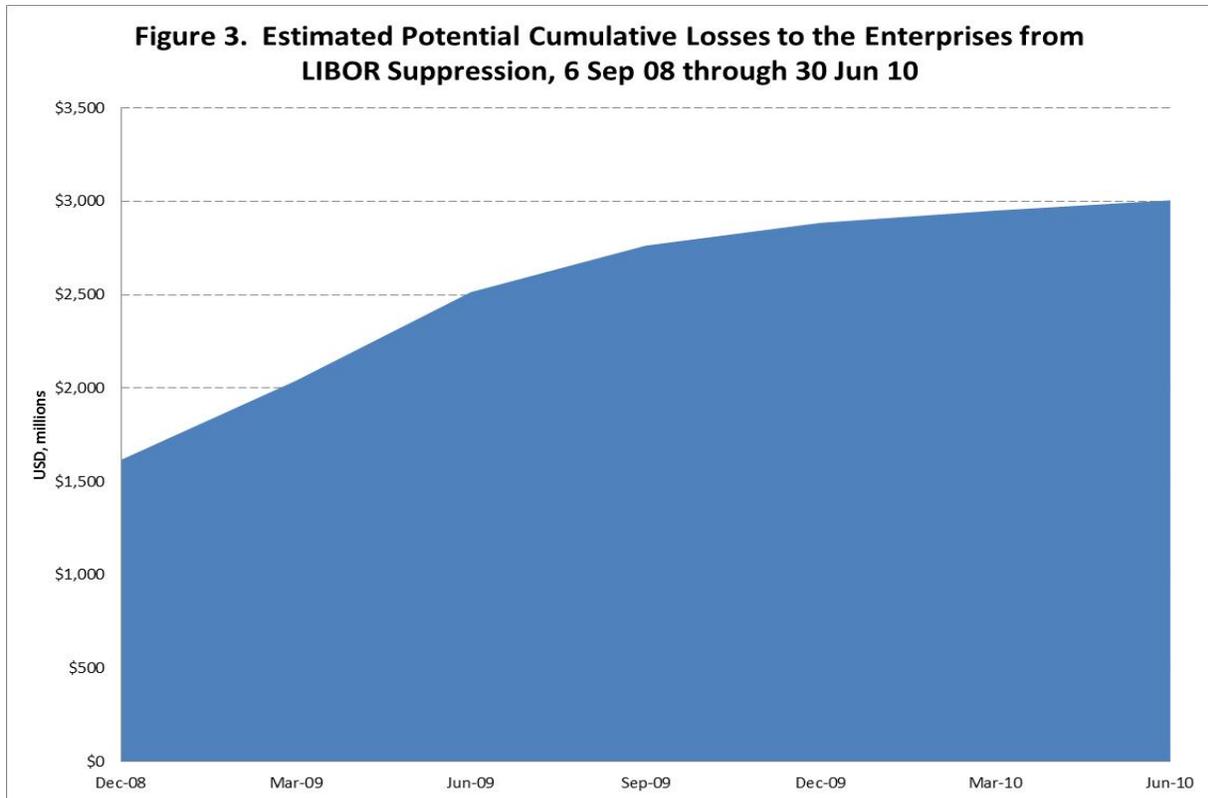
To the extent that the Enterprises suffered such “short-changing” of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury’s investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have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

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

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

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

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



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

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

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

A comparable situation exists in the market for floating-rate securities. For example, of 2007's ten leading underwriters of "private label" mortgage-backed securities,²¹ four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.²²

However, our review of a small sample of offering documents for the Enterprises' floating-rate

investments in this category failed to uncover any disclosure of risks that the underwriters could manipulate LIBOR for their own advantage, to the detriment of bondholders.

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.

Figure 4.

Major Derivatives Dealers		Top Private Label MBS Underwriters 2007	
	LIBOR Contributor		LIBOR Contributor
Bank of America	✓	Lehman Brothers	
Barclays	✓	Bear Stearns	
BNP Paribas		Deutsche Bank	✓
Citibank	✓	Countrywide	
Credit Suisse	✓	RBS	✓
Deutsche Bank	✓	Credit Suisse	✓
Goldman Sachs		JPMorganChase	✓
HSBC Group	✓	Morgan Stanley	
JPMorganChase	✓	Washington Mutual	
Morgan Stanley		Merrill Lynch	
RBS	✓		
Societe Generale	✓		
UBS	✓		
Wachovia			

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

Appendix

Notes on Analytical Methodology

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

LIBOR Benchmarks

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

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

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

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

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

Calculation of Enterprise Losses

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

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

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

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

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

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

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

Limitations of Our Analysis

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

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

Endnotes

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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.](#)"
- ⁴ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.
- ⁵ See, inter alia, The New York Times, "[State Regulators Widen LIBOR Investigation](#)," August 15, 2012, and BusinessWeek, "[US LIBOR Probers Said to Seek London Trader Interviews](#)," September 27, 2012.
- ⁶ The Wall Street Journal, "[Suits Mount in Rate Scandal](#)," August 26, 2012.
- ⁷ Federal Housing Finance Agency, "[Statement of Director James A. Lockhart](#)", September 7, 2008, p.6.
- ⁸ Federal Housing Finance Agency, "[Mortgage Market Note 10-1](#)", January 20, 2010
- ⁹ Federal Housing Finance Agency, "[Data as of August 8, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities.](#)"
- ¹⁰ Current and historical financial statement data for Freddie Mac can be found at http://www.freddiemac.com/investors/sec_filings/?intcmp=AFIRSF. Data for Fannie Mae can be found at <http://www.fanniemae.com/portal/about-us/investor-relations/sec-filings.html>.
- ¹¹ Federal Reserve Bank of St. Louis, "[1-Month London Interbank Offered Rate \(LIBOR\), based on U.S. Dollar \(USD1MTD156N\)](#)". Data obtained October 1, 2012.
- ¹² Federal Reserve Bank of St. Louis, "[1-Month Eurodollar Deposit Rate \(London\) \(DED\)](#)". Data obtained October 1, 2012.
- ¹³ Bloomberg News, "[Fed's Eurodollar Rates Suggest Dollar LIBOR May Stabilize](#)", April 28, 2008.
- ¹⁴ See, for example, the *Report of the Financial Crisis Inquiry Commission*. Facts noted here are taken from [Chapter 12](#) of that document, page 233.
- ¹⁵ BusinessWeek, "[Bear Stearns' Subprime Bath](#)", June 12, 2007.
- ¹⁶ *Report of the Financial Crisis Inquiry Commission*, [Chapter 12](#), page 240.
- ¹⁷ See, for example, Thomson Reuters, "[In re LIBOR-Based Financial Instruments Antitrust Litigation](#)," April 30, 2012, pp. 23-31.
- ¹⁸ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.

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

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

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

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

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

Balmaseda, Kat

From: Bloch, David
Sent: Thursday, November 29, 2012 8:23 AM
To: Lee, Timothy
Cc: Grob, George; Parker, Richard
Subject: LIBOR Memo 11.28.12.docx
Attachments: LIBOR Memo 11.28.12.docx

Tim – I constructed the time line from internal memos, calendar entries, Agency communications as well as FRE & FNM documentation. Please double check for accuracy. We can have this ready for Steve to attach to the back of the larger record. Thanks. David

Balmaseda, Kat

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

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

Balmaseda, Kat

From: Parker, Richard
Sent: Wednesday, December 05, 2012 11:48 AM
To: Linick, Steve; Stephens, Michael; DiSanto, Emilia
Cc: Grob, George
Subject: LIBOR editorial in the NYTimes

http://www.nytimes.com/2012/12/05/opinion/rigging-the-financial-system.html?_r=0

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)

Balmaseda, Kat

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

Hi David,

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

Tim

Balmaseda, Kat

From: Grob, George
Sent: Monday, October 29, 2012 8:30 AM
To: Bloch, David
Subject: FW: Never mind

David,

How does this and the previous message relate to your planned work on derivative counter parties?

Related question: does this and your most recent work with Tim on Libor and Cindy's work with Tim suggest that Steve's instincts about Tim's possible fit in OE makes sense?

George

Sent from my Windows Phone

From: Lee, Timothy
Sent: 10/29/2012 8:08 AM
To: Bloch, David; [REDACTED] (b) (6)
Cc: Parker, Richard; Grob, George
Subject: Never mind

Hi all,

I sent out a message earlier this morning – if it arrived, please disregard it. I am happy to discuss why in person – the short answer is that, after a bit of effort, [REDACTED] (b) (5), (b) (4)

[REDACTED] (b) (5)

Tim

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

Balmaseda, Kat

From: Grob, George
Sent: Friday, October 19, 2012 10:55 AM
To: David Bloch (b) (6)
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: (b) (6); 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: (b) (6)
Subject: Libor

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

Balmaseda, Kat

From: Lee, Timothy
Sent: Friday, November 02, 2012 9:22 AM
To: Grob, George
Subject: FW: LIBOR memo
Attachments: LIBOR memo package proposed final.pdf

Hi George,

WRT to claiming ROI – happy to talk when you free up

Tim

From: Lee, Timothy
Sent: Thursday, November 01, 2012 10:25 AM
To: Linick, Steve
Cc: Stephens, Michael; Parker, Richard; DiSanto, Emilia
Subject: FW: LIBOR memo

Hi Steve,

To follow up on the requested black-and-white hard copies, attached is the LIBOR document package in PDF format. Let me know if you need anything else.

Tim

From: Lee, Timothy
Sent: Thursday, November 01, 2012 9:37 AM
To: DiSanto, Emilia
Cc: Parker, Richard; (b) (6)
Subject: LIBOR memo

Hi Em,

Attached is the LIBOR memo package. The Word file and a verified Excel spreadsheet are also on SharePoint.

Tim

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

Balmaseda, Kat

From: Parker, Richard
Sent: Friday, October 19, 2012 8:40 AM
To: Linick, Steve
Cc: (b) (6); 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: (b) (6)
Subject: Libor

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

Balmaseda, Kat

From: Grob, George
Sent: Thursday, November 15, 2012 12:22 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation
Attachments: Final Memo FHFA-OIG Memo re LIBOR Manipulation dtd Nov 15 2012.pdf; Memo 11022012.pdf; FHLMC LIBOR.pdf; Jardini Letter dtd Oct 12 2012.pdf; Joe Evers' Libor Letter dtd Oct 12, 2012.pdf; LIBOR Deck Nov 2012.ppt

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [<mailto:Diane.Williams@fhfa.gov>]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

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Balmaseda, Kat

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

Balmaseda, Kat

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

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

You cool—david added a few minor things

Balmaseda, Kat

From: Lee, Timothy
Sent: Tuesday, December 18, 2012 3:41 PM
To: DiSanto, Emilia
Cc: Grob, George
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation
Attachments: Final Memo FHFA-OIG Memo re LIBOR Manipulation dtd Nov 15 2012.pdf; Memo 11022012.pdf; FHLMC LIBOR.pdf; Jardini Letter dtd Oct 12 2012.pdf; Joe Evers' Libor Letter dtd Oct 12, 2012.pdf; LIBOR Deck Nov 2012.ppt

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

From: Grob, George
Sent: Thursday, November 15, 2012 12:23 PM
To: Parker, Richard
Cc: Lee, Timothy; Bloch, David; Linick, Steve
Subject: FW: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Richard,

I do not see a Freddie Mac action plan here.

George

From: Williams, Diane [<mailto:Diane.Williams@fhfa.gov>]
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

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Balmaseda, Kat

From: (b) (6) (b) (6)
Sent: Tuesday, November 13, 2012 2:34 PM
Subject: FW: "On The Case": Litigation News from Thomson Reuters

Hello RMBS WG participants,
In case you haven't seen this...



November 12, 2012

Banks should fear ominous new rulings in Fannie/Freddie MBS cases 11/9/2012

JPMorgan Chase filed quite a remarkable [quarterly report](#) with the Securities and Exchange Commission on Thursday, crammed with far more details about its exposure to litigation and mortgage repurchase demands than the [earnings report the bank issued](#) in mid-October. Among the revelations: JPMorgan has reached an agreement in principle to settle two SEC investigations, one involving a single unidentified JPMorgan securitization, the other involving Bear Stearns's crafty (alleged) trick of keeping put-back recoveries from mortgage originators for itself instead of passing them on to investors in mortgage-backed securities trusts. The SEC deal has been long rumored, and though we still don't know any of its terms, the bank's filing confirms it.

JPMorgan also disclosed that it is now [facing put-back claims](#), in one form or another, on \$140 billion in mortgage-backed notes. Yes, you read that right: \$140 billion. That doesn't mean there are \$140 billion in claims, but it means that holders of \$140 billion in MBS notes have asserted, in litigation or through contractual demands, that the bank must buy back deficient mortgages in their trusts. Given that MBS investors generally claim breach rates in excess of 50 percent, JPMorgan's exposure to mortgage put-backs is tens of billions of dollars.

The bank, of course, thinks the put-back demands are meritless and its entire litigation exposure is a trifling matter. The SEC filing's 10-page discussion of the various litigation headaches facing JPMorgan -- which include really serious matters, such as the securities class action over its CIO losses, various Libor suits and the Federal Energy Commission's [market manipulation case](#) -- begins with the brash assertion that the bank's "reasonable possible losses" in all of this litigation (aside from its litigation reserves) range from zero dollars to \$6 billion.

Zero dollars? I think not. In fact, I'm prepared to say that based on two rulings this week by U.S. District Judge **Denise Cote** of Manhattan in the Federal Housing Finance Agency's securities fraud litigation against MBS issuers and underwriters, JPMorgan has exceedingly low odds of getting out of the Fannie Mae and Freddie Mac conservator's case -- which involves claims on \$33 billion in JPMorgan, Bear and Washington Mutual MBS -- without a settlement.

More importantly, Cote's rulings this week make it clear that the judge, who is overseeing the FHFA's cases against 16 banks that issued or underwrote mortgage-backed securities, does not intend to let any of them out of this litigation. [I've already told you](#) that the banks still have a slim

chance of wiping out most of the FHFA's claims on timeliness grounds, if the 2nd Circuit Court of Appeals overturns [Cote's holding](#) that Congress intended to extend the obscure statute of repose, along with the statute of limitations, when it passed the law that created the FHFA. But unless the banks win a reprieve from the appeals court, it looks like Cote intends to send Fannie and Freddie's claims to a jury.

Her rulings this week addressed motions to dismiss by JPMorgan and Merrill Lynch, which are represented by, respectively, **Sullivan & Cromwell** and **Williams & Connolly**. (The FHFA is represented in both cases by **Quinn Emanuel Urquhart & Sullivan**.) In both decisions, Cote dismissed FHFA fraud claims based on the banks' representations of loan-to-value ratios and owner-occupancy rates in the pools of loans underlying the mortgage-backed notes they offered. But otherwise, she said that Fannie and Freddie's conservator could proceed with state and federal securities and fraud claims. Cote's one-two punch against JPMorgan and Merrill rejects just about every substantive argument any of the banks in the FHFA litigation can raise in a dismissal motion -- and leaves open the terrifying prospect of rescission and punitive damages against the banks.

In the [JPMorgan decision](#), issued Monday, Cote specifically addressed the adequacy of Fannie and Freddie's evidence that the bank knowingly misrepresented underwriting standards on the loans underlying various mortgage-backed notes issued by JPMorgan, Bear and Washington Mutual. Cote pointed to the FHFA complaint's 60-page discussion of deficient underwriting and said they were sufficient to permit the case to proceed. But she also said that the FHFA doesn't have to show underwriting flaws marred each of the mortgage-backed offerings, just that "there was a systematic failure by the defendants in their packaging and sale of RMBS." (MBS geeks should note that in explaining this point, Cote refers to the [2nd Circuit's recent ruling](#) on standing in MBS class actions, which has [already hurt JPMorgan in another case](#).)

As she did in her previous ruling denying UBS's motion to dismiss FHFA claims, Cote once again shrugged off arguments that Fannie and Freddie cannot reasonably claim to have relied on JPMorgan's representations because they were the most sophisticated MBS investors in the market. That sophistication, Cote said, didn't give Fannie and Freddie access to the specific information that established deficiencies in the securities they bought. "It is difficult to see how they could help but rely on the representations of defendants, who did have access to those materials," Cote wrote. "And while (Fannie and Freddie) were certainly aware that they were purchasing securitizations backed by subprime loans, neither the amended complaint nor documents integral to it establish that they knew that the loans supporting these particular securitizations were so haphazardly originated as to put in jeopardy even the AAA-rated certificates they purchased."

The banks, in other words, are not going to be able to persuade Cote that Fannie and Freddie knew what they were getting when they invested in subprime-backed MBS, so they shouldn't be able to make claims against issuers. Cote said that the banks can try to persuade a jury otherwise. She also said JPMorgan can tell a jury that it didn't knowingly deceive Fannie and Freddie. But you have to regard Cote's references to a jury trial as code for encouraging settlement talks. She's signaling that she's not going to be receptive to bank arguments on summary judgment, and warning that if the case continues, the banks will have to defend their underwriting to a group of ordinary people who aren't likely to be kindly disposed to them.

And if that's not enough to scare the banks into settlement talks, consider Cote's findings in Thursday's [decision](#) upholding just about all of the FHFA's claims against Merrill Lynch. In particular, Cote refused to rule out the possibility of rescission -- which would require Merrill to buy back the FHFA's holdings in Merrill MBS offerings -- and punitive damages. Merrill argued that the FHFA waited too long to file claims to demand rescission under the Securities Act and the

common law; Cote said there were plenty of legitimate reasons for the FHFA's delay in filing. As for punitive damages, which are based on New York law, Merrill asserted that the FHFA hadn't shown the requisite exceptional misconduct. Cote disagreed, in what has to be considered ominous language for the bank defendants.

"FHFA alleges that the defendants acted recklessly by seeking to profit from ever more risky mortgage lending while, at the same time, passing on the risk (and ultimately the losses) associated with these practices to the public via their sale of securities to Fannie Mae and Freddie Mac," Cote said. The judge went on to turn the banks' arguments that Fannie and Freddie's MBS losses were due to a downturn in the housing market completely against the banks. They're not the victims of the housing crisis, she wrote, but (at least according to FHFA) the cause of "the most severe economic downturn this country has experienced since the Great Depression." And yes, she said, "These allegations are sufficient to support the plaintiff's demand for punitive damages."

Seems to me that's a pretty clear warning to the banks, which are now facing a trial date in June 2014. JPMorgan's zero-dollar prediction aside, I bet we'll see some FHFA settlements before then.

JPMorgan didn't respond to [Reuters' request for comment](#), and a representative of Merrill Lynch parent Bank of America [declined comment](#).

(Reporting by Alison Frankel)

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[Judge Cote's decision](#)



[JPMorgan decision](#)

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Exclusive: SEC left computers vulnerable to cyber attacks 11/9/2012

While staffers at the SEC failed to encrypt some computers containing sensitive information from stock exchanges, there was no evidence that hacking or spying took place.

Judge OKs \$295 mln settlements for ex-Bear shareholders 11/9/2012

The all-cash deals resolve claims against the former bank and several executives alleging securities fraud. The defendants denied wrongdoing in agreeing to settle.



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Replies to this message will not be received. To contact us, please email newsandinsight.legal@thomsonreuters.com.

Balmaseda, Kat

From: Williams, Diane <Diane.Williams@fhfa.gov>
Sent: Thursday, November 15, 2012 12:06 PM
To: Grob, George; Parker, Richard
Cc: Greenlee, Jon; Nichols, Nina
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation
Attachments: Final Memo FHFA-OIG Memo re LIBOR Manipulation dtd Nov 15 2012.pdf; Memo 11022012.pdf; FHLMC LIBOR.pdf; Jardini Letter dtd Oct 12 2012.pdf; Joe Evers' Libor Letter dtd Oct 12, 2012.pdf; LIBOR Deck Nov 2012.ppt

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

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From: [Lee, Timothy](#)
To: [Parker, Richard](#); [Grob, George](#)
Cc: [Bloch, David](#)
Subject: Excerpt
Date: Thursday, December 20, 2012 4:12:51 PM

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

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

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

[Timothy Lee](#)

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



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

(b) (5)

From: Grob, George
To: [Lee, Timothy](#); [Parker, Richard](#)
Cc: [Wu, Simon](#); [Bloch, David](#); [Phillips, Wesley](#)
Subject: RE: LIBOR memo
Date: Tuesday, October 09, 2012 1:07:00 PM
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.

(b) (5)

[Redacted]

George

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

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

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

I think that works well. (b) (5)

[Redacted]

Wes

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

Hi all,

Here is the [newest Sharepoint draft](#) of the LIBOR memo, which is now the definitive version. We have cleaned up the graphics per Wes' suggestion and 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

From: [Lee, Timothy](#)
To: [Parker, Richard](#); [Bloch, David](#)
Cc: [Grob, George](#); [Hinkley, Robert](#)
Subject: RE: LIBOR Draft Action Memo
Date: Wednesday, October 17, 2012 3:05:21 PM

Hi Rich,

I took a look at the comments. My responses are as follows:

- We are in fact launching into a description of LIBOR in the very first sentence, per the suggestion of readers (I think Alan).
- The net swap position has in fact trended downward since the start of conservatorship, though it remained very substantial through the period in question. I have edited the memo to reflect just figures at the start of conservatorship, which is really all we need for our story.
- Of course, the Enterprises do have floating rate bonds outstanding that we have done our best to estimate and incorporate into the analysis.
- Some of these comments ask questions we cannot answer definitively, or assume we are answering questions we cannot. **The paper does not attribute any of this gap to manipulation:** it is deliberately agnostic on that point. Even if I wanted to be Emile Zola, I don't have the conclusive evidence at hand. We deliberately walk the reader step by step through a carefully documented set of facts:
 - 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.)
 - We state clearly that we are calculating the losses to the Enterprises that this divergence generated.
 - As noted in the document, we tie the time frame to existing accusations as described in media reports.

I cannot emphasize this enough: the goal of this document is not to convict anyone or provide a definitive accounting of losses. That is simply impossible to do off what is in the 10Ks. What we seek to do here is say:

- There has already been proof of some kind of manipulation (Barclays). And you know, like other branches of the Government note (see Gary Gensler), it's really very plausible that additional manipulation occurred, given how wacky the indicators look.
- If the wacky indicators did result from some sort of manipulation, then the Enterprises could well have lost a boatload of money from it.
- This possibility warrants an Agency effort to get off its ass and (a) create a precise calculation of loss, (b) think about legal avenues for recovery if evidence arises, and (c) get plugged in with other agencies so they know if convincing evidence does arise.

Per all of my previous conversations, the document is deliberately written simply, with minimal

emphasis on numerical details, in order to appeal to readers who are not financial professionals. Moreover it has been kept short. However, that means it must be carefully read in order to be evaluated properly.

The emphasis on user-friendliness means that some of the details (b) (6) seeks are not included in the draft. I will see that he receives the [Excel sheet](#) so that he can satisfy himself at his leisure as to how I arrived at the answers provided. As stated before, I am perfectly content to (a) publish the relevant portions of the Excel sheet for public scrutiny, and/or (b) publish my phone number so that the numbers geeks can call me up personally. Based on public and covert sources, I am highly confident that this paper is, as the British say, "fit for purpose."

In light of that, please let me know if we still need an in-person conversation; I am in the office tomorrow. My view of matters is that nothing prevents us from going ahead with the Friday morning meeting with Steve.

Tim

From: Parker, Richard
Sent: Wednesday, October 17, 2012 2:05 PM
To: Lee, Timothy; Bloch, David
Cc: Grob, George
Subject: FW: LIBOR Draft Action Memo

Tim and David,

See the message one under. Steve had (b) (5) and David read the memo for him. Their questions are noted. Steve wants them answered or accounted for before he will go forward. Can you look this over and meet with George and me on Friday @ 1000 hrs when we were going to meet and brief Steve? That time slot is already tied up on all of our calendars. Pls advise soonest. Skipper, pls have (b) (6) cancel the 1000 hrs with Steve, Em, Peter, Simon, and Mike and then reinvite the four of us (Grob, Bloch, Lee, and Parker) for that time. I think that it would be best if you ran your replies by George and me before you both brief Steve so pls plan to do that on Friday morning. Tx to all,

rich

Sent from my Windows Phone

From: Linick, Steve
Sent: 10/17/2012 1:04 PM
To: Parker, Richard
Cc: (b) (6) Seide, David
Subject: FW: LIBOR Draft Action Memo

Rich,

Before you schedule a briefing with me, please have your team address (b) (6) and David's comments and revise accordingly. This should really be a memo from your team to me, which I will attach to a cover letter to demarco. tx

From: Hinkley, Robert

Sent: Wednesday, October 17, 2012 12:48 PM
To: Linick, Steve; Seide, David
Subject: RE: LIBOR Draft Action Memo

Steve,

Enclosed please find my comments. I had no problems with George's comments.

(b) (5)

(b) (6)

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

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, (b) (5)

(b) (5)

Rich

Richard Parker

Director, Policy, Oversight & Review

Office of the Inspector General

Federal Housing Finance Agency

400 7th Street, SW

Washington, D.C. 20024

Tel: (b) (6)

Cell: (b) (6)



OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

To: Edward J. DeMarco, Acting Director
From: Steve A. Linick, Inspector General 
Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation
Date: November 2, 2012

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

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

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



OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

Date: October 26, 2012

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

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

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

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

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

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

Background

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

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

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

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

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

Analysis

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

- 1-month¹¹ LIBOR rates; and
- The Federal Reserve's published Eurodollar deposit rates (Fed ED) for 1-month¹² obligations. Like LIBOR, this data series is designed to measure short-term bank borrowing costs via polling of financial institutions. However, the Federal Reserve measure polls a broader range of institutions and is rarely referenced in floating rate financial obligations.

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

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

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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.

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

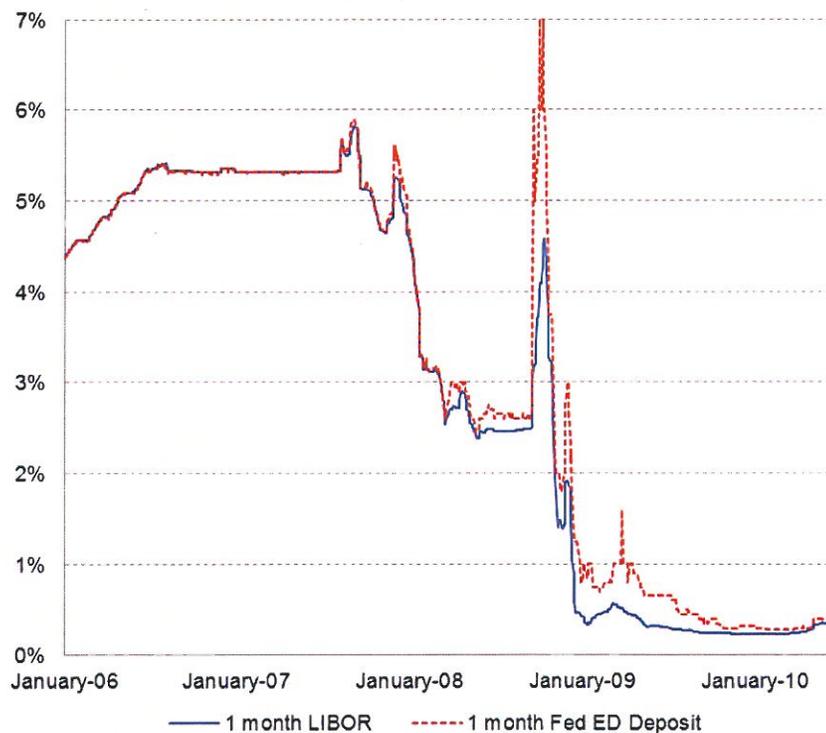
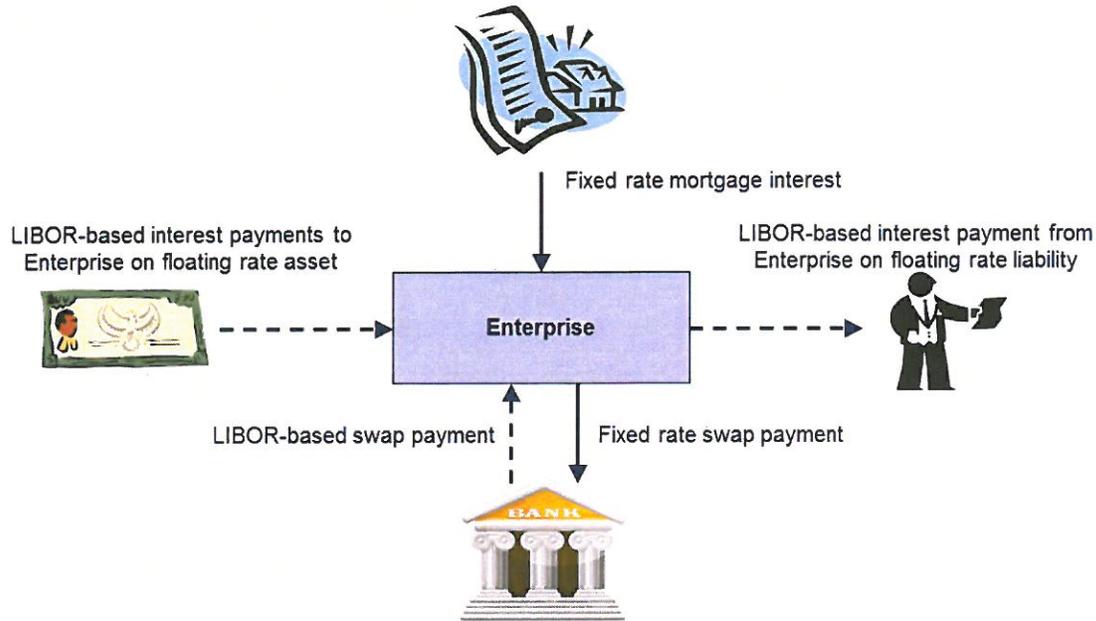


Figure 2. LIBOR-Based Payments to and From the Enterprises



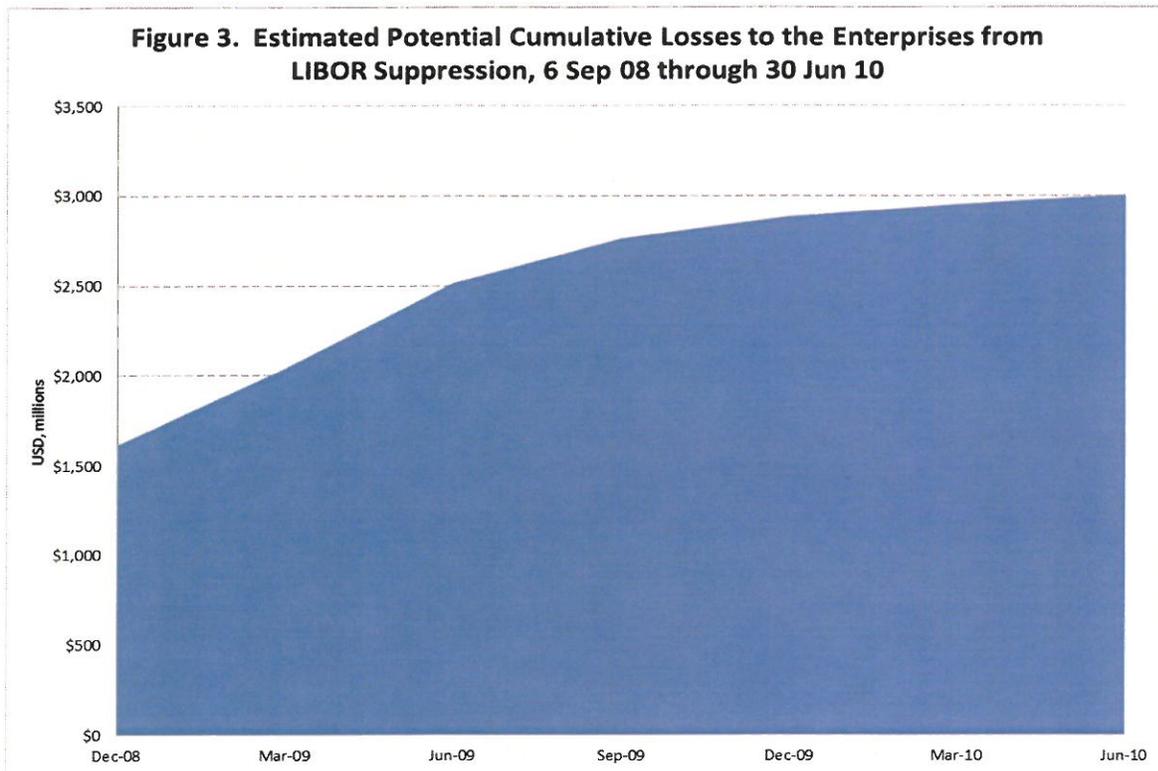
To the extent that the Enterprises suffered such “short-changing” of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury’s investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have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

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

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

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

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



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

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

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

A comparable situation exists in the market for floating-rate securities. For example, of 2007’s ten leading underwriters of “private label” mortgage-backed securities,²¹ four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.²²

However, our review of a small sample of offering documents for the Enterprises’ floating-rate

investments in this category failed to uncover any disclosure of risks that the underwriters could manipulate LIBOR for their own advantage, to the detriment of bondholders.

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.

Figure 4.

Major Derivatives Dealers		Top Private Label MBS Underwriters 2007	
	LIBOR Contributor		LIBOR Contributor
Bank of America	✓	Lehman Brothers	
Barclays	✓	Bear Stearns	
BNP Paribas		Deutsche Bank	✓
Citibank	✓	Countrywide	
Credit Suisse	✓	RBS	✓
Deutsche Bank	✓	Credit Suisse	✓
Goldman Sachs		JPMorganChase	✓
HSBC Group	✓	Morgan Stanley	
JPMorganChase	✓	Washington Mutual	
Morgan Stanley		Merrill Lynch	
RBS	✓		
Societe Generale	✓		
UBS	✓		
Wachovia			

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

Appendix

Notes on Analytical Methodology

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

LIBOR Benchmarks

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

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

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

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

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

Calculation of Enterprise Losses

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

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

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

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

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

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

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

Limitations of Our Analysis

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

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

Endnotes

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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](#)."
- ⁴ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.
- ⁵ See, inter alia, The New York Times, "[State Regulators Widen LIBOR Investigation](#)," August 15, 2012, and BusinessWeek, "[US LIBOR Probers Said to Seek London Trader Interviews](#)," September 27, 2012.
- ⁶ The Wall Street Journal, "[Suits Mount in Rate Scandal](#)," August 26, 2012.
- ⁷ Federal Housing Finance Agency, "[Statement of Director James A. Lockhart](#)", September 7, 2008, p.6.
- ⁸ Federal Housing Finance Agency, "[Mortgage Market Note 10-1](#)", January 20, 2010
- ⁹ Federal Housing Finance Agency, "[Data as of August 8, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities](#)."
- ¹⁰ Current and historical financial statement data for Freddie Mac can be found at http://www.freddiemac.com/investors/sec_filings/?intcmp=AFIRSF. Data for Fannie Mae can be found at <http://www.fanniemae.com/portal/about-us/investor-relations/sec-filings.html>.
- ¹¹ Federal Reserve Bank of St. Louis, "[1-Month London Interbank Offered Rate \(LIBOR\), based on U.S. Dollar \(USD1MTD156N\)](#)". Data obtained October 1, 2012.
- ¹² Federal Reserve Bank of St. Louis, "[1-Month Eurodollar Deposit Rate \(London\) \(DED\)](#)". Data obtained October 1, 2012.
- ¹³ Bloomberg News, "[Fed's Eurodollar Rates Suggest Dollar LIBOR May Stabilize](#)", April 28, 2008.
- ¹⁴ See, for example, the *Report of the Financial Crisis Inquiry Commission*. Facts noted here are taken from [Chapter 12](#) of that document, page 233.
- ¹⁵ BusinessWeek, "[Bear Stearns' Subprime Bath](#)", June 12, 2007.
- ¹⁶ *Report of the Financial Crisis Inquiry Commission*, [Chapter 12](#), page 240.
- ¹⁷ See, for example, Thomson Reuters, "[In re LIBOR-Based Financial Instruments Antitrust Litigation](#)," April 30, 2012, pp. 23-31.
- ¹⁸ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.

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

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

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

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

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



OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Edward J. DeMarco, Acting Director
From: Steve A. Linick, Inspector General
Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation
Date: November 1, 2012

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

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

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



OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

Date: October 26, 2012

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

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

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

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

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

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

Background

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

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

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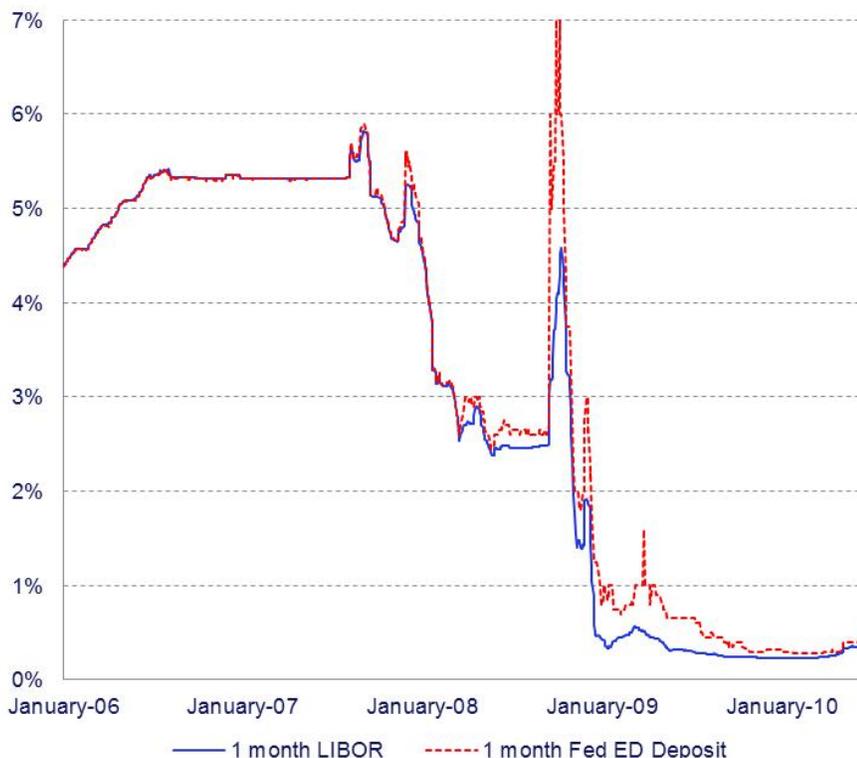
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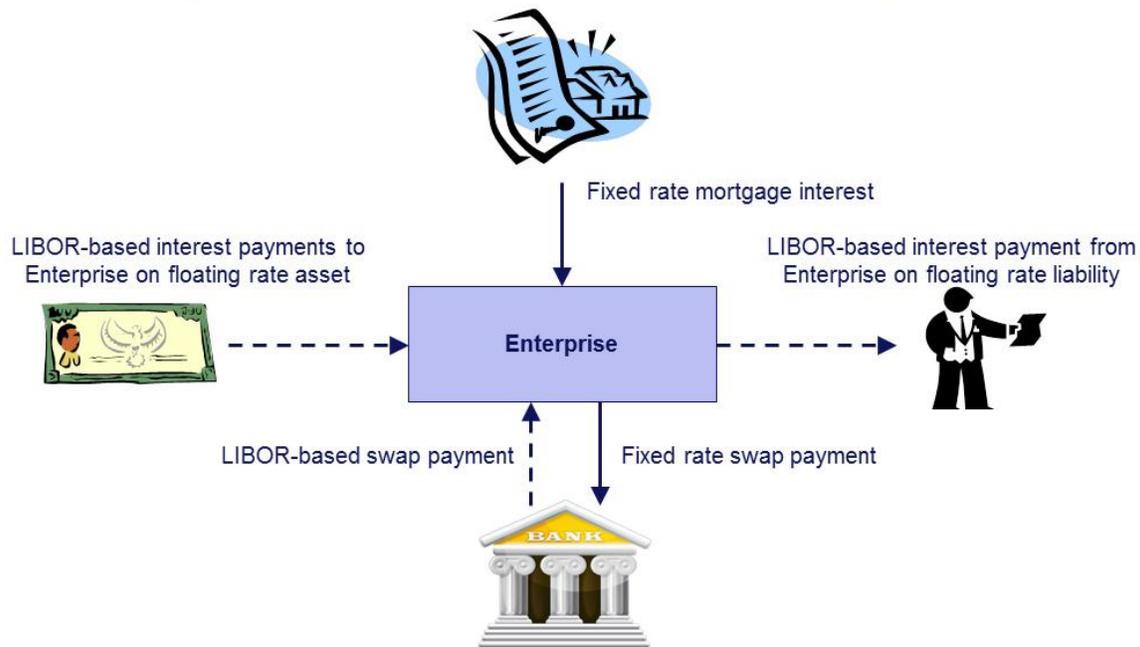
Figure 1. Federal Reserve Eurodollar Deposit Rate vs LIBOR, 1Q06-2Q10



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

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



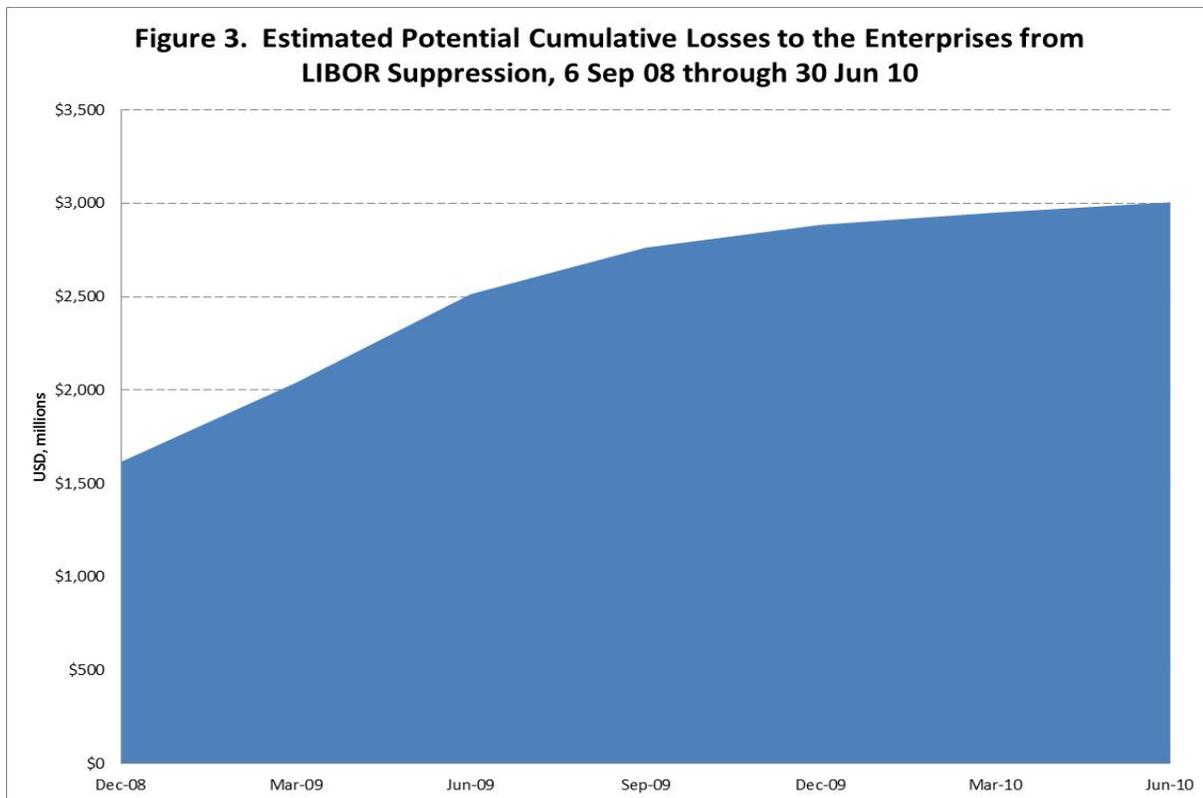
To the extent that the Enterprises suffered such “short-changing” of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury’s investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have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

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

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

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

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



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

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

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

A comparable situation exists in the market for floating-rate securities. For example, of 2007's ten leading underwriters of "private label" mortgage-backed securities,²¹ four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.²²

However, our review of a small sample of offering documents for the Enterprises' floating-rate

investments in this category failed to uncover any disclosure of risks that the underwriters could manipulate LIBOR for their own advantage, to the detriment of bondholders.

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.

Figure 4.

Major Derivatives Dealers		Top Private Label MBS Underwriters 2007	
	LIBOR Contributor		LIBOR Contributor
Bank of America	✓	Lehman Brothers	
Barclays	✓	Bear Stearns	
BNP Paribas		Deutsche Bank	✓
Citibank	✓	Countrywide	
Credit Suisse	✓	RBS	✓
Deutsche Bank	✓	Credit Suisse	✓
Goldman Sachs		JPMorganChase	✓
HSBC Group	✓	Morgan Stanley	
JPMorganChase	✓	Washington Mutual	
Morgan Stanley		Merrill Lynch	
RBS	✓		
Societe Generale	✓		
UBS	✓		
Wachovia			

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

Appendix

Notes on Analytical Methodology

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

LIBOR Benchmarks

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

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

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

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

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

Calculation of Enterprise Losses

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

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

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

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

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

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

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

Limitations of Our Analysis

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

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

Endnotes

-
- ¹ British Bankers' Association, "[BBA LIBOR Explained.](#)"
- ² The Telegraph, "[LIBOR Scandal: Martin Wheatley's Speech](#)," September 28, 2012.
- ³ Thomson Reuters, "[Thomson Reuters Role in the Calculation and Distribution of BBA LIBOR™](#)", July 4, 2012. The number of poll contributors is cited in the Department of Justice's settlement documentation, "[Appendix A: Statement of Facts.](#)"
- ⁴ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.
- ⁵ See, inter alia, The New York Times, "[State Regulators Widen LIBOR Investigation](#)," August 15, 2012, and BusinessWeek, "[US LIBOR Probers Said to Seek London Trader Interviews](#)," September 27, 2012.
- ⁶ The Wall Street Journal, "[Suits Mount in Rate Scandal](#)," August 26, 2012.
- ⁷ Federal Housing Finance Agency, "[Statement of Director James A. Lockhart](#)", September 7, 2008, p.6.
- ⁸ Federal Housing Finance Agency, "[Mortgage Market Note 10-1](#)", January 20, 2010
- ⁹ Federal Housing Finance Agency, "[Data as of August 8, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities.](#)"
- ¹⁰ Current and historical financial statement data for Freddie Mac can be found at http://www.freddiemac.com/investors/sec_filings/?intcmp=AFIRSF. Data for Fannie Mae can be found at <http://www.fanniemae.com/portal/about-us/investor-relations/sec-filings.html>.
- ¹¹ Federal Reserve Bank of St. Louis, "[1-Month London Interbank Offered Rate \(LIBOR\), based on U.S. Dollar \(USD1MTD156N\)](#)". Data obtained October 1, 2012.
- ¹² Federal Reserve Bank of St. Louis, "[1-Month Eurodollar Deposit Rate \(London\) \(DED\)](#)". Data obtained October 1, 2012.
- ¹³ Bloomberg News, "[Fed's Eurodollar Rates Suggest Dollar LIBOR May Stabilize](#)", April 28, 2008.
- ¹⁴ See, for example, the *Report of the Financial Crisis Inquiry Commission*. Facts noted here are taken from [Chapter 12](#) of that document, page 233.
- ¹⁵ BusinessWeek, "[Bear Stearns' Subprime Bath](#)", June 12, 2007.
- ¹⁶ *Report of the Financial Crisis Inquiry Commission*, [Chapter 12](#), page 240.
- ¹⁷ See, for example, Thomson Reuters, "[In re LIBOR-Based Financial Instruments Antitrust Litigation](#)," April 30, 2012, pp. 23-31.
- ¹⁸ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.

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

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

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

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

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



OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

From: David P. Bloch, Director, Division of Mortgage, Investments and Risk Analysis
Timothy Lee, Senior Policy Advisor

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

Subject: LIBOR Update

Date: November 29, 2012

Set forth in this memorandum is the sequence of major events, as we understand them, related to FHFA-OIG's analysis of potential Enterprise losses related to LIBOR suppression, along with FHFA's and the Enterprise's actions to date as a result of our Office's work.

- **August 8-9, 2012:** FHFA-OIG staff (Lee) conducted initial, informal discussions with regulatory liaisons at Fannie Mae and Freddie Mac and with an FHFA Market Risk Examiner. All parties were briefed on the workings of FHFA-OIG's preliminary analysis, which indicated potential losses to the Enterprises owing to LIBOR manipulation. The Enterprises confirmed that, as of that date, no analysis had been or was being undertaken to determine whether any such losses had been or were being suffered. FHFA also confirmed that, as of that time, no examination work had been or was being conducted around LIBOR suppression.
- **September 11, 2012:** FHFA-OIG staff (Parker and Lee) participated in a conference call with senior FHFA staff including Jon Greenlee, Fred Graham, and Nina Nichols, as well as representatives of the Department of Justice's Civil Division. The purpose of the conversation was to set up a dialogue among FHFA, FHFA-OIG, and the DOJ Civil Division on the issue of the Enterprises' LIBOR-related losses. The common understanding among meeting participants was that FHFA had not begun any work on computing the potential losses stemming from LIBOR suppression. After some informal discussion, during which Mr. Graham speculated that Fannie's and Freddie's LIBOR-dependent investment activities may have resulted in "a wash" or even a

profit, Mr. Greenlee stated that he would consider how best to start the required analysis, and that he would reach out to the Enterprises to “get the ball rolling.”

- **October 12, 2012:** FHFA instructed Fannie Mae and Freddie Mac immediately to undertake cost-benefit analyses designed to indicate whether the Enterprises should take action with respect to losses sustained as a result of LIBOR manipulation.
- **November 2, 2012:** FHFA-OIG formally submitted to FHFA a memorandum outlining its concerns about losses imposed on the Enterprises stemming from LIBOR manipulation.
- **November 15, 2012:** FHFA advised FHFA-OIG that Freddie Mac had retained outside counsel and an economic consulting firm to conduct a preliminary assessment of their potential damages sustained as a result of alleged LIBOR manipulation, and that Fannie Mae was in the process of undertaking comparable steps.

From: [Lee, Timothy](#)
To: [Bloch, David](#)
Cc: [Parker, Richard](#); [Grob, George](#)
Subject: LIBOR conversations
Date: Wednesday, November 28, 2012 2:46:55 PM
Attachments: [LIBOR.msg](#)
[LIBOR.msg](#)
[LIBORBarclays_Call.msg](#)

Hi David,

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

Tim



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)



OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

To: Edward DeMarco, Acting Director
From: Steve A. Linick, Inspector General
Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation
Date: October 9, 2012

(b) (5)

From: [Williams, Diane](#)
To: [Grob, George](#); [Parker, Richard](#)
Cc: [Greenlee, Jon](#); [Nichols, Nina](#)
Subject: FHFA-OIG Memorandum Regarding LIBOR Manipulation
Date: Thursday, November 15, 2012 12:06:50 PM
Attachments: [Final Memo FHFA-OIG Memo re LIBOR Manipulation dtd Nov 15 2012.pdf](#)
[Memo 11022012.pdf](#)
[FHLMC LIBOR.pdf](#)
[Jardini Letter dtd Oct 12 2012.pdf](#)
[Joe Evers" Libor Letter dtd Oct 12, 2012.pdf](#)
[LIBOR Deck Nov 2012.ppt](#)

Dear Messrs. Grob and Parker

Attached is the response to the IG recommendations on LIBOR manipulation. Also attached is the IG memo, the DER letters to the Enterprises, and the Enterprises' written responses.

Please let me know if you have any questions. Thank you. Jon Greenlee

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OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

To: Edward J. DeMarco, Acting Director
From: Steve A. Linick, Inspector General 
Subject: Potential losses to Fannie Mae and Freddie Mac from LIBOR manipulation
Date: November 2, 2012

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

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

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



OFFICE OF INSPECTOR GENERAL

Federal Housing Finance Agency

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

To: Steve A. Linick, Inspector General

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

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

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

Date: October 26, 2012

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

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

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

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

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

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

Background

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

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

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

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

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

Analysis

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

- 1-month¹¹ LIBOR rates; and
- The Federal Reserve's published Eurodollar deposit rates (Fed ED) for 1-month¹² obligations. Like LIBOR, this data series is designed to measure short-term bank borrowing costs via polling of financial institutions. However, the Federal Reserve measure polls a broader range of institutions and is rarely referenced in floating rate financial obligations.

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

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

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

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

As the financial crisis began to metastasize, LIBOR and Fed ED began to diverge substantially, eventually by as much as three percentage points at the end of September 2008. Moreover, in a marked contrast with

previous behavior, LIBOR began to fall below Fed ED consistently. Figure 1 illustrates the recent divergence of these two measures, beginning in mid-2007.

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

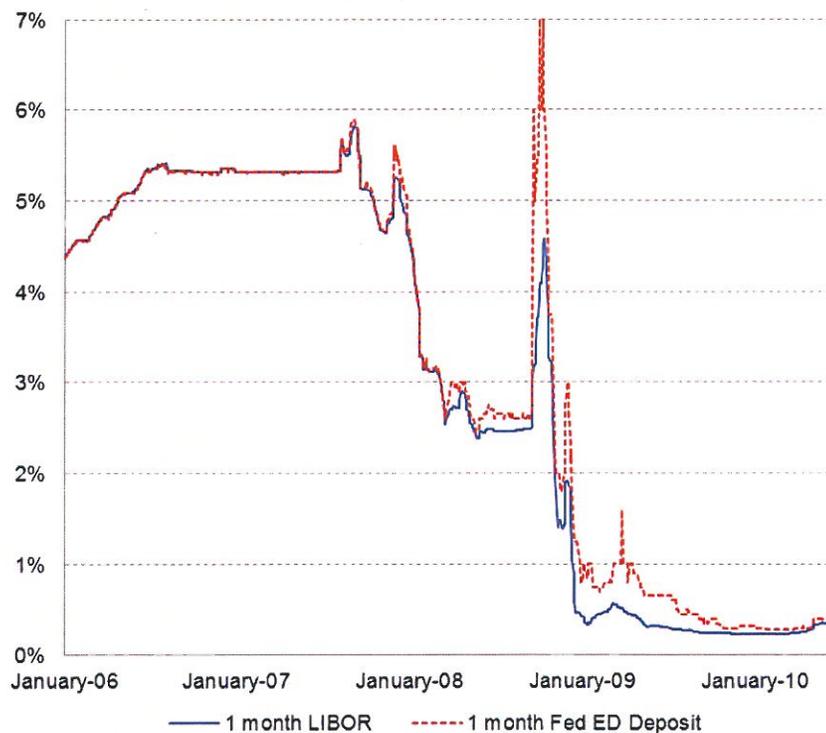
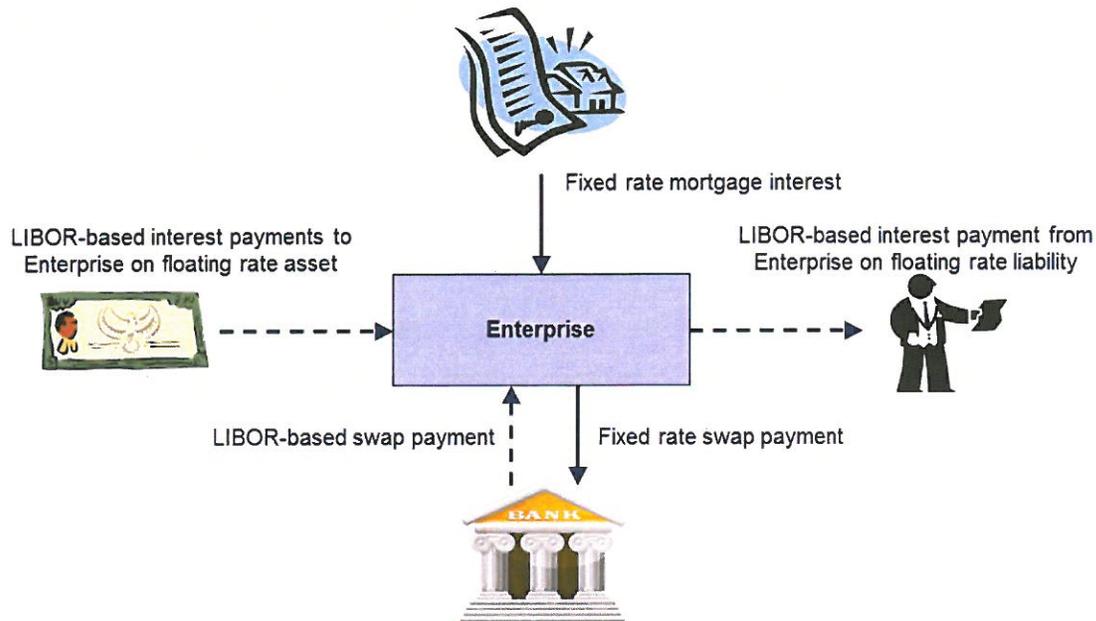


Figure 2. LIBOR-Based Payments to and From the Enterprises



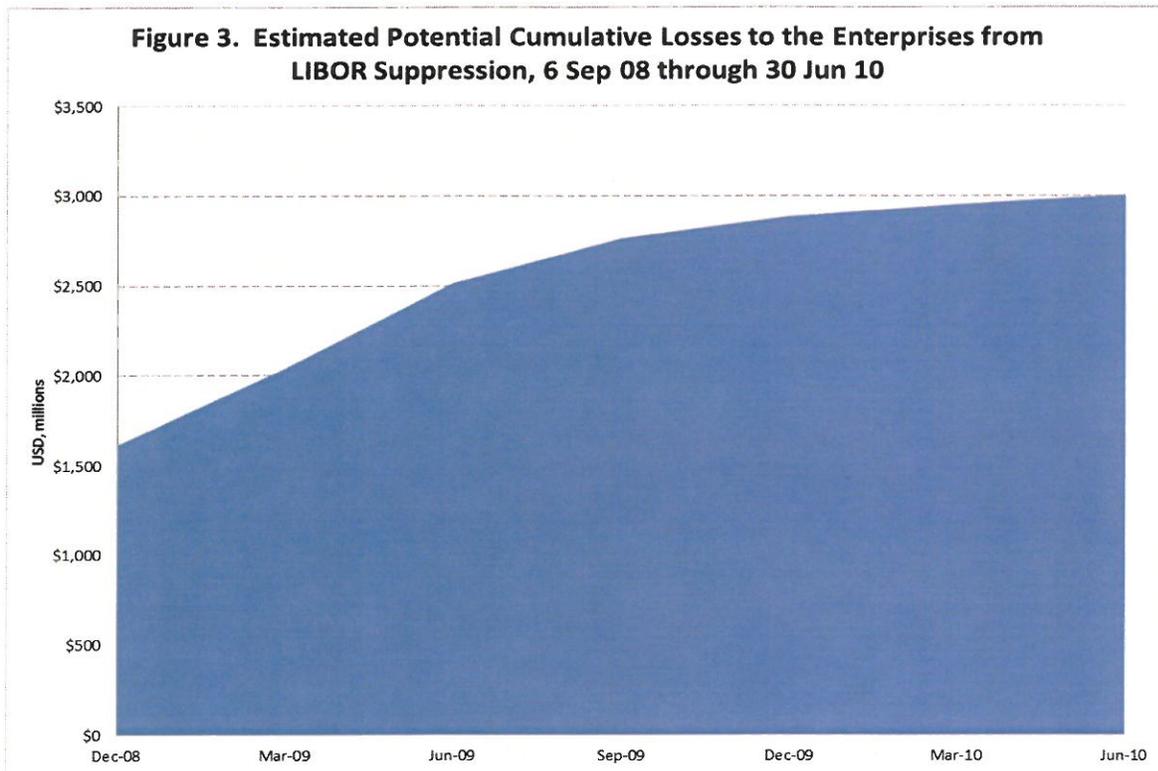
To the extent that the Enterprises suffered such “short-changing” of LIBOR-related interest payments after September 6, 2008, these practices contributed to the operating losses made whole by Treasury’s investments under the PSPAs. Therefore, it stands to reason that any manipulation of LIBOR may have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

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

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

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

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



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

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

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

A comparable situation exists in the market for floating-rate securities. For example, of 2007’s ten leading underwriters of “private label” mortgage-backed securities,²¹ four contributed to the determination of LIBOR. The Enterprises purchased significant quantities of such securities from these underwriters.²² However, our review of a small sample of offering documents for the Enterprises’ floating-rate

Figure 4.

Major Derivatives Dealers		Top Private Label MBS Underwriters 2007	
	LIBOR Contributor		LIBOR Contributor
Bank of America	✓	Lehman Brothers	
Barclays	✓	Bear Stearns	
BNP Paribas		Deutsche Bank	✓
Citibank	✓	Countrywide	
Credit Suisse	✓	RBS	✓
Deutsche Bank	✓	Credit Suisse	✓
Goldman Sachs		JPMorganChase	✓
HSBC Group	✓	Morgan Stanley	
JPMorganChase	✓	Washington Mutual	
Morgan Stanley		Merrill Lynch	
RBS	✓		
Societe Generale	✓		
UBS	✓		
Wachovia			

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.

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

Recommendations

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

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

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

Appendix

Notes on Analytical Methodology

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

LIBOR Benchmarks

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

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

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

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

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

Calculation of Enterprise Losses

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

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

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

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

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

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

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

Limitations of Our Analysis

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

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

Endnotes

-
- ¹ British Bankers' Association, "[BBA LIBOR Explained](#)."
- ² The Telegraph, "[LIBOR Scandal: Martin Wheatley's Speech](#)," September 28, 2012.
- ³ Thomson Reuters, "[Thomson Reuters Role in the Calculation and Distribution of BBA LIBOR™](#)", July 4, 2012. The number of poll contributors is cited in the Department of Justice's settlement documentation, "[Appendix A: Statement of Facts](#)."
- ⁴ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.
- ⁵ See, inter alia, The New York Times, "[State Regulators Widen LIBOR Investigation](#)," August 15, 2012, and BusinessWeek, "[US LIBOR Probers Said to Seek London Trader Interviews](#)," September 27, 2012.
- ⁶ The Wall Street Journal, "[Suits Mount in Rate Scandal](#)," August 26, 2012.
- ⁷ Federal Housing Finance Agency, "[Statement of Director James A. Lockhart](#)", September 7, 2008, p.6.
- ⁸ Federal Housing Finance Agency, "[Mortgage Market Note 10-1](#)", January 20, 2010
- ⁹ Federal Housing Finance Agency, "[Data as of August 8, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities](#)."
- ¹⁰ Current and historical financial statement data for Freddie Mac can be found at http://www.freddiemac.com/investors/sec_filings/?intcmp=AFIRSF. Data for Fannie Mae can be found at <http://www.fanniemae.com/portal/about-us/investor-relations/sec-filings.html>.
- ¹¹ Federal Reserve Bank of St. Louis, "[1-Month London Interbank Offered Rate \(LIBOR\), based on U.S. Dollar \(USD1MTD156N\)](#)". Data obtained October 1, 2012.
- ¹² Federal Reserve Bank of St. Louis, "[1-Month Eurodollar Deposit Rate \(London\) \(DED\)](#)". Data obtained October 1, 2012.
- ¹³ Bloomberg News, "[Fed's Eurodollar Rates Suggest Dollar LIBOR May Stabilize](#)", April 28, 2008.
- ¹⁴ See, for example, the *Report of the Financial Crisis Inquiry Commission*. Facts noted here are taken from [Chapter 12](#) of that document, page 233.
- ¹⁵ BusinessWeek, "[Bear Stearns' Subprime Bath](#)", June 12, 2007.
- ¹⁶ *Report of the Financial Crisis Inquiry Commission*, [Chapter 12](#), page 240.
- ¹⁷ See, for example, Thomson Reuters, "[In re LIBOR-Based Financial Instruments Antitrust Litigation](#)," April 30, 2012, pp. 23-31.
- ¹⁸ U.S. Department of Justice, "[Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \\$160 Million Penalty](#)," June 27, 2012.

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

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

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

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

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

From: (b) (6)
To: (b) (6)
Subject: Agenda and call in #
Date: Tuesday, October 16, 2012 4:57:59 PM
Attachments: [HARP Matrix Presentation 10.17.2012.pdf](#)
[OE Mgmt mtg 10-17-12.docx](#)

Please see attached.

Evaluations Audio Conference Phone Number: (b) (2)
Pass code: (b) (2)

(b) (6)
Federal Housing Finance Agency
Office of the Inspector General
Desk: (b) (6)
Mobile: (b) (6)
Fax: (b) (6)
(b) (6)

From: (b) (6)
 To: [IOIG-06](#)
 Subject: Weekly Project Updates
 Date: Friday, October 12, 2012 12:27:11 PM

Hello all,

Please review and update the ETS on SharePoint as necessary. Thank you!

Snapshot - Evaluations

Title	Project Leader	Survey Out	Entrance Conference	Scope Approved	Message Approved	Draft to DIGE	Advisory Panel	Draft to Agency	Report Published
PRIMARY									
Affordable Housing	Choy	7/22/11	11/4/11	10/28/11	n/a	9/14/12	10/22/12	11/5/12	12/17/12
Lehman Bros Case Study	Bloch	8/11/11	n/a	2/29/12	4/20/12	3/29/12	6/5/2012	10/26/12	12/6/12
HARP 2 Evaluation	(b) (6)	2/1/12	2/24/12	5/14/12	11/30/12		12/21/12	1/7/13	2/11/13
SEC Filing Disclosures	Bloch	1/5/12	12/21/11 2/19/12	3/21/12	On hold				
Other Disclosures	Bloch	1/5/12	12/21/11 2/19/12	3/21/12	n/a	10/31/12	11/16/12	12/12/12	1/31/13
Human Capital For Capital Markets	(b) (6)	5/24/12	6/12/12	12/15/12					
PSPA White Paper	(b) (6)	8/30/12	9/14/12	n/a	n/a	10/23/12	11/6/12	11/20/12	12/18/12
Counterparty Risk - Derivative Transactions	(b) (6)	10/5/12							
Servicing Alignment Initiative		10/15/12							
Servicer Guidelines Compliance	(b) (6)								
Servicer Compensation Initiative									
State and Local Redemption Laws									
REO Pilot Early Implementation	Not assigned								
Securitization Platform	(b) (6)								
Principal Reduction	Choy	2/1/12	2/24/12	4/24/12	On Hold				
JOINT									
Fee Misapplication	(b) (6)	5/9/12	5/24/12	10/26/12	Awaiting detailed sample of servicing agreements and data				
Libor	Bloch								
SUPPORTED									
Interest Rate Risk and Derivatives	(b) (6)	6/5/12	7/2/12						9/30/12
White Paper on G-Fees		8/30/12	9/12/12						
Follow up on Exam Capacity	Not assigned								

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 Federal Housing Finance Agency
 Office of the Inspector General
 Desk (b) (6)
 Mobile (b) (6)
 Fax (b) (6)
 (b) (6)

From: (b) (6)
 To: [LOG-14](#)
 Subject: Weekly Project Updates
 Date: Thursday, November 29, 2012 5:45:40 PM

Hello all,

Please review the chart below and make updates to the ETS on SharePoint as necessary Thank you!

Snapshot - Evaluations

Title	Project Leader	Date Assigned	Survey Out	Entrance Conference	Scope Approved	Message Approved	Draft to DIGE	Advisory Panel	Draft to Agency	Report Published
PRIMARY										
Affordable Housing	Choy	7/22/11	7/22/11	11/4/11	10/28/11	n/a	9/14/12	11/8/12	12/21/12	2/1/13
Lehman Bros Case Study	Bloch	6/27/11	8/11/11	n/a	2/29/12	4/20/12	3/29/12	6/5/2012	1/7/12	1/25/13
HARP 2 Evaluation	(b) (6)	2/1/12	2/1/12	2/24/12	5/14/12	2/4/13	2/19/13	3/4/13	4/1/13	5/20/13
SEC Filing Disclosures	Bloch	12/21/11	1/5/12	12/21/11 2/19/12	3/21/12	On hold				
Other Disclosures	Bloch	9/25/12	1/5/12	12/21/11 2/19/12	3/21/12	n/a	12/3/12	12/17/12	1/7/13	2/19/13
Human Capital For Capital Markets	(b) (6)	5/23/12	5/24/12	6/12/12	1/7/13					
PSPA White Paper	(b) (6)	8/28/12	8/30/12	9/14/12	n/a	n/a	11/13/12	12/18/12	1/10/13	2/21/13
Counterparty Risk - Derivative Transactions	(b) (6)	9/24/12	10/5/12	10/31/12						
Enterprise/Business Relationships	(b) (6)									
Servicing Alignment Initiative	Eldarrat	1/28/13	2/4/13	2/15/13						
Servicer Guideline Initiative	(b) (6)	11/5/12								
Servicer Compensation Initiative	(b) (6)	1/15/13								
State and Local Redemption Laws	(b) (6)	1/15/13								
REO Pilot Implementation	(b) (6)	11/7/12	2/15/13	2/27/13						
Securitization Platform	(b) (6)	11/5/12	11/20/12	12/7/12						
JOINT										
Fee Misapplication	(b) (6)	4/18/12	5/9/12	5/24/12	Awaiting detailed sample of servicing agreements and data					
Libor	Bloch								11/2/12	12/11/12
SUPPORTED										
Interest Rate Risk and Derivatives	(b) (6)	5/31/12	6/5/12	7/2/12						
White Paper on G-Fees	(b) (6)		8/30/12	9/12/12						
Follow up on Exam Capacity	Not assigned									

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 Federal Housing Finance Agency
 Office of the Inspector General
 Desk: (b) (6)
 Mobile: (b) (6)
 Fax: (b) (6)
 (b) (6)



OFFICE OF EVALUATIONS
OCTOBER 17, 2012 @ 9:00 A.M.
AGENDA

- 1. Welcome New Employee – (b) (6)**
- 2. Holiday Schedules**
- 3. Structure of Staff Meetings**
 - a. Presentations
 - b. Fundamentals
- 4. Mandatory Reading for OE**
 - a. Procedures Manual (OE)
 - b. Blue Book (CIGIE)
 - c. FHFA Strategic Plan
 - d. Audit and Evaluation Plan (OIG)
 - e. Style Manual (OIG)
- 5. Weekly Presentation – HARP 2.0**
- 6. Updates for the Week of October 15th – 19th**
- 7. Fundamentals of Evaluation Session**



Staff Presentations

- (b) (6) – HARP 2.0 – 10/17
- (b) (6) – Bailout Summary – 10/24
- (b) (6) – Stakeholder List – 10/31
- (b) (6) – Strategic Plan Discussion – 11/7
- (b) (6) - Derivatives Conference – 11/14

Design Matrix for HARP 2.0 Evaluation

(b) (6)

October 17, 2012

(b) (5)

II. Program Theory and Assumptions

- A. Mortgage interest rates are currently at historic lows
- B. Mortgagors can save money by refinancing higher interest rate mortgages to lower interest rate mortgages
- C. Many mortgagors have lost a significant amount of equity in their home
 - 1. These mortgagors do not have the collateral necessary for refinancing
 - 2. A subset of these mortgagors have strong FICO scores and a history of on-time mortgage payments
 - 3. This subset of mortgagors should be able to obtain a new mortgage and take advantage of the historically low interest rates
 - a. Any refinance would be low-risk because of strong FICO scores and payment history
- D. Benefits of refinance
 - 1. Lower monthly payments for mortgagors
 - a. More money to spend on the economy, consumerism, small business, investments
 - b. Lower chance of a default as a result of lower monthly payments
 - 2. Option for shorter amortization period, which builds home equity at a faster rate

III. External and Complicating Factors

- A. External risk of default and foreclosure
 - 1. Defaults due to external circumstances
 - a. Economic downturn – higher unemployment rate
 - b. Job loss
 - c. Disability
 - d. Death
 - e. Forced-move
 - f. Domestic relation complications
 - 2. How HARP 2.0 addresses this issue
 - a. Places borrowers in stable mortgages (e.g. ARM → FRM)
 - b. Lowers monthly mortgage payments
- B. Securitizing loans with LTVs > 105%
 - 1. Lenders hesitant to refinance loans with LTVs > 105%
 - a. Loans not TBA-eligible
 - b. Lenders would have to hold high-LTV loans on their books
 - 2. How HARP 2.0 addresses this issue
 - a. Lenders can deliver loans with LTVs > 105% into residential mortgage-backed securities (“RMBS”) pools specifically created for high-LTV loans
 - i. The Enterprises have special RMBS prefixes so investors can identify pools of high-LTV loans
 - ii. Lenders do not have to keep the high-LTV loans on their books
- C. Refinancing loans with LTVs > 125%
 - 1. Loans with LTVs > 125%
 - a. Large number of borrowers were excluded from HARP because loans with LTVs > 125% were not eligible for HARP refinancing
 - 2. How HARP 2.0 addresses this issue
 - a. Loans with LTVs > 125% now eligible for HARP 2.0 refinancing
 - i. Increases the number of borrowers who are eligible for HARP 2.0 refinances
- D. Lender liability for representation and warranties
 - 1. Lenders were not refinancing because of repurchase risk
 - a. Enterprises require lenders to repurchase loans refinanced under HARP for breaches of representations and warranties
 - 2. How HARP 2.0 addresses this issue
 - a. Certain lender representation and warranties are waived
- E. Risk-based fees¹
 - 1. The Enterprises require lenders to charge risk-based fees to compensate for risky loan characteristics
 - a. The Enterprises capped risk-based fees at 200 basis points for HARP loans
 - i. Increases the amount borrowers pay to refinance

¹ Fannie Mae calls risk-based fees loan-level price adjustment (LLPA). Freddie Mac calls risk-based fees delivery fees. For non-HARP loans, the Enterprises assess risk-based fees based upon certain eligibility or other loan features, such as credit score, loan purpose, occupancy, number of units, product type, mortgage insurance, etc.

2. How HARP 2.0 addresses this issue
 - a. The Enterprises capped risk-based fees at 75 basis points to encourage borrowers to refinance into shorter term loans
- F. Property appraisals
 1. The Enterprises required new property appraisals for a majority of HARP refinances
 - a. Lenders responsible for standard representations and warranties related to the value, marketability, and condition of the property
 - b. Increased closing costs for borrowers
 2. How HARP 2.0 addresses this issue
 - a. Generally new property appraisals are not required where there is a reliable automated valuation model (“AVM”) provided by the Enterprises
 - i. AVMs relieve lenders of property representations and warranties (value, condition, and marketability of the property) as long as the lender is not aware of any circumstances or conditions that would adversely affect the value, condition, or marketability of the property
 - b. Reduces closing costs for borrowers
- G. Program end date
 1. Originally HARP scheduled to end on June 30, 2012
 - a. Short time period for lenders to devote time and resources to implementing HARP
 2. How HARP 2.0 addresses this issue:
 - a. Extended to December 31, 2013
 - i. Lenders incentivized to devote more time and resources to implementing HARP 2.0
 - ii. Extended timeline allows lenders to complete more HARP 2.0 refinances

(b) (5)

(b) (5)

(b) (5)

(b) (5)

(b) (5)

From: [Google Alerts](#)
To: (b) (6)
Subject: Google Alert - fhfa OR "federal housing finance agency"
Date: Thursday, December 20, 2012 1:21:53 PM

News

2 new results for fhfa OR "federal housing finance agency"

[The FHFA House Price Index Beat Expectations Rising 0.5%](#)

Business Insider



The **Federal Housing Finance Agency (FHFA)** House Price Index (HPI) covers single-family housing, using data provided by Fannie Mae and Freddie Mac. We will have the release LIVE at 10 a.m. ET. Click here for updates >. SEE ALSO: The Two Big Ways ... [Business Insider](#)

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[FHFA Denies Reports That GSEs Lost Billions In LIBOR Rigging](#)

Mortgageorb

The **Federal Housing Finance Agency (FHFA)** is disputing news reports that Fannie Mae and Freddie Mac lost billions of dollars as a result of the manipulation of the London Interbank Offered Rate (LIBOR) by major banks. The Washington Post says that it ...

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From: [Grob, George](#)
To: (b) (6); [Bloch, David](#); (b) (6); [Seide, David](#); (b) (6)
Cc: [Frost, David](#); [Parker, Richard](#)
Subject: FW: Administrative Items
Date: Tuesday, November 20, 2012 4:20:59 PM

Folks,

See Richard's note and do what you need to attend if you want. Thanks to all for your work on securitization.

George

From: Parker, Richard
Sent: Tuesday, November 20, 2012 3:09 PM
To: Grob, George
Cc: Frost, David
Subject: FW: Administrative items

Gents,

Do you have folks working on the securitization paper? If so, this is probably something they want to attend. I will make arrangements for Tim and me. Let me know if you want to send anyone.

Rich

From: Lee, Timothy
Sent: Tuesday, November 20, 2012 10:47 AM
To: Parker, Richard
Subject: Administrative items

Hi Old Salt,

A couple of other things.

First, I got a note about this [securitization outlook conference](#) (the afternoon of December 6) and am considering attendance. What do you think?

Second, have we received any word on publication of the LIBOR memo? I owe DOJ a call, and in light of NYSAG's suit against Credit Suisse, it might be nice to have a chip to trade when I call them up to chat. More generally, there are several high-impact phone calls we can start making as soon as this goes out.

Tim

[Timothy Lee](#)

Senior Policy Advisor, FHFA-OIG

202-730-2821

From: [Lee, Timothy](#)
To: [Parker, Richard](#)
Cc: [Wu, Simon](#); [Rhinesmith, Alan](#); [Phillips, Wesley](#); (b) (6); (b) (6); [Emerzian, Peter](#)
Subject: Another possible issue to keep an eye on
Date: Thursday, June 28, 2012 9:19:38 AM

Hi Old Salt,

[This story](#) doesn't appear directly related to FHFA or the GSEs at first, (b) (5)
(b) (5)
(b) (5)
—

lawyers please weigh in. But the logic seems pretty straightforward.

If we want to build some data on this, let me know. Additionally, I have a contact at the UK's FSA whom I can try to call for color.

Tim

Timothy Lee
Senior Policy Advisor
202-730-2821
timothy.lee@fhfaoig.gov

From: (b) (6)
To: (b) (6)
Subject: WSJ re IG Libor report
Date: Wednesday, December 19, 2012 4:31:00 PM
Attachments: [Report Says Libor-Tied L...op \\$3 Billion - WSJ.pdf](#)

From: (b) (6)
To: (b) (6); (b) (6)
Subject: RE: WSJ re IG Libor report
Date: Wednesday, December 19, 2012 6:06:58 PM
Attachments: [FHFA Statement on LIBOR.pdf](#)

FHFA's response: <http://www.fhfa.gov/webfiles/24837/FHFA%20Statement%20on%20LIBOR.pdf>

(b) (6)
Federal Housing Finance Agency
Office of the Inspector General
(b) (6) (direct) | (b) (6) (cell)
(b) (6)

From: (b) (6)
Sent: Wednesday, December 19, 2012 4:32 PM
To: (b) (6)
Subject: WSJ re IG Libor report

From: [Lee, Timothy](#)
To: (b) (6)
Subject: RE: Libor Homeowner CA
Date: Monday, October 15, 2012 11:15:19 AM

Yeah, I saw the FT coverage. Never a good idea to come up with [schemes to kick a little old lady out of her home](#).

From: (b) (6)
Sent: Monday, October 15, 2012 10:31 AM
To: Lee, Timothy
Subject: Libor Homeowner CA

You have probably already seen this but just in case.

[http://newsandinsight.thomsonreuters.com/Legal/News/2012/10 -
_October/U_S_home_owners_file_class_action_suit_vs_banks_over_Libor_-_FT/](http://newsandinsight.thomsonreuters.com/Legal/News/2012/10_-_October/U_S_home_owners_file_class_action_suit_vs_banks_over_Libor_-_FT/)

From: (b) (6)
To: [Lee, Timothy](#)
Subject: RE: Interesting article
Date: Monday, December 17, 2012 5:45:00 PM

(b) (5)

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

Hi (b) (6),

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

Tim

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

From [Bloomberg](#). Note the last few paragraphs:

In London, lawyers at Collyer Bristow LLP, a 252-year-old firm, are working on a plan that would force banks to reimburse customers for any payments they made under derivatives contracts pegged to Libor. Three of the five partners on the financial- litigation team are working full time on Libor-related cases.

Stephen Rosen, who runs the practice, said clients who entered into interest-rate swaps with banks are entitled to cancel those contracts because manipulation was so entrenched. Swaps are contracts that allow borrowers to exchange a variable interest cost for a fixed one, protecting them against fluctuations in interest rates.

"It's possible on legal grounds to set aside the swap contract entirely, which could mean you can recover all the payments you've made under the swap," Rosen, who wears thick-rimmed glasses and speaks in clipped, precise tones, said in an interview at his office in a Georgian townhouse in the legal district of Gray's Inn. "The bank, when they entered into the swap, made an implied representation that Libor would not be unfairly manipulated."

Rosen said his clients include a publicly traded real estate company, three nursing homes and at least 12 more firms that bought Libor-linked interest-rate swaps from banks. He

declined to identify them by name, citing confidentiality rules.

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

[Timothy Lee](#)

Senior Policy Advisor, FHFA-OIG

202-730-2821

From: (b) (6)
To: (b) (6)
Subject: Libor
Date: Wednesday, December 19, 2012 3:48:16 PM
Attachments: [Report Says Libor-Tied L...op \\$3 Billion - WSJ.pdf](#)



OFFICE OF INSPECTOR GENERAL
Federal Housing Finance Agency

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

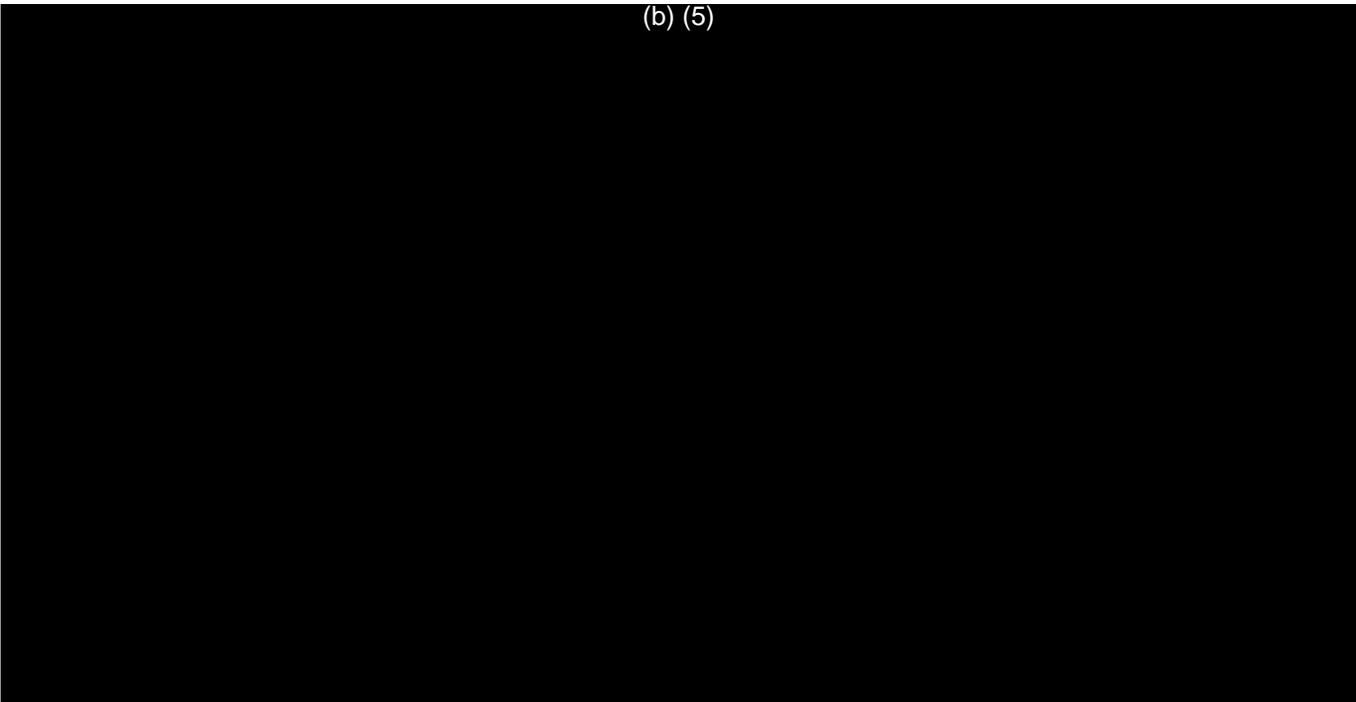
5 July 2012

To Richard Parker
From Timothy Lee
Subject Effect of LIBOR Bid-Rigging Investigation on Fannie Mae and Freddie Mac
Cc (b) (6) Peter Emerzian Wesley Phillips
(b) (6) Alan Rhinesmith Simon Wu

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

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

(b) (5)



(b) (5)

(b) (5)

(b) (5)

From: [Lee, Timothy](#)
To: [Parker, Richard](#)
Cc: [Phillips, Wesley](#); [Rhinesmith, Alan](#); [Wu, Simon](#); [Emerzian, Peter](#); [REDACTED] (b) (6)
Subject: LIBOR investigation as it relates to FHFA-OIG
Date: Thursday, July 05, 2012 4:19:03 PM
Attachments: [Libor Proposal.docx](#)

Hi Old Salt,

Please find attached a memo discussing how the unfolding LIBOR scandal may relate to FHFA and the Enterprises.

Tim

Timothy Lee
Senior Policy Advisor
202-730-2821
timothy.lee@fhfaig.gov

From: (b) (6)
To: [Lee, Timothy](#)
Subject: Libor Homeowner CA
Date: Monday, October 15, 2012 10:31:00 AM

You have probably already seen this but just in case.

http://newsandinsight.thomsonreuters.com/Legal/News/2012/10_-_October/U_S__home_owners_file_class_action_suit_vs_banks_over_Libor_-_FT/

From: (b) (6)
To: (b) (6)
Subject: FW: LIBOR investigation as it relates to FHFA-OIG
Date: Thursday, July 05, 2012 4:19:00 PM
Attachments: [Libor Proposal.docx](#)

FYI.

From: Lee, Timothy
Sent: Thursday, July 05, 2012 4:19 PM
To: Parker, Richard
Cc: Phillips, Wesley; Rhinesmith, Alan; Wu, Simon; Emerzian, Peter; (b) (6); (b) (6)
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Timothy Lee
Senior Policy Advisor
202-730-2821
timothy.lee@fhfa.ig.gov

From: (b) (6)
To: (b) (6)
Subject: FW: LIBOR investigation as it relates to FHFA-OIG
Date: Friday, September 07, 2012 12:45:00 PM
Attachments: [Libor Proposal.docx](#)

From: Lee, Timothy
Sent: Thursday, July 05, 2012 4:19 PM
To: Parker, Richard
Cc: Phillips, Wesley; Rhinesmith, Alan; Wu, Simon; Emerzian, Peter; (b) (6)
(b) (6)
Subject: LIBOR investigation as it relates to FHFA-OIG

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Tim

Timothy Lee
Senior Policy Advisor
202-730-2821
timothy.lee@fhfa.ig.gov

From: [Lee, Timothy](#)
To: (b) (6)
Subject: FW: Interesting article
Date: Friday, December 14, 2012 8:59:52 AM

Hi (b) (6),

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

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[Timothy Lee](#)

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

From: [Grob, George](#)
To: [REDACTED]; [Bloch, David](#); [REDACTED] (b) (6); [Seide, David](#); [REDACTED] (b) (6)
Cc: [Frost, David](#); [Parker, Richard](#)
Subject: FW: Administrative Items
Date: Tuesday, November 20, 2012 4:20:59 PM

Folks,

See Richard's note and do what you need to attend if you want. Thanks to all for your work on securitization.

George

From: Parker, Richard
Sent: Tuesday, November 20, 2012 3:09 PM
To: Grob, George
Cc: Frost, David
Subject: FW: Administrative items

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Tim

[Timothy Lee](#)

Senior Policy Advisor, FHFA-OIG

202-730-2821

FEDERAL HOUSING FINANCE AGENCY



STATEMENT

For Immediate Release
December 19, 2012

Contact: Corinne Russell (202) 649-3032
Stefanie Johnson (202) 649-3030

FHFA Statement on LIBOR

“FHFA has not substantiated any particular LIBOR-related losses for Fannie Mae and Freddie Mac. We continue to evaluate issues associated with LIBOR and monitor LIBOR-related developments, recognizing that other Federal agencies are also involved in related matters. FHFA has not made any determination regarding legal action.”

###

The Federal Housing Finance Agency regulates Fannie Mae, Freddie Mac and the 12 Federal Home Loan Banks. These government-sponsored enterprises provide more than \$5.7 trillion in funding for the U.S. mortgage markets and financial institutions.