Replacing the LIBOR with a Transparent and Reliable Index of Interbank Borrowing:

Comments on the Wheatley Review of LIBOR Initial Discussion Paper

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I. Summary

1. The Wheatley Review released its Initial Discussion Paper (the "Discussion Paper") on August 10, 2012 and has sought comments on its preliminary findings and recommendations on how to reform the London Interbank Offered Rate ("LIBOR").[1]
2. This submission presents an alternative to the LIBOR that would in our view:
    a. Eliminate or significantly reduce the severe defects in the LIBOR which lead the Discussion Paper to conclude that continuing with the current system is "not a viable option;"[2]
    b. Provide a transparent and reliable measure of interbank lending rates during normal times as well as financial crises;
    c. Minimize disruptions to the market; and,
    d. Provide parties relying on the LIBOR with a standard that would maintain continuity with the LIBOR.
3. This alternative, which we call the "Committed" LIBOR (CLIBOR), would:
    a. Require banks that participate in the CLIBOR to submit committed bid and ask quotes for interbank lending. Any transactions which occur after that submission (and before the next submission) must be at rates no higher than the submitted ask quote and no lower than the submitted bid quote. A penalty would be paid for any transaction which occurs outside the submitted bid-ask range, unless such transaction can be justified by the bank;
    b. Require banks above a certain size to report their interbank borrowing and lending transactions to a data-clearing house similar to the TRACE system that was established for corporate bonds in the US. This would increase substantially the number of banks for which reliable transaction-based data are available and provide not only a source for verification of the committed bids and asks, but also a (one-day lagged) alternative benchmark of interbank borrowing rates;
    c. Establish a governance body for the data clearing and interbank lending rate reporting operations that would consist of representatives of banks, private parties that have a stake in the LIBOR, and perhaps academics or other independent parties;
    d. Have the CLIBOR governance body select through a public bid an organization to manage the data clearing house and CLIBOR rate setting process and dissemination;
    e. Have the selected organization publish the daily interbank lending rates for relevant maturities and currencies, verify that each bank transacts consistently with its own quoted ask and bid, determine and collect penalties as needed, and address banks with an excessive frequency of penalties; and,
    f. Have the selected organization develop algorithms for calculating the

[1] The Wheatley Review of LIBOR: Initial Discussion Paper, August 2012.
[2] *Id*., pp. 3, 9.

CLIBOR in ways that would minimize the opportunity for abuse and regularly employ screening methods for detecting collusion and manipulation.

4. All of the recommendations we make here could be, and in our view should be, adapted for other benchmarks such as the EURIBOR, the TIBOR and other comparable rates.
5. We make a few brief remarks on our qualifications for presenting these recommendations and refer the Wheatley Review to our attached curriculum vitae.
    a. Professor Rosa Abrantes-Metz is the co-author of a paper which identified, through econometric screening methods, possible problems with the LIBOR in 2008. Her paper addressed not only the possibility of manipulation but also collusion among the contributing banks.[3] The U.K. House of Commons discussed Professor Abrantes-Metz's various papers on LIBOR during its preliminary findings on July 3 2012, and in the subsequent testimonies of Mr. Bob Diamond and Mr. Paul Tucker.[4] The U.K. House of Commons Treasury Committee has also cited her work in its preliminary findings in August 18, and so have other governmental investigators.[5] Professor Abrantes-Metz specializes on conspiracies and manipulations and on the development of empirical screens to detect cheating and defend against such allegations. Professor Abrantes-Metz has a Ph.D. in Economics from the University of Chicago.
    b. Professor David S. Evans has written widely on the financial services industry and on its regulation. He was an adviser to the U.S. House Financial Services Committee during 2009 and has testified before the U.S. Congress on financial services matters on several occasions. He has also written widely on competition policy and has testified before the European General Court and many U.S. Federal Courts. He is the Executive Director of the Jevons Institute for Competition Law and Economics at University College London where he also serves as a Visiting Professor.[6] Professor Evans has a Ph.D. in Economics from the

[3] Rosa Abrantes-Metz, Michael Kraten, Albert Metz, & Gim Seow, 2012. "LIBOR Manipulation?" Journal of Banking and Finance, 36: 136-150, first draft dated August 2008 and available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1201389.

[4] "Libor, Public Inquires & FSA Disciplinary Process," House of Commons, Business and Transportation Section, July 3 2012, available at www.parliament.uk/briefing-papers/SN06376.pdf; House of Commons Oral Evidence Taken before the Treasury Committee, Evidence from Bob Diamond, July 4 2012, to be published as HC 481-i, available at http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtreasy/uc481/uc48101 htm; House of Commons Oral Evidence Taken before the Treasury Committee, Evidence from Paul Tucker, July 9 2012, to be published as HC 481-ii, available at http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtreasy/uc481-ii/uc48101 htm;

[5] "Fixing Libor: Some Preliminary Findings," Second Report of Session 2012-13, Volume I, House of Commons Treasury Committee, August 18, 2012, available at http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtreasy/481/48102.htm.

[6] As a statement of interest, Professor Abrantes-Metz has been retained by various plaintiffs that have filed or are considering filing lawsuits against the banks that participated in the setting of LIBOR and other comparable benchmarks; Professor Evans has worked for numerous clients in the financial services

University of Chicago.

II. Why an Interbank Lending Rate is Necessary

6. The LIBOR is a benchmark for costs of unsecured borrowing in the London interbank market for a small group of highly rated banks (i.e. banks with minimal credit risk). These costs reflect compensation for the interest rate (the time value of money), credit premium (counterparty risk), and liquidity premium (market depth) that a bank with a similar credit risk profile should expect to be offered by another highly rated bank.
7. During normal economic times, the counterparty risk of the participating banks is quite low (by construction) and the interbank market depth is adequate, which means that during normal times the LIBOR is highly correlated with other low risk/high liquidity rates such as Treasury rates of equal tenor. It may seem that a separate interbank index would be unnecessary.
8. Unfortunately, the correlation between the interbank lending rate and other market rates breaks down during a financial crisis. During a crisis, a flight to quality may drive down the yields on "risk-free" instruments like Treasury-bills at precisely the same time that the liquidity and credit premium demanded by interbank lenders are likely to rise.[7] Additionally, during those times the market segmentation between short term borrowing and lending to which the LIBOR pertains, and longer tenor borrowing and lending as typically represented in corporate bonds and credit default swaps, is likely to increase. Hence, during a financial crisis there is no obviously equivalent market-based benchmark to the true costs of short-term interbank lending. This, of course, is precisely when having such a benchmark is of the most interest.
9. As discussed in the Wheatley Review, the Treasury bill, the Overnight Indexed Swap and other existing market-based benchmarks may be close to representing the same information as the LIBOR. But, depending on the circumstances, these can also differ significantly from each other due to the different types of premia that each of these incorporate.
10. This is not just a theoretical argument. Market participants have chosen to use the LIBOR for contracts having a notional value of more than $300 trillion and possibly much more. Putting aside the defects in the LIBOR, which we will turn to shortly, these market participants, most of which were not the banks that set the LIBOR, presumably believed that the LIBOR was conceptually the best rate to rely on and that it was superior to other readily available benchmarks such as the Treasury-bill or the Overnight Indexed Swap.
11. It must therefore be recognized that the interbank lending rate is distinct from a "risk free rate," and it may be difficult to extrapolate from longer tenor borrowing rates. It must furthermore be recognized that for many purposes, it is an interbank

industry including banks but is not currently working for any party on issues related directly or indirectly to LIBOR. Abrantes-Metz is a Principal of Global Economics Group, LLC and Evans is Chairman of Global Economics Group.

[7] The TED spread of LIBOR over Treasury rates becomes larger and more volatile during crises.

lending rate and not a "risk free rate" which is the most appropriate benchmark for banks and investors to use. Defining their retail lending costs as a spread over LIBOR allows average banks (of lesser credit quality) to pass on changes in their funding costs to borrowers throughout the duration of the loan. For example, if a bank wants to sell an adjustable rate mortgage, defining its cost as a spread over LIBOR allows it to minimize its basis risk between the rate it charges the consumer and the cost of the bank's funds.

12. Therefore, we conclude that information on the interbank lending rate is valuable to market participants and should continue to be compiled into a benchmark though significant changes would have to be implemented to make it reliable, robust and to restore its credibility.

III. Why a Committed Quote System is Necessary

13. Having established the need for an interbank borrowing index, as distinct from some other available rates, the next question is whether a purely transactions-based index is possible. During normal economic times, it is likely that there would be a sufficient volume of transactions at the short end of the maturity scale and that a central data clearing house, which does not currently exist, could compile data on actual interbank exchanges, perhaps augmented by commercial paper rates for example, and publish a suitable index.[8]
14. Such a transactions-based index would of course operate on a delay, since it would be calculated ex-post of actual exchanges. That delay might be slight and arguably immaterial during normal economic times. But a transaction-based index may suffer drawbacks during periods of stress. First, it may become volatile as the composition of banks which actually execute interbank exchanges may change, and change significantly, on a daily basis. During a crisis, when liquidity is short and market depth is slight, a few large banks entering or exiting the interbank lending market may induce spurious volatility in a transactions-based index.
15. During a genuine and severe financial crisis, a transactions-based index may be undefined. There may not be any transactions in the appropriate currency at the appropriate tenor. A purely transactions-based index could, in the limit, break down altogether.
16. The only way to ensure continuity of the benchmark, even during the depths of a liquidity freeze or financial crisis, is to base the index on quotes provided by the banks as opposed to an ex-post calculation of actual transactions which could potentially cease to exist. But such quotes need to represent a commitment by the

[8] Notice that a transactions-based index has previously been put forward by Abrantes-Metz, in "Why and How Should the Libor be Reformed?" Competition Policy International Chronicle, July (1) 2012; first draft available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2094542. In this article, Abrantes-Metz recommends the LIBOR to be based on actual transactions from the previous day rates and an estimate of the change in borrowing cost for the current day, in order to avoid delay or early morning LIBOR publication. Such a proposal is, of course, conditional of transactions data availability. Increased oversight of the submissions and expansion of the number of contributing banks were also recommended.

banks to actually transact at those rates and be verifiable against actual transactions every time those occur.

IV. Defects in the Libor Rate Setting Process

17. The Discussion Paper provides an accurate summary of how the LIBOR was supposed to work and how it appears to have been manipulated based on information provided by Barclay's in the course of the investigation. We provide a brief summary and highlight several points that warrant consideration in devising an alternative.
18. Each day a handful of banks—up to 18 depending on the currency—are queried on how much they could borrow funds from other banks for loans in various currencies and maturities. The central party that calculates the LIBOR disregards the highest 25% and lowest 25% of the submissions and takes a simple average of the remainder. In the case of the USD LIBOR there were 16 banks participating during the period of the alleged manipulation. On a daily basis, the contributing banks are surveyed by the British Bankers Association and submit sealed quotes which answer "[a]t what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11:00 a.m. London time?" The USD LIBOR is then computed by averaging over the middle eight quotes and disregarding the four highest and the four lowest.
19. In making these submissions to the central party, the banks are asked to provide estimates of their borrowing rates in the interbank market for that day. Importantly, they are not asked to report whether they used that rate for an actual transaction, neither do they commit that they will, nor is there any post-submission auditing process to determine whether the rate they submitted did in fact correspond or was close to what was actually charged and paid in any transaction.
20. From the Barclay's investigation and testimony before the Treasury Committee of the House of Commons it appears that its traders held sufficiently large positions so that a movement of the LIBOR by one basis point (that is the second decimal point of the rate) could be material to them. Some traders at Barclays apparently persuaded the individuals who submitted the quotes to modify those rates in ways beneficial to the traders. Barclays has provided information that indicates that its traders conspired with traders at other banks to manipulate the LIBOR. Additionally, it appears that in some cases Barclays refrained from submitting high borrowing rates because doing so would signal to the market that it faced significant risks.
21. Thus, the record suggests that at least some banks had incentives to manipulate the LIBOR, and that at least some banks had the means to do so. It is widely expected that more evidence from other banks will emerge from the many ongoing worldwide investigations.
22. The LIBOR rate setting process was apparently compromised. But in fact, in many respects its structure was inherently flawed, providing incentives and

opportunities for banks to manipulate the rate and providing a means for tacit or explicit collusion by the banks.

a. The contributing banks are asked to report at what rate they could borrow money. They do not have to report real transaction prices when these exist and they have no obligation to transact at any rate close to their submitted quote. They have no incentive (beyond "goodwill") to report an accurate rate, and they face no penalty for reporting an inaccurate one. It is well known in the survey design literature that such hypothetical questions typically do not elicit accurate answers.[9]
b. There is no mechanism for auditing the accuracy of rates submitted by the banks. There are no penalties for submitting rates that appear wrong. There are no efforts to verify, in any way, the rates ex post or provide any deterrence against the submission of unreliable data.
c. The rates submitted by the bank each day are made publicly available on the same day with the identity of each submitter disclosed. As a result it is possible for each bank to learn the others' submissions in time to influence its own submission for the following day. This provides a facilitating device for tacit collusion, but also for explicit collusion in which banks can determine whether other banks have followed agreements to fix rates and punish any deviations from such agreements. It is well known in competition policy that such facilitating devices can aid and abet price fixing and bid rigging.[10]
d. The rates are determined through the submission of a small number of banks—currently no more than 18 and as few as 6 depending on the currency. It is well known from the economic literature and antitrust work on cartels that it is easier to coordinate either tacitly or explicitly when there are a small number of market participants.[11]
e. The process for calculating the LIBOR makes it particularly easy for banks to submit quotes that with a high degree of confidence could cause a material movement in the LIBOR. The following calculation provides a rough approximation to the direct influence of a bank's offer on the LIBOR. A priori, in 50 percent of the cases each bank's quote will be included in the interquartile range. Index the bank that is trying to influence LIBOR by 1. Then the calculated rate is $x_1/8 + (x_2/8 + x_3/8 + x_4/8 + x_5/8 + x_6/8 + x_7/8 + x_8/8)$. Submitting a bid that is 8 basis points over the average would increase the average by 1 basis point if the bank's submission is in the interquartile range and if such submission does not alter the composition and submissions of the remaining seven banks counting for the average.

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[9] See, for example , Glenn Harrison and E. Elisabet Rutstrom, 2008. "Experimental Evidence of Hypothetical Bias in Value Elicitation Methods," *Handbook of Experimental Economics Results*, 1: 752-767.

[10] See, for example, Margaret Levenstein and Valerie Suslow, 2006. "What Determines Cartel Success," *Journal of Economic Literature*, 44(1): 43-95.

[11] *Id.* For a review of more factors influencing the susceptibility of a market to collusion, see *American Bar Association Editions*, 2010, "Proof of Conspiracy Under Federal Antitrust Laws," Chapter VIII on Economic Expert Testimony.

f. The bank cannot be certain that it will directly move the LIBOR because its submission could be discarded. However, the bank knows that even if its submission is discarded, it may well still have a material effect on the final value of LIBOR. Hence, if the bank benefits from a higher LIBOR rate it will have an incentive to submit a quote higher than what it believes the average rate is because there is a positive probability that by submitting a higher quote it directly increase the LIBOR.

g. Let's suppose a situation in which a bank's submission belongs to the set of "too high quotes" that do not directly count for the LIBOR computation. Even then its quote could move the rate. To illustrate our point, here is a very simple example. The 16 banks offer the following submissions to the LIBOR: {5.01; 5.02; 5.03; 5.04; 5.05; 5.06; 5.07; 5.08; 5.09; 5.10; 5.11; 5.12; 5.13; 5.14; 5.15; 5.16}, and suppose these are truthful submissions. Given this set, the quotes {5.01; 5.02; 5.03; 5.04; 5.13; 5.14; 5.15; 5.16} are discarded, and the 8 in the middle are averaged to yield a LIBOR of 5.085. Now suppose that the bank which in the example above submitted 5.08 has an interest in moving the rate upwards. Rather than submitting a quote of 5.08, it could submit a quote of, say, 5.22, which belongs to the four highest quotes for the day and will therefore be discarded. Now the quotes which will count are {5.05; 5.06; 5.07; 5.09; 5.10; 5.11; 5.12; 5.22}, yielding a LIBOR of 5.1025, an increase of 1.75 basis points with respect to the LIBOR under the truthful submission of 5.08.

h. In addition to being vulnerable to the actions of a single bank, the current LIBOR setting is also highly susceptible to coordination among multiple banks. When only 16 banks contribute to LIBOR, a coalition of just five banks can be *guaranteed* to be able to move the rate. Suppose that 5 banks are interested in moving the LIBOR downwards, and with that objective, they all submit low quotes. If these are all sufficiently low, they will be the five lowest of the 16 submissions; four will be discarded, but the fifth lowest will directly enter the LIBOR calculation for that day. And since it was artificially low, so will be the resulting LIBOR. Moreover, and just as with the example above of manipulation by one single bank, it is easy to illustrate situations in which a cartel of just 2 banks may effectively move the LIBOR even when their quotes are disregarded.

i. The governance of the LIBOR setting process rests with banks that have a financial interest in the outcome of the LIBOR, and this is a problem on its own.

23. The LIBOR setting process is based on a fundamentally and predictably flawed design. Given that the current setting provided the means, the motive and the opportunity to conspire and manipulate the rate, considering the recent evidence of apparently widespread manipulation, we agree with the Discussion Paper that the current process is "not a viable option."

24. Unfortunately, changing LIBOR is a challenging task. There are two main problems. The first is that there are more than $300 trillion of contracts

outstanding tied to the LIBOR. It is not possible to simply end it. Doing so would result in massive renegotiation costs, lawsuits and disrupted financial markets. The second is that though the information from interbank borrowing and lending is valuable and can increase market efficiency, there is no obvious substitute for a market-based benchmark that is also guaranteed to provide useful information during a financial crisis.

25. Of course it is possible that a poor proxy for the interbank lending rate is better than an unreliable and manipulated rate. But if the goal is an enhanced and more robust measure of interbank lending, then a new benchmark needs to be designed and implemented.

V. Replacing the LIBOR

26. Basic principles of antitrust, financial market regulation, survey design, and the design of governance systems support the adoption of several guiding principles in developing an alternative to the LIBOR:
    a. The rates provided to the market should be based on actual transactions where possible.[12]
    b. The banks should have a financial stake in the accuracy of submitted rates not based on actual transactions.
    c. The formula for establishing the index should be based on methods that minimize the ability of submitters singly or in combination to affect the rate.
    d. The process should integrate basic screening methods for detecting the submission of false information or efforts to manipulate the rate.
    e. The influence of parties who have a financial stake in the outcome of the rate setting process should be minimized.
    f. The public release of banks' submissions should be delayed by at least one month so that coordination of submissions and manipulation due to signaling concerns can be minimized and the identity of the banks making each submission should not be disclosed.
27. Our proposal meets these criteria while we do not believe that any of the other proposals, including those alluded to in the Discussion Paper, do.
28. Our proposal involves three major and interdependent components:
    a. A process for determining the daily interbank lending and borrowing same-day rate where the bids are not necessarily based on actual transactions but are verified against actual transactions every time these take place. We call the resulting rate the "CLIBOR" for Committed LIBOR.
    b. A data-clearing house for reporting interbank lending and borrowing transactions that would provide historical rate data and thereby provide both a check of the same-day rates and possibly an alternative benchmark that would be less current but potentially more accurate. We call the data-clearing house the "Transaction Reporting for Interbank Borrowing

[12] At the least, any submissions have to be verifiable against actual transactions whenever those take place.

Entity" or "TRIBE."

c. A system for ensuring the integrity of the data collection and reporting in which the regular involvement of self-interested participants is minimized. In our view TRIBE would be responsible for, and have a fiduciary duty in, the CLIBOR process as well as collecting and reporting historical transaction data.

A. Process for Determining Same-day Committed London Interbank Offered Rate

29. We propose the CLIBOR be based on committed bid and ask quotes submitted by contributing banks early in the day and verifiable by actual transactions whenever these exist. The committed ask for the 3 month tenor would answer the question, "what is the maximum rate at which you would be willing to borrow $N for three months from one of the contributing banks?" The committed bid would answer the question, "what is the minimum rate at which you would be willing to lend $N for three months to one of the contributing banks?"
30. The CLIBOR would be calculated as the midpoint of the inside spread (the midpoint between the lowest bid and the highest spread) across all contributing banks. We believe further work should attempt to develop algorithms for refining this measure so that it presents the most accurate figure for the market and minimizes possibilities of cheating. We note that other entities that must rely on indices that can be manipulated, such as search-engine platforms, have developed sophisticated procedures for minimizing and detecting manipulation.
31. Banks would have to agree that they would conduct transactions within their bid-ask ranges, hence the meaning of the commitment. A bank that submitted an artificially low ask quote would effectively lock itself out from borrowing that day, unless a penalty is paid. A bank that submitted an artificially high bid quote would effectively lock itself out from lending that day, unless a penalty is paid. Hence, actual transactions would usually take place between these extremes and the incentive to manipulate quotes would be significantly reduced given that these are not only committed but also verifiable when any transactions actually take place. Further work should ensure that this process does not impair the interbank lending market and modify the commitment parameters and penalties as need be.
32. TRIBE would evaluate submissions ex-post against actual transactions which take that place during the day. It would be expected that each bank would be borrowing at any rate below its quoted ask, but banks would not be completely barred from entering into transactions outside of the bid-ask ranges. If it happened that a bank borrowed above that value, it would be required to explain that transaction to the oversight agency. Similarly, each bank would be expected to lend at its bid quote or higher, and in case it lent below its bid it would be required to explain that decision. TRIBE would establish penalties for doing so where those penalties would increase for multiple transgressions. As a result banks that either made a mistake in their submission, or faced circumstances they didn't anticipate when making their submission, would not be barred from entering into a transaction subject to the penalty.

33. TRIBE would match actual transactions to the bid-asks and impose the penalties. It would also obtain an explanation from the bank for the deviation, and it would have the power to forgive a penalty if the explanation provided by the bank was legitimate (i.e., principles to be set for this rule, but an example could be a last minute liquidity emergency unpredictable at the time of the submission). Transgressions and penalties would be monitored and a bank incurring more than a reservation number of penalties (to be determined) in the period of a month would have to be further monitored to justify the reason(s) for such a high frequency of transgressions.
34. It may be necessary for the government to require the banks that have been participating in the LIBOR rate setting, and all large banks, to participate in the CLIBOR process. Further consideration would need to be given as to the criteria for requiring banks to participate in the CLIBOR process and whether this requirement should be for a transitional period (five years for example) or permanent.

B. Transaction Reporting for Interbank Borrowing Entity (TRIBE)

35. Although one could debate whether providers of bespoke financial transactions should be required to make public disclosures, we believe that the serious doubts that have been raised about integrity of the LIBOR, the evidence concerning its manipulation and possible collusion, and the need for an auditing mechanism going forward tip the balance in favor of full transparency. Therefore we are proposing that banks be required to disclose to the data clearing house the bid and asks rates and other detailed terms on funds they have borrowed from or lent to another bank. To prevent the disclosure of proprietary information the data-clearing house would keep the identity of each bank confidential and only report aggregated information.
36. This data-clearing house is similar to the TRACE system for corporate bonds in the US. Most corporate bonds have been sold privately at least since the end of World War II,[13] and little public information was available on the prices that corporate bonds were sold for until about a decade ago. At the beginning of 2001 the National Association of Securities Dealers required that dealers report detailed information including prices on the National Association of Securities Dealers'[14] transaction reporting and compliance engine (TRACE). Much of the TRACE data were then made publicly available and different types of bonds were phased in over time. Three major academic studies have examined the effect of the introduction of TRACE on the corporate bond market.[15] All found that investor's

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[13] Bruno Biais and Richard Green, 2005. "The Microstructure of the Bond Market in the 20th Century," *GSIA Working Papers*, Carnegie Mellon University, Tepper School of Business (E57).
[14] NASD is now FINRA.
[15] Hendrik Bessembinder, William Maxwell, and Kumar Venkataraman, 2006. "Market Transparency, Liquidity Externalities, and Institutional Trading Costs in Corporate Bonds," *Journal of Financial Economics*, 82: 251-88; Amy Edwards, Lawrence Harris and Michael Piwowar, 2007. "Corporate Bond Market Transparency and Transaction Costs," *Journal of Finance*, 62: 1421-1451; Michael Goldstein,

trading costs declined substantially and two estimated the savings at $1 billion annually.[16]

37. Under our proposal, the requirement that banks submit information on interbank lending and borrowing transactions would be extended to all large banks including banks that are not currently participating in the LIBOR.
38. The TRIBE transaction data could be used to develop an alternative benchmark based on actual transaction data. It would not be possible for this benchmark to be of same day rates. But the benchmark could possibly be based on the previous day's rates for maturities and currencies for which there were enough transactions and for longer periods for more thinly traded maturities and currencies. Alternative benchmarks would need to account for the fact that the risk profiles of these banks and therefore their likely borrowing rates could differ.

C. TRIBE Governance

39. We believe that the banks providing the information on interbank borrowing should have minimal involvement in running TRIBE which would be responsible for the CLIBOR as well as the TRIBE data reporting. These banks clearly have an interest in the CLIBOR result because of their trading positions, and with a small number of institutions they could engage in tacit or explicit collusion. In addition, given the liability and reputational damage they may have incurred from the LIBOR process to date they may wisely decide that they do not want to continue in a governing capacity.
40. One possibility is for the Bank of England or the Financial Conduct Authority or some other governmental entity to assume responsibility for TRIBE. However, given the importance of innovation in the collection and dissemination of these data to the financial markets, and the many other tasks that financial regulators have, we believe it would be better for TRIBE to be run by a private sector firm.
41. One model for TRIBE are the data collection and reporting providers which collect and report audience data. In most countries including the UK, media companies issue a request for proposals for collecting and reporting data on their audiences for the purpose of providing reliable data to advertisers. They typically issue a long-term contract of about 10 years. During this period the contract recipient can be fired only for failing to fulfill the terms of contract. Part of the negotiation concerns the price of the data.
42. In the case of TRIBE, we propose the establishment of a governance body that would be responsible for selecting and monitoring a vendor. The governance body should consist of representatives of all market participants including banks that are participating in CLIBOR, representatives of other institutions that rely on the CLIBOR, and independent parties such as academic experts. The governance

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Edith Hotchkiss and Erik Sirri, 2007. "Transparency and Liquidity: A Controlled Experiment on Corporate Bonds," *Review of Financial Studies,* 2(2): 235-273. For a summary, see William F. Maxwell and Hendrik Bessembinder, 2008. "Transparency and the Corporate Bond Market," *Journal of Economic Perspectives,* 22(2): 217-234.

[16] Bessembinder, Maxwell, and Venkataraman (2006), *supra* note 15.

body would refine the proposal described above and hire a vendor to implement it.

43. A regulatory body would sit above the CLIBOR governance body and TRIBE. That body could require, receive, and audit reports and conduct examinations of the CLIBOR governance body and TRIBE. The regulatory body could be the Bank of England or the Financial Conduct Authority or consist of an interagency body created for this purpose. In the first instance, the regulatory body would select the CLIBOR governing body in consultation with the participating banks and other market participants.
44. The operational costs associated with the CLIBOR could be significant, but in our view any serious alternative to the LIBOR will also require a high level of operational costs. In any event these costs would be small relative to the value of the LIBOR for financial markets.
45. Finally, as suggested in the Wheatley review, it may be worth extending the types of funding transactions relevant for the CLIBOR to also incorporate wholesale deposits, and to consider reducing the number of currencies in which LIBOR is denominated, as well as maturities.

D. The Transition

46. The Discussion Paper expresses concern that making significant changes to the LIBOR would result in market disruption. The experience with the introduction of the euro suggests that these can be managed. By all means, the transition to the euro was extremely successful.
47. The European Commission provided the continuity in contractual relationships by establishing that national currency values be replaced by euro equivalent at the fixed conversion rate in any legal documents.[17] In the United States, some states such as New York, California and Illinois enacted similar laws to address the conversion to the euro. There were no material disruptions in financial markets during that period.
48. The transition phase to the euro was well prepared and happened smoothly over the space of few years. The same could happen in transitioning to the CLIBOR which, in our proposal, provides continuity with the LIBOR as a benchmark for interbank lending.

[17] European Commission, 1997. “Legal Framework for the Use of the Euro,” II/088/97-EN, Brussels, available at http://ec.europa.eu/economy_finance/publications/publication_summary1056_en htm.

argus

7 September 2012

To wheatleyreview@hmtreasury.gsi.gov.uk

Dear Wheatley Review team,

I am writing on behalf of Argus Media to respond to the Wheatley Review of LIBOR: Initial discussion paper.

Argus Media notes the examination of global benchmarks in all markets and agrees that this is an important issue for the energy and commodity market prices that it publishes. Argus Media develops and applies robust methodologies, and seeks to eliminate conflicts of interest. These methodologies are publicly available. In promoting best practice in benchmark production, we support the Wheatley Review's efforts.

Our comments focus on Chapter 5 Potential Implications for other benchmarks. In addition to addressing the two specific Questions in Box 5A, we respond to the invitation in Paragraph 1.12 to contribute broader comments.

ARGUS MEDIA

Argus Media is an independent media organisation established in the UK in 1970 with its headquarters in London and with offices in each of the world's principal energy centres. Its media activities comprise publishing market reports and services which include price assessments and market commentary; publishing business intelligence reports that analyse market and industry trends; and publishing online services that provide news, analysis, commentary and price assessments. Its personnel include well trained commodity journalists specialising in reporting news and price information relating to the physical oil markets and other energy and related commodity markets. Argus Media's journalists operate according to a rigorous Editorial Code of Conduct and an Ethics Policy that align with best journalistic practice, including the avoidance of conflicts of interest. In Argus Media's long history, there has not been a single legal action brought against Argus Media and/or its journalists alleging malpractice in the information it publishes.

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GENERAL COMMENTS ON CHAPTER 5

As Chapter 5 recalls, the G20 has asked IOSCO to produce recommendations, in collaboration with the IEA, IEF and OPEC, on the functioning and oversight of oil price reporting agencies (PRAs). Argus Media has been an active participant in this review, in which the FSA is taking a leadership role. We are committed to full co-operation with the IOSCO process to achieve the highest standards in reporting physical energy markets. Indeed, this has been our core mission as a media organisation for over 40 years.

1. ***To what extent are there parallels between LIBOR and energy spot market benchmarks?***

"The parallels with LIBOR" referred to in Paragraph 5.14 of the discussion paper may in reality not extend much broader than, as the paper records, the fact that *"they are both widely used benchmarks"*. In point of fact, the circumstances relating to *"motivation and opportunity for manipulation and distortion"* could scarcely be more different.

Argus Media is heartened by the recognition in Paragraph 5.14 that there exist *"significant differences"* between the cases of LIBOR and the oil spot market. The discussion paper highlights two such differences:

- "***PRAs are independent of market participants***"; and
- "***there is greater use of verified transactional data***".

We suggest there are at least four additional *"significant differences"*:

- ***PRAs are media organisations***: Argus Media, as its name signifies, is an independent media organisation that adheres rigorously to the highest standards in journalism. The contrast with the case of LIBOR, operated by a financial services trade association on behalf of its membership, could not be clearer or more complete.
- ***The PRA market is fully competitive***: PRAs such as Argus Media and its peers compete aggressively. The ability of a PRA to survive and succeed in this open and competitive marketplace is a direct function of the quality and independence of the price benchmarks it provides and these, in turn, are specifically dependent on a PRA's reputation for methodological rigour and integrity. PRAs are thus fully incentivised to remain fiercely independent and to continuously invest in the integrity of their price benchmarks as a point of competitive differentiation. The contrast with the monopoly LIBOR structure could, once again, not be clearer.
- ***PRAs employ diverse methodologies:*** Argus Media has developed reliable and robust methodological processes — which include the rigorous verification of all data inputs — to assess energy and related commodity market prices. We do not use panel-based pricing mechanisms, which depend on unverified data inputs and, by their nature, are prone to conflicts of interest and manipulation. The contrast with LIBOR, where panellists' raw input is averaged after automatic exclusion of highest and lowest quotations, could not be clearer.

- ***PRAs take a great many different inputs to identify prevailing market prices:*** PRAs do far more than "compile" benchmarks. It is not correct to suggest therefore that, like LIBOR, oil benchmarks are "compiled" by PRAs. Argus Media methodologies take into account the heterogeneous nature of physical oil markets, taking non-standard market information and identifying a prevailing market price from it. The contrast to LIBOR, where answers to a standard question are simply averaged, could not be clearer.

In summary, Argus Media believes that the parallels drawn between LIBOR and oil spot market benchmarks have been greatly overstated and that the very significant differences between LIBOR and energy spot market price assessments are not fully understood. The powerful checks and balances that already exist in reporting the energy markets have not been accorded the recognition that is properly due to them. The absence of any evidence of malpractice regarding Argus Media is a powerful testament to the robust effectiveness of these powerful checks and balances, which we consider will continue to ensure the robust reporting of energy markets in the future.

Argus Media would welcome the opportunity to discuss these differences in greater detail with the Wheatley Review team.

2. ***To what extent are there parallels between the regulation and supervision of the financial services sector and the regulation and supervision of the media?***

Argus Media is a media organisation that, throughout its long history, has always rigorously applied the highest standards of journalistic practices in its editorial operations. It is worth stating that Argus Media does not provide financial services.

Its status as a media organisation, and the legal, regulatory and constitutional implications that flow from that status, are not at all the same as that of a financial services firm regulated by the FSA. Some of these implications, as they interact with financial services regulation, have been explicitly recognised in European and UK law: see, for example, Recital 44 of the *Market Abuse Directive*, and the UK's *The Investment Recommendation (Media) Regulations 2005.*

It is our impression that these implications may not be well understood in the work strands on reporting oil markets (such as the work being carried out by IOSCO and in the European Commission). They would, however, become directly relevant to any proposals that seek to extend supervision and/or regulation to Argus Media and/or other media organisations.

We have concerns with suggestions that have been made — but not repeated in the Wheatley Review discussion paper — that media organisations should exercise quasi-regulatory powers or responsibilities over market sources or even desist from contacts with certain types of sources.

This would be unprecedented for a media organisation. It would entirely misunderstand the relationship between the media and their sources and the extensive legal protections that safeguard this relationship (see e.g. the recent decision in *Financial Times Ltd & Others v UK* (Application no. 821/03) in which the European Court of Human Rights reasserted the importance of this relationship against an unsuccessful challenge mounted by the FSA through the UK government in a claim of alleged market abuse by a source).

Any proposals by financial services regulators must of course operate within these legal parameters. Furthermore, in practical terms, handing quasi-regulatory powers to the media would be counterproductive, risking causing a "chilling effect" to the continued supply of information from market sources and thereby undermining market transparency. It is vitally important to understand that all data are supplied to PRAs by sources on a voluntary basis. The PRAs have no powers to compel sources to provide data.

Argus Media would welcome the opportunity to discuss these media implications with the Wheatley Review team.

3. *"Horses for courses" —a "one size fits all" approach won't work*

Paragraph 5.22 begins: *"Inevitably, the way that these principles may be put into practice would likely differ across markets and benchmarks".*

We agree. By way of analogy, we would point to the long and still incomplete processes of implementing the financial services regulatory reform package of Dodd-Frank in the USA and of revising and finalising regulations such as MiFID and EMIR in Europe. One component of this complexity is the vital need to fully understand, and take account of, the unique characteristics and dynamics of different markets in order to avoid causing unintended negative consequences to any of them. For example, cash equities markets and OTC derivatives markets operate in very different ways. There are also wide differences between OTC derivatives markets.

Likewise, physical energy markets are not uniform. They have widely differing characteristics and dynamics. For example, the highly liquid US natural gas market operates in an entirely different way to the illiquid Mediterranean crude oil cargo market. Principles that could serve the former well might create havoc if applied to the latter.

We are concerned that these differences may not yet be sufficiently understood by those leading the benchmark work strands. Unless they are well understood, and taken due account of — in setting the principles and in the implementation of these principles — extensive damage to markets could result.

Over many years of operation, Argus Media has acquired extensive knowledge of energy and related commodity markets. We offer to place this expertise at the service of policy makers including the Wheatley Review team to help build robust outcomes that respond efficiently to the needs of the markets.

ARGUS MEDIA'S RESPONSE TO the BOX 5.A CONSULTATION QUESTIONS

1 ***Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?***

The energy markets, which Argus Media has been active in reporting over many years, are of course already under review.

In responding to this question, we would refer to our comments above ***"To what extent are there parallels between LIBOR and energy spot market benchmarks?"***

In summary, energy price reporting is already underpinned by robust safeguards that were absent in the case of LIBOR. The conflicts, and consequential abuse, that were prevalent in LIBOR, were directly attributable to the manner in which the LIBOR mechanism was constructed and to its governance. In contrast:

- our methodologies use verified data inputs and have been specifically developed to be transparent, accurate and resistant to manipulation and abuse
- we have safeguards in place to identify, manage and mitigate conflicts of interest
- PRAs operate a business model without inherent conflicts of interest; and
- PRAs operate in a competitive environment with many alternative benchmark providers. Market participants enjoy the freedom and ability to switch between benchmark providers, and this acts as a powerful force for benchmark integrity.

2 Should there be an overarching framework for key international reference rates?

Argus Media welcomes the FSA's suggestion of the benefit of a clear set of principles or characteristics to guide the consideration and development of all globally used benchmarks.

However, we repeat our caveat expressed above, under ***Horses for courses — a "one size fits all" approach won't work,*** that there are wide variations in the characteristics and dynamics of different physical energy and other commodity markets, which have to be reflected in setting the principles and in the implementation of these principles to avoid unwittingly causing damage.

We also support the FSA's identification of the following as core principles:

- **Robust methodology;**
- **Credible governance structures**; and
- **Transparency**.

We would suggest two additional core principles:

- **The facilitation of competition**: considerable care should be taken to create conditions that facilitate a competitive marketplace for the creation of benchmarks. This was a signal failure in the LIBOR saga and has been a major strength in energy markets; and
- **The encouragement of independent journalism in commodity markets**: media organisations play a vital role in bringing transparency to physical commodity markets. This role should be supported.

We do have reservations about the FSA's suggestion that **formal oversight** become a core principle for all benchmarks, including *inter alia* for reasons of proportionality and insofar as there could be any thought of extending this principle to media organisations. On this latter aspect, we would refer to our comments in the section under: ***To what extent are there parallels between the regulation and supervision of the financial services sector and the regulation and supervision of the media?***

Argus Media very much hopes these comments are helpful to the Wheatley Review team and, as indicated above, would welcome further discussions.

Yours sincerely,

Adrian Binks
Chairman and Chief Executive
Argus Media Ltd

Association of British Insurers

THE WHEATLEY REVIEW OF LIBOR

The ABI's Response to the initial discussion paper

Introduction

The UK Insurance Industry

The UK insurance industry is the third largest in the world and the largest in Europe. It is a vital part of the UK economy, managing investments amounting to 26% of the UK's total net worth and contributing £10.4 billion in taxes to the Government. Employing over 290,000 people in the UK alone, the insurance industry is also one of this country's major exporters, with 28% of its net premium income coming from overseas business.

Insurance helps individuals and businesses protect themselves against the everyday risks they face, enabling people to own homes, travel overseas, provide for a financially secure future and run businesses. Insurance underpins a healthy and prosperous society, enabling businesses and individuals to thrive, safe in the knowledge that problems can be handled and risks carefully managed. Every day, our members pay out £147 million in benefits to pensioners and long-term savers as well as £60 million in general insurance claims.

The ABI

The ABI is the voice of insurance, representing the general insurance, protection, investment and long-term savings industry. It was formed in 1985 to represent the whole of the industry and today has over 300 members, accounting for some 90% of premiums in the UK.

The ABI's role is to:

- Be the voice of the UK insurance industry, leading debate and speaking up for insurers.
- Represent the UK insurance industry to government, regulators and policy makers in the UK, EU and internationally, driving effective public policy and regulation.
- Advocate high standards of customer service within the industry and provide useful information to the public about insurance.
- Promote the benefits of insurance to the government, regulators, policy makers and the public.

Main comments

1. The ABI welcomes the Wheatley Review and supports reform of LIBOR, including a substantial strengthening in the governance framework and stronger sanctions for market abuse. As users of the LIBOR rate, we consider its manipulation to be unacceptable. It is clear that changes are needed to address the conflicts of interest inherent in the current arrangements that have not kept pace with either the technical challenges involved or the changing expectations regarding governance of the LIBOR-setting process.

2. We respond to the detailed consultations overleaf. We see a need for LIBOR and therefore look to its reform rather than its substitution. However, it is likely that LIBOR, and contracts over instruments that are referenced to LIBOR, have been used rather more indiscriminately than would have been ideal. In circumstances where a risk-free rate can equally as well be targeted, or perhaps a predetermined basis points margin over such a rate, this may provide a more objective benchmark and one that will be viewed as more useful by market participants. However we draw a clear distinction between how future contracts might be structured and avoiding interfering with existing market contracts. It will be important that a revised LIBOR process, both at operational and governance levels, will be able to make appropriate judgments and take appropriate action, especially where market conditions change and usual arithmetical approaches cannot be reliably applied to data of questionable quality.

3. The ABI has also responded to the Parliamentary Commission on Banking Standards, which raised broader issues about the future of banking. Furthermore, we note Martin Wheatley's comments in launching this consultation that poor wholesale conduct is not only about market abuse or fraudulent activities, and extends to other activities which exploit differences in expertise or market power. We are keen to engage with FSA further on the approach that the new Financial Conduct Authority will take to regulating wholesale markets. In the meantime, we urge the FSA to avoid reading across the unusual circumstances of LIBOR to other wholesale markets, where there may be a much lesser risk of poor conduct.

ANNEX

Questions for Consultation

Chapter 2: Issues and failings with LIBOR

Do you agree with our analysis of the issues and failings of LIBOR?

Yes, we think this is a fair analysis and gives overall balanced coverage of the failings of LIBOR. However, we think it might be sensible to give greater emphasis to the difference in qualitative nature of the abuses that took place in the pre-Credit Crunch period, of completely unacceptable manipulation for commercial advantage, and the challenges posed during the acute phases of the Banking Crisis where judgment was needed in what were very difficult circumstances.

Chapter 3: Strengthening LIBOR

Can LIBOR be strengthened is such a way that it can remain a credible benchmark?
Could a hybrid methodology for calculating LIBOR work effectively?
Could the number of maturities and currencies currently covered by the LIBOR benchmark be reduced?
Is an alternative governance body for LIBOR required in the short term?
Should the setting of and/or the submission to LIBOR be regulated activities?
Should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation and manipulation of LIBOR?
What role should authorities play in reforming the mechanism and governance of LIBOR?
Which types of financial contract, if any, would be particularly affected by the risks of a transition from LIBOR?

We think that LIBOR can, and must, be strengthened. It remains a benchmark with relatively wide application and if the markets had lost confidence in it progress to date would have been faster toward possible alternatives. It is an obvious weakness that it relies, exclusively, on judgment-based self-reporting where there is a conflict of interest regarding signalling of sensitive information about an organisation's credit-worthiness. Although we think that LIBOR is targeting the right information i.e. about the borrowing cost for an institution were it to seek funding, we do not see any impediment to seeking corroboration of such information by reference to either, or both of, what transactions (if any) actually take place and at what rate an institution would be prepared to lend, if asked, by another LIBOR panel member of broadly average credit-worthiness. Such information could be used as a check on, to supplement or to replace the existing primary basis of sourcing data.

Other things being equal, data on actual transactions is more objective and should be preferred. However, if the 'snapshot' view is to be the focus that argument is less clear-cut: unless there is an actual transaction at the precise time then the answer lies at an indeterminate point within the bid/offer spread, though actual transactions taking place shortly before or after this point may have persuasive value.

It is clear that a more vigorous and robust form of auditing of the primary data is needed. In addition we believe that the processes and procedures must provide for an audit trail to enable the grounds on which a judgment was made to be identified and an obligation on panel contributors to 'error report' where applicable.

On detailed matters, we think the 11 am snapshot retains merit as being based on a time when market activity is likely to be deep but representative, and there are obvious disadvantages in moving to a different time of day in a way that interferes with the timely valuation of derivatives referenced to LIBOR. We have no objection to a return to the pre-1998 formulation though as a second guessing of whatever others might think it is less satisfactory. If an improvement of the current system through corroboration can be achieved efficiently and without undue cost we think that would be the best aim. We are not greatly attracted to moving to the use of a median rate as this is likely to be more arbitrary and less representative than the use of a trimmed mean which will incorporate better the spread of information reflecting the distribution of data points. We are not attracted to the concept of randomly picking a respondent within the interquartile range of the distribution.

It is evident that the greatest use made of LIBOR data is at significantly longer maturities, with 3 and 6 month most prominent whereas actual transactions are undertaken predominantly overnight and over 1 week. Maturities at which there is neither significant trading nor use made of the data could be dispensed with but we do not see very material scope for reform here. Likewise there appears to be genuine use made of the data in respect of most, though not all, of the currencies for which information is collected and disseminated. It is, of course, a strength of the UK financial markets that London provides the most widely accepted benchmark for a number of foreign currencies. Successful strengthening of the LIBOR-setting process will help sustain this.

We believe it is important to enhance the governance of LIBOR given the challenges posed by the existence of conflicts where there is the need for exercise of careful judgment and given also the record of past manipulation. However, rather than making short-term changes in haste, the right decisions on governance and oversight need to be formulated and implemented in the medium term.

We are wary of giving some form of special status to LIBOR in financial services legislation and believe that there need to be the right regulatory powers and responsibilities in respect of the type of generic activity that LIBOR represents. It seems to us that there is a regulatory gap here and that improvements ought to be possible. Improving the coverage of the market abuse regime seems the best way forward and we hope that satisfactory progress can be made at EU level to give national competent authorities the requisite powers. We think that the possibility of criminal sanctions, for activities that may amount to fraud, should exist though whether these should necessarily be under FSMA is unclear.

An important strength of LIBOR has been that it has been developed by market participants in response to a market need. A parallel can be drawn with the Credit Rating Agencies whose output was increasingly used for 'official' purposes, including regulation and accounting, rather than as a tool available to be used within the process of investment analysis, and where the response to this extended role and the failures it engendered during the Financial Crisis was to impose regulation. In the case of LIBOR it will be important to ensure a fair balance of obligations on participating banks who will seek assurance that, where they are required to exercise judgment and do so in good faith and comply with established requirements as to their duties in doing this, this will not leave them potentially open to legal risk.

Regulatory solutions may be appropriate in this case, but we wish to avoid a heavy-handed regulatory response to the unacceptable problems that have afflicted LIBOR and which have rightly led both to the present Inquiry and to the investigations under taken by The House of Commons Treasury Select Committee. It is also critical for international confidence that the solution is not regarded exclusively as a domestic matter for UK governmental and parliamentary bodies but, rather, that the UK authorities, in conjunction with international colleagues where this is appropriate, can exercise leadership in establishing high standards that can set the benchmark for global best practice.

Chapter 4: Alternatives to LIBOR

Are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?
Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?
Should particular benchmarks be mandated for specific activities?
Over what time period could an alternative to LIBOR be introduced?
What role should authorities play in developing and promoting alternatives to LIBOR?

Ultimately it will be for the market to decide whether, and if so over what timetable, there are credible alternatives that can be developed and we think the current Review should seek to draw conclusions in this regard, if at all, with caution. Where existing instruments are in place with contractual rights at stake for holders migration to different reference benchmarks is best avoided and it would be undesirable for regulatory pressure to increase the risk that this would need to take place. We do not think that it is for regulators to mandate particular benchmarks for specific activities.

Chapter 5: Potential implications on other benchmarks

Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?
Should there be an overarching framework for key international reference rates?

The insurance industry does not operate any benchmarks which are comparable to LIBOR or the other inter-bank benchmarks discussed in this paper. However, the ABI is reviewing the small number of cross-industry services that we operate for our members, to determine if there are any risks that need to be managed.

ABI 10/9/12 [s:\inv\consultations\liborwrau12

The Association of Corporate Treasurers

Comments in response to
The Wheatley Review of LIBOR: initial discussion paper
The Wheatley Review, HM treasury, August 2012

30 August 2012

The Association of Corporate Treasurers (ACT)

The ACT is a professional body for those working in corporate treasury, risk and corporate finance. Further information is provided at the back of these comments and on our website www.treasurers.org.

Contact details are also at the back of these comments.

We have canvassed the opinion of our members through our monthly e-newsletter to members and others, *The Treasurer* magazine, topic-specific working groups and our Policy and Technical Committee.

1 General

The ACT welcomes the opportunity to comment on the Initial Discussion Paper (IDP).

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We would be pleased to discuss any matter the subject of the Wheatley Review with the review team if that would be helpful.

2 General

2.1 The ACT regards the availability of reference rates such as BBA Libor and Euribor as very important and functioning as significant public goods.

2.2 For users the focus is on utility: reliable and representative rates available in a timely manner each business day. For non-financial corporates' main uses the rates need to have a reliable relationship with sovereign rates and the relative credit standing of representative high-quality banks and also to reflect market liquidity issues appropriately.

2.3 Following the 2008 British Bankers Association's review of BBA Libor governance, in 2009 the ACT and other representatives of users of BBA Libor agreed to become members of the Foreign Exchange and Money Market Committee that supervised the BBA Libor process for the BBA.

2.4 The views we, the ACT express here are consistent with those we conveyed to the review of BBA Libor started by the BBA in March 2012[1].

2.5 We, like others, have been very concerned at reported attempted manipulation of inputs to the BBA Libor calculation process. We are astonished that there was doubt about the legal position of attempted manipulation of market reference rates. We think that the mere fact of the existence of that doubt has cast a shadow over the UK as a place to do business. We have also been disappointed at the lack of good process within Barclays revealed by the authorities' reports into the case in the period covered by their investigation and suspected in other institutions the subject of the authorities' enquiries.

We have noted that the US CFTC's published report on Barclays included what it considers an appropriate protocol for Barclays to follow internally in arriving at its estimates. We take comfort from the statements from Lord Turner, FSA Chairman[2] that:

> [Libor] "has been pretty robust since 2009 and 2010". "People are trying to do it as honestly as they can." The regulator has advised banks on process for arriving at rates. Banks have had to formally attest to the quality of their Libor submission process to the regulator. "I would be very amazed if at the moment there is anything remotely like the problems of the past in terms of deliberate manipulation."

We hope and expect that the Wheatley Review will be an important step in maintaining such good order on which we all rely.

Note: We have used LIBOR when quoting the IDP or referring to it but Libor when referring to BBA Libor.

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[1] http://www.bbalibor.com/news-releases/libor-update

[2] Reuters, http://tiny.cc/eb6zhw, and oral evidence to the House of Commons Treasury Select Committee

3 Consultation questions

3.1 For convenience of reference, we have numbered serially the questions within each chapter.

3.2 Chapter 2: Issues and failings with LIBOR

Q.2.1 Do you agree with our analysis of the issues and failings of LIBOR?

A.2.1.1 Broadly, we agree but we would like to make some observations on judgement and the standing of the banks taken as the sample in a panel, based on the historical experience of our members. We also give more of a corporate borrower's view of the development of the rates.

A.2.1.2 Some of our members were involved in using predecessors to LIBOR from the arrival in Europe of syndicated loans to large corporates in the mid 1970s. This came from the increased activity of foreign banks, starting with US banks. It was the beginning here of bank lending based on market rates rather than base rate.

The rates were, initially, polled rates, surveying a panel of banks – the panel varied from loan to loan. The rate polled was that at which the bank believed it could borrow for the relevant period. Normally, a selection of the largest/highest standing banks in the syndicate constituted the panel for the particular loan[3].

There was no governance mechanism surrounding the rate contributions. However, large companies had regular dialogue with the discount houses at the time as part of their use of the sterling acceptance market[4]. They would also regularly receive (directly or through brokers) quotations for short-term loans from banks to lend to them as bare loans without formal standing loan agreements. This gave companies good knowledge of market rates and very competitive alternatives if they did not like polled average indicated by the Agent bank for a proposed draw-down. Over time, bank margins over LIBOR came down for investment grade borrowers to perhaps one fifth (or even less) of what they were in the mid 1970s. The treasurer's machismo apart, non-financial companies were not really bothered by the last basis point as the impact on the firm's weighted cost of capital would be very small. Margins started to go up again from 2008,of course.

It is important to note that from early on the reference rate was related to:

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[3] A similar mechanism is retained in most loans based on Loan Market Association draft documents as a standby rate setting mechanism. It would today be an unacceptable mechanism for LIBOR in view of the lack of governance and controls around the rate setting process and, given the numbers of loans involved there would be practical difficulties.

[4] Some large companies, having had the bank accept the bill for the acceptance fee, required the bank to hold the bill to the company's order for eventual delivery at a time and to a discount house of the company's choice, rather than allowing the bank itself to discount the bill it had accepted. Large companies would also deposit funds with discount houses against the security of a "parcel" of bills.

- panel banks' estimate ("judgement") of their own likely borrowing costs, the estimate made in light of the transactions they had been entering into and their knowledge of the market; and
- the selected panel banks were the syndicate members of the highest credit standing – what we would probably today recognise as "too big to fail".

A.2.1.3 The growth of the number of syndicated loans, the desire to base even bilateral loans (loans from a single bank) on market rates and to have standard reference rates for interest rate derivatives (starting with forward rate agreements) led eventually to the predecessors of BBA Libor and to BBA Libor itself.

Development of foreign currency (and indeed of multi-currency) facilities led to the introduction of similar rates for other currencies.

Standardisation eventually provided the opportunity to introduce some element of governance provisions into the rate setting arrangements. However, the idea of a judgemental input from a fairly small set of banks selected to be large banks of high credit standing was preserved in Libor.

A.2.1.4 The decline in the discount market in the decade after 1986 and then the desire of banks to reduce their balance sheets following the events after 2008 have made the governance aspects of rate contributions much more important as borrowers' comparators/alternatives for this type of financing became fewer. Any abandonment of a Libor style reference rate and a reversion to panel banks specified deal by deal would be wholly unwelcome to wholesale borrowers. The lack of independence, governance and regulation on that old style of rate setting was a significant weakness. In the 1970s when such panels were used, the arrival of aggressive foreign banks meant there was market discipline on bank behaviour towards large corporates. Today, with banks reducing their balance sheets and some foreign banks withdrawing back to their home territory, market discipline would be much less. A medium sized or small company would be even less able to challenge rates a bank was contributing.

A.2.1.5 It is noteworthy that, with the rise of the Euro, it was chosen that Euribor settings would use a larger number of contributing banks such as to include banks that would not meet the Libor criteria – but, to compensate, asked them to contribute rates relative to their view of a theoretical superior-standing bank. This introduced a further layer of judgement and remoteness from its own transactions in each bank's input. It makes internal (or external) review of the input rates much more theoretical and less concrete.

A.2.1.6 At the end of 2.24 of the IDP, reference is made to the relatively small panel sizes of Libor panels. It is important that the BBA Libor rates are intended to be representative of the top banks in the particular market – not of banks as whole. Smaller banks and those with lower perceived credit standing are likely to expect to pay higher rates. So the panel size will always be relatively limited. This is more important with the perceived growth in deviation in credit standings among banks.

As noted above, Euribor gets round this problem for their larger and more inclusive panels by asking the contributors to guess what a high-standing bank might expect to pay.

3.3 Chapter 3: Strengthening LIBOR

Q.3.1 Can LIBOR be strengthened is such a way that it can remain a credible benchmark?

A.3.1.1 Generally, yes. We consider that a rate informed by actual transactions by an institution and its knowledge of other transactions and market conditions can be valid. Given the lack of inter-bank transactions a widening of the basis to take in the costs of a bank's unsecured wholesale market funding would be helpful, rather than being limited to inter-bank funding. We think that two basic criteria must be met:

A.3.1.2 First, we believe that the kind of protocols internal to the contributing bank such as set out by the CFTC and referred to by Lord Turner, including the involvement of the bank's compliance function, record keeping, etc. is essential and practical. An appropriate regulatory and supervisory structure is needed to give external confidence.

A.3.1.3 Second, and a much bigger obstacle we feel, is the willingness of banks – now and in the future and not just the current banks but others too – to make rate submissions where good faith judgements are necessary in arriving at the rate to be contributed. The legal and reputational risks arising from bad faith and compliance failure are demonstrably very large. "Look-back" risk when evaluating a judgement, even one made reasonably, after proper process, is always a concern for anyone involved.
This makes confidence in the internal processes and any external review important.
It also means that a very clear and robust legal framework is required to give banks the confidence that they are not needlessly running high risks not only under normal criminal law but under financial regulations and competition law. In the absence of that – in all affected jurisdictions – we would fear early collapse of the reference rate creation mechanisms. Indeed, we believe that, to avoid such collapse, contribution to reference rate compilation should be a requirement on relevant banks asked so to contribute, provided that an appropriate legal framework has been created.

A.3.1.4 We note that the signalling effect of publishing promptly, by institution, rate submissions about an individual bank's view of its own borrowing cost can give rise to de-stabilising credit-signalling. We believe that that can be dealt with in several ways. Delaying the public disclosure of individual submitted rates would help here and, usefully, also make collusion between banks to influence the final rate improperly more difficult for those colluding to check on their partners-in-crime. Such delay should not apply to disclosures to the authorities. After the delay (two months or a quarter, perhaps) rates contributed may be disclosed, by the bank or anonymously.

Q.3.2 Could a hybrid methodology for calculating LIBOR work effectively?

Note: The word "hybrid" is only used in the IDP in this question. We have interpreted it to refer to LIBOR contributions being determined not only by actual transactions of the institution but in part estimates informed by such transactions and other (legitimate) information as in 3.8 of the IDP.

A.3.2.1 We think that the current system is roughly hybrid. That is to say we understand that a bank informs its estimate from transactions it has undertaken (maybe in the run up to rate submission but possibly earlier in the day or even in the previous day) and those it has considered and information it has gleaned from market conversations, brokers, transactions in other time zones, etc. Thus it can interpolate between maturity points where it has better information for points where it has worse. The balance likely varies between days.

A.3.3.2 Given the potential effects of a changing mix from day to day or maturity to maturity of different types of transaction that may be taken into account can introduce novel and incremental volatility, we believe that a (good faith) judgement based rate is greatly to be preferred to one that requires actual transactions (that may be in different time-slots) always to be used where available.

This is conditional on contributors making appropriate, reviewable, notes on how their estimates were arrived at and keeping records of the information that informed those estimates and on appropriate compliance/supervision.

Although use of expert judgement may appear to make submissions vulnerable to manipulation we agree with the point in IDP paragraph 3.6 that transaction data is not immune from manipulation – particularly at times of low transaction volume. Indeed challenging actual data could be more difficult than challenging judgements such that a system based mechanically only on actual trades would in our view be inferior.

When volumes are low the most recent deals could have been executed several hours before the 11.00am rate fixing and be out of date. Alternatively transactions could be dealt at unusually high or unusually low rates due to a special relationship with the counterparty and not be truly representative of the going market rate.

Adjusting for this is part of the judgement required of the contributor. If relevant rates are widened to include broader money market transactions such as with non-bank wholesale depositors, this effect would be greater. We would regard volatility introduced by failing to adjust for non-representativeness of transaction rates as undesirable.

A.3.3.3 Paragraph 3.6 of the IDP hints that the time of setting of LIBOR could be changed or it might become an average of rates over two calendar days. These changes, while possible, would change the nature of the rate. At present trends during a morning are picked up, rather than the final rate being a lagged indicator of average rates over a longer period. And, at least for sterling transactions, LIBOR is used for same day value transactions and this would be more difficult with later rate availability. In both cases these comments are from the point of view of a party using LIBOR for loan pricing (or hedging such costs) which happens at draw-downs and roll-overs. The perceived difficulties here may be less apparent to a dealer in the derivatives markets where either a measure of rate movements in the economy is needed or market anomalies may drive trading and (to exaggerate) any daily available rate would be satisfactory.

Q.3.3 Is an alternative governance body for LIBOR required in the short term?

A.3.3.1 We recognise weaknesses in the current governance arrangements. In particular we regret the UK authorities' reluctance routinely (or at all) to attend the FX&MM Committee or take a greater part as recent disclosure of e-mails by the Bank of England has revealed that the BBA suggested to them in the review of 2008.

A.3.3.2 In the longer run (and as soon as possible) we would prefer an appropriate authority (whether the FSA or Bank of England) to be responsible for the LIBOR setting process, with a suitably constituted advisory board involving staff from the authorities and contributors and users carrying out most of the functions of the FX&MM Committee. The advisory board could "own" the kind of LIBOR code discussed in the IDP. We do not think a trade body such as the BBA can be in a position potentially to wield appropriate sanctions where the stakes are so high for individual members of the trade body.

A.3.3.3 In the short term, if responsibility for LIBOR remains with the BBA (through one vehicle or another), at the very least, the FSA and the Bank of England should attend FX&MM Committee meetings as observers formally reporting back within the respective authority and actually conveying views back to the Committee as appropriate.

A.3.3.4 There seems to be no reason for the existing FX&MM Committee not to adopt forthwith the kind of Libor Code discussed in the IDP.

Q.3.4 Should the setting of and/or the submission to LIBOR be regulated activities?

A.3.4.1 Broadly, yes. And we would extend that idea to all widely used reference rates.

Q.3.5 Should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation and manipulation of LIBOR?

A.3.5.1 Someone needs such powers. We leave it to legal experts to suggest the best location of such powers. From a naive point of view, however, the regulator should have such powers and reserve powers should be retained by the normal criminal authorities.

Q.3.6 What role should authorities play in reforming the mechanism and governance of LIBOR?

A.3.6.1 We were disappointed that the institutional arrangements discussed in 3.37 of the IDP refer only to a representative body or a commercial body as taking responsibility for governance and oversight. We do not believe that either would be seen as appropriately (or even remotely) competent

in any system reliant on judgement rather than on collection and processing of mere transaction data.
As commented above the “institution” with responsibility for governance and oversight would be the FSA or the Bank of England. We doubt the credibility of any other proposal.

A.3.6.2 It may be noted that the only sanction available to the current FX&MM Committee is to ask a bank to stop contributing rates to a panel. Given that that would stop for that bank the future reputational and legal etc. risks from contributing rates, that is no sanction but rather a bonus. And, it is unlikely that any new bank would volunteer to replace the leaver on a panel: so the only sanction available leads eventually to the demise of Libor.

Q.3.7 Which types of financial contract, if any, would be particularly affected by the risks of a transition from LIBOR?

A.3.7.1 Of course the effects would vary according to what the transition was to. However, we see a divide between uses of Libor for loan (and related hedging) purposes and for more general interest rate hedging or speculation.

A.3.7.2 For loan-related activity a new rate would show new characteristics that would transfer value between parties for existing transactions – commonly with an initial life of 5 years, perhaps longer. The swapping of long-term bonds to floating rates would, with longer maturities, potentially transfer more value. Some companies will be concerned that linkages enabling hedge accounting may be broken if loan and derivative relationships are changed. A small change in accounting treatment could have a disproportionate impact on companies that are operating close to the covenant limits required by their lenders.

A.3.7.3 For derivatives themselves, the mechanics for change under ISDA arrangements would function eventually to provide transition.

Q.3.8 Could the number of maturities and currencies currently covered by the LIBOR benchmark be reduced? (This question is in the Chapter at Box 3.A but not the listing of questions in Appendix C.)

A.3.8.1 Broadly, and being quite tough about it, yes from our point of view on maturities. The majority of corporate users use the shorter-term rates plus 3 and 6 months (“the reduced set”). Some users, for example in the travel industry, use all maturities. Some companies also use 12 months for internal purposes. But inconvenience would be limited if rate issue of the reduced set of maturities continued with confidence.

A.3.8.2 On currencies, use of BBA Libor for some currencies is small and, if the price of preserving LIBOR at all is to drop some of the lowest-volume currencies, it would be a price worth paying.

3.4 Chapter 4: Alternatives to LIBOR

Q.4.1 Are there credible alternative benchmarks that could replace LIBOR’s role in the financial markets?

A.4.1.1 We do not see currently available rates that would carry out the loan related aspects of Libor use in this time zone or at all. In particular the unsecured bank credit risk nature of Libor (and similar rates) is important to preserve, particularly given the wider spreads of bank from sovereign risk and the greater tiering of rates between higher credit standing banks such as contribute to Libor and smaller or weaker banks.

A.4.1.2 If banks change their perceived cost-base for incremental corporate lending as being from, say repo transactions, they may want to start to propose to borrowers that a margin over repo rate (rather than LIBOR) may be used as a reference rate for a loan. The BBA's sterling repo rate and the EBA's Eurepo come to mind for sterling and for the Euro. These latter rates are polled rates similar to BBA Libor and Euribor.

A.4.1.3 There are some other rates or indexes that may be suitable for hedging changes in general interest rate changes in the economy or for speculative purposes.

Q.4.2 Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?

A.4.2.1 If LIBOR can be "improved" within the definitions commonly used in contracts this would be the best outcome of the current concerns. If a new rate not compatible with the LIBOR commonly used in contracts were introduced alongside the improved LIBOR they could surely coexist. Perhaps the new rate may be preferred for speculative and general economy rate hedging transactions and the improved rate be preferred for loan related transactions. Perhaps, over enough time, one rate would fade away. This should not be pre-determined.

A.4.2.2 If only a new rate not compatible with current contractual definitions of LIBOR were available (with other existing or new rates, of course) and "LIBOR" ceased to be published this would be disruptive, of course. The new LIBOR basis could lead to a significant transfer of value between the parties or would necessitate a renegotiation of all relevant contacts, so a transition period and process would be required to reduce disruption.

Q.4.3 Should particular benchmarks be mandated for specific activities?

A.4.3.1 We do not think that regulators or authorities should generally seek to mandate or to limit the use of particular reference rates. Needs of users are various and willingness of counterparties vary according to a number of factors. Authorities should allow the market to work in these matters.

Q.4.4 Over what time period could an alternative to LIBOR be introduced?

A.4.4.1 Broadly, if an improved Libor, fitting within the current contractual definitions and the current definition of LIBOR itself were introduced only a limited transition period would be needed before "old LIBOR" might be dropped – perhaps 15 months to allow two year ends given that there can be temporary distortions to the markets at year ends when financial institutions and companies manage their liquidity more tightly. If a replacement for LIBOR altogether (e.g. a secured rate or a rate derived from sovereign rates or CDS prices and so on) a longer transition would be needed. Companies plan their interest rate risk management over long periods so due consideration should be made of any significant accounting or tax implications that would arise from any radical change to LIBOR, In any case we would expect to see a number of new reference rates being experimented with from time to time.

Q.4.5 What role should authorities play in developing and promoting alternatives to LIBOR?

A.4.5.1 We believe that governance approval and a supervisory role for all reference rates should apply. Where judgement is involved rather than data collection and calculation from the collected data, the authorities' role should be more because the opportunity for manipulation is greater.

3.5 Chapter 5: Potential implications on other benchmarks

Q.5.1 Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?

A.5.1.1 We are not aware of more to add. However, all polled rates asking banks to estimate a rate may face many similar issues. Polled rates include repo indexes such as BBA Repo, Eurepo, and swap indexes such as the EONIA Swap index. We hope that in due course a uniform approach internationally to the governance and competitions law issues from rates requiring estimates to be made will help reinforce the credibility of reference rates.

Q.5.2 Should there be an overarching framework for key international reference rates?

A.5.2.1 International support is necessary if banks are going to be willing in future to supply rates involving judgement.

A.5.2.2 Particularly in smaller market centres, use of special reference rates can lead to poor levels of competition and opportunities for rent by the financial services sector from the non-financial – whether extracted in inefficiencies, higher profitability or staff remuneration levels. So an internationally accepted set of reference rates than can be traded widely and in large centres is a public good to be cherished.

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OVER 60 YEARS SERVING THE INTERNATIONAL BANKING COMMUNITY

7 September 2012

The Wheatley Review

HM Treasury

1 Horse Guards Road

London SW1A 2HQ

Dear Sirs

The Wheatley Review of LIBOR: initial discussion paper - Response

The Association of Foreign Banks (**AFB**) is a forum for the sharing of information on industry issues for the mutual benefit of foreign banks operating in and out of the United Kingdom. Our membership is currently made up of around 175 European Union (**EU**) and non-EU banks providing financial services in the United Kingdom and elsewhere in the EU.

Our membership comprises several large banks who are members of the contributor LIBOR panels and many smaller banks who use LIBOR as a reference for many types of transactions. Due to the current status of investigations into the LIBOR fixing process we do not wish to make detailed representations on behalf of our members who are LIBOR contributors except that they can subscribe to the sentiments expressed in the first section covering general principles.

Section 1 General Principles

1. General need for benchmarks of interest rates.

We believe that London and the UK must continue to provide quality benchmark interest rates for use in financial contracts and for other indirect purposes such as valuing financial assets. The benchmark rates should have the credibility of Governmental support and this implies that their production must be regulated. The Association of Foreign Banks therefore will support appropriate changes to the Financial Services and Markets Act and other relevant legislation to facilitate this.

2. Confidence in the "quality" of the benchmark rate

The process for establishing and producing the benchmark rate must be transparent and the results verifiable. We believe that this requires regulatory oversight of the process and periodic certification

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of the systems, controls and results. The Government and its authorities must have appropriate powers and sanctions to enable the objective of creditable benchmarks to be established. The Association of Foreign Banks believes that transparency of the rate-setting process is important (but please note we do not think that transparency of individual bank's contributions is desirable)

3. The need for caution and continuity

Due to the volume of outstanding transactions we believe that, before changes to the current LIBOR structure are enacted, a full and detailed consultation is undertaken so that the wider market users can carry out impact analysis and make adequate representations. It is understood that for the sake of existing outstanding trades, a reinforcement of LIBOR is preferable to a replacement, or split benchmark.

4. Provision of data for the benchmark

A case can be made that more banks should contribute to the collection of data to improve the accuracy of benchmark rates. In addition, where markets are too thin then either no rate should be published, or if there is an unavoidable need for a benchmark, transparent and verifiable mechanisms to generate alternatives to quote derived rates should be established and these rates flagged as such. Any proposal for compulsory provision of information should be considered in light of London's position as a major centre for international banks, bearing in mind the potential risks to these banks of being made to contribute information. However in our view there is a case for wider but anonymous contribution.

5. International initiatives

There are many international initiatives looking at how benchmark rates should be set in the future. The UK has traditionally been a key provider and market leader of benchmarks and must continue to be a leading contributor to the discussions at an international level. It is however imperative that the UK does not front run with the introduction of regulatory controls over benchmarks which are not in conformity with global plans and which therefore would not have the support of other major jurisdictions.

Section 2 – LIBOR "user banks" specific responses to questions

Chapter 2: Issues and failings with LIBOR

Do you agree with our analysis of the issues and failings of LIBOR?

Broadly, yes. But the change of the definition pre-1998 from "At what rate do you think interbank term deposits will be offered by one prime bank to another prime bank for a reasonable market size today at 11am?" to the current definition of "At what rate could you borrow funds, were you to do so by asking for and then accepting inter-bank offers in a reasonable market size just prior to 11 am?" effectively changed the fixing from the offered side of the market to the bid side. This can be seen in the comparison between EUR LIBOR and EURIBOR, where EUR LIBOR is consistently some 5-

10bp lower than EURIBOR, which is defined as the "the rate at which euro interbank term deposits... are offered by one prime bank to another..." – ie the offered side.

The rate at which banks receive deposits is very bank-specific, and in a crisis reflects more the reputation and any implicit government guarantee than market supply and demand. In addition, when activity is non-existent for many maturity periods and LIBOR fixing is dependent upon estimation, a bank's bid side is much more a matter of opinion, and seen as reflective upon their ability to fund themselves.

However, regardless of the lack of market activity, there is always activity on the asset side of the balance sheet, such as the pricing of commercial loan rollovers in a range of periods. Had LIBOR still had its pre-1998 definition of the offered rate, the fixings would have been more reflective of the liquidity situation in the market and less of a perceived flight-to-quality.

In brief, it is felt that the 1998 change to the definition to "bid side" left the interpretation of the rate applicable to LIBOR fixings significantly more subjective in crisis situations.

Chapter 3: Strengthening LIBOR

Can LIBOR be strengthened is such a way that it can remain a credible benchmark?

Yes. LIBOR (and other similar benchmarks worldwide) has evolved to being used for many products because the benchmark has generally been a practical and transparent one, and until recently comparatively easy to forecast from market cash prices.

The recent issues have been caused more by weaknesses in pricing LIBOR resulting from failures to ring fence rate contributions for cash products from Treasury desks, and from contagion from derivative positions. (Derivative prices are themselves "derived" from the underlying cash markets and this, incidentally, mitigates against their use in calculating LIBOR fixes.)

Therefore, as a cash lending price, Treasury desks alone should be responsible for contributing to fixings, and isolated by effective and verifiable Chinese walls.

The pool of panel banks should be widened, or failing that, in addition to the current number of panel banks, other banks may be requested to contribute on line at 11:00 their lending rates for the required periods and currencies. These must be anonymous, but would serve as a reality check. A random selection of these could, if necessary, be included in the averaging process for the final fix.

We agree that the mechanism for calculating LIBOR, the governance of the process and the regulatory framework all need strengthening. If the LIBOR setting process is authorised by a Government body then a formal LIBOR advisory committee should be constituted under the relevant body to oversee the systems, controls and contributions. Over recent years the worldwide reputation of the City of London has been tarnished by the recent failures of LIBOR. To restore faith in the benchmark we believe that the new Financial Conduct Authority should be given formal authority and responsibility to regulate these benchmarks.

Should the fixing process be too onerous, and of significant risk to contributors, they will be unwilling to be a panel bank. Forcing them to contribute will raise their concerns in being seen as an outlier, and increasing the pressure to be "in the pack". This is likely to encourage some form of misreporting, and thus quotes will not be truly reflective of each bank's true position. The significance of differences with regard to the price of on-balance sheet lending, should be minimised by the use of a mean and larger population size.

The use of a median may reduce a rogue price from affecting the fixing greatly, but there could be circumstances where the median could increase volatility. However the mean of a larger pool of contributors would reduce influence from an outlier in a wider range of circumstances.

It is easier for the FCA to encourage banks to be a rate contributor.

Under the Approved Persons Regime, it should be sufficient for senior management to be subject to additional requirements relating to their LIBOR role. For a function with such legal and reputational issues, senior management is ultimately responsible. At junior management or individual level, responsibility may not be sufficient, and there will be compliance issues with absence cover, and leavers.

Could a hybrid methodology for calculating LIBOR work effectively?

Yes. A wider inclusion of products beyond interbank lending can include on-balance sheet products such as purchases of CP, plus commercial lending and letters of credit. Actual contributed trade data from the broker network can be used as a reality (range) check on an on-going rolling basis, and therefore it would not be necessary for this to be calculated up to, and contributed to the 11:00 submission, but for the full previous day. A mechanism to adjust for market volatility may be needed.

A change of the definition back to "where would you lend" would facilitate contributing for the current broad range of periods and currencies. The fixings out to 12 months are often used in constructing a mark-to-market curve, although it may be sufficient to fix the 1,3 and 6 month periods only for smaller currencies, as these are the periods used the most for fixing commercial loans and derivatives.

Is an alternative governance body for LIBOR required in the short term?

Yes. In the short term the FSA and BoE must take a proactive role in ensuring proper Governance up to the levels of their existing authorities. (If necessary legislation must be passed to enable the proposed FCA to enforce this.)

Should the setting of and/or the submission to LIBOR be regulated activities?

Yes. The Financial Services and Markets Act should be amended accordingly. The extension of Market Abuse Directive 2003, as manipulating submissions to LIBOR is a form of market abuse, should be considered as well. Collusion with other banks over rate contributions would be similar to forming a cartel, and existing regulations for this may be suitable for adaptation.

Should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation and manipulation of LIBOR?

Yes, but it should be noted that using a bigger number of anonymous contributors of rates will widen the range of rates contributed and this will mitigate against future manipulation and there should be less need for specific criminal investigation in future.

What role should authorities play in reforming the mechanism and governance of LIBOR?

The authorities must be granted the authority, be proactive and consult with industry and ensure that proper reference rates are established and published. The FCA should take up oversight and establishment of policies as outlined.

Which types of financial contract, if any, would be particularly affected by the risks of a transition from LIBOR?

There are many examples where contracts are directly impacted such as Commercial loans, Interest Rate Swaps, Forward Rate Agreements, some Floating Rate notes, some Interest Rate options and Short Term Interest Rate futures. There are also circumstances where contracts maybe indirectly impacted such as securities based on spreads over/under LIBOR interest curves.

Chapter 4: Alternatives to LIBOR

Are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?

Most different benchmarks for different products will still have the same issues in ensuring fixings are fair. If new benchmarks are set up, there will be more requirements for contribution and monitoring. There may be issues with the categorising of products that are hybrid, or on the fringes of their category and this may raise difficulties or confusion for users as to which benchmark to use in these cases.

Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?

If LIBOR can be strengthened sufficiently, retaining it will reduce or avoid legal issues for existing contracts. If a substitute should be used under particular market circumstances, there could be difficulties in determining when to switch to the substitute and great care must be exercised to enable pricing difficulties to be resolved in the switch over.

Should particular benchmarks be mandated for specific activities?

Many products are based on an underlying market, for example short-term interest rate futures being derived from their underlying cash market. Use of benchmarks dedicated to specific activities may raise issues in where the relevant fixings may come from. For example, using short dated interest-rate swaps for fixing the floating leg of longer swaps runs the risk of becoming circular, as the pricing for the short swaps may become dependent on the floating leg fixings. Different benchmarks for different products must still comply with the intended new procedures under discussion, and each will require independent monitoring in line with its individual characteristics. Market institutions may suffer from contributor fatigue, with the risk of contagion across fixings. It is however important that unintended uses of benchmarks (to assess contributor creditworthiness) is stopped.

Over what time period could an alternative to LIBOR be introduced?

If LIBOR prices materially change, then in order to avoid legal issues, existing products may have to be run off under the existing LIBOR, with a new benchmark set up and running in parallel – with the new benchmark to be used for new trades going forward. However the issues under discussion in this paper with fixing a fair LIBOR will still have to be implemented. The effects on the secondary market as existing trades are traded on are hard to quantify, and may open up unintended arbitrage. Running off outstanding trades until maturity could take 10 years and more, until volumes are reduced sufficiently to be insignificant or allow termination.

What role should authorities play in developing and promoting alternatives to LIBOR?

The authorities should have powers to authorise and regulate "specified" benchmarks where there is an established business need in financial services where consumers can be significantly impacted. A representative consultative panel or advisory Committee of both users and contributors should be formally constituted to identify such needs and to establish the terms of reference under the jurisdiction of the relevant authority. This Committee should identify market issues surrounding benchmarks and be formally mandated with ensuring resolution of them The relevant authority should set rules, guidance and conduct standards for all such benchmarks and ensure compliance with them through their approval and enforcement tools.

Chapter 5: Potential implications on other benchmarks

Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?

The same principals and issues that relate to LIBOR would also relate to all significant benchmarks that don't use actual transaction prices, and the same controls for a reinforced LIBOR would be relevant for these others.

Should there be an overarching framework for key international reference rates?

Yes for all benchmarks that function in a similar fashion and with similar oversight where practical. This would be a longer term process, but a move in this direction would be beneficial.

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03.09.2012
Reference: WA 24-Wp 2000-2012/0011 (Please quote in your reply)
The Wheatley Review: Comments on your Initial Discussion Paper

Dear Sirs,

I very much appreciate the opportunity to comment on your *Initial Discussion Paper* of August 10th, 2012.

Before commenting on the options you set out in your report, I would like to highlight that I share your view that it is of utmost importance to restore confidence in LIBOR. Your analysis of the shortcomings and weaknesses of the current LIBOR regime seems to be comprehensive. The same is true for your conclusion that stringent and extensive reform of all parts of the process chain for setting LIBOR is necessary. Last but not least, I think that the way LIBOR is going to be reformed will have a significant impact on other benchmarks.

Therefore, I welcome the steps already taken by European and international regulatory bodies. It is essential that these bodies are kept closely involved in the future process of reforming LIBOR.

Having made these rather general remarks, I would like to set out a number of points directly addressed to your *Initial Discussion Paper* and the details of the LIBOR reform.

First of all, in the short-term it is worth trying to reform LIBOR instead of trying to start a fast transition process to another regime. This is due to the importance of LIBOR as a benchmark and the risks which might accompany the transition to another benchmark regime. However, in the mid-term one should consider alternatives to LIBOR which implies that eventually LIBOR might be substituted by another benchmark.

Next, I am convinced that the banks contributing to the setting of LIBOR should have proper organisational mechanisms in place. They need to have adequate processes for identifying, avoiding and, if this is not possible, managing conflicts of interest. In addition, they should have processes for producing and documenting their LIBOR contributions in a clear and transparent way. Last but not least, an independent control of such mechanisms and processes is inevitable. These mechanisms should be supervised by a financial regulator. A code of conduct adopted by the industry on a voluntary basis does not seem to be sufficient.

A similar argument applies with regard to the governance structure of the benchmark sponsor. He should have proper rules and processes in place which should be robust, transparent and adequate for identifying and managing possible conflicts of interest. An independent control of these governance structures should be considered. As stated before, a mere code of conduct or a commitment by the industry does not seem to be sufficient.

An obvious means for reforming LIBOR is to increase the number of banks participating in LIBOR panels. This would not only reduce the risk of manipulation and misconduct. It would also improve the economic quality of the benchmark since it would better represent market activities. I share your view in your *Initial Discussion Paper* that it might prove difficult to encourage banks to participate on a voluntary basis. However, given the importance of having a representative benchmark it would be an option to consider obliging banks above a given size to participate. A greater geographical dispersion of the participants would also support the goal of having a representative and economically meaningful benchmark.

Similar arguments would call for cutting the number of LIBOR rates significantly. In your *Initial Discussion Paper* you are pointing to the fact that more than 75 percent of the 150 LIBOR rates lack significant underlying transactions, amongst them all rates with a maturity longer than four months. You also noted that LIBOR rates serve as a basis for interest rate swaps and floating rate notes only in three out of ten currencies. Here again, activity concentrates on maturities no longer than six months. Accordingly, it seems quite easy to identify ample candidates for cancellation.

In order to reduce the vulnerability of LIBOR to be manipulated or misused by sending signals on participants' creditworthiness LIBOR should be based on transaction data to the extent possible. This goes hand in hand with the number of LIBOR rates which will be set in the future. The remaining ones are probably those for which a market with a minimum liquidity exists. This does facilitate the usage of transaction data dramatically.

Quite a number of options exist for implementing such an approach. In your *Initial Discussion Paper* you introduced the idea of a *trade repository*. Another solution might refer to the setting of *EONIA* (*EuroOver-Night Index Average*) by the European Central Bank. This model would be less burdensome than a *trade repository* and it has the advantage that it is an already proven concept. Implementing this approach would not only result in transaction-based LIBOR rates but the benchmark sponsor would also receive data on the activities in the underlying money market. And last but not least, the question in the LIBOR definition of what constitutes a trade of a "reasonable size" would be superfluous.

For those rates for which no transaction data exist but which are deemed indispensable one could try to estimate them by using statistical techniques. An alternative would be to require banks to derive their estimates on illiquid currency-maturity-combinations from other transaction data and explain the process and results convincingly and comprehensibly. In any case, the fact that data are "model based" would need to be disclosed.

To conclude my comments I propose that the publication of individual banks' contributions to LIBOR should either be deleted or delayed. In your *Initial Discussion Paper* you set out a convincing argument for doing so: these publications might provide banks with an incentive to report incorrect LIBOR estimates in order to send (incorrect) signals on their creditworthiness.

Let me conclude by stating again that I appreciate the opportunity to comment on such an important issue. Please do not hesitate to contact me if you have any questions with regard to my comments or want to discuss them in detail.

Sincerely,

Dr. Elke König

SUBMISSION TO WHEATLEY REVIEW

This is the response to the Wheatley Review consultation from AXA Investment Managers ('AXA IM'). AXA IM is responsible for managing c.£80bn in over the counter derivatives on behalf of our clients. Our clients include insurance companies and pension funds in the UK and globally. The majority of our clients use derivatives to better match their liabilities, typically using LIBOR or EURIBOR as the reference measure for interest rate swaps. These clients have extremely long dated liabilities (using contracts out to 50 year maturities) therefore the value is extremely sensitive to small changes in the underlying interest rate.

We broadly agree with the issues and failings of LIBOR as set out in the consultation document. We believe there is currently no credible alternative to LIBOR therefore whilst we and our clients are concerned with the failings that have been highlighted we believe that the process for setting LIBOR should be strengthened rather than entirely replaced. In doing this we believe that:

- No actions should be taken that significantly reduce the liquidity of LIBOR based derivatives until a credible alternative liquid market (e.g. long dated SONIA & EONIA based interest rate swaps) is well established.

- There should be no systematic valuation impact on existing LIBOR benchmarked instruments.

- End users should have significant increased confidence that their interests are being protected.

Of the proposals set out in the consultation document the key ones in our view are:

1. To retain key LIBOR benchmarks (such as 3m and 6m sterling LIBOR rates) for the foreseeable future. As liquid markets develop in alternative instruments such as long dated SONIA/EONIA swaps then we would expect pension schemes and insurance companies to move to these instruments for new trades – reducing the outstanding exposure to LIBOR over time.

2. For transaction based data to be used to verify LIBOR submissions to the maximum extent possible.

3. For there to be significantly improved governance of the submission and oversight process in particular for:

    a. more independent oversight of the FX&MM committee including chairing by a senior individual from the newly formed FCA or another independent regulatory body

    b. improved documentation and auditing of the LIBOR setting process at banks with oversight by the FCA or another independent regulatory body

    c. the individuals overseeing LIBOR submissions to be authorised by the FSA/FCA.

4. Changing the question which banks are asked to respond to – we believe this should ask about a lending rate from one prime bank to another. This would be more consistent with the EURIBOR rate setting process and may reduce sensitivity for individual banks particularly in times of market stress.

AXA IM's RESPONSES TO THE QUESTIONS IN THE CONSULTATION DOCUMENT

Chapter 2

1. **Do you agree with the analysis of the issues and failings with LIBOR?**

   Yes, we broadly agree with the analysis. In our view, given the volume of outstanding contracts related to LIBOR it will be necessary to amend LIBOR initially whilst planning for longer term alternatives. As such we believe it is important to give confidence to end users by significantly strengthening the processes around banks submitting LIBOR data and the oversight by the committee responsible for overseeing and publishing LIBOR data.

Chapter 3

1. **Can LIBOR be strengthened in such a way that it can remain a credible benchmark?**

   We do believe it is possible to strengthen LIBOR in such a way that it can become more credible. In particular, we believe that the credibility could be increased by moving closer to the EURIBOR setting process – in particular by changing the nature of the submissions to be based on lending rather than borrowing rates thereby reducing the potential sensitivity of individual bank submissions. The higher number of contributor banks for EURIBOR also seeks to minimise the impact of any individual bank submissions. In the UK we believe it is possible for the nature and/or number of banks submitting to be changed as a result of the separation of investment and retail banks as part of the Vickers review.

   Measures to strengthen the governance of Libor are a welcome step but the long-term objective has to be to move to move to a measure which is less subjective. As a result, a transaction based measure would be preferable as any measure which is subjective rather than objective will always be open to criticism of its credibility.

2. **Could a hybrid methodology for calculating LIBOR work effectively?**

   Yes we believe a hybrid methodology could help to improve LIBOR's credibility. However, a transaction based measure would be preferable. We think the hybrid nature would revolve around banks only submitting LIBOR quotes for maturities and currencies where they have exceeded a minimum transaction size. This would allow the submissions to be more readily verifiable by the LIBOR oversight committee. Where banks meet the minimum size criteria then there may be an argument for compelling them to provide LIBOR quotes for those specific maturities and currencies.

   In order to increase the number of maturities and currencies for which banks' activities meet the minimum transaction size we think the definition of relevant instruments should be widened to include, for example, floating rate notes and other instruments as set out in chart 3A of the consultation note. We believe that as part of the oversight process the oversight committee should be able to compare the transaction based data versus the rates committed in order to be able to form an assessment of whether the LIBOR quotes submitted over certain periods are reasonable.

3. **Could the number of maturities and currencies currently covered by the LIBOR benchmark be reduced?**

   For our UK and European pension scheme and insurance clients the main maturities used are six month sterling LIBOR (with a small amount of three month sterling LIBOR contracts) with European clients typically using contracts referencing 3 month EURIBOR. As a result, from our perspective, these would be the key maturities that should be retained. Whilst not directly referenced in our contracts, we believe that shorter dated

LIBOR rates should still be set as we believe being able to obtain a term structure of LIBOR is a desirable feature.

4. **Is an alternative governance body for LIBOR required in the short term?**

   We believe it is very important for an alternative governance body to be set up. The oversight by an independent body such as the FCA (or other independent regulatory body) that has not been involved in the LIBOR oversight process to date would give much more future credibility to the LIBOR setting process.

5. **Should the setting of and/or the submission to LIBOR be regulated activities?**

   Given the systemic importance of LIBOR rates we do believe it should be a regulated activity. We believe this would again give significant comfort as to the improved governance and accountability of the LIBOR submission process. We believe that as a minimum the manager responsible for overseeing LIBOR submissions at banks should be regulated by the FSA/ FCA. It would also be desirable for individuals making up the FX&MM committee that do not work directly for independent regulators to also be authorised.

6. **Should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation and manipulation of LIBOR?**

   To the extent that key individuals involved in the submission process and oversight process of LIBOR will be authorised then this will provide greater accountability and deterrents for manipulation of LIBOR submissions. However, to the extent that not all individuals who will be relied on as part of this process will come under the FSA/FCA authorisation regime then it seems advisable for wider powers to be set up. Given the global importance of LIBOR it would be desirable if these powers enabled a consistent approach to prosecution of individuals both inside and outside of the UK. These increased sanctions should also give further confidence to end users of derivatives.

7. **What role should authorities play in reforming the mechanism and governance of LIBOR?**

   We believe that authorities should play a key part in reforming the mechanism and governance of LIBOR. As a result of the LIBOR scandal and a number of other recent developments end users have lost confidence in the banks' ability to oversee and govern their affairs without independent oversight. As well as each bank strengthening their processes and auditing around LIBOR we believe to regain confidence in the system it will be necessary for the authorities to oversee and be part of the FX&MM Committee.

8. **Which types of financial contract, if any, would be particularly affected by the risks of a transition from LIBOR?**

   Long dated interest rate swaps especially those with ultra-long maturities which are zero coupon (the types typically used by pension schemes with maturities out to 50 years into the future) would be significantly affected. This is as a result of the lower liquidity in these instruments and the significant sensitivity to even very small changes in interest rates as a result of their longer term to maturity. In addition, the long term nature of the contracts means that they would be affected even where long transition periods from LIBOR instruments are used. There are also limited alternative instruments that can be used to replace long dated LIBOR interest rate swaps with significantly increased mismatch risk where shorter dated alternatives are used.

Chapter 4

1. **Are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?**

For pension scheme and insurance company investors they typically do not require the credit risk which is inherent within a LIBOR benchmark. As a result they would prefer a benchmark that is shorter term in nature (e.g. SONIA/EONIA). Indeed a benchmark based on shorter term rates would be more consistent with liquidity fund instruments that are frequently used by pension schemes and insurance companies to generate the required rate of interest under derivative contracts. Additionally, SONIA / EONIA are based on actually traded overnight operations realised by banks, which are more factual and easier to audit, and submissions are kept anonymous, Unfortunately, in the UK and European markets to date there is limited liquidity in long dated SONIA and EONIA swaps and therefore this is not a reasonable alternative at this time. In the longer term we would expect this market to develop and so in the longer term pension schemes may look to move existing LIBOR based swaps or transact new swaps as SONIA/EONIA swaps. From this perspective, with the upcoming implementation of the EMIR directive, it would seem relevant that Central Counterparty Clearing Houses be incentivised to offer clearing for SONIA and EONIA based swaps in a broad range of maturities.

2. Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?

As highlighted in our previous answer, we believe that there is no strong alternative that could fully replace LIBOR in the short term. If a liquid market develops in a credible alternative instrument then we would expect reduced reliance on LIBOR benchmarks through time. However, given the lack of a credible alternative at this time, we do not believe that an alternative benchmark should replace LIBOR in the short term.

3. Should particular benchmarks be mandated for particular activities?

As highlighted in our response to the previous question we do not believe that specific benchmarks should be mandated in the short term. We would however highlight that typically the most appropriate benchmark for our clients in the longer term would be an overnight interest rate as they do not require credit risk to be taken into account. As such, we would expect SONIA based swaps to be used in preference to LIBOR swaps subject to significantly improved liquidity.

4. Over what time period could an alternative to LIBOR be introduced?

Due to the long dated nature of existing instruments and the lack of a credible existing alternative we do not see a defined time period during which mandatory movement to an alternative benchmark should be made. However, we do believe that improved market liquidity in existing instruments such as SONIA swaps means that over the coming years the majority of new transactions will be based on SONIA rather than LIBOR benchmarks reducing the overall outstanding exposure to LIBOR contracts. We believe that the timeframe could be shortened if, as a result of the upcoming implementation of the EMIR directive, Central Counterparty Clearing Houses could be incentivised to offer clearing for SONIA and EONIA based swaps in a broad range of maturities.

5. What role should authorities play in developing and promoting alternatives to LIBOR?

We believe there is a limited role that authorities can play in this area as we believe any move will be market driven.

One area where the authorities could play a role is in carrying out a systematic review of the use of LIBOR in money market instruments and corporate debt. The aim of this would be to allow authorities to identify any regulatory impediments to moving away from LIBOR and perhaps create incentives to encourage the market to issue money market instruments and corporate debt related to SONIA interest.

In the longer term, where reliance on LIBOR has been reduced and credible alternatives exist, then the authorities may wish to phase out the use of LIBOR. This could be done by determining a fair conversion rate for moving from LIBOR based instruments to e.g. SONIA/EONIA + a spread.
.
Additionally, incentivising Central Clearing Counterparties to offer clearing of SONIA and EONIA based swaps in long maturities could contribute to a faster development of these alternative instruments.

Chapter 5

1. Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?

We believe that instruments benchmarked against EURIBOR could face similar issues, although the structure for setting EURIBOR differs slightly in terms of approach and number of contributors. Therefore whilst we believe that the EURIBOR process can be strengthened in a number of areas, we believe that EURIBOR has some desirable features that we believe could be incorporated into the LIBOR process as highlighted in our response to chapter 3, question 1.

We also believe that instruments referencing ISDAFIX, such as cash settled swaptions will be affected and face similar issues to those relating to LIBOR.

2. Should there be an overarching framework for key international reference rates?

For confidence in the governance processes the approach to setting reference rates should be consistent across markets. However, there may need to be flexibility as to the extent to which actual market transaction data is used given the significant differences in size and frequency of transactions between markets.

BMO Financial Group

William K. S. Smith
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[redacted]

7 September 2012

Martin Wheatley
The Wheatley Review
HM Treasury
1 Horse Guards Road
London
SW1A 2HQ

Dear Martin

Further to my letter dated 3 August 2012, Bank of Montreal would like to thank you for the opportunity to respond to the discussion paper "The Wheatley Review of LIBOR", as published on 10 August 2012. During the intervening period, Bank of Montreal has been involved in the responses of both the British Bankers' Association ("BBA") and the Association of Foreign Bankers ("AFB"). We believe that Bank of Montreal's views are appropriately reflected in both the BBA's and the AFB's submissions.

We would be pleased to discuss any specific issues with the Wheatley review team, at your request.

Yours sincerely

William Smith

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Submitted by e-mail to wheatleyreview@hmtreasury.gsi.gov.uk

6 September 2012

Response to The Wheatley Review of LIBOR: initial discussion paper

Dear Mr Wheatley,

Barclays welcomes the opportunity to provide our comments on 'The Wheatley Review of LIBOR: initial discussion paper'. We fully support the intentions of HMT to investigate (i) the necessary reforms to the current framework for setting and governing LIBOR; (ii) the adequacy and scope of sanctions to appropriately tackle LIBOR abuse; and (iii) whether analysis of the failings of LIBOR has implications on other global benchmarks.

LIBOR is widely used across the global financial system as a direct reference for financial instruments with notional value of hundreds of trillions of dollars and indirectly as a reference for pricing of other products. Additionally, LIBOR serves as a key policy rate in certain jurisdictions. Barclays considers that there is continued demand for a term unsecured funding reference rate such as LIBOR and we welcome the opportunity to work with authorities across jurisdictions and other market participants to enable the strengthening of the LIBOR process and its governance and a broadening of the participation in the setting process.

Our comments on the initial discussion paper are set out below, using the question references provided in the initial discussion paper.

In addition to the comments we have provided within this response, Barclays has contributed to the BBA working group which has examined "Evolving LIBOR for a Changing World", but has not contributed to any trade association's individual response to the Wheatley Review of LIBOR.

We would be happy to discuss any of these comments with you in further detail.

Yours sincerely,

Francois Jourdain

Deputy to Barclays Treasurer

BARCLAYS

Chapter 2: Issues and failings with LIBOR

1. **Do you agree with our analysis of the issues and failings of LIBOR?**

LIBOR setting was historically designed to include a degree of subjective judgement on the part of submitters, but this was at a time when there was real depth in the unsecured interbank lending market. This market has evolved and there is no longer true depth across all maturities and currencies and the LIBOR process has not kept pace with the evolution in the market. Therefore today there is, of necessity, a higher degree of reliance on the subjective judgement of submitters than had been anticipated when the process was designed.

Given the subjective judgement input, there is no empirical "right" level for LIBOR. We agree that there have been failings in the exercise of subjective judgement and the controls around submissions, as well as failings in the governance and oversight aspects of LIBOR. For all these reasons as well as the evolution of the market, it is necessary to re-design benchmark rates.

Chapter 3: Strengthening LIBOR

1. **Can LIBOR be strengthened in such a way that it can remain a credible benchmark?**

It is essential that the market has access to rates that are well-constructed, transparent and that inspire the confidence of both market participants and regulators.

We believe that, with sufficient relevant oversight and an appropriate control framework, it is possible to strengthen LIBOR such that it can remain a credible benchmark.

We recommend three key elements to strengthening the credibility of LIBOR as:

(1) LIBOR should be based solely on real transactions. However, as noted in discussions, there is a lack of depth in levels of activity in the unsecured bank paper market. Any revised approach to LIBOR will need to widen the scope of both submitters and transactions, in order to provide a sufficient depth of data to dampen volatility and produce the most stable and useful rate. To facilitate such broader inclusion, the transaction data would need to reflect the previous 24 hours of market activity.

(2) Ensuring that LIBOR submissions are anonymous (mirroring the approach taken with respect to the New York Funding Rate), thereby eliminating the signalling effect of the current process. The use of real transactions only can accommodate this, as data can be extracted from settlement systems on a non-identified basis (to the wider market). We would advocate for transparency of process and for strong governance to support this approach, coupled with the ability of the governance body to interrogate and challenge data submissions.

(3) Submissions should be compulsory for the widest possible range of relevant market participants, in order to remove the question of incentives to participate. The use of real transaction data can ensure that a wider scope of submitters and transactions are captured and used to compile the rate. For example, clearing houses are existing sources of real transaction data.

In addition to the strengthening of LIBOR, we would also advocate the continued use of an overnight interbank unsecured rate, such as OIS, noting the successful reliance in the Brazilian market of such a rate.

Any ultimate shift by the market to the use of an overnight interbank unsecured rate would take a long time, even with active support of all relevant bodies, and in the meantime it is critical for market confidence that we work together to strengthen LIBOR and to provide continuity and stability for legacy positions that reference LIBOR.

2. **Could a hybrid methodology for calculating LIBOR work effectively?**

To provide greater confidence and credibility in the LIBOR-setting process, an improved governance and oversight framework is required, together with the use of real transaction data and a widening of the scope of both submitters and the transactions captured and used to compile the rate.

We would advocate a revised approach based entirely on real transactions, discontinuing the use of subjective judgement.

Given the lack of depth in some parts of the unsecured interbank lending market, in order to obtain sufficient data from real transactions, it will be necessary to significantly expand the universe of submitters and reference transactions.

While the use of real transactions would remove the risks associated with the use of subjective judgement, there would still potentially be the incentive and means to attempt to manipulate the rate, albeit diminished. Accordingly, any new process for the governance of LIBOR must ensure that data is interrogated to identify potential abuse and that there is an appropriate degree of transparency to regulators.

This will require an independent body with a high degree of technical expertise to oversee the submissions process and to aggregate the information to produce the benchmark rate.

3. **Could the number of maturities and currencies currently covered by the LIBOR benchmark be reduced?**

We consider that the key aim should be to strengthen the rate for the basic maturities (1 week, 1 month, 3 month and 6 month) only.

We consider that only GBP, USD, EUR, SFR and JPY LIBOR rates should be published.

The majority of contracts reference benchmark rates use the basic maturities and the above currencies. For maturities other than these core ones, market participants would be free to contractually agree what interpolation methodology is appropriate to their particular situations.

If there is a perceived need to continue to provide benchmark LIBORs for minor currencies, the current LIBORs for such currencies could be amended to reference the relevant domestic benchmark rates.

4. **Is an alternative governance body for LIBOR required in the short term?**

It is better for market stability and confidence to thoroughly investigate the shortcomings of the current arrangements (including governance) and then implement a permanent revised approach. The implementation may occur in more than one stage, involving initial revisions to the current arrangements and then further necessary legislative changes.

A strong framework of independent governance and control, with commensurate ability to sanction breaches, is needed.

Such oversight responsibility would require specialist IT and dedicated personnel with appropriate expertise. The governance should ensure each of the following:

(1) Use of rigorous methodology, to ensure that the benchmark rate reflects real transaction rates.

(2) An effective regime of documentation, monitoring, supervision and auditing by both the governing body and individual submitters.

(3) An effective complaints reporting and investigation framework.

(4) Appropriate powers to take action to deal with upheld complaints.

(5) Transparency of process and methodology and periodic reports of number and nature of complaints.

(6) A system of checks and balances to ensure that the benchmark rate accurately reflects relevant real transactions, including evaluating the universe of submitters, referenced transactions and the methodology of calculating the rate.

Whether it is the BBA, the Bank of England, or another body that provides such governance, the key is to create and maintain a robust control framework over a fair and transparent process.

5. Should the setting of and/or the submission to LIBOR be regulated activities?

Yes, although to the extent a revised approach based entirely on real transactions is adopted the regulated activities would seem to us to be the reporting of transaction data to an appropriate data repository for in scope transactions and, if not performed by a regulatory authority, the calculation and publication of benchmark rates by the relevant governance body.

6. Should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation and manipulation of LIBOR?

Yes.

7. What role should authorities play in reforming the mechanism and governance of LIBOR?

The relevant authorities have an important part to play in strengthening the creation and use of benchmark rates. In addition to leading the comprehensive reform process underway, regulators could credibly hold institutional responsibility for the governance and oversight of LIBOR. The involvement of a UK regulator with authority, experience and independence would ensure market confidence in the benchmark. Furthermore, in the future, unprecedented and unforeseen market conditions might distort or disrupt the LIBOR process again and the relevant authorities must be empowered to take extraordinary actions in order to ensure the continued credibility of LIBOR.

8. **Which types of financial contract, if any, would be particularly affected by the risks of a transition from LIBOR?**

In particular swaps, futures and securities (due to volume of such instruments) and loans and other long-dated contracts (due to tenor and the need to have continuity of a specified reference rate) may be affected by the risks of a transition from LIBOR.

The overnight interbank unsecured rate is already widely used. We would not propose that another alternative to LIBOR is created. Instead, we believe that the focus should be on maintaining market stability through the continuity of LIBOR, albeit with significant and material strengthening amendments made to the current LIBOR process.

Chapter 4: Alternatives to LIBOR

1. **Are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?**

The overnight interbank unsecured rate is potentially a credible alternative to LIBOR in the longer term.

Potential downsides to migrating to the overnight interbank unsecured rate are largely the need to map appropriate operations and systems to accommodate the new rate. This is likely to be less of an issue for swaps (where the market already uses the overnight interbank unsecured rate) but it may take some time to ensure that market participants are set up to manage other products (such as loans and bonds, which have historically used LIBOR as the reference rate) on the basis of the overnight interbank unsecured rate.

A move to the overnight interbank unsecured rate will require spreads to increase, in order to compensate for the fact that the overnight interbank unsecured rate does not include a liquidity premium or a credit premium that longer tenor rates include. However, whilst the manner of calculating the total cost of the rate would be different and the rate and the spread components would be differently weighted from the composition of LIBOR-based rates, the overall cost should not increase.

2. **Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?**

We believe that, in the interests of market stability and liquidity, it is optimal to retain LIBOR, on the basis of agreed strengthening of process, in addition to retaining the overnight interbank unsecured rate, as there continues to relevance for both rates in the current markets.

3. **Should particular benchmarks be mandated for specific activities?**

No, we would support the ability of market participants to determine the most appropriate rate for each instrument or situation.

4. **Over what time period could an alternative to LIBOR be introduced?**

In the interests of continuity and stability for the market, we consider that the focus should be on enhancing the credibility of LIBOR rather than replacing LIBOR. The changes that we propose in respect of LIBOR are designed to benefit all stakeholders by increasing the credibility of the benchmark. These changes should be adopted as soon as it is feasible to implement appropriate governance and level of support of relevant market participants and authorities. It may be that the implementation occurs in more than one stage, involving initial revisions to the current arrangements and then further necessary legislative changes.

To ensure a smooth transition, we consider the best approach to be one under which the concept of LIBOR continues and that changes to the process are made on one agreed date, on which date the shift from "old LIBOR" to "new LIBOR" would take place irrevocably, binding all users of LIBOR. We consider that any proposal to run both current LIBOR and any revised LIBOR in parallel for a period could weaken the credibility of LIBOR as a benchmark and could create unnecessary uncertainty and instability in the markets. However, an impact assessment should be performed prior to changes being made to LIBOR, with either or possibly both of back-testing and a testing period during which statistics about the new LIBOR process are calculated and disclosed to the market.

5. **What role should authorities play in developing and promoting alternatives to LIBOR?**

It is our view that the authorities should provide governance of the revised LIBOR process and should support the market in transitioning to the strengthened LIBOR by continuing to issue into it and reference it in swap transactions.

Chapter 5: Potential implications on other benchmarks

1. **Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?**

The requirement for submitters to use subjective judgement is not unique to LIBOR.

Any benchmark that places reliance on subjective judgement will also require an appropriately robust framework of governance, oversight and control as described here for LIBOR.

2. **Should there be an overarching framework for key international reference rates?**

Ideally there should be a harmonisation of principles, so as to provide mutually reinforcing confidence in benchmark rates. We recognise that this would require a high degree of political cooperation globally.

bba

[redacted]

membership of both the committee and the panels, the operational and legal burden inherent in any oversight process is likely to discourage this.

The BBA would answer the specific consultation questions as follows:

Chapter 2: Issues and failings with LIBOR

Do you agree with our analysis of the issues and failings of LIBOR?

The analysis builds on the work undertaken by the BBA as preparation for the consultation paper which the BBA had been planning to issue in Q3 2012.

Chapter 3: Strengthening LIBOR

Can LIBOR be strengthened in such a way that it can remain a credible benchmark?

Benchmark rates provide valuable market infrastructure and the BBA believes that BBA LIBOR remains a sufficiently well respected benchmark to justify being retained. However, lessons can be learned from the investigations which are ongoing.

In the short term the BBA recommends the introduction of a regulator-owned governance framework and code of conduct, and some streamlining of tenors and currencies for which BBA LIBOR is set (subject to further consultation). In the medium term transition to a new rate setting process based on actual trade data is recommended.

The transparency provided by the publication of daily rates by bank name and the credit signalling effect creates a potential conflict of interest for contributing banks. There are pros and cons of this transparency and there is not full agreement on the best approach.

We would recommend the introduction of:

- An independent process for collection of actual trade data and scrutiny of actual rates paid
- The creation and publication of a detailed periodic technical report analysing a number of metrics such as the values and volumes of trades and the spread of rates provided
- An analysis of outliers and any identified governance issues
- A clear formal role for global authorities and Central Banks to support the valuable market infrastructure which benchmarks provide.

Could a hybrid methodology for calculating BBA LIBOR work effectively?

A trade based methodology is very attractive for submitters, but there are a number of practical problems to resolve. A necessary starting point would be a trade capture system, as well as the formulation of a reliable method for setting BBA LIBOR in the event of data gaps. This would take time to develop and would require the involvement of a governing body with both the appetite and authority to undertake the work. Our initial analysis indicates that a simple model which could adequately replace BBA LIBOR would still require the input of subjective judgement. If the practical difficulties can be overcome, and if this judgement could be exercised by the authorities this would provide the ideal solution.

A widening of the definition of BBA LIBOR to include global wholesale trades (not just interbank transactions) would provide a wider data set which could be considered when setting rates and would help to counter the effect of the low volumes referred to earlier.

Is an alternative governance body for LIBOR required in the short term?

The BBA has believed for some time that BBA LIBOR submissions should be governed by a code of conduct which should ideally be owned and policed by the authorities. We have already shared our thoughts on this with the FSA during our recent review. In practice, BBA LIBOR panel banks are already revisiting their internal procedures. A uniform approach is key and should be regulator-led.

The BBA has invited the FSA, and some Central Banks to become members of the FX and Money Markets committee in the past. The presence of the authorities in the governance framework would add an essential plank to strengthen both the integrity of the benchmark and the rate setting process itself. The BBA believes that there is now broad acceptance of this.

A strengthened oversight model under the auspices of an FSA/FCA sponsored senior steering group with invited participants to include banks, representatives of Central banks for LIBOR currencies, users of BBA LIBOR and the UK tripartite authorities would provide a robust forum for the direction and introduction of any necessary changes.

Should the setting of and/or the submission to LIBOR be regulated activities?

The BBA recommends that a new controlled function should be introduced which specifically refers to best practice and codes of conduct for benchmark rate setting and panel surveys to ensure that best practices are understood and followed. This should not be restricted to BBA LIBOR.

Should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation of LIBOR?

Acting with integrity is already a fundamental requirement of member firms and authorised individuals. The BBA supports the need for regulators to have powers to identify and punish market abuse.

For BBA LIBOR we recommend the following:

- a new controlled function for benchmark rate submitters, and
- a mechanism for individuals to be personally fined, publically censured and struck off the approved persons register where they are found to have acted improperly.

What role should authorities play in reforming the mechanism and governance of LIBOR?

Given the investigations which are ongoing, a high degree of interest and activity by the authorities is essential in order to maintain the stability and reliability of BBA LIBOR. As noted above, in the short term the FX and Money Markets Committee should be transitioned to a strengthened oversight model under the auspices of an FSA/FCA sponsored steering group with invited participants to include senior managers of BBA LIBOR rate setting banks, representatives of Central Banks for LIBOR currencies, users of BBA LIBOR and the UK tripartite authorities.

What degree of change to LIBOR can be accommodated before the existing volume of transactions referencing LIBOR is put at risk? (this question appears in the summary of questions in Annex C but not in the body of the paper).

Users of BBA LIBOR who have participated in the reviews undertaken to date have been particularly vocal in warning that change must be planned, announced and implemented with meticulous care to avoid instability. Should they be deemed necessary, the impact of significant changes could be mitigated by means of a longer period of transition.

Chapter 4: Alternatives to LIBOR

Are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?

For the AUD, CAD, DKK, NZD and SEK currencies there are widely used domestic benchmarks and the BBA LIBOR fixings are relatively less used. The BBA believes that the BBA LIBOR setting process for these currencies should be streamlined and limited to 1, 2 and 3 months as soon as possible, subject to consultation and agreement of transition plans with users, panel banks, authorities and Central Banks to ensure an orderly transition. Consideration should be given to whether BBA LIBOR is continued for these currencies in the medium term.

The BBA LIBOR setting process for CHF, EUR, GPB, JPY and USD should also be streamlined and limited to 1, 2, 3, 6 and 12 months. Further consideration should be given to whether 6 and 12 month settings are sustainable. These proposed changes to streamline the number of rates which are set daily should alleviate the operational demands on rate setters and overseers without leading to instability if an appropriate transition plan is carefully managed.

Potential alternative benchmarks could be developed but transition would need to be carefully handled over a long period to avoid operational and systemic instability. The starting point should be a consultation process followed by announcements of any changes, with enough time allowed to enable market-led alternatives to be developed to fill any gaps.

The BBA understands that the GBP repo rate and the BBA-LIFFE quarterly USD fixing are not widely used and recommends that these should be discontinued after a short notice period.

Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?

We believe this is for users of the rate to decide. As highlighted in your report and referenced earlier, actual trade data underlying BBA LIBOR is not available from every bank, every day, in all currencies and tenors. As a consequence, it is difficult for banks to contribute rates which can be independently verified and scrutinised. The difficulty of maintaining panels with sufficient numbers of contributor banks means that some streamlining of currencies and tenors would be beneficial.

The needs of users of the rate are very important and must be balanced against these factors. We understand that there is a long tail of existing contracts stretching into the future, which use BBA LIBORs as reference rates. Further work is needed to ensure that user requirements are carefully considered, and after consultation to establish demand both for continued publication, and continued panel membership, a transition timetable for the streamlining of some BBA LIBOR rates should be announced, in order to allow users time to adjust to any proposed changes. Even for currencies where the contracts which refer to them have been identified as lower volumes/values, there would be issues for users if any BBA LIBOR rates were to be discontinued and therefore the transition process must be carefully planned and managed.

For GBP and USD, and to a lesser extent CHF, EUR and JPY, we understand that the highest volumes and values of user contracts exist, and the depth and liquidity of underlying market transactions is also greater. For these currencies, users of the rates may require a very long transition period.

Consultation with users and submitters and sequencing any changes carefully to ensure an orderly transition to new processes is very important. The BBA awaits the authorities' approval and direction to begin work immediately on any transition processes which may be deemed necessary.

Should particular benchmarks be mandated for specific activities?

It is difficult to see how this could work in practice as the market will ultimately decide which benchmark rates are appropriate for which activities.

With BBA LIBOR, a rate has been made available which has then been used far beyond the purposes for which it was originally envisaged. We believe that our member banks will only be prepared to continue to participate in the BBA LIBOR setting process if they can be confident that a framework is in place to ensure that they can continue without undue operational burden and within a credible legal and governance process. This framework needs both support and endorsement from regulators and central banks. Any transition to alternative rates should be market-led.

Over what time period could an alternative to LIBOR be introduced?

The BBA believes that an evolutionary approach is the best way forward. Agreed changes should be announced as soon as decisions can be taken as to future approach and made over different time scales as appropriate. As already discussed, some changes to the tenor and scope of BBA LIBOR should be prioritised but others will take far longer to implement and should be thoroughly reviewed and subject to user consultation before being introduced.

What role should authorities play in developing and promoting alternatives to LIBOR?

As indicated above, we believe that in the short term FX and Money Markets committee is in an impossible situation and should be transitioned to a strengthened oversight model under the auspices of an FSA/FCA sponsored steering group with invited participants to include senior managers of banks, representatives of Central Banks for LIBOR currencies and users of BBA LIBOR. This steering group should also take the lead in implementing the changes to BBA LIBOR which will ensue as a result of the Wheatley review.

Chapter 5: Potential implications on other benchmarks

Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?

The BBA has restricted its response to comments on BBA LIBOR.

Should there be an overarching framework for key international reference rates?

An overarching framework for best practice would be beneficial. This should be agreed on a global basis.

This completes our comments on the specific questions posed.

Finally, Annex A ("The current mechanism and governance of LIBOR") contains a description of daily processes. The description of daily scrutiny and checking of rates is incorrect. Beyond screening for obvious input errors and a follow up process for addressing anomalies and identified issues or complaints, there is no daily scrutiny or validity checking of rate setting by Thomson Reuters or the BBA.

The BBA hopes that this is a useful contribution to the Wheatley review and will be happy to continue to discuss this with you as the work progresses.

Yours sincerely,

Anthony Browne
Chief Executive

[redacted]

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London, 07 September 2012

Response from BlackRock to the Wheatley Review of LIBOR: initial discussion paper

Dear Sir or Madam,

This letter responds to the Wheatley Review's (the "*Review*") call for responses to the specific questions outlined in its discussion paper.

BlackRock is one of the world's pre-eminent asset management firms and a premier provider of global investment management, risk management and advisory services to institutional and retail clients around the world. As of 30 June 2012, BlackRock's assets under management totaled $3.56 trillion (£2.24 trillion) across equity, fixed income, cash management, alternative investment and multi-asset and advisory strategies including the iShares® exchange traded funds. BlackRock is a listed company in the United States and an independently owned asset manager.

We summarise our views on the *Review* below and include more detailed comments in our attached response and *ViewPoint.*

As an investment manager, we make use of LIBOR in three main ways: as a purely indicative reference rate to calibrate the expected performance of a fund; as an explicit reference rate used to determine the coupon paid on a security of a fund; and to calculate coupon payments on a wide variety of medium to long dated interest rate derivatives with a floating leg.

BlackRock agrees with the *Review's* analysis of the issues surrounding LIBOR. We recommend that the first priority should be on the reform of LIBOR to restore its market credibility. We support for example: focusing on shorter tenors and the maturities most representative of bank funding activity; augmenting submission dated data with the use of transaction data (with private reporting, time lags and/or aggregation as appropriate); and strengthening the regulatory oversight of LIBOR, including a binding code of conduct coupled with sanctions under the Market Abuse Regulation.

At the same time, a "one size fits all" rate (LIBOR) may no longer be the optimal solution. The reform agenda should therefore include an explicit objective to allow market evolution to other benchmarks. As different investors and different borrowers have different needs and preferences, this is likely to lead to multiple solutions with those benchmarks providing the greatest liquidity gaining the greatest traction. For these reasons, we do not believe that an alternative benchmark can replace LIBOR or that particular benchmarks can be mandated for specific activities.

***

We appreciate the opportunity to comment on the issues raised in the *Review* and would welcome continued dialogue on this topic which is of significant importance for our clients.

Yours Faithfully,

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Wheatley Review of LIBOR: initial discussion paper

2.1 Do you agree with our analysis of the issues and failings of LIBOR?

Yes, we agree with the *Review's* analysis of the issues, failures and limitations of the current governance framework. We note that the comments in paragraph 2.33 are particularly relevant in the analysis of alternative responses. LIBOR participation is voluntary, yet the benefits of a credible benchmark accrue to all in the financial system. Changes in the rate setting process need to take into account the impact on the voluntary nature of the rate setting process. Already we have seen withdrawals from voluntary panels where banks see limited benefits and unknown costs. The alternative of *compulsory* participation represents a significant change in market structure and raises questions not asked in the consultation *Review*.

These questions can be avoided through retention of a voluntary system. A voluntary system however will only be successful to the extent that the benefits of participating in the reformed process outweigh the costs. Hence, any proposed reforms of the LIBOR rate setting process should weigh both the benefits of the reform against direct and indirect costs in the form of the effect these changes may have on dissuading participation.

Regardless of a voluntary or compulsory system, the underlying key issues of manipulation for self-interest and stigma issues need to be addressed (and we propose suggestions to address these issues below).

3.1 Can LIBOR be strengthened in such a way that it can remain a credible benchmark?

Yes. In the accompanying *ViewPoint* article we make three specific suggestions for strengthening LIBOR to restore its credibility:

First, we recommend focusing on the shorter tenor rates most representative of bank funding activity. Limiting the matrix of LIBOR rates to 3 or 6 months and shorter will lead to a more credible rate setting process both by focusing on where the most likely transactions exist and limiting the amount of data that needs to be reviewed. Since the establishment of the LIBOR rate setting process, the Eurodollar futures market has developed into a robust, deep and liquid market. Most importantly, this market is transparent and transactionally based. Today, LIBOR rates for longer maturities can be extracted from this market obviating the need for LIBOR “fixings” at these longer maturities.

Second, banks can be asked to report LIBOR based on actual interbank loans subject to volume metrics to ensure that LIBOR submissions are validated by actual transactions. The process for validating and auditing the submissions will be critical to restore market confidence in the LIBOR process. Transparency will help for example by providing (potentially with some lag) a record of actual transactions that supports the submission of LIBOR that can be publicly viewed.

Third, it is important to address the separate issue of reducing the incentives to misreport based on the avoidance of the stigma of reporting a high rate. The Federal Reserve Board of New York has proposed broadening the base of contributing banks on which LIBOR is based, and also randomizing the release of the underlying bank data. Such changes address some of the structural flaws arising out of today's definition of LIBOR (reflecting the bank's own borrowing rate) that may help to reduce the incentive to misreport in times of financial market duress.

Finally, a move to the median from the mean to calculate LIBOR may contribute to greater market confidence in LIBOR. We note that the difference between mean and median in US Dollar 3m Libor from the beginning of 2011 is modest. Further analysis of the impact of such a move on other maturities and currencies would be required before such a move were made.

3.2 Could a hybrid methodology for calculating LIBOR work effectively?

A hybrid approach of augmenting submission based data with the use of transaction data is exactly what we propose. It should be feasible to disseminate raw transaction data (at least to regulators) with only a modest time lag, ensuring that any material deviations can be swiftly investigated. There may be justifiable commercial reasons to further delay or aggregate transaction data for broader public consumption. A full look through for regulators together with generally greater transparency to the broader investment community should improve confidence in the LIBOR fixing process.

3.3 Could the number of maturities and currencies currently covered by the LIBOR benchmark be reduced?

Yes. This is our first recommendation. We believe that restricting the maturities and currencies covered to those to which a hybrid methodology might apply will increase confidence in LIBOR.

3.4 Is an alternative governance body for LIBOR required in the short term?

No, we do not believe an alternative governing body for LIBOR is required in the short term. Moving to a commercial or other alternative carries the risk of significant market disruption. Working with the BBA to strengthen the regulatory oversight of LIBOR fixing would – coupled with the changes already outlined and a Code of Conduct - help to restore market credibility. In addition, we would support the inclusion of non-participating members on the oversight committee.

In the longer term, we believe bringing benchmark activities, including LIBOR, within the wider EU regime for market abuse regime (including application of the market manipulation regime) as this will make a substantial contribution towards reestablishing confidence in market mechanisms.

3.5 Should the setting of and/or the submission to LIBOR be regulated activities?

The *Review* highlights limitations to the current regulatory framework. The proposed options for regulating benchmarks should help in restoring credibility. However, the costs of new regulations should be considered relative to the effective regulation under the new legislation highlighted in paragraphs 3.50 – 3.52. We also call for the FSA to ensure the UK regulatory framework is consistent with the Commission's proposals to expand its proposals for market manipulation in the Market Abuse Regulation ('MAR'). Whether proposals are made at an EU or UK level it is important to strike the right balance between a clear definition of the sanctions regime while proofing for potential future market abuse.

3.6 Should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation and manipulation of LIBOR?

As per 3.4: the contribution to benchmarks and other fixing rates should be subject to a similar level of oversight and potential censure as activities already covered by Market Abuse Directives and Regulation. This should have the benefit of improving confidence around the validity of such benchmarks, without disproportionately increasing the costs associated with compliance. We note that, if the UK opts out of Criminal Sanctions Directive for insider dealing and market manipulation ('CSMAD'), differing definitions of what constitutes relevant market manipulation may exist between the domestic UK criminal regime, the EU criminal regime for countries which have not opted out of CSMAD, and the broader EU civil regime. While we appreciate there are different time frames for UK and EU legislation, it is important to ensure consistency as much as possible between the different regimes.

3.7 What role should authorities play in reforming the mechanism and governance of LIBOR?

Authorities should ensure that the key participants involved in the establishment of benchmarks and fixing rates are subject to broad regulatory oversight in relation to these activities. Authorities should work with the industry to specify the level of transparency and empirical evidence required to support LIBOR fixes and the acceptable limits of any deviations from transactional data focusing on the *framework* and *principles* rather than details. BlackRock is therefore supportive of a binding code of conduct coupled with sanctions as set out under the Market Abuse Regulation. We would stress that it is important that the industry is given time to develop mechanisms and processes that can support these requirements, including utilizing existing infrastructure to support any additional trade reporting requirements.

Finally, we encourage market solutions to alternative benchmarks and wider participation. As the *Review* states "Ultimately, the choice of benchmarks for financial contracts is largely market driven". We note in this context that the single most important precondition for market take-up is the given liquidity of any given benchmark. Similarly, we would not be in favour of forcing participation on LIBOR panels by other market players.

3.8 Which types of financial contract, if any, would be particularly affected by the risks of a transition from LIBOR?

Dependence on LIBOR for investment managers generally falls into three broad categories:

A. The use of LIBOR as a purely indicative reference rate to calibrate the expected performance of a fund, without any contractual/mathematical impact on the investors' return, for example Fund ABC has an annual performance target of LIBOR +300bp.
B. The use of (a specifically defined sample of) LIBOR as an explicit reference rate used to determine the coupon paid on a security or the performance fees of a fund, for example FRN pays 3M LIBOR +50bp as at certain reset dates.
C. The use of LIBOR to calculate coupon payments on a wide variety of medium to long dated (up to 50 years) interest rate derivatives that have a 'floating' leg.

The impact of a change in LIBOR would be increasingly complex.

In the case of category 'A', LIBOR is used as a proxy for a generic low risk alternative investment to allow the end investor to make fair comparisons between opportunities. Establishing alternative indicative reference rates could be done with minimal contractual repercussions, provided sufficient time for contractual notification or renegotiation is allowed.

In the case of category 'B', a move from LIBOR would be more problematic as there would be significant economic impacts of any contractual shift, not least due to the implicit credit spread embedded in LIBOR. Moving the baseline for an FRN return or a fund performance to a Fed Funds/EONIA/SONIA basis would, for example, have implications for the overall risk and return profile of the investment: a straight substitution of 'LIBOR +300bp' to 'FF + 300bp' would in many cases be economically inequitable resulting in a requirement to rebase the whole contract. Attempts to 'fix' the credit component at a specific spread would not be an accurate reflection of how the evaluation of credit risks evolves over time.

In the case of 'C', this issue around contractual change is accentuated by the long term nature of many of these agreements and the potentially substantial economic and liquidity impact of early termination.

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More broadly, BlackRock makes primary use of 3 month and 6 month LIBOR. The figure below estimates US credit instruments non-interest rate derivative borrowing linked to LIBOR. These would all be impacted by a transition from LIBOR. Interest rate derivatives, swaps and futures will all be significantly impacted by a transition away from LIBOR.

Market for LIBOR-pegged US Credit Instruments

	Floating rate notional ($ bn)[1]	Est. [2] % LIBOR-referenced	Est. LIBOR notional ($ bn)
Consumer			
Consumer lending			
Student Loan ABS	$211	100%[3]	$211
Credit Card ABS	$120	100%[3]	$120
Auto & Other Cons ABS	$20	100%[3]	$20
On balance sheet loans / other	$1,112	0%[4]	$0
Residential mortgages			
LIBOR-based Agency RMBS	$234	100%	$234
LIBOR-based Non Agency RMBS	$397	100%	$397
Closed end resi whole loans	$1,574	3%[5]	$47
Revolving resi whole loans	$536	3%[5]	$16
Commercial & Industrial			
C&I loans	$1,444	75%	$1,083
Syndicated loans	*$524*	100%[3]	*$524*
Commercial mortgages			
CRE Whole Loans	$1,415	57%[6]	$807
CMBS	$26	100%[3]	$26
Total estimated LIBOR-based US borrowing			**$2,961**

1 – Sources: Federal Reserve, Loan Performance, Barclays 2 - Source: BLK estimates. 3 -- Great majority are LIBOR-based; however , some loans may not reference LIBOR. 4 – Vast majority of on balance sheet consumer floating rate lending linked to prime or US Treasury rates. 5 - Source OCC mortgage origination percentage between 2006-2009. 6 - Weighted average rate of 100% for construction and development lending and 50% for commercial real estate lending.

In Europe, pension funds, money market funds ('MMF') and short term bond funds will be significantly impacted. Pension funds following liability driven investment (LDI) strategies typically use Interest Rate Swaps with maturities of up to 40 or 50 years. Such pension funds represent over 50% of the UK pension fund market and 90% of the NL pension fund market. Dutch pension schemes measure solvency off discount rates derived from EURIBOR swaps rates. Instruments with LIBOR maturities (medium term notes, some agency securities, some certificates of deposits, etc.) can represent up to 30% of our MMF portfolios. In addition, custodians of European domiciled MMF typically use LIBOR as a pricing tool for European commercial paper, floating rate notes and certificates of deposits.

4.1 Are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?

On a forward looking perspective, yes. In the attached *ViewPoint* we highlight OIS and the GCF Repo index as alternatives. Similar alternatives exist in the European markets to OIS (EONIA in Europe and SONIA as highlighted in the *Review*).

Generally, the market (including BLK) has moved towards the use of OIS curves for discounting the present values ('PV's) of future cash flows for derivative contracts. The use of such curves should remove most of the credit component associated with LIBOR curves. However, as highlighted in the *Review* these alternatives also have drawbacks. For example, OIS curves are still the market's estimation of the future path of (overnight deposit) rates and therefore subject to some of the same types of weaknesses as LIBOR fixings as they are a 'snapshot' of an OTC market.

More fundamentally, re-calibration of existing LIBOR contracts to a rate no-longer based on an inter-bank unsecured lending rate would represent a significant challenge and could potentially lead to greater dislocation and disruption than any distortion of LIBOR that may have occurred over the last few years.

Finally, it should also be noted that LIBOR is contractually embedded in a number of financial instruments; replacing LIBOR in such instances may not be contractually possible or may be too costly to implement.

4.2 Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?

We do not believe that an alternative benchmark could or should fully replace LIBOR nor substitute for it in particular circumstances. Our *ViewPoint* highlights the need for both LIBOR and alternatives to coexist much as the *Review* suggests (paragraphs 2.41 and 2.42). Moves such as those outlined in paragraphs 4.33 to 4.35 would have significant negative implications for the clients of investment managers. For example, a significant change in the value of swaps changes the value of the pension fund's assets including its interest rate swap positions while its cashflow liabilities remain unchanged. This impacts the pension fund's funding ratio and its ability to pay its liabilities, that is, the pensions it is designed to pay.

In general, the greater the change to /from LIBOR, the greater the impact on potential winners and losers. We therefore recommend that the first priority should be the reform of LIBOR to restore its credibility - but that the reform agenda should also let the market evolve to other benchmarks. The success of these alternative benchmarks will reflect first and foremost their underlying liquidity.

4.3 Should particular benchmarks be mandated for specific activities?

No. Market forces should be allowed to select benchmarks that meet the needs of borrowers and lenders. Different investors and different borrowers have different needs and preferences which are likely to lead to multiple solutions. A one size fits all rate may no longer be the optimal solution.

4.4 Over what time period could an alternative to LIBOR be introduced?

Alternatives to LIBOR already exist. Their broader adoption by market participants going forward will reflect the net effects of the success (or failure) to restore credibility of the LIBOR rate setting process along with the relative costs and benefits afforded by any of the alternative benchmarks.

4.5 What role should authorities play in developing and promoting alternatives to LIBOR?

The regulatory environment governing the alternative benchmarks reflects the robust changes to regulation globally following the 2008 credit crisis. In this post-crisis regulatory environment it is the guidance, clarity and implementation of these regulations that authorities can pursue with most benefit to promoting alternatives to LIBOR.

5.1 Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?

The *Review* highlights the relationship between LIBOR and other similar survey based measures for benchmark rate determination such as EURIBOR. However, as pointed out in both the *Review* and our *ViewPoint,* key differences exist in the definition of the rate between LIBOR and EURIBOR. These differences solve one problem (stigma effect) but exacerbate another (manipulation potential). The differences in definition (as well as the historical evolution of the LIBOR definition) highlight the tradeoffs in establishing the rate setting mechanism. Reforming the rate setting process based on the suggestions in the *Review* as well as our suggestions in the *ViewPoint* may help alleviate these tradeoffs. These differences further highlight that while there are important benchmarks that face similar issues to those identified relating to LIBOR, there are meaningful differences as well between LIBOR and EURIBOR that should be taken into consideration when confronting the other survey based benchmark interest rates.

5.2 Should there be an overarching framework for key international reference rates?

Despite these differences, yes, an overarching framework for international interest reference rates would be a helpful guide to the establishment of global “best practice” principles for the conduct of a survey, transactional or hybrid benchmark interest rates.

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7 September 2012

VIA EMAIL to: wheatleyreview@hmtreasury.gsi.gov.uk

Re: The Wheatley Review of LIBOR: initial discussion paper (August 2012)

Ladies and Gentlemen:

Bloomberg L.P. ("Bloomberg") welcomes the opportunity to comment on the Wheatley Review of LIBOR initial discussion paper (the "Discussion Paper"). In Part I of this letter, we lay out Bloomberg's vision for a data-driven method to measure the cost of bank borrowing within the interbank unsecured loan market. In Part II, we respond to certain of the specific questions posed by the Discussion Paper.

Part I

Introduction

We recognise the widespread use of LIBOR as the reference for over $300 trillion of derivatives and loan contracts. Given its importance throughout the global economy, we believe that LIBOR must be preserved, at least for the near term, but needs to be enhanced in a manner that achieves the market's need for accuracy, transparency and impartiality. To these fundamental attributes we propose to add another: data-based objectivity.

Bloomberg proposes to work with the British Bankers' Association, the Bank of England, the Financial Services Authority and other oversight bodies, as appropriate, to develop systems and methodologies for the appropriate application of observable market data to LIBOR and, potentially, the incorporation of such data into a new, enhanced form of LIBOR which leverages both bank contributions and objective market data. Ultimately, we envision the possibility that LIBOR could be replaced with a data-driven alternative – Bloomberg "Blibor".

Initial Phase

We envision an initial phase during which the oversight body would calculate LIBOR using the current methodology, allowing the marketplace to rely upon the continuity of LIBOR in its current state. However, using a data tool provided by Bloomberg, the oversight body would be able to evaluate the "quality" of individual bank contributions to LIBOR, and thereby to enhance the overall quality and reliability of LIBOR.

Bloomberg gathers and analyses data as part of its global enterprise and has developed significant technical and logistical expertise in the market data business. Included in the data Bloomberg collects daily are measures of bank creditworthiness, such as market-based quotations for credit default swaps, corporate bonds and commercial paper. In addition, we envision the inclusion of additional bank data sources, such as aggregated retail deposit information and interbank lending and borrowing information. (Bloomberg recognizes that regulatory involvement may be necessary in order to make this information available.) Together, this market data could provide an alternative input to a bank's cost of borrowing, separate from the implicit self-assessment of credit quality embedded within banks' LIBOR contributions. Bloomberg plans to create an algorithm that compares each individual bank's LIBOR contribution to an alternative measure based on observable market data. The algorithm would combine an observables-based underlying interest rate (i.e., the "risk free" rate of return) with a data-driven measure of bank creditworthiness. Using a Bloomberg tool supported by this algorithm, oversight bodies would be able to identify differences between bank contributions and "market observables" – specifically, divergences between the bank's assessment of its credit quality and the market's. Oversight authorities could use this assessment to determine banks' eligibility to contribute rates used for LIBOR.

Bloomberg continues to research a model in support of this tool. We would welcome the opportunity to discuss our methodologies and the results of our analyses with the Wheatley Review or any other appropriate oversight groups.

Over time, the Bloomberg tool could be developed for systematic application to bank contributions as part of an "enhanced" LIBOR, based on both bank-contributed data and observable market information. However, at least for an initial period, we envision a consultative process as a part of which Bloomberg would make itself available to oversight authorities for discussion and collaboration with respect to the application and use of observable market data.

Later Phases

Eventually, Bloomberg envisions the possibility of a data-driven LIBOR alternative: Bloomberg's "Blibor" index. Blibor would be built from observable market data, incorporating the lessons learned during the initial development and consultative phases to produce a better benchmark. With a view to transparency, appropriate elements of Blibor's broad set of market-based inputs would be made available to the market. As a result, Blibor would better reflect banks' true cost of credit and, in our view, would meet the market's need for an accurate, transparent and impartial benchmark.

Part II

For ease of reference, we have reproduced below questions from the Discussion Paper, followed by our responses.

Can LIBOR be strengthened in such a way that it can remain a credible benchmark?

Yes – for the near term, we believe this to be a necessity. We believe that the introduction of objective, market data-driven inputs can help LIBOR maintain credibility.

Could a hybrid methodology for calculating LIBOR work effectively?

Yes. Our vision includes using observable market data to enhance the near-term effectiveness of LIBOR, with a view to a future transition to Blibor as a permanent, data-driven replacement benchmark.

What degree of change to LIBOR can be accommodated before the existing volume of transactions referencing LIBOR is put at risk?

While our vision includes material enhancements to the way banks' cost of borrowing is measured, we believe that all change in this area should be implemented gradually and deliberately. For this reason, we have proposed an initial consultative phase, during which existing LIBOR is maintained while an implementation plan for data-driven improvements can be developed in a way that will not frustrate or unduly complicate vital market functions.

Are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?

Yes, eventually. We believe that Bloomberg is well positioned to develop, implement and maintain Blibor – a market observable data-driven alternative to LIBOR that is accurate, transparent and impartial.

Should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?

We believe that the enhancement of LIBOR with market data-driven components will, over time, gain sufficiently widespread market acceptance that Blibor could eventually fully replace LIBOR.

Should particular benchmarks be mandated for specific activities?

No. We believe that professional market participants should have flexibility to choose among multiple available benchmarks.

Over what time period could an alternative to LIBOR be introduced?

We are prepared to begin working with the necessary oversight bodies immediately to develop data-driven enhancements. However, we believe that a full roll-out of any alternative benchmark index should not be rushed, and may take a number of years to gain complete market acceptance.

Are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?

We believe EURIBOR faces many of the same issues confronting LIBOR.

Should there be an overarching framework for key international reference rates?

We believe that the market benefits greatly from studies like the Wheatley Review. However, we do not recommend a "one size fits all" approach and believe that additional analysis is required to determine the viability of an overarching framework for key rates.

We appreciate the opportunity to submit these comments. If you should have any questions, please contact Constantin Cotzias at 44 207 330 7500.

Respectfully submitted,

Constantin Cotzias

Bloomberg L.P.

BNP PARIBAS
CORPORATE & INVESTMENT BANKING

By post and by e-mail

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7th September 2012

Dear Mr Wheatley

I write on behalf of BNP Paribas in response to your review paper into Libor. We have read with great interest your initial discussion paper and are grateful for the opportunity to provide our response. However, it is not our intention to provide a detailed commentary in this letter, but wish to make a number of observations regarding your review more generally.

As you are aware, BNP Paribas is a global universal bank, headquartered in Paris, which has a long-standing commitment to the United Kingdom, with a significant base of operations in London across all of our three major businesses, Corporate and Investment Banking, Investment Solutions and Retail Banking.

We consider that your initial review paper presents a thorough and comprehensive analysis of the Libor framework in its current form, and accurately points out the weaknesses in calculation and compilation methodologies as well as in the current governance and regulatory framework. As a bank, we have seen how the lack of liquidity in the market over recent years has led to an increasing reliance on subjective judgment rather than transactional data to determine Libor contributions, which has made independent corroboration of rate submissions difficult.

Accordingly, as you state in your paper, it has become evident that there are a number of significant weaknesses which exist within Libor which has led to the position where retaining Libor in its current state is no longer a viable option. We are, therefore, supportive of reform to the Libor framework such that it restores credibility to the benchmark, and strengthens the City of London in its role as a global financial centre.

That said, we firmly believe that at the heart of any such reforms lies the future governance of Libor. Whilst we agree that contributing banks should themselves be primarily responsible for the quality of the submissions they make to the Libor process, with bank management ensuring that there are robust procedures with appropriate systems and controls in place to ensure high quality of submissions, we believe that this must be done in conjunction with the central authorities assuming independent responsibility for oversight and effective operation and control of the Libor framework. If it is considered critical for the international banks operating in London to continue to participate in the calculation and composition of Libor, it is vital they are encouraged to do so within an environment where the costs and risks to the banks are reasonable, proportionate and manageable from both regulatory and operational perspectives. We would, therefore, strongly support the introduction of a code of conduct which sets out detailed guidelines relating to policies and procedures concerning Libor submissions by all contributor banks. This would be of benefit not only to all contributor banks themselves, but to all market participants as well as ultimate end users of Libor. We believe this would help restore credibility in the benchmark and would assist the City of London in demonstrating its commitment to strong and effective governance.

BNP Paribas has substantial operations in London and many areas of expertise and our teams of technical specialists remain at your disposal to discuss any of the issues arising out of your review in more detail should this be of assistance.

We look forward to reading the follow-up discussion paper following the conclusion of this initial consultation phase in due course.

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BNP Paribas Group

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30th August 2012

Dear Martin

Wheatley Review of Libor: Response to the initial discussion paper

Thank you for the opportunity to contribute to the consultation in support of your review of LIBOR. As specialists who work with companies to transform business performance we have some valuable perspectives on the systemic and cultural issues that led to the failings you outline.

In the interests of clarity and brevity I have included here a list of summary points, which are focused on Chapter 2 of your paper. If these views resonate with you and your colleagues we would be delighted to explain and substantiate our comments by taking you through a number of detailed case studies, proven models, and relevant academic thinking.

In summary, there are seven points that we would offer:

- The attempted manipulation of LIBOR and associated failures in governance, while serious in their own right, are symptomatic of broader systemic issues within banking and financial services.
- Fundamental improvements in LIBOR and similar benchmarks will require root and branch reform of the banking system and the organisations that participate in it: banks, their leaders and shareholders; regulators; law-makers and enforcers; politicians; and others – in the UK and globally.
- As with TCF, at the heart of this reform is a need to change 'culture' but there is a need to go beyond leadership and behaviours. There is a need to deal with the underlying beliefs and assumptions that drive behaviours and, ultimately, performance (individual, organisational and system).

- Our experience of working with organisations on cultural issues continually highlights the importance of strong and insightful leadership. Exploring and dealing with deep-seated beliefs takes time and continual reinforcement. Received wisdom suggests that substantive change to the culture of banking is likely to take 3 to 5 years.

- This challenge is compounded by the need to achieve movement throughout the system. For these changes to work in any single organisation they must be supported and reinforced by complementary changes in other parts of the system. Put simply, changing the culture of the regulators will only work if there is a corresponding change in the culture of those being regulated – and vice versa. We believe success will require a group of leaders who share a common purpose and vision, who have the determination to see things through and who are prepared to work across organisational and political boundaries to reform banking.

- One critical assumption, which we believe to be false, is that financial incentivisation drives improved performance. Evidence and experience shows that, in fact, incentivisation leads to poorer performance. We suggest that this should be near the top of the list of issues that the group will address.

- Likewise, reliance on rules-based regulation leads to adversarial conduct and gaming behaviours that divert attention from underlying principles and standards of professional and personal conduct. We would urge a move towards a common focus on the customer with the banks, regulators and others working together collaboratively to build trust, service excellence and long-term, sustainable value.

Of course, reform of LIBOR and the broader banking system will require changes to how things are done (structures, processes, controls, governance arrangements, etc). But our experience of system reform in a broad range of industries in both the private and public sectors, demonstrates the imperative of making changes to 'being' – getting people to think and behave differently.

We agree wholeheartedly with the views espoused by you and other senior industry leaders about the need to break the cycle of mistrust, and with comments from across the political spectrum about the need for urgent improvements in the banking system to restore public and market confidence.

But before the system can change, leaders will need to change. We have expressed our view that a 'guiding coalition' should form, made up of leaders from all groups within the system. To be truly effective that coalition must come together as a result of personal conviction and interest – not because of external decree. The FSA, and shortly the FCA, can play a crucial role in the formation of that coalition. Not by exercising its regulatory powers but through influence and setting a clear example – through impartial leadership.

Once the core of that coalition has formed, participants can work towards a clear and common vision for the future of a differentiated, trusted banking system – one that can support high-integrity benchmarks and other mechanisms associated with global leadership of the financial services industry.

We have seen and been involved in many system-wide reforms and have experience of what works and what doesn't. The tools, technologies and approaches necessary to turn this ambition into actions, and those actions into results are well known - founded on robust theoretical base and considerable experience of success.

But the key ingredient are leaders who ‘care and dare’, who are prepared to take on the sceptics and those with vested interest in maintaining the status quo, who have the character and determination to make history.

We know they exist and, from our work with a number of major firms involved in LIBOR, we know who some of them are. They need to be connected and given the headroom within which to start the process of reform. The FSA, the Bank of England and government can (and surely must) play their part by providing the space for those leaders to lead.

I look forward to your comments and the opportunity to explain these points in more detail.

Yours sincerely

Colin Wilson
Director

CFA Institute

LIBOR SURVEY REPORT

September 2012

LIBOR SURVEY REPORT

Contents

About the Survey

Background and Purpose

The London Inter-Bank Offered Rate (LIBOR) refers to a series of daily interest rate benchmarks covering ten currencies and fifteen time periods, ranging from overnight to one year. Contributing banks submit the rates at which they expect to be able to borrow unsecured funds for a given currency and time period. After discarding the highest and lowest submissions, the average of the remaining rates determines LIBOR for the given day.

LIBOR, administered by the British Bankers Association, is the most frequently referenced interest rate globally, underpinning transactions with a notional outstanding amount of at least $300 trillion from derivatives to various credit products.

Since 2009, regulators in the United Kingdom, along with authorities in the United States, Canada, Japan, Switzerland and the European Union, have been investigating a number of institutions for alleged misconduct relating to the setting of LIBOR and other similar benchmarks. Among these investigations, Barclays was fined £291 million ($451m) by U.K. and U.S. regulators for manipulating its LIBOR submissions.

As part of its response to these investigations, the UK Government has established an independent review into LIBOR, referred to as the “Wheatley Review”. In order to inform the Wheatley Review and wider international regulatory efforts, CFA Institute collected members’ views on various reform options.

Methodology

On 22 August 2012, a regionally stratified random sample of 21,000 CFA Institute members were invited to participate in the online survey (7,000 from each of the following regions: the Americas, Asia Pacific, and Europe, Middle East, Africa). One reminder was sent to non-respondents on 28 August, and the survey closed on 4 September 2012. 1,259 members responded for a response rate of 6% and a margin of error of ± 2.7%.

Respondent Profile

Of the 1,259 members that responded, 30% are from the Americas, 27% from Asia Pacific, and 44% from Europe, Middle East, Africa. Global (total) results have been re-weighted to accurately reflect the entire CFA Institute membership (65% are from the Americas, 16% from APAC, and 18% from EMEA). Statistically significant regional differences are noted throughout the report. [1]

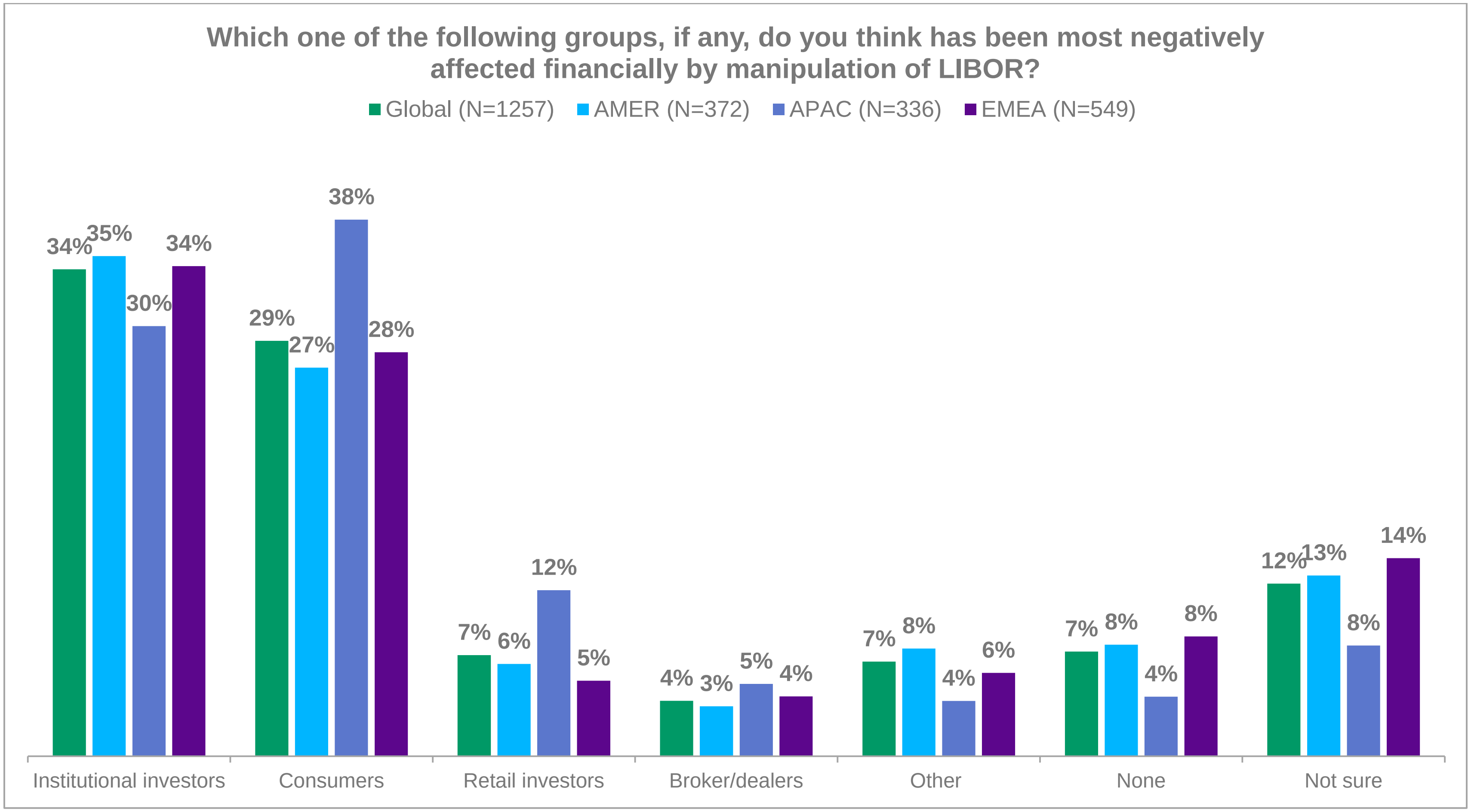
85% of respondents are CFA Institute charterholders. The top job functions of respondents are portfolio managers (20%), research analysts (14%), consultants (6%), risk managers (6%), corporate financial analysts (5%), investment banking analysts (5%), and financial advisors (5%). 25% of respondents listed other occupations and 10% of respondents did not provide an occupation.

[1] Significance testing (z-test) was conducted at the 95% confidence level to determine statistically significant differences by region.

Survey Results

Groups Negatively Affected by LIBOR Manipulation

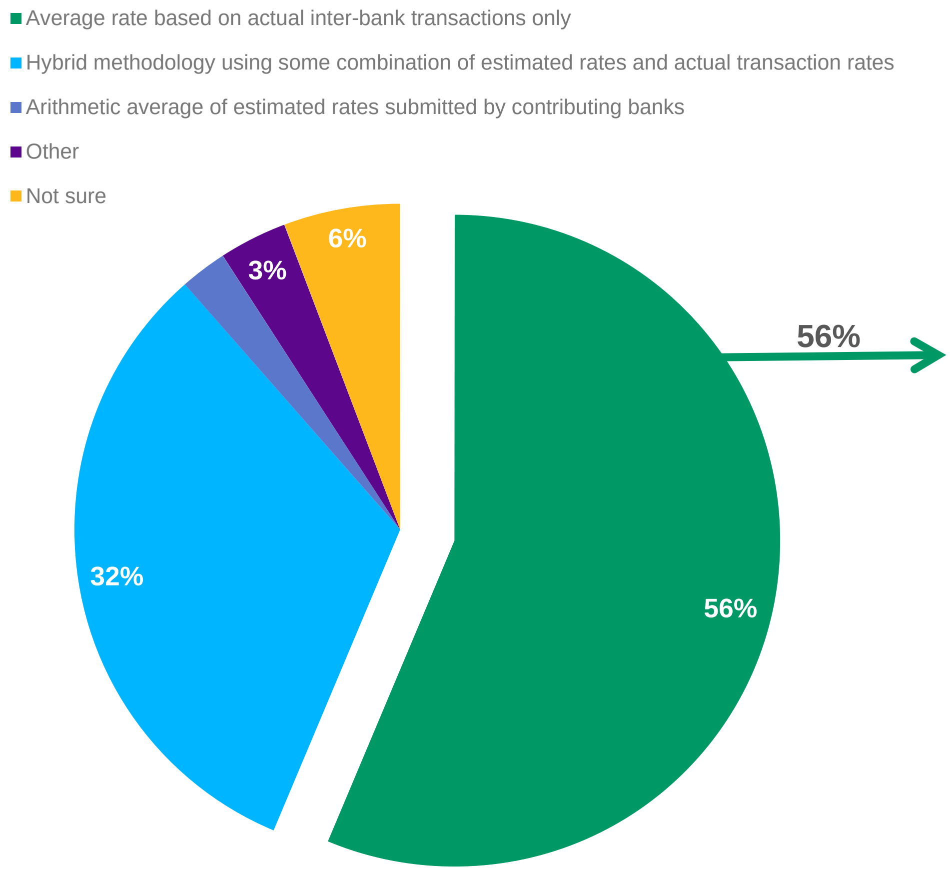
34 percent of respondents think institutional investors have been most negatively affected financially by manipulation of LIBOR and 29 percent think that consumers (borrowers and savers) have been most negatively affected. A higher proportion of members in APAC (38 percent) than in AMER (27 percent) and EMEA (28 percent) think consumers have been most negatively affected.



Methodology for the Setting of LIBOR

56 percent of members think the most appropriate methodology for the setting of LIBOR would be an average rate based on actual inter-bank transactions only. Of those, 49 percent think using estimated rates would be acceptable if the inter-bank market becomes very illiquid, with a higher proportion of those in APAC (62 percent) than in AMER (45 percent) agreeing.

Which one of the following options do you believe to be the most appropriate methodology for the setting of LIBOR? (N=1258)



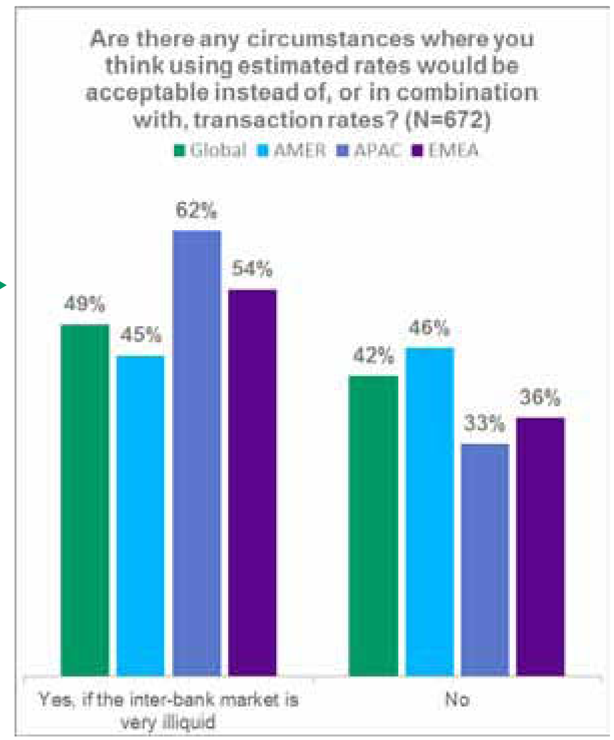
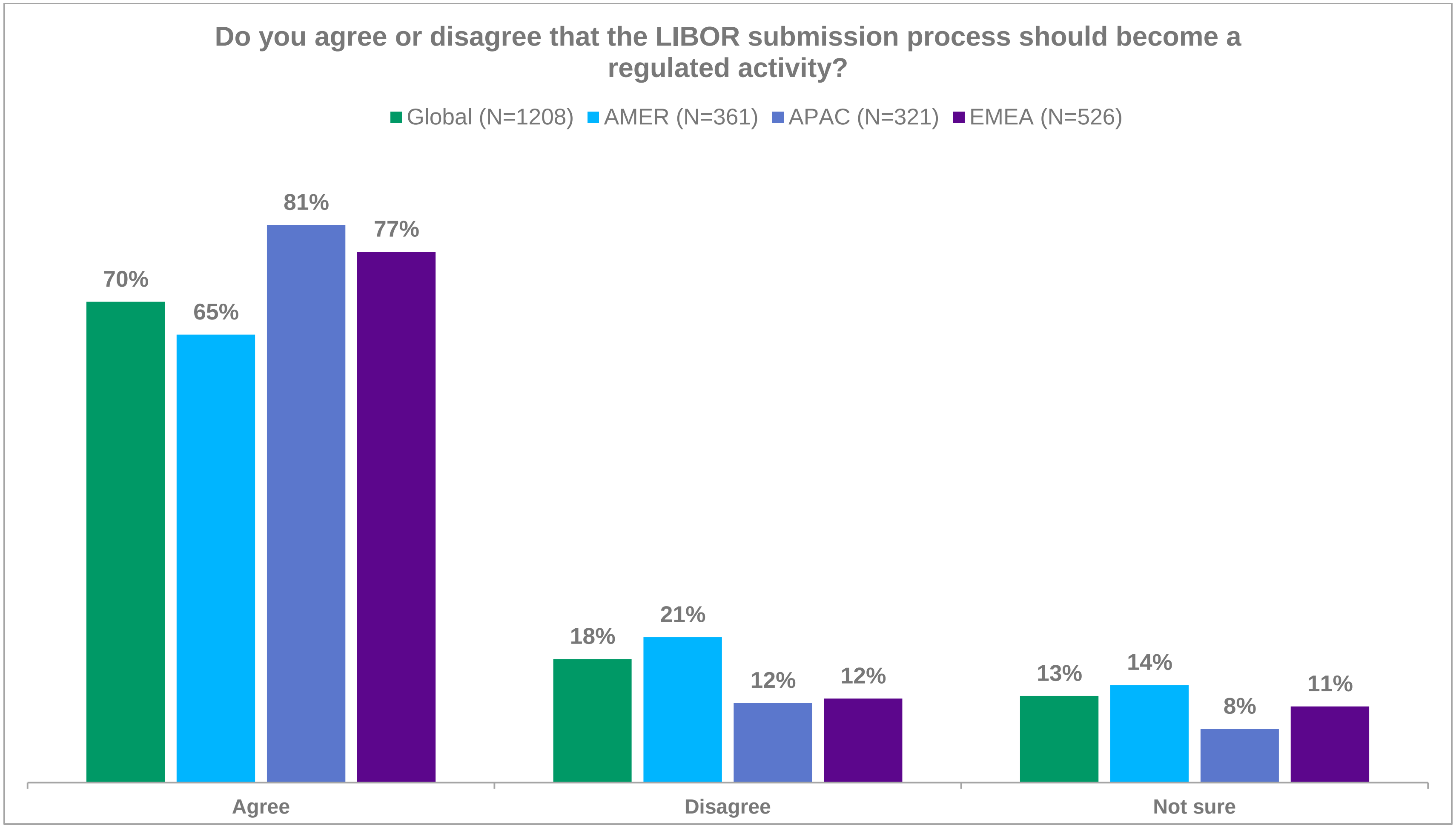


Chart does not display proportions that selected 'Yes, other circumstances' (3%) or 'Not sure' (7%)

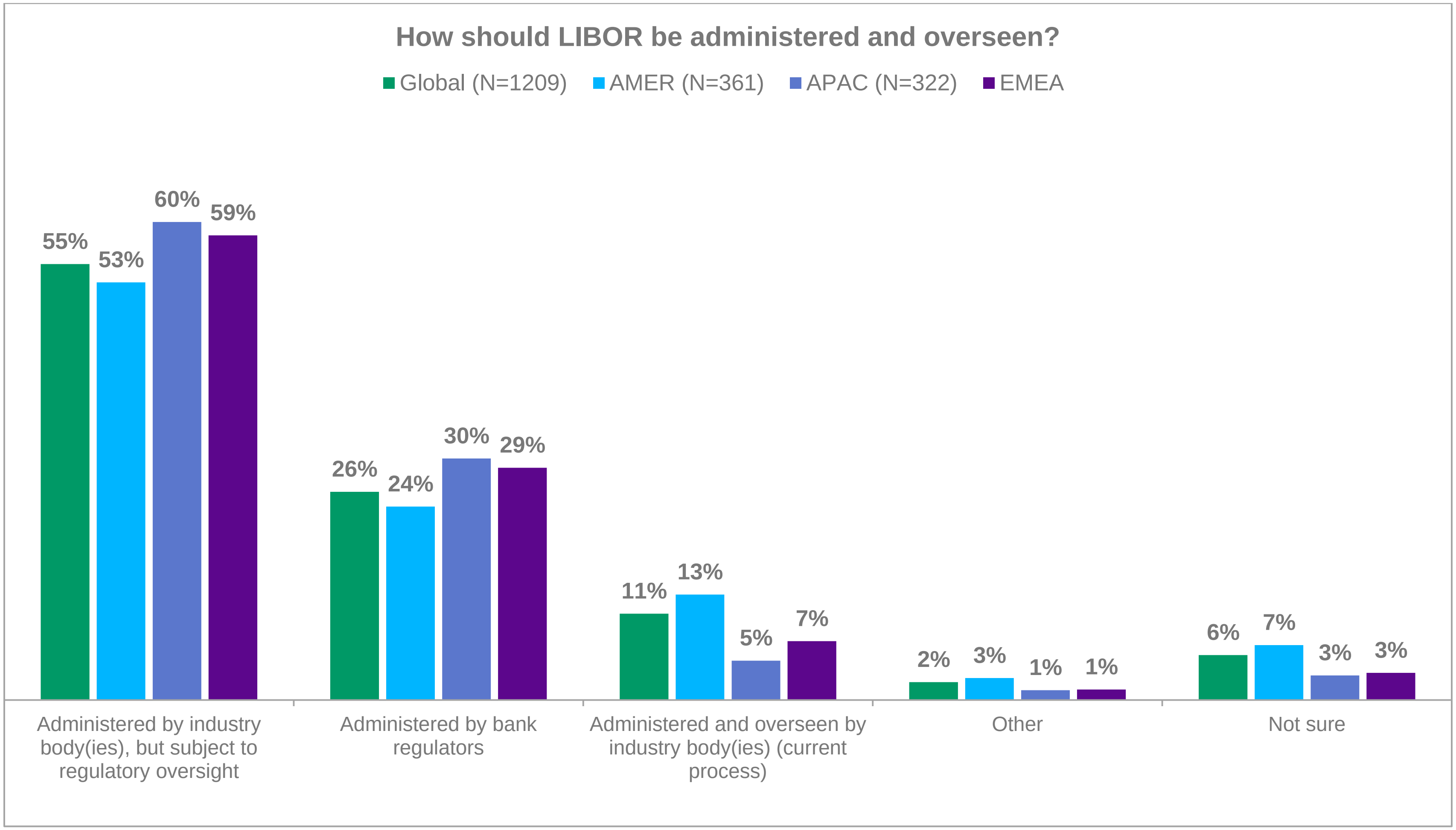
Regulation of LIBOR Submission Process

70 percent agree that the LIBOR submission process should become a regulated activity, with a higher proportion of those in APAC (81 percent) and EMEA (77 percent) agreeing than those in AMER (65 percent). 18 percent disagree, with a higher proportion of those in AMER than in other regions disagreeing.



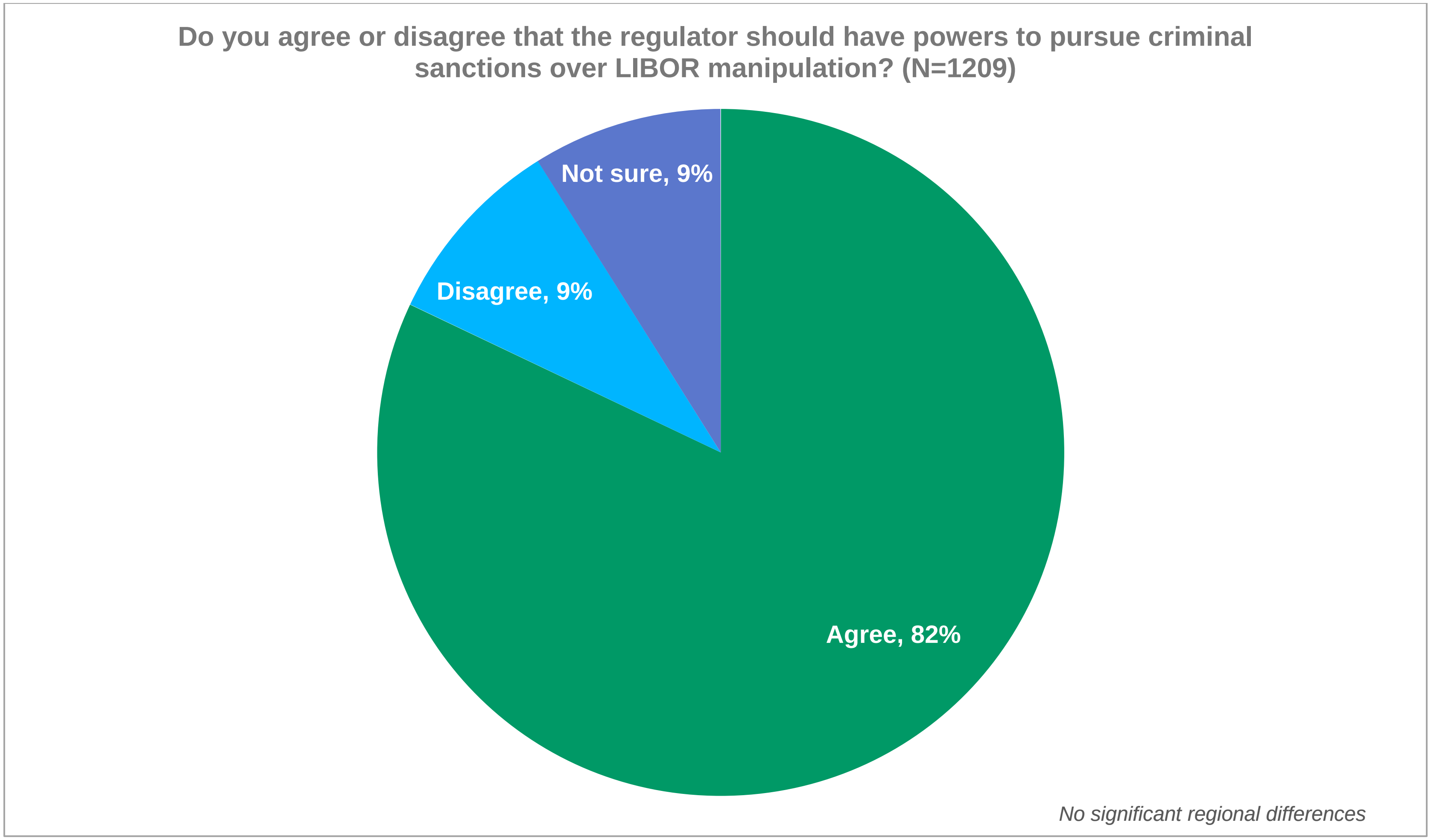
Administration & Oversight of LIBOR

55 percent of members think LIBOR should be administered and overseen by industry bodies but subject to regulatory oversight. 26 percent think LIBOR should be administered and overseen by bank regulators. A higher proportion of members in AMER than in APAC and EMEA think LIBOR should remain administered and overseen by industry bodies, though only the preferred method of administering and overseeing LIBOR by 11 percent of members globally.



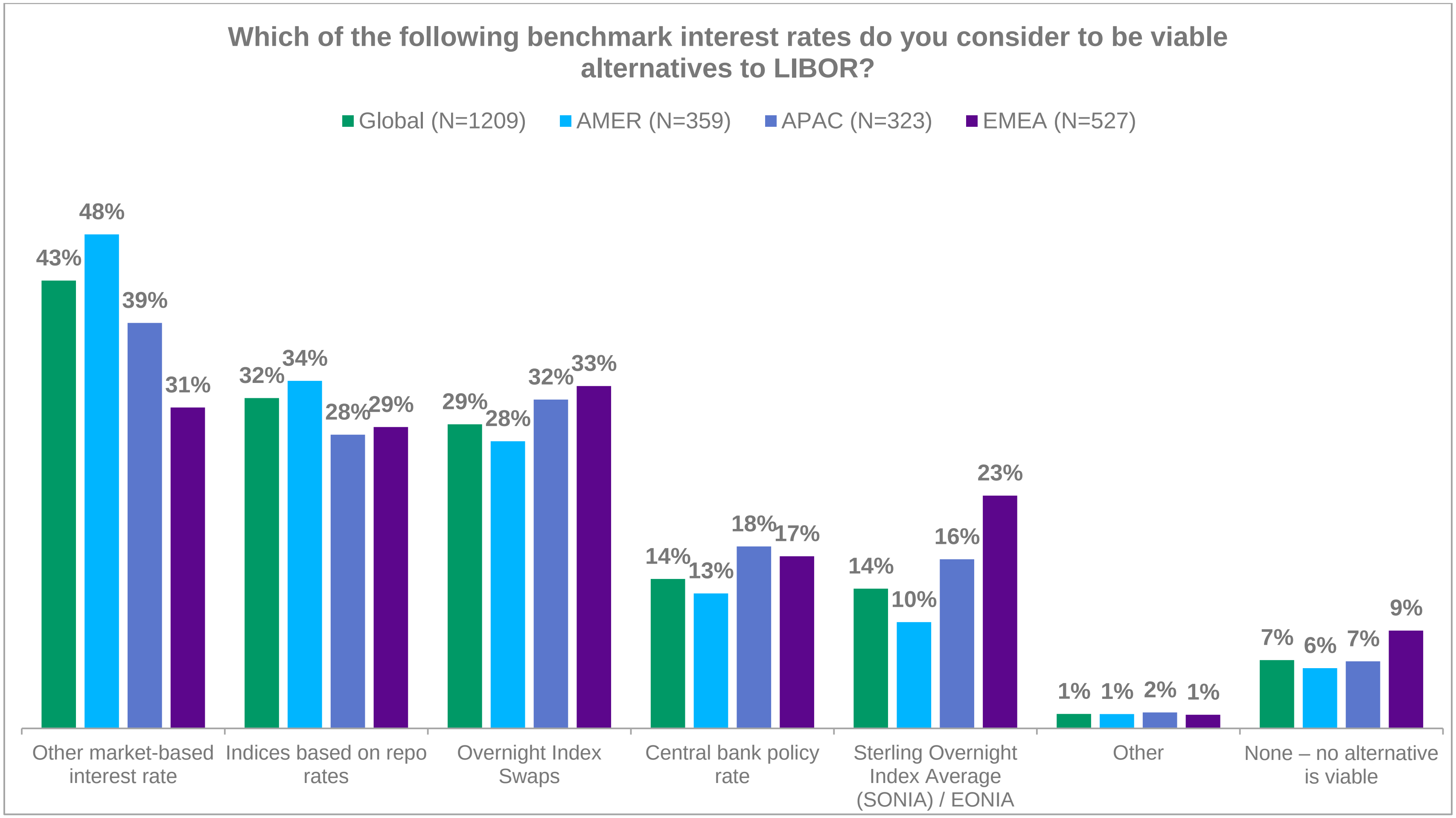
Regulator Powers to Pursue Criminal Sanctions

82 percent of members agree that the regulator should have powers to pursue criminal sanctions over LIBOR manipulation.



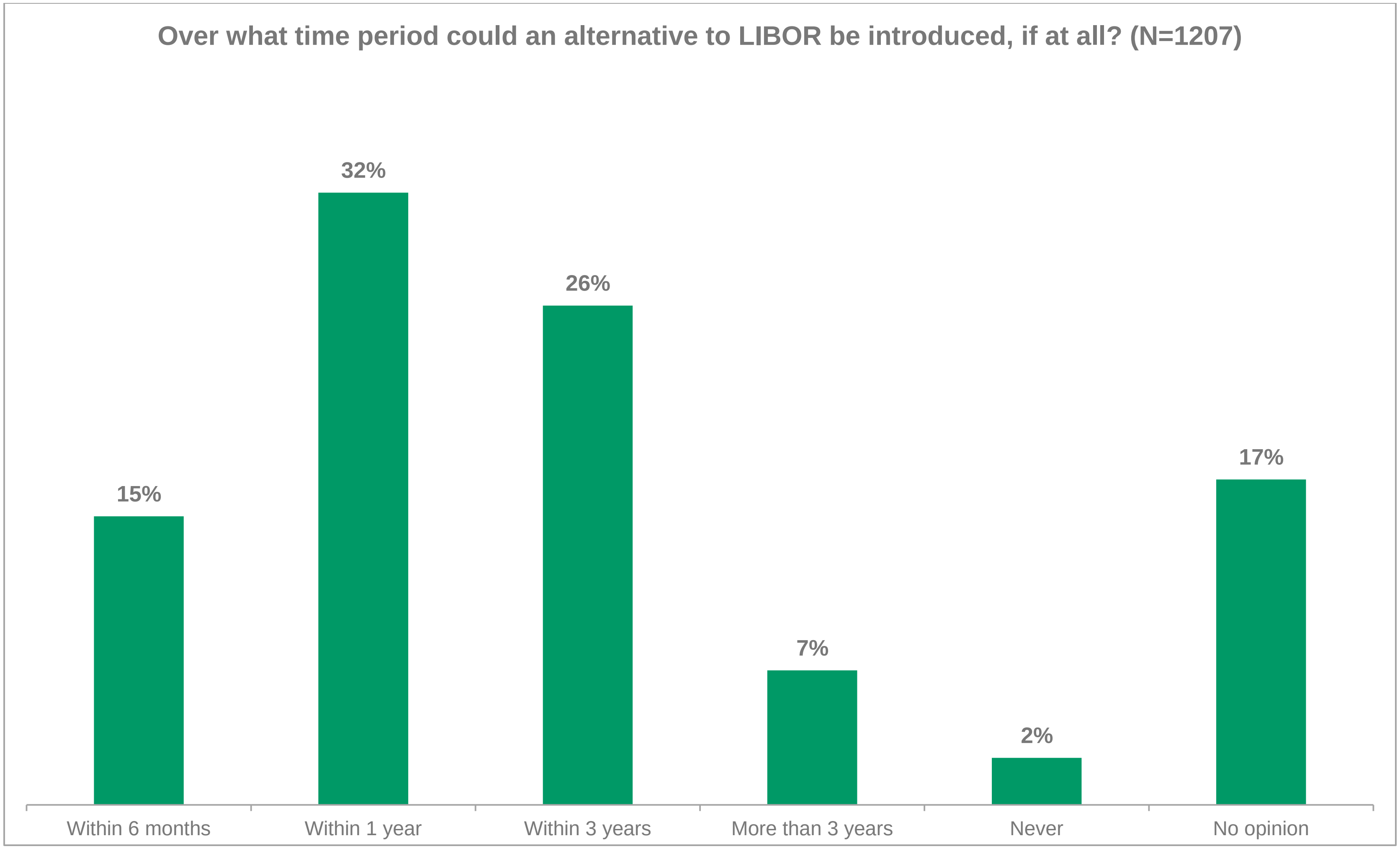
Alternatives to LIBOR

32 percent of members consider indices based on repo rates to be a viable alternative to LIBOR and 29 percent consider overnight index swaps to be a viable alternative. 43 percent of members consider other market-based interest rates (e.g. Treasury bill yield, certificates of deposit, commercial paper, etc.) to be a viable alternative, with a higher proportion of those in AMER than in EMEA considering that a viable alternative. A significantly higher proportion of members in EMEA and APAC than in AMER consider SONIA/EONIA to be a viable alternative.



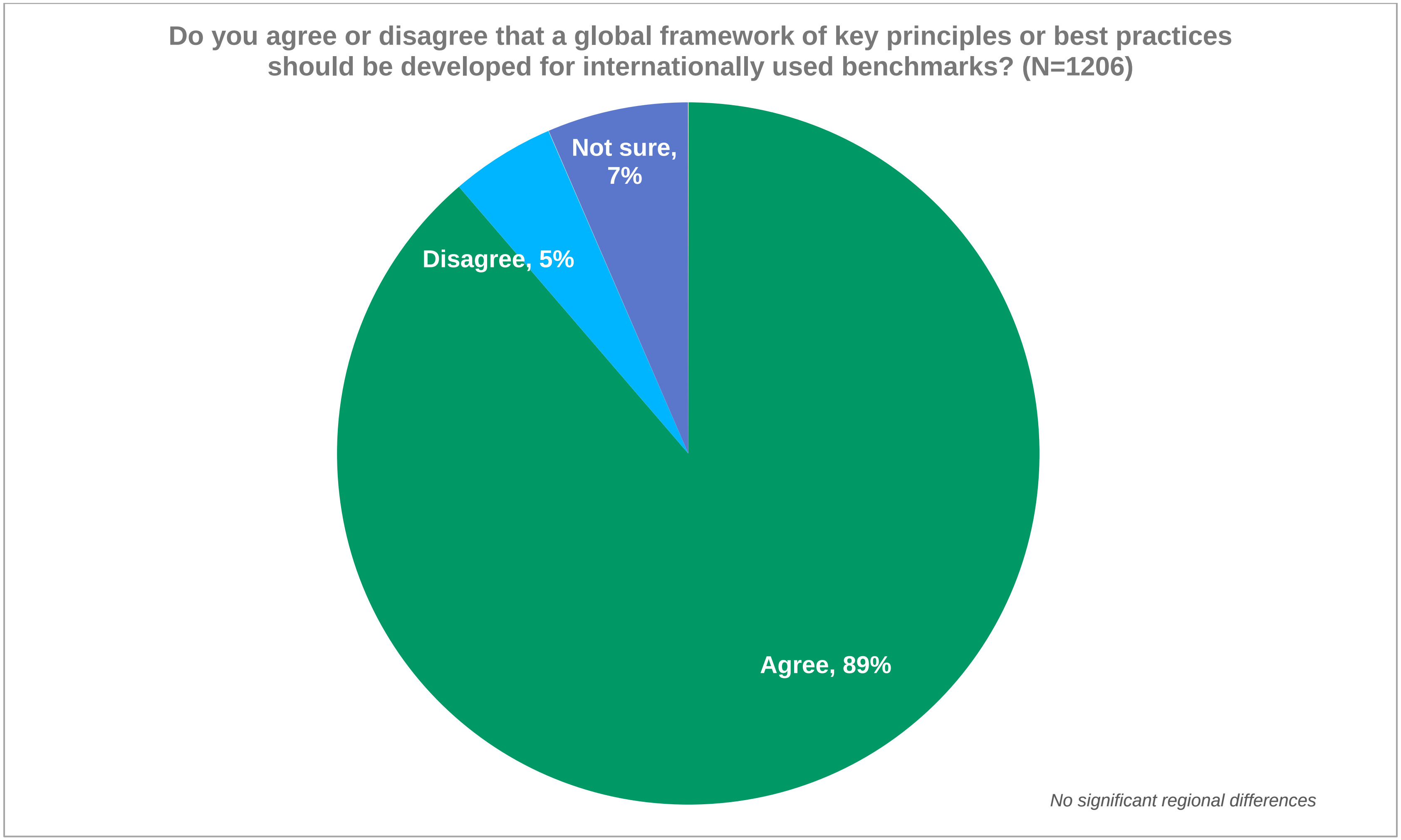
Time Period for Transition from LIBOR

47 percent of members think an alternative to LIBOR could be introduced within 1 year (15 percent within 6 months), and 26 percent think an alternative could be introduced within 3 years but not within a year. A higher proportion of members in APAC (21 percent) than in AMER (13 percent) think an alternative could be introduced within 6 months.



Global Framework

89 percent of members agree that a global framework of key principles or best practices should be developed for internationally used benchmarks, while 5 percent disagree and 7 percent are not sure.



Results Breakdown: UK Responses

159 responses were received by CFA Institute members located in the United Kingdom. Their responses, with one exception, are not significantly different from non-UK respondents. The only difference emerged in their response to the question about viable alternatives to LIBOR, in which (a) a significantly higher proportion of members in the UK (34 percent) than non-UK based respondents (12 percent) consider SONIA/EONIA to be a viable alternative and (b) a significantly lower proportion of members in the UK (27 percent) than non-UK based respondents (44 percent) consider other market-based interest rates to be a viable alternative (highlighted in blue in the data table below).

Which one of the following groups, if any, do you think has been most negatively affected financially by manipulation of LIBOR?	Global	UK	All other countries
Institutional investors	34%	30%	34%
Consumers (borrowers and savers)	29%	22%	29%
Retail investors	7%	3%	7%
Broker/dealers	4%	8%	4%
Other	7%	9%	6%
None; I do not think anyone has been negatively affected financially by LIBOR manipulation.	7%	13%	7%
Not sure	12%	15%	12%
Which one of the following options do you believe to be the most appropriate methodology for the setting of LIBOR?	**Global**	**UK**	**All other countries**
Average rate based on actual inter-bank transactions only	56%	50%	57%
Hybrid methodology using some combination of estimated rates and actual transaction rates	32%	40%	32%
Arithmetic average of estimated rates submitted by contributing banks	2%	2%	2%
Other	3%	4%	3%
Not sure	6%	4%	6%
Are there any circumstances where you think using estimated rates would be acceptable instead of, or in combination with, transaction rates?	**Global**	**UK**	**All other countries**
Yes, if the inter-bank market is very illiquid (e.g., if there are few actual transactions)	49%	55%	49%
Yes, other circumstance(s)	3%	7%	3%
No	42%	35%	42%
Not sure	7%	7%	7%
Do you agree or disagree that the LIBOR submission process should become a regulated activity?	**Global**	**UK**	**All other countries**
Agree	70%	74%	69%
Disagree	18%	13%	18%
Not sure	13%	12%	13%

How should LIBOR be administered and overseen?	Global	UK	All other countries
Administered by industry body(ies), but subject to regulatory oversight.	55%	63%	55%
Administered by bank regulators	26%	20%	27%
Administered and overseen by industry body(ies) (current process)	11%	9%	11%
Other	2%	1%	2%
Not sure	6%	7%	6%

Do you agree or disagree that the regulator should have powers to pursue criminal sanctions over LIBOR manipulation?	Global	UK	All other countries
Agree	82%	77%	82%
Disagree	9%	12%	9%
Not sure	9%	11%	9%

Which of the following benchmark interest rates do you consider to be viable alternatives to LIBOR?	Global	UK	All other countries
Other market-based interest rate	43%	**27%**	**44%**
Indices based on repo rates	32%	32%	32%
Overnight Index Swaps	29%	36%	29%
Central bank policy rate	14%	16%	14%
Sterling Overnight Index Average (SONIA) / EONIA	14%	**34%**	**12%**
Other	1%	3%	1%
None – no alternative is viable	7%	11%	6%
Not sure	17%	14%	17%

Over what time period could an alternative to LIBOR be introduced, if at all?	Global	UK	All other countries
Within 6 months	15%	13%	15%
Within 1 year	32%	26%	32%
Within 3 years	26%	26%	26%
More than 3 years	7%	9%	7%
Never	2%	5%	2%
No opinion	17%	21%	17%

Do you agree or disagree that a global framework of key principles or best practices should be developed for internationally used benchmarks?	Global	UK	All other countries
Agree	89%	81%	89%
Disagree	5%	7%	5%
Not sure	7%	11%	6%

Additional Comments

- Banks lost on LIBOR fixing. Traders and their bosses made additional money, while plundering their firms. It is not the bank itself that is at fault, but the culture within the firms. (AMERICAS: CANADA)
- Establishing a clear and transparent system for accurately setting LIBOR rates is an issue of credibility for the Global Financial System. (AMERICAS: CANADA)
- I would be interested in reading an analysis of what, if any, damages there were from this - alleged or otherwise. (AMERICAS: CANADA)
- I would like to see LIBOR set in New York, rather than UK. I trust the American financial markets and their regulators much more relative to any other developed markets with the exception of the Canadian Financial markets and their regulators. While I know that there were many mistakes done over the past couple of years, while I know regulators in US were overwhelmed by the course of the events, while I know that many thinks US will never be able to handle the 16T dollars in debt, at the end of the day I still trust the Americans more than anyone else. My trust does not extend to the British financial markets and their regulators. (AMERICAS: CANADA)
- LIBOR has been trustworthy benchmark. Element of wrongdoers should be removed not the LIBOR itself. This investigations must find out culprits from bottom of sewer and be punished very hard. It is not repute of LIBOR or BA is at stake, it will open a window by other economic rivaling countries to develop parallel benchmark to LIBOR. (AMERICAS: CANADA)
- The reference rates need to be more transparent and regulated. However, regulators and central banks were complicit in many of the problems. The BoE and Fed both knew that dealers were under estimating their borrowing costs in 2008/09. It suited ALL for this to be the case at the time. In fact, for many LIBOR maturities LIBOR was basically made up as there was no offer for term money. None! (AMERICAS: CANADA)
- All interested parties, especially regulators, need to assume and expect that participants WILL try to find a way to game whatever system is developed, as in the final analysis, gaming the system to the disadvantage of other participants is their business model. Any small opening to monopoly of any kind, collusion of any kind, regulation re-write, WILL be exploited far beyond any awareness of that risk. (AMERICAS: USA)
- all markets are being manipulated-stocks through quantitative easing, so the LIBOR issue is not a major surprise (AMERICAS: USA)
- Any alternative needs to include the credit risk component that LIBOR has. Therefore it can't be based on T-bill or CD rates. Commercial paper rates are probably the best option. (AMERICAS: USA)
- Any properly constructed and broadly useful index should have a clear set of underlying assets. The regulators should consider that at least [25]% of all bank LIBOR transactions clear through a transparent exchange where prices are posted in real-time or nearly so. The banks cling to a view of the world where it was neither possible to collect nor disseminate all transaction prices (i.e., the world of paper and fax settlements). The banks' role is to intermediate credit lending decisions, not collect market rent from making market prices opaque. (AMERICAS: USA)
- Because the highest and lowest readings were thrown out, the manipulation had little material effect on the actual rate. If anything, borrowers benefited by paying a LOWER rate and were not hurt. It is unclear who really lost out. Banks were probably receivers of LIBOR, but some banks probably survived the crisis because they did not post "True" rates that might have signaled weakness and cause a Lehman style run on them. Investors in floating rate securities may have received lower coupon income, but a higher LIBOR would have resulted in more "bank stress" and market fears that would have likely lead to far greater principal Mark-to-market loss on those same securities that would have been far worse than small amount of lost coupon income. (AMERICAS: USA)

- Best practices" doesn't address felonious corruption proclivity -- there has to be a severe punishment. Even then. I'm not sure whether testosterone-driven risk-takers will smell the coffee. Perhaps a very high whistle-blower reward could work -- that, at least, would put a form of "competition" on the floor. The good guys would become intelligence agents, and the bad guys would try to outrun them -- interesting dynamic! (AMERICAS: USA)
- Economist Magazine views on how LIBOR could be fixed are most succinct I have read. (AMERICAS: USA)
- I used to work in the energy industry. Traders were criminally prosecuted for misreporting industry benchmark data that impacted price setting. LIBOR should be no different.   / / Also, a benchmark rate set by actual transactions would be much superior to LIBOR. The benchmark rate should be set by ALL transactions, though. Be VERY careful of "off exchange" trades that allow for gaming/manipulation. (AMERICAS: USA)
- In my opinion and in spite of the abhorrent behavior by some of the LIBOR setting participants, the way LIBOR is currently arrived at, can work the way it currently is set up albeit with some tweaks. Notably more oversight by regulators combined with the integration of "real rates" as inputs.   Overall, and unless some hard quantitative evidence proves otherwise, my guess is the impact of this entire debacle is not significant, especially in consideration of the financial turmoil during the periods in question. (AMERICAS: USA)
- Let companies like S&P, Markit or others compute these global benchmarks (AMERICAS: USA)
- LIBOR began as a loan pricing mechanism for a specific group of banks for for relatively short loan /funding periods - from overnight to six month tenors. A sample of banks was selected -at first from the lending group - to provide representative rates from which LIBOR for that loan was calculated.   Gradually, a "universal" LIBOR came to be calculated from a set group of reference banks and then used as an all-purpose benchmark for the cost of offshore funds in currency. The first step in defining the new LIBOR is to determine its precise role. Is it to be a rate for setting loan pricing? Or a wider benchmark? If the latter then the ideal situation is to have more market input than not into its calculation. The uses to which the rate is put would probably suggest what that rate should be.   Like any market-based price, to accept that there will be gaps requiring interpolation. Interpolated rates should be specifically identified to prevent the illusion of there being a real market price.   / / Using repo rates -which are for secured transactions - introduces the need for an adjustment to an unsecured basis for loans for example. And raises the question about transparency, for these rates into their setting. Care has to be taken to recognize he effects of tax regimes, required reserves or the absence thereof, etc.. (AMERICAS: USA)
- LIBOR essentially replaced the prime rate, which was clearly a bank-set rate, the correlation of which to daily market rates was positive, but variable. As such, LIBOR represented a step forward in closer market approximation. I don't think at the time anyone believed that LIBOR was a true unadulterated market rate, without any of the elements of a bank-set rate. The availability of information has progressed sufficiently in the intervening years to make it practical to use a purely market rate, either transaction-derived LIBOR or something else, in the future. (AMERICAS: USA)
- LIBOR needs to be estimated by banks estimating both estimating the rate at which they would borrow and also the rate at which they would lend to other banks. The latter is the primary failure of the current system. (AMERICAS: USA)
- Markets should be transparent, not manipulated by EITHER banks or policymakers. (AMERICAS: USA)
- Should consider using actual borrowing costs, and publish a list of banks that submitted the actual costs, but do not disclose which banks submitted which costs. This would provide more truthful values, yet eliminate the stigma of high borrowings costs. / / When no actual rates are available, then use estimates, but then disclose how many of the submissions were estimates as oppose to actual rates. (AMERICAS: USA)

- Since LIBOR submissions were always estimates, we should have been suspicious of this process all along. The banks will resist disclosing what it actually costs them to borrow, but there really is no other way to have an accurate benchmark of interbank rates. (AMERICAS: USA)
- Some have commented that the LIBOR scandal is an uproar that far exceeds any damages done to borrowers, savers or those involved in the derivatives market. While that may be true from an economic standpoint, the financial system functions better when integrity is maintained. Even if no one was harmed by misreporting rates by the institutions that report their borrowing rates for setting LIBOR, misreporting, for any reason, does not establish a basis for predictable ethical behavior. A lie is a lie. Some want to establish a threshold for what is a "real lie" versus an "insignificant lie". You cannot establish such a threshold. (AMERICAS: USA)
- Stop the looting and start prosecuting. The public will not regain confidence in the financial markets until some bankers go to prison. (AMERICAS: USA)
- Submitting banks should estimate rate at which best bank could borrow. (AMERICAS: USA)
- The commercial paper rate seems like the rate least able to be manipulated. If the banker can manipulate, they will. (AMERICAS: USA)
- The confidence of savers & borrowers across the entire global economy was damaged by the LIBOR scandal. Savers hurt & borrowers benefited. The perpetrators of this fraud need to be swiftly & severely dealt with by the justice system. The system needs to be changed so that this cannot happen again. (AMERICAS: USA)
- The current method kept the markets functioning during 2008 when the markets had all but frozen out. If actual transaction rates were required there was a period where the market could have completely collapsed. The banks and the regulators did the right thing by using an estimated rate to keep the markets functioning. Subsequent to that, the majority of the instances of which I have heard cited actually involve understating LIBOR which hurt investors in lending entities but helped borrowers. Anyone purposely misstating or encouraging the misstating of LIBOR in order to benefit other contracts to which they are a party should be investigated, and punished. We should not throw out the current system because of a few bad actors. The current system is still the best alternative for the intended purpose and the flexibility helped keep the 2008 crisis contained. (AMERICAS: USA)
- The manipulation that has apparently taken place is another black eye on our industry. (AMERICAS: USA)
- The process of determining the rate should not be easily manipulated for gain by inside participants at the expense of others affected by the process. (AMERICAS: USA)
- The regulators knew about biased LIBOR rates. Regulators instructed or encouraged the submissions of biased and incorrect LIBOR rates. Regulators make biased decisions and policies using biased rates. Regulators anywhere on the globe cannot be trusted, and the banks can't be trusted. / / Don't mend LIBOR rate methodologies, submissions or process, etc. End LIBOR rates. Substitute an arithmetic average of new-issue yields, quarterly, on 10 largest democratic countries based on GDP. If there is not a viable 2 or more parties political process in a country, it cannot be included in the average. (AMERICAS: USA)
- The rules for construction of the benchmark should be public and easy for an individual to understand. / If there are risks inherent in the construction (estimates, self-reporting) they should be explicitly disclosed. / The purpose for using the benchmark should be communicated to consumers (for example, an estimate of bank short term funding costs). / (AMERICAS: USA)
- The senior people responsible should spend time in prison. (AMERICAS: USA)
- This is an example of something working perfectly fine until there is an extreme event, some suggestion of possible manipulation, and the entry of opportunistic regulators and investors who feel they can pick the deep pockets. If there was a misstatement, it was motivated by cosmetics, not economics, and was not a conspiracy to rip off anyone. (AMERICAS: USA)

- This is kind of a stupid survey. CFAs don't know enough to answer these questions, and the questions aren't well-thought out. This is a complex topic that does not work well with a "choose one" question style. All answers should have been format free, like the last box. Read my articles on the question, you might learn something: / / http://alephblog.com/2012/07/06/an-analysis-of-three-month-LIBOR-2005-2008/ / / http://alephblog.com/2012/07/12/on-floating-rates/ / / http://alephblog.com/2012/07/05/on-internal-indexes-like-LIBOR/ / / Not everyone will agree with my opinions/findings, but this question is more complex than your survey design admits. (AMERICAS: USA)
- Those who manipulate rates should be liable for losses of those who relied on them (AMERICAS: USA)
- Using an artificially low reference rate creates systematic risk more than harming any specific market participants more than other market participants. The problem is that one bank reporting artificially low rates will spur other banks to report artificially lower rates. Overall rates that are artificially low will crowd out yield seeking investors from fixed income markets and they will search for return in other investments like real estate, commodities and equities.   (AMERICAS: USA)
- AU/NZ has a very workable system based on actual bank bill transactions (ASIA PACIFIC: AUSTRALIA)
- Estimation is not the problem. The total lack of accountability of the estimation is the problem. / I suggest estimated rates from each entity are compared with their actual transactions (i.e. back tested) and any large discrepancies queried for further explanation. / / I suggest that this is done on a monthly basis and the differences are published for public consumption. on Bloomberg. (ASIA PACIFIC: AUSTRALIA)
- In answer to the first question I don't think borrowers have been adversely impacted, but savers may have been (ASIA PACIFIC: AUSTRALIA)
- It is unclear how much the impacts were and who were most suffered. But it is clear it negatively impacted the credibility of financial markets. (ASIA PACIFIC: AUSTRALIA)
- LIBOR is a market critical index. The fact that it has been manipulated is appalling and I believe regulators should acknowledge the loss to the public and prosecute/ penalize the entities involved. / We have seen moral hazard after moral hazard all a function of individual greed and I am sick of hearing there is no accountability, there should be criminal punishment like there should be criminal punishment for executives and Boards of 'too big to fail' banks when they become reliant on central banks and governments to stay open. / The trust in the Financial markets and professionals has fallen enormously over the past 5 years, and it seems the way this fraud is being dealt with is another example of why investors should believe our profession is corrupt. I am ashamed of the financial services industry and the pointless efforts by regulators to hold individuals accountable to any minimum level of ethical behavior. (ASIA PACIFIC: AUSTRALIA)
- LIBOR is merely a manipulated rate. (ASIA PACIFIC: AUSTRALIA)
- No-one is forced to use LIBOR. LIBOR is a private benchmark created by voluntary participation by private businesses. It is not a government owned asset or a "public good", despite the fact that members of the public may use it. Participants in LIBOR owe no special obligation to users of LIBOR - perhaps the fact that this is not explicit is the problem. (ASIA PACIFIC: AUSTRALIA)
- Send the crooked people to jail for defrauding others. Make the banks reimburse everyone who has suffered loss from their deceit. (ASIA PACIFIC: AUSTRALIA)
- people get used to the benchmark but it is the time for change (ASIA PACIFIC: CHINA)
- (1) RE-ELECTION: LIBOR submission member banks should be subject to regular qualification process (say, every 2~3 years) for re-election. / (2) REPORT: Member should report their daily submissions together with their actual inter-bank loan transactions, making these transparent to the public for evaluation, detection of abnormality, etc. / (3) REGULATED: A committee of

international regulators should be set up to over-see the daily activities involved in setting LIBOR. (ASIA PACIFIC: HONG KONG)

- Barclays, being one of the relatively more honest banks on this matter, is still fined. Most if not all of the other banks should also be fined, proportionally. Fairness must be maintained. The regulators must pursue all other banks ASAP. Unfair treatments between banks would lead to irreparable damages to the market. (ASIA PACIFIC: HONG KONG)
- If Regulators bring 'X'-IBOR benchmark creation into their remit, and at the same time migrate to a transaction based curve creation process, this will remove the subjectivity that has enabled Banks' to game the process to their advantage. (ASIA PACIFIC: HONG KONG)
- Interbank borrowing is in essence the same as issuing short-term bonds. So put them all on an open market with transparent bids and offers. At the same time put all sovereign and corporate bonds on similar trading screens. (ASIA PACIFIC: HONG KONG)
- More transparency in the process is key. Credit market participants are forced to make assumptions as to a counterparty's creditworthiness otherwise. Credit ceases to be provided to a counterparty when doubt regarding its solvency reaches a critical threshold. Transparently set counterparty lending rates would highlight this well in advance. The current opaque system sets up a binary situation where counterparty rates imply an institution is solvent one day and ends up in liquidation the next. This type of discreet event causes the credit market lock-ups and subsequent market chaos seen in 2008. / / I think credit default swaps provide good model for LIBOR. They are a continuous indication of an institution's creditworthiness, I think a key factor is that they are set by a broad and changing set of market participants continuously bringing new information to the market. If one looks at the CDS levels for institutions leading up to their failure in 2008 it is obvious that they were giving a true indication of the deteriorating creditworthiness while the interbank rates upon which LIBOR is based were just a fiction. (ASIA PACIFIC: HONG KONG)
- Before introducing any benchmark rate, it needs to be tried and tested and based on the response it should be slowly and steady expanded. (ASIA PACIFIC: INDIA)
- LIBOR should be provided with another chance to re-invent itself in more transparent and compliant way (ASIA PACIFIC: INDIA)
- The way LIBOR is fixed today it raises more questions on its trustworthiness as the true reflection of market perception of the overall risk inherent in overnight to one year lending as the deciding bankers will always want to use it to their advantage.. The system was always suspicious as the association fixing it would always had the advantage of forming cartel or function in the oligopolistic manner. The surprise is that it has surfaced after decades though there was always an obvious chance of it happening and then no regulator or economist raised the alarm with the same voice as today. The best way to curve such untrustworthy nature of banking is to let the market decide at what rate they want to trade rather than giving any reference rate to it. Regulators should chip in when the market is overruled by few bankers. If we still feel that we need the reference rates and doing away with the same will impact the businesses negatively, then this association of bankers should be formed on rotation basis and each bank should be the part of the association for not more than six months based on some eligibility criteria. It will not only help in judging the consistency in rate fixing but also bring more competitiveness. (ASIA PACIFIC: INDIA)
- LIBOR has some problems however nothing can substitute LIBOR. LIBOR will be sustained. (ASIA PACIFIC: KOREA)
- The fracturing of the LIBOR market is part of a symptomatic unraveling of the world's capital market. The game has always been rigged, the indices manipulated by those with the most vested interest. Fixing the LIBOR issue would not address the larger problem at hand. The fundamentals of a free market system presupposes that there are there is no single person who can move the market, yet time and time again, this is not the case, as underscored by fantastical

blow-ups like LIBOR-gate. This would be less of a problem if you de-link the LIBOR offers from the other traders with vested interests in the LIBOR. However, the market would correct itself by moving away from the LIBOR towards other floating rate instruments if it perceives that this LIBOR-gate has cost the financial markets catastrophic amounts. It's more like knowing that the casinos are fixed, but gamblers still go there anyway. (ASIA PACIFIC: MALAYSIA)

- Again, if actors have malafide intent, it does not matter what methodology you adopt nor if there is regulatory oversight. This does not mean there should be no regulatory oversight. On the contrary banks have a conflict of interest with respect to LIBOR and other international rate indices that are used to price products or place borrowings. With respect to LIBOR that removes outliers and then averages the quotes is a means of trying to smoothen individual bank preferences, if all collude, this is meaningless. So again what steps the industry takes to bring integrity to the process is really the key. Regulatory oversight will help but the key responsibilities lies with the banks themselves and the internal processes they put in place to ensure that such collusion does not happen again. (ASIA PACIFIC: NEPAL)
- LIBOR rates as submitted by Banks are highly manipulative, the especially distort the rates at the time of big consumer or corporate lending's. (ASIA PACIFIC: PAKISTAN)
- The current LIBOR scandal has implications worth trillions of dollars. The reference rate for financial transactions should be independent and no party should be able to influence it in their favor not even the regulators. (ASIA PACIFIC: PAKISTAN)
- Banks will be banks. Which bank will not manipulate to their advantage. Banks cannot impute rates that are not actual. / The key is / 1. To use actual transactions where available so that it is documented and verifiable / 2. Where the bank has no transaction, imputed rates will be used. However imputed rates should not be under the control of the bank / 3. Imputed rates will be the median of the other submissions from the other contributing banks / 4. Then take the weighted (size of transaction) average rate from all the contributing banks / 5. Further reduce the risk of manipulation by averaging this rate with the interbank swap and repo rates (ASIA PACIFIC: SINGAPORE)
- Benchmark rates should be based as far as possible on actual, liquid market data. If the markets are illiquid, then that benchmark is irrelevant. (ASIA PACIFIC: SINGAPORE)
- Do an independent audit on random basis (ASIA PACIFIC: SINGAPORE)
- It was well known during distress periods that LIBOR was not a good basis of actual accessible rates and bond yields were seen as a better index. Rates should be set off the government bond yield curve.... (ASIA PACIFIC: SINGAPORE)
- LIBOR affects all globally. Industry players should lead in setting a new/uniform standard, tempered by a committee of regulators that are not aligned with any one country. (ASIA PACIFIC: SINGAPORE)
- We should strive towards keeping financial markets corruption-free and less prone to manipulation. At the same time, too much regulatory oversight and too complicated a calculation methodology in something as basic as determining a daily benchmark interest rate is only going to introduce and exponentially increase the cost & complexity in other processes / derivatives. A simple volume weighted average rate transacted by banks, calculated by market bodies with some degree of regulatory oversight should be more than sufficient to rectify the problem at hand. A simple calculation methodology and strong penalties in one-off market manipulation cases should act as strong deterrents for potential rogue contributors. Going overboard with the regulations right now is only going to cost everyone on a permanent basis. (ASIA PACIFIC: SINGAPORE)
- As long as a benchmark is only calculated based on submitted estimation (with no binding obligation) this opens the way to manipulation. It definitely needs to be calculated, at least in part, based on actually used rates and have this serve as an anchor, if you will. A regulator should

supervise this process and decide on whether the estimations submitted are realistic or not. (EMEA: AUSTRIA)

- sadly our industry has proven once again that it cannot self-regulate effectively - some regulatory oversight needed (EMEA: AUSTRIA)
- The reference rates should be set by the central banks based on actual trades (EMEA: AUSTRIA)
- Require that all LIBOR submitters complete the CFA program. / - trainings on Importance of the LIBOR submission / - internal audit review of the process. / - independent body in charge of submitting a detailed report periodically. / (EMEA: BELGIUM)
- time period for the introduction of an alternative to LIBOR would need to ensure there can be a smooth transition of current LIBOR-based contracts to the new benchmark without detriments to the parties. I am not sure of how much time would be needed. (EMEA: FRANCE)
- I would only use LIBOR transactions executed on regulated exchanges. Thus "reference prices on rates" would become transparent like equity index option settlement prices on option expiry. / / If LIBOR transactions continue to trade OTC I would transfer MIFID regulations from equity markets to fixed income markets. (EMEA: GERMANY)
- Regarding question "Over what time period could an alternative to LIBOR be introduced, if at all?": LIBOR is the base for many long-running contracts, so it needs to be around for years. However, for new contracts alternatives can be used. / / I think there is too much hype around the LIBOR scandal. The process needs adjustment, yes. The EURIBOR process might be a better process (more members, banks submit their estimates for others not for their own transactions). (EMEA: GERMANY)
- There is room for stronger and more efficient regulation to be implemented. So far, lack of monitoring has only led to having one scandal after another coming to surface, and more is certainly expected from institutions putting at the core of their mission the ethical function of global financial markets i. e. the CFA Institute. When scandals than that are revealed, the general public simply ask themselves whether information of this kind had not been common knowledge among informed market participants in the first place. This way, reacting to such scandals rather than being proactive is perceived by the general public as lack of efficiency. (EMEA: GREECE)
- After years of serving as lead investigator on a host of abuses by financial institutions and their employees, I have come to the conclusion that perhaps the only way to stop ongoing abuse, of which the manipulation of LIBOR is only a symptomatic example, is to have financial regulators the world over paid salaries commensurate with those they are regulating, with "commission"-based bonuses on top of those salaries, based on a percentage of the money recovered in complex fraud cases. / / Until we get serious about hiring the best and brightest regulators, and compensating them as though they are bankers, we can expect systemic fraud in the financial sector to continue. (EMEA: ICELAND)
- Take it off from UK banks and use a mix of international banks. (EMEA: MAURITIUS)
- If there are irregularities in LIBOR, what else can we expect in the future? Is the regulator on top of everything? (EMEA: NETHERLANDS)
- Current method of fixing LIBOR stands discredited. Whatever be the alternative that could emerge within the next one to three years, it should be transparent . My personal preference for LIBOR alternative would be 1) indices based on discount rate or 2) policy rate of central bank. (EMEA: SAUDI ARABIA)
- Numerous swaps and instruments with maturities greater than 3 years are currently in issuance. even if alternatives are found, LIBOR will still have to be calculated in parallel with alternatives to accommodate these securities. (EMEA: SOUTH AFRICA)
- The LIBOR should be administered by the industry body but with an over sight from the regulator. / Increase the number of contributors for setting LIBOR and the rates contributed by banks should

be examined in great detail. Also increase the number of people on the committees that sets LIBOR. / (EMEA: SOUTH AFRICA)

- When all the major banks actually transacted close to LIBOR, in volume, LIBOR was a plausible but not perfect benchmark. The GFC and the effective re-rating of all banks far from the LIBOR 'benchmark', together with the interbank liquidity freeze, rendered LIBOR unfit for purpose. / It's not clear that any substitute will be better able to withstand a repeat of the 'perfect storm' of 2008 but, notwithstanding that caveat, any replacement must be representative (whatever that is defined to be) of real, actual and verifiable commercial arms-length transactions. (EMEA: SOUTH AFRICA)
- The LIBOR panel must be, as minimum, as the same size as the EURIBOR panel. For me, the main problem for LIBOR is the reduced number of contributors. (EMEA: SPAIN)
- I am not an expert in this field. It is clear that the manipulation which has taken place is breathtaking, but I'm not sure how it should be solved. (EMEA: SWEDEN)
- Consider that all ISDA based transactions have to be migrated (EMEA: SWITZERLAND)
- Has anyone looked at potential manipulation in the US money market for setting benchmark rates? / How is the obvious manipulation of interest rates and interest rate curves by central banks judged? (EMEA: SWITZERLAND)
- In any case avoid to rely only on a single rate (EMEA: SWITZERLAND)
- LIBOR can be saved; it is a very important tool. But we need clarity as to who manipulated, and why... and then learn our lessons (EMEA: SWITZERLAND)
- LIBOR rate should remain in the hand of the industry, as it serves the industry, and not regulated per se, all players of the financial sectors have a strong interest to arrive at a fair and correct rate, the fact that some irregularities may have been done by certain players does not mean that the system is wrong, adding more regulation will not help. Maybe we could thing of enlarging the number of sample banks for the calculation with certain criteria which is not necessarily the volume or the size (EMEA: SWITZERLAND)
- Many products for conservative private investors are based on LIBOR and the potential manipulation, although it may ultimately not have deprived these clients from much wealth, has shaken their trust in the industry. One needs to come with a "new LIBOR" that is less prone to manipulation and correctly communicate to private investors on the measures taken to avoid manipulations. (EMEA: SWITZERLAND)
- Nobody was really hurt by the manipulations since most of the investors, consumers etc. are most of the time indirectly receiver and payer in product that are linked to LIBOR (such as bonds, money market transactions, mortgages, loans, discount rates for pension funds etc.) (EMEA: SWITZERLAND)
- Question re time period > no opinion: I know that trillions of dollars are linked to the LIBOR and looking at some long-term structured products or loans etc., there might be an alternative within 6months, but the question is, to what degree would this alternative be used at the beginning and maybe it would take years if not decades to have this alternative as standard benchmark. (EMEA: SWITZERLAND)
- The current methodology is a failure by construction and hence I don't think that any investigation of fraudulent activities will make sense and end up positive. Furthermore, judging over longer term, I believe it will be difficult to estimate whether LIBOR has been overstated or understated compared to an "ideal" benchmark, therefore the discussion should be closed soon and a better sampling methodology should be established with a regulatory control process. (EMEA: SWITZERLAND)
- The manipulation of interest rates in not a bad thing per say; central bank do it all the time, and are happy when the banking industry goes along with their policy. / / The more important story here is that during a financial crisis, most banks become technically insolvent. This is not the first time this has happened (see S&L crisis in the USA in the early 1990’s). During such periods,

regulators do all they can to prevent bank failures in order to save the system. This is known as "regulatory forbearance." In the LIBOR rate setting process, bank regulatory were happy not to have too many “outliers” that could signal potential bank failures. During this period, banks continued to earn profits and repair their balance sheets while still making loans. This is a much preferred outcome to massive bank failures due to accurate reporting of borrowing costs, upon which other banks might react by not extending liquidity. / (EMEA: SWITZERLAND)

- the problem wasn't LIBOR but the manipulation of it for personal gain. It's no reason to over-regulate, just punish the manipulators. (EMEA: SWITZERLAND)
- There can still be differentials between OIS rates and LIBOR rates but not at current levels I think. ? (EMEA: SWITZERLAND)
- Is it Euribor-EBF a viable alternative? / (EMEA: UKRAINE)
- the whole legal and regulatory process around the issue is cumbersome. the simplest way to ensure greater transparency is to ensure that the rate provided by banks should be within the range of the rate quoted during the day rate should be contributed by the finance division of the bank rather than dealers who quote the rate, (EMEA: UNITED ARAB EMIRATES)
- There is a conflict of interest in the way LIBOR is determined which stimulates the tendency to report lower levels of LIBOR. Had an independent market platform (electronic, efficient and transparent market platform rather than OTC) been set up to monitor demand and supply bid and offer rates, this conflict of interest would be minimized. (EMEA: UNITED ARAB EMIRATES)
- Trust is critical! I think the key should be in regaining the trust of all market participants (not just investors) in an index that can then be used to measure (or standardize) transactions. / / Imagine if the kilogram (which is the weight of an actual thing) was found to be wrong! Would you trust any seller of physical goods? (What would you base your transactions on?) (EMEA: UNITED ARAB EMIRATES)
- Another black-eye for the financial industry. Global regulation needs to be put in place for such matters, and further regulation required (EMEA: UNITED KINGDOM)
- As a "risk free" discount curve clear that LIBOR is not appropriate. As a risk measure for unsecured funding it might be useful but the "credit" element needs to be properly defined in a tradable way. The focus for this needs to be some arbitragable liquid product that defines the spread to GC collateralized rates not a survey of submissions. The biggest crime is that the credit element of the LIBOR fix is not "known" to the vast majority of the end users, in effect it's predominance in financial contracts has forced large proportions of the market (often well collateralized savers) to borrow at unsecured bank rates rather than at a rate more appropriate to their own financial position. (EMEA: UNITED KINGDOM)
- As a former investment banking professional I always assumed that LIBOR submissions were scrutinized by the BBA and the Bank of England as a sign of market health. What is shocking about the LIBOR scandal is that the very basics of sound practice - traders announcing and submitters collating with regulators reviewing - were not being adhered to. There is nothing wrong with any of the mechanisms in place if people are doing their jobs.....banks, regulators and other overseeing bodies. Incompetence is the key scenario at play here and no amount of regulatory change will alter the competence issue; this is the key variable that needs to be addressed. (EMEA: UNITED KINGDOM)
- Daily submission should include actual borrowing rates (for the previous day), in addition to expectations by lenders. Large discrepancies would need to be explained and this would also help in the oversight effort (EMEA: UNITED KINGDOM)
- I am concerned that the LIBOR 'problem' will now be used by foreign regulators especially in order to try and wrestle 'top spot' from London in this important area of influence. I am also concerned that the UK's authorities will concede too much ground on this issue in order to placate foreign peers. (EMEA: UNITED KINGDOM)

- I am skeptical that we will be able to find a solution easily. LIBOR and swap rates always assumed a certain amount of credit risk: counterparties receiving a variable rate may not be willing to switch to benchmarks like SONIA/EONIA or repo rates as those rates are generally lower (as those transaction have a lower amount of credit risk). / / Sadly, a quick solution will only come by political will, as big banks may agree to compromise on this and deflect further inquiries on their role in manipulation. (EMEA: UNITED KINGDOM)
- I am still not 100% sure what exactly the "LIBOR riggers" are accused of (newspaper accounts were vague and I am a pharma analyst). Based on what I've read, my understanding is that the banks were asked to provide their best estimate of the rates at which they would be able to borrow money from other banks, and are now accused of having lowballed the number relative to their "true" expectations, i.e. the regulators are trying to look inside the brains of the traders who provided the quotes. This sounds a bit like a market maker quoting a price in a stock, or an investor placing a limit order on a stock and then being taken to account because the price at which he/she was looking to buy or sell seems wrong to someone. Shouldn't they just lose out on the transaction unless everyone in the space is completely irrational? It also is unclear to me how the "rigged" LIBOR rates affected transactions - surely the banks that lent money did so at a rate that they felt was a sufficient reward for the risk they were taking? In general, I find this whole concept of trying to pursue finance professionals whose quotes, opinions etc. are believed not to have reflected their "true" opinions very murky and liable to abuse (aka witch hunting by under-pressure politicians). Therefore, I am against criminal sanctions for anything other than outright fraud that can be proven unequivocally. I think that regulators have to accept that you can't look into someone's brain to see what they really think. There are only 2 options for LIBOR, and any other key indicator in finance: 1) Base it on actuals only, so that it becomes a straightforward calculation. 2) Base it on estimates provided by finance professionals and ensure that they are incentivized to give their best estimate, and that market forces are in place that will penalize banks for giving misleading numbers (e.g. by being unable to transact business because the prospective counterpart does not agree to the number). I am against involving any politicians (this includes organizations subject to political influence) in any rate-setting mechanisms, as then the real rigging would start. (EMEA: UNITED KINGDOM)
- I do not believe the retail market to have been particularly exposed financially as I am not aware of many retail products being exposed to LIBOR. Furthermore, mortgage pricing derived from LIBOR will have benefitted from the manipulation in financial terms as LIBOR was manipulated downwards. (EMEA: UNITED KINGDOM)
- I think the LIBOR 'scandal' is merely an opportunity for the regulators to fine banks, cannot see any impact of LIBOR setting on the real economy. (EMEA: UNITED KINGDOM)
- It is surprising that after so much progress on regulatory oversight in other parts of the market that such a central measure as not been brought into such a framework (EMEA: UNITED KINGDOM)
- LIBOR arose from the demand from clients for such a benchmark. It was thus market driven, although the circumstances of its birth were in a very different era, and the small club of London banks which introduced LIBOR in the seventies did not foresee the explosive growth in its use in the subsequent decades. It is still used because despite its drawbacks and inadequacies there is no better alternative. If a group of banks or anyone else wishes to set up an alternative there is nothing to stop them. / (EMEA: UNITED KINGDOM)
- LIBOR should continue as it is. If the people using LIBOR are unhappy with it, they should use other indices, or set up a system to establish such indices. Then the market users will decide which they want to use. Let the market decide! (EMEA: UNITED KINGDOM)
- Probably best to try to remove the subjectivity (so use actual transactions) and the credit risk element (use repo or derivatives). (EMEA: UNITED KINGDOM)

- Rates should reflect the real perceived credit quality of the borrower, so could be based on certificates of deposit (where rates are set by investors and issuers, and are executed rather than theoretical). Replacing the current LIBOR rates by a new benchmark will require time though, as so many contracts are linked to LIBOR. Existing contracts will need grandfathering. (EMEA: UNITED KINGDOM)
- Surprised at the lack of responsibility demonstrated by market participants. / Surprised by the 'soft touch' regulatory environment of 2000-10 in UK / Surprised by the rotten nature of corporate cultures of financial institutions in London over the same time period. / Clearly, there is tremendous growth potential for 'business ethics' in the City. (EMEA: UNITED KINGDOM)
- the BBA never forced anyone to use LIBOR rate as a benchmark rate for their transactions: it is just the same as with rating agencies, we blame them for relying too much on them. Let's do our homework and we would avoid such issues (EMEA: UNITED KINGDOM)
- The introduction of average actual rates could harm the financial system during times of financial stress. Any proposed method must take into account that sometimes extreme rates can happen for different reasons. Additionally any political/ BofE influence must be kept to a minimum or should be openly disclosed so that the market can assess any sudden movements in LIBOR submissions (EMEA: UNITED KINGDOM)
- The LIBOR scandal has just been a media "beat-up", with very little underlying substance. / Politicians are finding it extremely convenient to vilify banks, to distract the voting public from their own shortcomings. (EMEA: UNITED KINGDOM)
- the public deserves convictions on this scandal, or perhaps the insurance scandal(s), or perhaps the reckless lending requiring bailouts. At some point people actually being held to account would be nice. (EMEA: UNITED KINGDOM)
- The use of LIBOR worked well in the past but without much interbank lending it is no longer a food benchmark. Also, with the government manipulating interest rate at levels never seen before, there is not a 'true' rate anymore. (EMEA: UNITED KINGDOM)
- There is a bit of a hypocrisy going on here: central banks keep printing money and cutting rates. But when big banks try to keep rates down they become criminals. The banking system is all in the same boat, I am pretty sure if interbank rates were high, the CB would have called them and asked them to keep rates down. so at the end of the day what they did was also for the greater benefit of the system. (EMEA: UNITED KINGDOM)
- This is a very difficult topic. I am surprised that the powers that be were surprised to find out that LIBOR was manipulated. It had to be obvious that this was the case during the Global Financial Crisis. I don't think that the powers that be would have been happy with the true LIBOR (if there was one) during the crisis. (EMEA: UNITED KINGDOM)
- Regulatory oversight is important (EMEA: ZIMBABWE)

Respondent answers to ‘other (please specify)’ response options

Which one of the following groups, if any, do you think has been most negatively affected financially by manipulation of LIBOR?

- Lenders in general (ie. savers, but not borrowers) (AMERICAS: BRAZIL)
- Banks (AMERICAS: CANADA)
- Corp borrowers (AMERICAS: CANADA)
- Everyone due to lack in confidence in industry self-regulation. A total disgrace. (AMERICAS: CANADA)
- Municipalities/local borrowers (AMERICAS: CANADA)
- shareholder and lenders to those banks that under-reported cost of capital (AMERICAS: CANADA)
- speculators (AMERICAS: CANADA)
- whole of the financial community (AMERICAS: CANADA)
- All investors (AMERICAS: USA)
- Any party relying on LIBOR settings in any contract. (AMERICAS: USA)
- Bank reputational risk (AMERICAS: USA)
- Bank shareholders (AMERICAS: USA)
- Banks (AMERICAS: USA)
- commercial borrowers (AMERICAS: USA)
- counterparty (AMERICAS: USA)
- Employees (AMERICAS: USA)
- Everyone. Traders would not have bothered manipulating the rate unless they were able to make /save money doing it. Also another blow to investor confidence (AMERICAS: USA)
- fixed income investors (AMERICAS: USA)
- Lenders (AMERICAS: USA)
- Municipalities with interest rate swaps (AMERICAS: USA)
- On average, I don't think anyone was negatively affected. Spreads adjust to reflect their benchmark (AMERICAS: USA)
- savers, not borrowers (AMERICAS: USA)
- State and Local Governments (AMERICAS: USA)
- swap counterparties/lenders (AMERICAS: USA)
- Swap purchasers (AMERICAS: USA)
- The biggest are the citizens of many countries as regulators and lawmakers made incorrect responses and policies based on LIBOR statistics. (AMERICAS: USA)
- ultimately everyone loses due to reduced confidence in the markets (AMERICAS: USA)
- Unleveraged Institutional Investors (AMERICAS: USA)
- Difficult to identify a particular group, the effect is broad-reaching. (ASIA PACIFIC: AUSTRALIA)
- Everyone (ASIA PACIFIC: AUSTRALIA)
- everyone due to lack of confidence in the sector (ASIA PACIFIC: AUSTRALIA)
- None in aggregate (ASIA PACIFIC: AUSTRALIA)
- Society - due to loss of confidence in financial system (ASIA PACIFIC: AUSTRALIA)
- banks and their shareholders whose people manipulated the rate (ASIA PACIFIC: JAPAN)
- Corporate and household borrowers (ASIA PACIFIC: KOREA)
- any consumer who has a financial product that is based on LIBOR (ASIA PACIFIC: NEPAL)
- Everyone (ASIA PACIFIC: NEW ZEALAND)

- All Investors (Retail & Institutional) (ASIA PACIFIC: SINGAPORE)
- All market participants have indirectly been affected (ASIA PACIFIC: SINGAPORE)
- Corporate Borrowers (ASIA PACIFIC: SINGAPORE)
- Corporations (ASIA PACIFIC: SINGAPORE)
- Corporations (EMEA: FRANCE)
- both, retail and institute. investors (EMEA: GERMANY)
- depends on product not groups of market participants (EMEA: GERMANY)
- Hard to say b/c sometimes groups might have been positively affected (zero net effect?) (EMEA: GERMANY)
- there are winners and losers in every group (EMEA: GERMANY)
- The first 3 groups above (EMEA: NETHERLANDS)
- consumers and corporate who use plain vanilla floating rate loans (EMEA: ROMANIA)
- participants of derivatives transactions, especially the trading desks (EMEA: SLOVAKIA (SLOVAK REPUBLIC))
- Everyone (EMEA: SOUTH AFRICA)
- smaller commercial banks (EMEA: SPAIN)
- all but broker / dealers (EMEA: SWITZERLAND)
- Banks - reputational damage (EMEA: SWITZERLAND)
- everybody (EMEA: SWITZERLAND)
- Receivers of LIBOR across the categories above (EMEA: SWITZERLAND)
- Speculators betting on deteriorating banks (EMEA: SWITZERLAND)
- Everyone (EMEA: UNITED ARAB EMIRATES)
- Individual savers and Pension funds (EMEA: UNITED ARAB EMIRATES)
- All categories except Broker/dealers (EMEA: UNITED KINGDOM)
- Banking industry (EMEA: UNITED KINGDOM)
- Banks (EMEA: UNITED KINGDOM)
- Banks - reputational risk (EMEA: UNITED KINGDOM)
- Consumer - Savers only (EMEA: UNITED KINGDOM)
- corporate depositors (EMEA: UNITED KINGDOM)
- corporates (EMEA: UNITED KINGDOM)
- Depends which way it was manipulated (EMEA: UNITED KINGDOM)
- every one of these (EMEA: UNITED KINGDOM)
- government (EMEA: UNITED KINGDOM)
- market infrastructure (EMEA: UNITED KINGDOM)
- Retail and institutional savers (EMEA: UNITED KINGDOM)
- The entire industry (EMEA: UNITED KINGDOM)
- This is too complicated to make such a simple observation. Yes, LIBOR was obviously manipulated but the financial system would have had to be rewritten at the worst possible time if true LIBOR was produced during the GFC. (EMEA: UNITED KINGDOM)
- traders, hedge funds (EMEA: UNITED KINGDOM)

Which one of the following options do you believe to be the *most* appropriate methodology for the setting of LIBOR?

- a market with actual & transparent bids & offers like an equity market (ASIA PACIFIC: HONG KONG)

- Actual estimates need to be used but without interbank lending this is obviously tricky (EMEA: UNITED KINGDOM)
- Actual transacted rates excluding outliers and take arithmetic mean on them (ASIA PACIFIC: HONG KONG)
- Aggregated method with a reconciliation. All banks should submit the rate they pay AND the rate they offer to other financial institutions to an independent body. The latter would have in it its possession a detailed list which can be reconciled and checked. LIBOR could be calculated as the weighted average rate. (EMEA: BELGIUM)
- Arithmetic average of rates submitted by panel banks after excluding say top and bottom deciles (ASIA PACIFIC: AUSTRALIA)
- average based on actual transactions, but with a clear process as to where to set the rate in the event that interbank markets are closed (EMEA: AUSTRIA)
- Average rate based on actual inter-bank transactions only but excluding the highest and lowest value. (ASIA PACIFIC: SINGAPORE)
- Average rate based on actual inter-bank transactions. During periods when such rates are not available than the best estimate of rate at which money would be lent. (ASIA PACIFIC: INDIA)
- Average rate of interbank transactions between banks with similar if not the same credit rating. (EMEA: UNITED ARAB EMIRATES)
- Average weighted rate based on the average of all actual interbank transactions done by the bank in the last 24 hours. If the bank has no transactions done, then the rate imputed will be the median of all the rates from the other contributing banks (ASIA PACIFIC: SINGAPORE)
- Banks' quoted rates at which they must be prepared to trade (not just hypothetical). (EMEA: UNITED KINGDOM)
- Can't fix LIBOR. Don't use it for anything. (AMERICAS: USA)
- CDS (ASIA PACIFIC: THAILAND)
- commercial paper rate is better (AMERICAS: USA)
- Current method (ASIA PACIFIC: TAIWAN)
- current method (first does not eliminate each end) (AMERICAS: USA)
- daily auction (ASIA PACIFIC: KOREA)
- Deal size weighted average rate based on actual inter-bank transactions only (EMEA: UKRAINE)
- Force the outliers to transact at the submitted rate (EMEA: UNITED KINGDOM)
- Hybrid combination of (1) weighted actual trans rates, (2) spread+liquid gov/corporate/bank bond yields (ASIA PACIFIC: HONG KONG)
- let the market decide (ASIA PACIFIC: TAIWAN)
- like VWAP (AMERICAS: USA)
- Market rate from large basket of traded unsecured debt of similar maturity (AMERICAS: USA)
- math's is not important. objectivity and independence of the rate setting mechanism is! (EMEA: UNITED ARAB EMIRATES)
- Maybe a hybrid method, but what happens when there is no quote or even a likely quote. (EMEA: UNITED KINGDOM)
- Median of actual transaction rates reported to third party (AMERICAS: USA)
- Needs to be an actual, not estimated, rate for real transactions, e.g. repo - also must be sufficiently deep and broad to be truly representative (EMEA: SOUTH AFRICA)
- Nothing wrong with the current methodology. It's the implementation that was fudged. Any methodology can be manipulated if actors so want it. So the focus should be on what steps you can take to maintain integrity in the process. (ASIA PACIFIC: NEPAL)
- OIS (fed funds effective) - set benchmark rates using actual trading data (AMERICAS: USA)

- problem is that the rate is not appropriate for use as risk free discount curve, any improvement should make this explicit. Based on some similar process but on credit default swaps for a wide range of banks added to collateralized 3 & 6 months. (EMEA: UNITED KINGDOM)
- Rates at which banks lend to each other (ASIA PACIFIC: AUSTRALIA)
- Replace with an observable market rate (AMERICAS: USA)
- Set by regulator (AMERICAS: USA)
- Short term government overnight rate, e.g. Fed funds (AMERICAS: USA)
- similar to EURIBOR (EMEA: GERMANY)
- Us actual transactions only (ASIA PACIFIC: AUSTRALIA)
- Use market Price i.e. Government Tbill to set price (AMERICAS: USA)
- using savings point- see Jak Bank in Sweden (EMEA: UNITED ARAB EMIRATES)
- VWAP actual transactions (EMEA: SWITZERLAND)
- weighted average of actual interbank transactions (EMEA: UNITED KINGDOM)
- weighted average of real transactions (AMERICAS: USA)
- Weighted average rate based on actual inter-bank transactions only (ASIA PACIFIC: INDIA)
- weighted average spread based on bank's credit rating (i.e. AA+ banks would be put in one bucket) (EMEA: UNITED KINGDOM)

Are there any circumstances where you think using estimated rates would be acceptable instead of, or in combination with, transaction rates?

- if the inter-bank market is very illiquid and giving an appropriate disclosure that estimated rates are being calculated (AMERICAS: BRAZIL)
- no bid/ask (AMERICAS: CANADA)
- With the approval of a distinct body of overseers for circumstances where liquidity must be altered to ensure balance of healthy markets (AMERICAS: CANADA)
- Expand number of banks submitting quotes (AMERICAS: USA)
- In the event the inter-bank lending were to stop due to a bank crises. (AMERICAS: USA)
- Market disruptions (AMERICAS: USA)
- thin volume or low value of actual transactions (ASIA PACIFIC: AUSTRALIA)
- there are some huge biased actual transactions (ASIA PACIFIC: VIET NAM)
- independent review of sound internal documentation to derive estimate (EMEA: GERMANY)
- no transactions (EMEA: HUNGARY)
- but with arithmetic average (EMEA: ROMANIA)
- when financial institute submitted rate is actively involved in actual transactions (EMEA: RUSSIAN FEDERATION)
- In state of financial emergency as declared by the regulator (EMEA: SOUTH AFRICA)
- Maybe be third party, not the banks (EMEA: SWEDEN)
- clear market failure (EMEA: UNITED KINGDOM)
- Estimated LIBOR separate from LIBOR, Estimated LIBOR can be used in contracts (EMEA: UNITED KINGDOM)
- If financial meltdown of the system is threatened (EMEA: UNITED KINGDOM)
- Only in a situation where conflicts of interest can be avoided. (EMEA: UNITED KINGDOM)
- too few good quality suppliers (EMEA: UNITED KINGDOM)

How should LIBOR be administered and overseen?

- an order book with bids, asks, lasts, and volume (AMERICAS: CANADA)

- An independent commission with no ties to the industry and who have agreed not to accept any job therein for numerous years subsequent to their service. (AMERICAS: USA)
- Central Bank Oversight and Regulation (AMERICAS: USA)
- Don't regulate it. Don't use it. (AMERICAS: USA)
- Expand industry bodies to include other stakeholders (AMERICAS: USA)
- free market (AMERICAS: USA)
- Get rid of LIBOR (AMERICAS: USA)
- Interbank loans of over a certain size would be sent to the BBA as data (AMERICAS: USA)
- no regulation - use commercial paper rate (AMERICAS: USA)
- Overseen by Central Banks (AMERICAS: USA)
- someone without a vested interest (ASIA PACIFIC: HONG KONG)
- The regulators & administrators have already failed. Sunlight is the best disinfectant. Put it on an open market (ASIA PACIFIC: HONG KONG)
- Based on actual transactions that is verifiable. Imputed rates are only to be used if there are no transactions. Imputed rates will not be submitted by the bank but will be imputed from the median of submissions from all the other contributing banks (ASIA PACIFIC: SINGAPORE)
- No change to the current process us not an option as the recent experience has clearly demonstrated that investors' confidence must be restored.   Subjecting the process to oversight by regulators appears to be an attractive at the first glance. But then again, which regulators is in a position to oversight and how it should be carried out should prove to be a daunting task if at all it can be implemented within a reasonable time frame. A more viable option is to broaden the 'membership' of those institutions who are eligible to make contribute the the rates. The current as well as the historical rates contributed by each of the institutions should be made readily available on the internet to improve transparency. (ASIA PACIFIC: SINGAPORE)
- on a sample basis by independent auditors (EMEA: GERMANY)
- central bank (EMEA: POLAND)
- As long as it's an independent third party (EMEA: SWEDEN)
- Objective, independent and lean. Markit Data for example or even Bloomberg (EMEA: UNITED ARAB EMIRATES)
- Rule driven traded indices published daily. No different to leading equity indices (EMEA: UNITED ARAB EMIRATES)
- Certifying agent (EMEA: UNITED KINGDOM)
- If it was formula there would be no problem. (EMEA: UNITED KINGDOM)

Which of the following benchmark interest rates do you consider to be viable alternatives to LIBOR?

- Better if the reference rate was exchange traded or exchanged based. OTC products may be too opaque to be used as reference rates (AMERICAS: CANADA)
- commercial paper rate only (AMERICAS: USA)
- Index of publicly traded unsecured bank debt (AMERICAS: USA)
- Note that market-based rates may have second order effects in crises (AMERICAS: USA)
- Use above and also use short-dated bank bond YTM as a "sanity check" number as banks always have short dated notes outstanding (AMERICAS: USA)
- Depends on who is using it and why! (ASIA PACIFIC: AUSTRALIA)
- Credit Default Swaps (ASIA PACIFIC: HONG KONG)
- LIBOR set by transparent bids & offers. Who on earth suggested central bank policy rate. (ASIA PACIFIC: HONG KONG)

- SIBOR (ASIA PACIFIC: HONG KONG)
- The average of the interbank swap and repo rates (ASIA PACIFIC: SINGAPORE)
- EURIBOR (EMEA: GERMANY)
- VWAP actual interbank transactions (EMEA: SWITZERLAND)
- An index of commercial market short term rates. It would need to reflect a market environment and not that of a specific counterparty, e.g. UK Govt. or niche products. (EMEA: UNITED KINGDOM)
- Combination of cash and swap rates (EMEA: UNITED KINGDOM)
- No alternatives, although LIBOR indices should be benchmarked against actual transaction rates during the oversight process (EMEA: UNITED KINGDOM)
- Surprised at this. LIBOR included long term rates e.g. 12m. The above options are only short term rates. The interbank index should be actual transactions going through electronically across a platform e.g. Bloomberg. (EMEA: UNITED KINGDOM)
- These are all okay, except Central Bank rate, but they are not always available. (EMEA: UNITED KINGDOM)

Survey Questionnaire

1. **Which one of the following groups, if any, do you think has been most negatively affected financially by manipulation of LIBOR?**
    a. Broker/dealers
    b. Institutional investors
    c. Retail investors
    d. Consumers (borrowers and savers)
    e. Other (please specify): [text box]
    f. None; I do not think anyone has been negatively affected financially by LIBOR manipulation.
    g. Not sure

2. **Which one of the following options do you believe to be the *most* appropriate methodology for the setting of LIBOR?**
    a. Arithmetic average of estimated rates submitted by contributing banks
    b. Average rate based on actual inter-bank transactions only
    c. Hybrid methodology using some combination of estimated rates and actual transaction rates
    d. Other (please specify): [text box]
    e. Not sure

3. **[IF Q2=B] Are there any circumstances where you think using estimated rates would be acceptable instead of, or in combination with, transaction rates?**
    Select all that apply
    Yes, if the inter-bank market is very illiquid (e.g., if there are few actual transactions)
    Yes, other circumstance(s) (please specify): [text box]
    No
    Not sure

4. **Do you agree or disagree that the LIBOR submission process should become a regulated activity?**
    Agree
    Disagree
    Not sure

5. **How should LIBOR be administered and overseen?**
    a. Administered and overseen by industry body(ies) (i.e. no change to the current process)
    b. Administered by industry body(ies), but subject to regulatory oversight.
    c. Administered by bank regulators
    d. Other (please specify): [text box]
    e. Not sure

6. **Do you agree or disagree that the regulator should have powers to pursue criminal sanctions over LIBOR manipulation?**
    Agree
    Disagree
    Not sure

7. **Which of the following benchmark interest rates do you consider to be viable alternatives to LIBOR?**
   Select all that apply
   a. Sterling Overnight Index Average (SONIA) / EONIA (overnight cash lending rate)
   b. Overnight Index Swaps (interest rate swap between a fixed rate and SONIA/EONIA for a specific maturity)
   c. Central bank policy rate
   d. Indices based on repo rates (i.e. discount rate on repurchase agreements)
   e. Other market-based interest rate (e.g. Treasury bill yield, certificates of deposit, commercial paper, etc.)
   f. Other (please specify): [text box]
   g. None – no alternative is viable
   h. Not sure

8. **Over what time period could an alternative to LIBOR be introduced, if at all?**
   a. Within 6 months
   b. Within 1 year
   c. Within 3 years
   d. More than 3 years
   e. Never
   f. No opinion

9. **Do you agree or disagree that a global framework of key principles or best practices should be developed for internationally used benchmarks?**
   Agree
   Disagree
   Not sure

10. **Please provide any additional comments on LIBOR in the box below:**
    [text box]

Hi,
I have read your review and found it very informative, well-structured and balanced. As a lecturer and researcher in Finance, Economics and Game Theory, I would like to submit my comments.

1. I do not think that there is a better alternative to the LIBOR system. To my view, the recently launched NYFR (New York Funding Rate) is worse, mainly due to its anonymity. Anonymity is good if the behavior of participants is correct and is bad if the participants have reasons to submit false rates.
2. The Libor should be modified/strengthened according to the following points:
   (i) The sanctions for the market abuse should increase dramatically! The current sanctions are ridiculous (a similar argument is given in 3.34). If some members, like the UK, do not intent to bring LIBOR under the FSMA and comply with the Commission, threaten to shift the LIBOR outside the UK and merge it with EURIBOR (or rename it to F(rankfurt)IBOR)!
   (ii) Perhaps, the pre-1998 question ("At what rate do you think inter-bank term deposits will be offered by one prime bank to another prime bank for a reasonable market size today at 11 am"?) is better than the current one ("At what rate could you borrow funds, were you to do so by asking and then accepting inter-bank offers in a reasonable market size just prior to 11 am"?). In the pre-1998 question, the banks should guess about what the others would do, while now they need to reveal their own "need", and obviously have better reasons to lie now than before.
   (iii) A more complete question should perhaps combine both and weight them in an appropriate way.
   (iv) Basic Economics teaches that the market gets more competitive when the number of firms increases, so the number of banks (or other participants) to the panel must increase! In order to enforce that some policies/incentives/penalties should be introduced:
      (a) If the panel, at some particular day, is less than say 10-12, there is no new LIBOR, but the previous' day LIBOR applies.
      (b) Some participants (with a rotation system) from a pool of industrial firms and from the housing market should be included in the panel (a similar argument is provided in 3.28). To me, the LIBOR which consists of 5 banks and 15 industrial firms is more unbiased that the one which consists of only 8 banks. And if the non-participating banks know that their absence should be filled by industrial firms, they might change their decision and participate.
      (c) Banks that prefer to not participate should pay some "absence" (high) fees and be scrutinized regularly by authorities for any wrong-going. For instance, if LIBOR has been decided as in case (iv b) above (with 5 banks and 15 industrial firms), and the non-participating banks charge a much different LIBOR, they should be punished.

Best regards

Christos Papahristodoulou
Associate professor in Economics/Finance
Mälardalen University-Sweden

CME Group

7 September 2012

Martin Wheatley
The Wheatley Review
HM Treasury
1 Horse Guards Road
London SW1A 2HQ

Dear Mr Wheatley,

London interbank offered rates, as reflected in daily BBA Libor settings, are fundamental to much activity in commercial banking and in money, bond, and interest rate derivatives markets. CME Group Inc. ("CME Group", "CME", or "the Exchange") appreciate this opportunity to comment on the Initial Discussion Paper ("IDP") published last month by the Wheatley Review of Libor ("Review").

CME Group is the world's largest and most diverse derivatives marketplace. CME Group includes four separate Exchanges, including Chicago Mercantile Exchange Inc. ("CME"), the Board of Trade of the City of Chicago, Inc. ("CBOT"), the New York Mercantile Exchange, Inc. ("NYMEX"), and the Commodity Exchange, Inc. ("COMEX") (collectively, the "CME Group Exchanges"). The CME Group Exchanges offer the widest range of benchmark products available across all major asset classes, including futures and options based on interest rates, equity indexes, foreign exchange, energy, metals, agricultural commodities, and alternative investment products. CME includes CME Clearing, one of the largest central counterparty clearing services in the world, which provides clearing and settlement services for exchange-traded contracts, as well as for over-the-counter derivatives transactions through CME ClearPort®.

(1) Summary

(1.1) On 2 July 2012, the Chancellor of the Exchequer commissioned you to review the framework for determination of Libor. The terms of reference he set forth consist of three elements --

> First, consideration of measures for reform of Libor's setting and governance, including: whether participation in the setting of Libor should be brought under the regulatory ambit of the Financial Services and Markets Act of 2000 as a regulated activity; how Libor is constructed, including the feasibility of using transaction data to set the benchmark; the appropriate governance structure for Libor; the potential for alternative rate-setting processes; and the financial stability consequences of a move to a new regime for setting Libor, and how a transition could be appropriately managed.

Second, determination of the adequacy and scope of sanctions to deal with Libor abuse, including: consideration of the scope of UK authorities' civil and criminal sanctioning powers with respect to financial misconduct, particularly market abuse and abuse relating to the setting of LIBOR and equivalent rate-setting processes; and the FSA's approved persons regime and investigations into market misconduct.

Third, consideration as to whether issues raised within the second element would apply with respect to other price-setting mechanisms in financial markets, including any germane provisional policy recommendations.[1]

(1.2) For its efforts to produce beneficial results, the Wheatley Review should focus on two objectives.

(1.2.1) The first of these, as identified in paragraph 2.41 of the Initial Discussion Paper (IDP 2.41),[2] is to strengthen the Libor framework. The Review should concentrate specifically on improving and reinforcing the contributor bank framework that now undergirds the Libor mechanism, with special attention to achieving clearer governance and closer regulatory oversight.

This objective is not only desirable, but inescapable. Irrespective of any changes to Libor's calculation and construction that the Review might recommend, any proposed solution that recommends maintenance of the Libor mechanism, or that contemplates an orderly transition from the present Libor system to a successor, would require proper functioning of Libor, as presently constituted. (See Section (3.1.7) below.)

(1.2.2) The Review's second objective should be to minimize disruption to extant Libor exposures, which are both numerous and sizeable. For practical purposes, this means avoiding discontinuation or replacement of Libor, unless its replacement is very closely proximate in terms of construction and calculation. (See Section (4) below.)

(1.3) Our comments on the Initial Discussion Paper are set forth below and are organized as follows:

Section (2) on page 3 speaks to the issues and failings of Libor.
Section (3) on page 7 discusses proposed measures for strengthening Libor.
Section (4) on page 14 comments on various proposed alternatives to Libor.
Section (5) on page 18 briefly considers implications for other benchmarks.

[1] http://hm-treasury.gov.uk/wheatley_review.htm
[2] Here and elsewhere, references to the Initial Discussion Paper cite paragraph number with the prefix "IDP."

[redacted]

(2) Issues and Failings of Libor

Question: **Do you agree with our analysis of the issues and failings of Libor?**
Answer: **Yes, with two exceptions.**

(2.1) Concerning the availability of alternatives
IDP 2.10 asserts that "[s]everal alternative benchmarks [to Libor], such as the New York Funding Rate,[3] have been established. However, with the exception of Euribor,[4] few have been able to build up market share comparable to that of Libor." As discussed at greater length in Section (4) below, it is our view that there are few, if any, alternative benchmarks available that would embody the same interest rate exposure as Libor. In any case, computation and publication of the New York Funding Rate was discontinued in early August 2012.[5]

(2.2) On the utility of benchmarks for sparsely traded markets
The passages at IDP 2.14-17 question the usefulness of benchmark measures for prices made in thinly traded markets. Our answer is that if prices made in a sparsely traded market are intrinsically useful to market practitioners for the purpose of risk management, then the availability of a reliable, valid, and transparently determined measure of the location of price becomes all the more important, precisely because the market is sparsely traded. The following Sections (2.2.1) through (2.2.4) detail our reasoning on this point.

(2.2.1) IDP 2.14 raises one concern: "Under the current definition of Libor a lower volume of trades is not necessarily a problem since there is no mechanical link from transactions to the Libor calculation... However it might make the expert judgment required to determine the appropriate rate submission more difficult...."

In fact, determination of rate submissions should not be "difficult," given (a) proper supervision and (b) adequate latitude for judgment on the part of Libor submitters. IDP 3.10, which discusses options to enable corroboration of contributor bank submissions, and IDP 3.31, which discusses options to increase the robustness of regulatory oversight, lucidly sketch a framework by which this might be accomplished.[6] (See also the discussion in Sections (3.1.1) through (3.1.5) below.) The requisite latitude would be achieved, within this proposed framework, by permitting Libor submitters to reference related markets for ancillary information in constructing their daily Libor submissions:

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[3] See http://www.icap.com/news-events/in-the-news/news/2012/icap-updates-nyfr-fixings.aspx and http://www.heffr.com/.
[4] Euribor® is the Euro Interbank Offered Rate. See http://www.euribor-ebf.eu/euribor-org/about-euribor.html
[5] See, *e.g.*, K Brettell and R Leong, "ICAP scraps rate fixing as banks reduce participation", Reuters, 3 Aug 2012.
[6] See also "In the Matter of: Barclays plc, Barclays Bank plc and Barclays Capital Inc., Respondents. Order Instituting Proceedings Pursuant to Sections 6(c) and 6(d) of the Commodity Exchange Act, as Amended, Making Findings and Imposing Remedial Sanctions", United States of America Before the Commodity Futures Trading Commission, CFTC Docket No. 12-25, 27 June 2012 (hereafter, "*CFTC v Barclays*").

[redacted]

CME Group

(a) The ancillary information would comprise the prices of transactions involving the Libor contributor bank itself, third-party trades observed by the contributor bank, and third-party offers observed by the contributor bank, *e.g.*, as indicated by interbank brokers.

(b) The markets from which such ancillary information could be drawn would comprise (i) the London interbank market for unsecured placements of funds, (ii) other markets for unsecured bank funding, such as nonbank placements of funds, and banks' issuances of certificates of deposit ("CDs") or commercial paper, and (iii) related markets, such as the market for synthetic term funding by way of foreign exchange forward transactions, funding transactions conducted elsewhere than London (*e.g.*, interbank transactions in US federal funds, or intra-Eurozone interbank placements of euro-denominated funds), short-term interest rate futures, and repurchase agreements or other forms of collateralized borrowing or lending.

(2.2.2) IDP 2.15 focuses upon unsecured term interbank placements, in isolation from related markets that might serve as auxiliary information sources. In this narrowly defined context, it identifies two further "problems inherent in a widely used benchmark that is nominally derived from unsecured [term] interbank lending" [activity], for which the market is characterized by a "limited number of transactions... First, determining an appropriate [benchmark London interbank offered] rate for all required [term to maturity] points is difficult."

In our view, the premise -- that the number of unsecured term interbank transactions is "limited" -- is debatable. To see this, consider a research program undertaken by members of the Research and Statistics Group of the Federal Reserve Bank of New York ("FRBNY"), which examines detailed transaction data as the basis for gauging BBA Libor's representativeness.[7] The researchers extract trade records for US dollar wholesale unsecured term interbank loans (including both US domestic interbank placements and Eurodollar placements of funds with offshore bank subsidiaries) from the transaction log of the Fedwire Funds Service ("Fedwire") for the interval from 2 January 2007 through 30 June 2009.

The resultant data set evidences clearly that, at least in the case of US dollar interbank activity, the broader market benchmarked by the daily Libor settings is neither "limited" nor inconsequential. The data set contains over 21,000 observations, comprising nearly 8,700 transactions at the 1-month tenor and over 4,100 at the 3-month tenor.

If the concern raised at IDP 2.15 is in regard to the number of unsecured term interbank transactions that directly involve BBA Libor contributor banks, rather than the universe of such transactions, then the appropriate remedy would be to consider measures to enlarge the number of BBA Libor contributors. (See Sections (3.4) through (3.6) below.)

[7] See Kuo, Dennis, David Skeie, and James Vickery, "A comparison of Libor to other measures of bank borrowing costs," June 2012, http://www.newyorkfed.org/research/economists/vickery/LiborKSV_staff_webpage.pdf.
See also Kuo, Dennis, David Skeie, and James Vickery, "How well did Libor measure bank wholesale funding costs during the crisis?" 30 July 2010, http://www.carefin.unibocconi.eu/download/29_settembre_wp/skeie_paper.pdf or https://wpweb2.tepper.cmu.edu/wfa/wfasecure/upload2011FINAL/2011_PA_807853_688020_811449.pdf.

[redacted]

As for "difficulty" in determining Libor values at terms to maturity for which trading activity is sparse, a straightforward and practicable solution would be to permit Libor submitters to interpolate or extrapolate from heavily traded tenors (as suggested in, *e.g., CFTC v Barclays*).[8]

(2.2.3) The second problem identified at IDP 2.15 in connection with "limited number of transactions" is that "a relatively small and illiquid market is used as the basis for determining rates on global loan and derivative contracts that have a nominal outstanding value that is several multiples of the value of the underlying interbank transactions."

It is our view that such disproportionality between the notional scale of a derivative market and the scale of its corresponding cash market is not a "problem." Indeed, it is a virtue if it reflects the usefulness of the derivative contract (and its underlying reference rate or price) to market participants as a means of risk abatement and/or risk management. Nor is such disproportionality unusual, as the following examples illustrate:

(a) Eurex German Government Debt Futures -- Trading Volumes, 2008-2011 H1
During this 3 year 6 month interval, trading volume in Eurex Buxl, Bund, Bobl, and Schatz futures ran 2.045 mln contracts per day, equivalent to €204.5 bln per day in notional value terms.[9] Over the same period, turnover in all German government securities averaged around €22 bln per day.[10] Trading activity in futures thus exceeded trading activity in the underlying reference market by one order of magnitude, *i.e.*, a multiple of 9x to 10x.

(b) CBOT Corn Futures and Soybean Futures -- Trading Volumes, 2003-09
As displayed in Exhibit 1 below, between 2003 and 2009 the ratio of CBOT grain futures trading volume, in terms of notional deliverable supply, was at least one order of magnitude greater than the value of US grain production. For CBOT Corn futures, the median multiple was nearly 21x. For CBOT Soybean futures, the median multiple exceeded 53x.[11]

Exhibit 1 -- Ratio of CBOT Grain Futures Trading Volume to US Grain Production

	2003	2004	2005	2006	2007	2008	2008	2009
Corn	9.6	10.2	12.6	22.4	20.9	24.8	24.8	19.4
Soybeans	35.9	30.2	33.0	35.4	59.3	61.3	61.3	53.2

[8] *CFTC v Barclays*, VII.C.2.i.Determination of Submissions. Adjustments and Considerations.c.
[9] Eurex, Market Data, Monthly Statistics, http://www.eurexchange.com/exchange-en/market-data/statistics/monthly-statistics.
[10] Finance Agency, Federal Republic of Germany, "Bund Fact Sheet," July 2012, http://www.deutsche-finanzagentur.de/fileadmin/Material_Deutsche_Finanzagentur/PDF/Aktuelle_Informationen/bund_fact_sheet.pdf.
[11] Data source: CME Group.

[redacted]

(2.2.4) IDP 2.17 posits the argument "that in the current environment, interbank lending rates are dominated by credit risk, and there is a large dispersion in the perceived credit-worthiness of banks. This, together with the low volume of unsecured interbank lending transactions, arguably means that the concept of an average interbank rate derived from a panel of diverse banks has less meaning as a measure of bank funding costs."

IDP 2.5 and IDP 4.7 rightly observe that any London interbank offered rate comprises at least three distinct components:

(a) an estimate of the time value of money at the risk-free rate of interest;
(b) a credit premium, embodying an estimate of the representative level counterparty credit risk posed by one bank to one another; and
(c) a liquidity (or term) premium (for any tenor other than overnight).

In the context of this framework, the argument ventured at IDP 2.17 might be valid if counterparty credit risk were vanishingly small, or if it were of uniform magnitude among all counterparties, or if liquidity pools at all terms to maturity were sufficiently deep and unconstrained to make liquidity risk nugatory.

But if either of these sources of risk exposure is nontrivial, then "the concept of an average interbank rate" has greater meaning as a measure of bank funding costs, rather than less meaning. That is, if these risk exposures are large enough or volatile enough to be material – *i.e.*, if credit risk exposures are sizeable, or if they vary widely among banks, or if they vary widely through time, or if trading activity in the interbank placement market is small in volume and/or intermittent -- then Libor conveys more information, not less, and holds greater utility to market participants, not less, as a measure of location of the distribution of unsecured term interbank funding rates.

[redacted]

(3) Strengthening Libor

Question: **Can Libor be strengthened so as to remain a credible benchmark?**
Answer: **Yes.**

Question: **Should the setting of and/or [contributor bank submissions] to Libor be regulated activities?**
Answer: **A regulatory framework will be required to establish accountability of Libor submissions so as to restore and promote public confidence in the Libor mechanism's integrity.**

(3.1) Governance

(3.1.1) In our view, the code of conduct for Libor contributor banks sketched in IDP 3.10 and IDP 3.30-31 would achieve the dual goals of strengthening governance and regulatory oversight while minimizing disruption. Importantly, it would comport with the approach to creation, governance, and supervision of contributor bank submissions set forth in *CFTC v Barclays*. Exhibit 2 identifies the points of correspondence between them.

Exhibit 2 -- Code of Behavior for Libor Contributor Banks:
Points of Correspondence between Wheatley Review IDP and *CFTC v Barclays*

Wheatley Review of Libor, IDP Paragraph...	*CFTC v Barclays*, VII.C.2...
3.10 "...submissions based on certain specified factors ... subject to certain specified adjustments and considerations."	i. Determination of Submissions
3.31 Point 1 – Contributor banks' internal policies	vii. Policies, Procedures, and Controls viii. Training
3.31 Point 2 – Contributor banks' organizational structures	iv. Firewalls
3.31 Point 3 – People issues	ii. Supervisory Review iii. Qualifications of Submitters and Superiors
3.31 Point 5 – Record-keeping requirements	v. Documentation
3.31 Point 6 – Compliance and audit	vi. Monitoring and Auditing
3.31 Point 7 – Disciplinary procedures	vii. Policies, Procedures, and Controls

[redacted]

(3.1.2) *Judgmental input*
Both frameworks enable legitimate application of professional judgment on the part of duly designated treasury and liquidity management practitioners in the creation of contributor banks' Libor submissions. Both frameworks wisely avoid over-prescribing how a contributor bank should compute its Libor submissions, or which sources of ancillary information a Libor submitter might or might not employ, or how the information drawn from such sources should enter into determination of a Libor submission.

(3.1.3) *Accountability*
Both frameworks indicate terms on which contributor banks should be held to account for the integrity of their daily Libor submissions and for judgments they apply in making their submissions.

(3.1.4) *Reliability*
For over a quarter century, the contributor bank survey on which Libor is built has functioned reliably in all market conditions, whether orderly or chaotic, whether highly or sparsely traded.[12] By preserving the contributor bank survey methodology, and by imbuing it with stronger discipline, rigor, and regulatory supervision, both the Wheatley Review and CFTC frameworks would maintain the continuity and reliability that have made Libor an indispensable benchmark for the banking industry, for money and bond markets, and for users of interest rate derivatives.

(3.1.5) *Familiarity*
Both the Wheatley Review and CFTC frameworks identify clearly the need for contributor banks to maintain firewalls between their Libor submitters and other functional areas not directly involved in treasury funding and liquidity management. For many contributor banks, fulfillment of this requirement should benefit from familiarity. For example, institutions involved in underwriting of corporate debt or equity issues, or in merger and acquisition advisory, already observe regulatory firewalls applicable to such activities, as stipulated by the US Securities and Exchange Commission.

Question: **What role should authorities play in reforming the mechanism and governance of Libor?**
Answer: **The most useful functions that financial market authorities might perform are to promulgate a detailed code of conduct for Libor contributor banks, endorse such code of conduct, and enforce its observance.**

(3.1.6) A crucial step toward strengthening the contributor bank framework would be for regulatory authorities to furnish guidance as to best practices for Libor contributor panelists. Regulatory recognition of a strengthened Libor mechanism as a safe harbor for contributor banks would bolster the benchmark's integrity by promoting, among other things, the recruitment and retention of contributor banks. (See Sections (3.4) through (3.6) below.)

IDP 3.11 and IDP 3.32 make a trenchant case for this course of action: "A detailed code ... would provide much clearer guidance to contributor banks as to the procedures they ought to follow in making

[12] Worth adding is that the Libor mechanism has functioned reliably with no loss of day-to-day continuity, notwithstanding the recent enforcement actions by the UK Financial Services Authority, the US Commodity Futures Trading Commission, and the US Department of Justice.

[redacted]

Libor submissions. It would also allow governance structures to take a much more systematic approach to oversight of contributor banks, to enable problems to be identified early and dealt with effectively... Creating a precise methodology for [Libor] determination...could [facilitate] corroboration by contributor banks... It would increase the operational burden on contributor banks, which could discourage participation, although this would be offset to some extent by reducing the risk to contributors of litigation and the associated costs."

Question: **Is an alternative governance body for Libor required in the short term?**
Answer: **Stronger governance and oversight of Libor will be a necessity in the short term, irrespective of whether governance is entrusted to the Foreign Exchange & Money Markets Committee (FX&MM) or some alternative body.**

(3.1.7) This certainly would apply if the Review's principal recommendation were to be reinforcement and strengthening of the Libor mechanism. But it would apply just as strongly if instead the Review were to recommend replacement of Libor by an alternative benchmark, because the same requirements would have to be met to ensure orderly transition during the replacement process.

The passage at IDP 4.31-35 identifies four alternative transition schemes: allowing Libor and its successor(s) to coexist indefinitely; pegging Libor to its successor, or discontinuing Libor entirely, in each case after an interval of coexistence; or compelling a switch from Libor to its successor(s) upon a specified deadline. Each of these alternatives requires that Libor, as presently constituted, must function with integrity, rigor, and clarity, whether during a spell of coexistence or until a deadline for its discontinuance.

(3.1.8) IDP 3.28 suggests how the present FX&MM Committee might serve as the departure point for achieving broader, more representative, and more independent membership --

> "The independence of the oversight function exercised by FX&MM [Committee] could be significantly increased by broadening the membership of the Committee, which is currently dominated by contributor banks. [The Committee] could include representatives from a wider range of interested groups, for example, increasing weighting of representatives from exchanges and clearing houses, non-contributing banks, and other users of financial products that reference Libor. A representative from the regulator (the FSA, or in future, FCA) could also be included in the Committee's membership, although this would have to be considered carefully."

(3.1.9) For the purpose of moving the FX&MM Committee toward achieving the preferred composition and breadth of representation, the US Treasury Borrowing Advisory Committee ("TBAC") of the Securities Industry and Financial Markets Association makes a useful example, at least as a starting point. TBAC is an advisory body, governed by federal statute, that meets quarterly with the US Treasury Department to share observations as to conditions in the US economy and the US government securities market, and to advise on various technical issues pertaining to Treasury debt management.[13] Of TBAC's 14 voting

[13] http://www.treasury.gov/resource-center/data-chart-center/quarterly-refunding/Pages/who-is-tbac.aspx

[redacted]

members, six represent Primary Dealers[14] as recognized by the Federal Reserve Bank of New York, five represent institutional fixed income portfolio managers, and three represent hedge funds.

TBAC's balance of representation as between dealers in US Treasury securities and non-dealer market participants is suggestive of how the interests of Libor contributor banks and Libor users might be fairly represented on a more broadly and independently empaneled FX&MM Committee. For at least two reasons, however, any effort to reconstitute the FX&MM Committee should avoid following TBAC's example too literally. First, unlike the FX&MM Committee, TBAC's role is purely advisory, without any governance responsibilities. Second, as IDP 3.28 describes, it would be appropriate for the FX&MM Committee to strive for yet broader composition, comprising not only contributor banks, institutional money managers, and leveraged investors, but also, *e.g.*, non-financial corporate treasurers, non-contributor banks, exchanges, clearing houses, and interest rate swap data repositories.

(3.1.10) Any change to governance of the Libor mechanism should avoid unintended disruption in licensing and use of Libor --

(a) It should ensure continuity of the "BBA" mark. Specifically, it should avoid creating any need for rewriting of contractual language that supports either extant over-the-counter interest rate swap contracts or the ISDA Master Agreements that enable such swap contracts. Examples would include preservation of ISDA definitions such as, *e.g.*, GBP-LIBOR-BBA, CHF-LIBOR-BBA, or USD-LIBOR-BBA. The same would apply to contractual terms of US floating rate mortgages that reference, *e.g.*, 12-month or 6-month US dollar Libor, or US educational loans, many of which reference 1-month or 3-month US dollar Libor. (See Sections (4.2) and (4.3) below).

    One of potentially many approaches by which to accomplish this is suggested in the arrangements that govern use of the Euro Overnight Index Average ("Eonia"). The European Central Bank is responsible for compiling the requisite data and for computing Eonia, while Euribor-EBF, an international not-for-profit association, is the sponsor of Eonia and the owner of the Eonia trademark.[15] Institutional users of the Eonia trademark or of Eonia index data (futures exchanges, for example) pay a nominal fee per annum to Euribor-EBF for use of its intellectual property.

(b) It must provide for the observance of extant contractual arrangements and licenses for the use of BBA Libor data and trademarks.

(c) It should ensure transparency and fairness in the licensing and use of Libor.

[14] http://www.newyorkfed.org/markets/primarydealers.html
[15] http://www.euribor-ebf.eu/assets/files/Euriborebf-statutes.pdf.

[redacted]

CME Group

(3.2) Options to Narrow Coverage of Libor

(3.2.1) IDP 3.15 proposes that "in light of relatively low volume of trade in some currencies and [terms to maturity], one…option would be to narrow the scope of Libor by reducing the number of currencies and maturities currently submitted…."

(3.2.2) This recommendation should be given serious consideration in regard to discontinuation of Libor settings for currencies in which both bank funding markets and adjunct markets (*e.g.*, forward currency agreements, overnight index swaps, bank certificates of deposit and/or commercial paper, interest rate futures, repurchase agreements and/or collateralized lending) are characterized by *de minimis* levels of activity during London business hours. It should not apply, however, to those currency denominations (*e.g.*,sterling, euro, US dollar) in which there is sufficient activity during London business hours, either in primary bank funding markets or in adjunct markets, to support construction of Libor submissions along lines described in Section (3.1) above.

(3.2.3) For currency denominations that are capable of supporting Libor settings, consideration might be given to reduction in the number of terms to maturity that are subject to daily Libor settings. However, any such reduction should proceed with great care and with a conservative bent. If Libor oversight, governance, and regulation are to be strengthened anyway, then the Review should consider the benefits of preserving potentially useful short-term interest rate benchmarks at a suitably broad array of tenors.[16]

(3.2.4) Whether entire currency denominations or individual term-to-maturity points are under consideration for termination of Libor settings, such termination should be implemented only after due consultation with materially interested parties (*e.g.*, International Swaps and Derivatives Association, Securities Industry and Financial Markets Association, the US Student Loan Marketing Corporation (SallieMae), Mortgage Bankers Association).

(3.3) Options to reduce vulnerability to manipulation

(3.3.1) Each BBA Libor value is calculated as the interquartile average of the corresponding contributor bank submissions. That is, for any given interest rate tenor and currency denomination on any given day, the pertinent contributor bank submissions are ranked in descending order, the observations in the highest and lowest sample quartiles are removed, and the remaining observations – approximately those within the interquartile range – are arithmetically averaged to create that day's BBA Libor value.

(3.3.2) Using of the median in place of the interquartile average would strengthen the integrity of the Libor mechanism in at least two ways:

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[16] As noted in Section (2.2.2) *supra*, the framework set forth in *CFTC v Barclays* would permit contributor bank rate submissions to be constructed for less active tenors on the basis of interpolation or extrapolation from rate submissions for more active tenors. (*CFTC v Barclays*, VII.C.2.i. Determination of Submissions. Adjustments and Considerations.c.)

[redacted]

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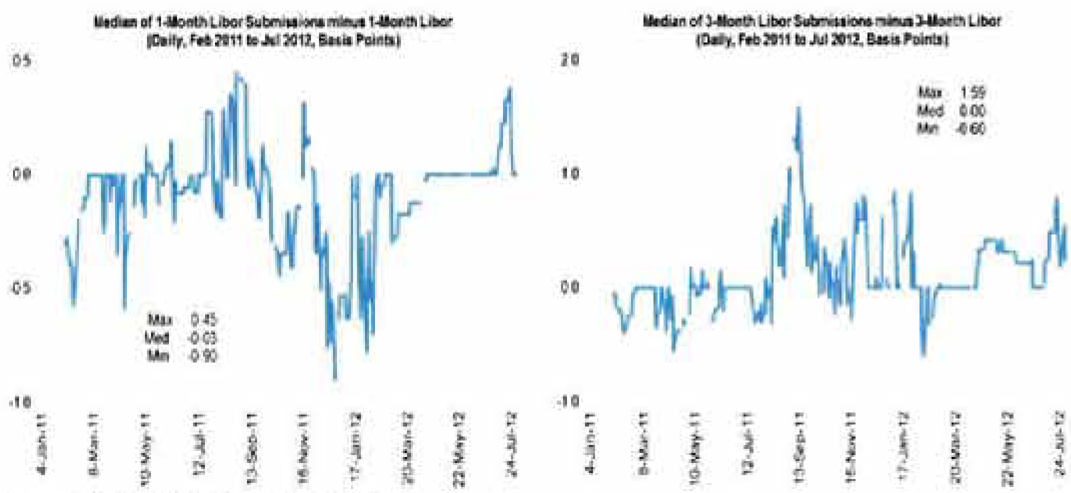
(a) *Robustness against market disruption*
The distribution of daily Libor survey responses frequently departs from the ideal of the Gaussian bell curve. In such cases the median is a more robust estimator of distributional location than the arithmetic average, trimmed or otherwise.

(b) *Robustness against attempted manipulation*
Any conspiracy among contributor banks to attempt manipulation of a Libor setting would have to comprise at least half of the contributor panelists in order to exert direct influence upon the median. By contrast, only a quarter of the contributor panel would need to collude in order to influence the outcome of a Libor computed on the basis of the interquartile average.

(3.3.3) Inspection of daily data for US dollar 1-month and 3-month Libor from February 2011 through July 2012 indicates that, at least for these two US dollar interest rate tenors, switching from interquartile average to median would be unlikely to cause disruptive jumps or discontinuities in Libor values. In the case of 3-month Libor, the values of differences between the two estimators are centered around zero. Exhibit 3 depicts the results.

Exhibit 3 – Median Submission Value minus Interquartile Average of Submission Values: US Dollar 1-Month BBA Libor and 3-Month BBA Libor (Daily, February 2011 to July 2012)



Source: British Bankers' Association

(3.3.4) IDP 3.20 proposes a modification of the current methodology in which a certain number of observations within the interquartile range would be randomly censored from the sample, after which the Libor value would be computed as the arithmetic average of the remaining observations in the sample. This randomized censoring scheme warrants consideration as an alternative to either the interquartile

[redacted]

average or the median. Its chief shortcoming is that, in order to mitigate spurious (small-sample) volatility, it would require larger numbers of Libor contributor banks than are currently empaneled.

(3.4) Options to mitigate perceived risk of credit-signaling

(3.4.1) IDP 2.7 and Box 2.A. describe the "own" bank basis on which BBA Libor is now determined. For any given currency denomination and tenor, on any given day, each contributor bank is asked to answer the following question: At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in reasonable market size just prior to 11am today?

(3.4.2) IDP 3.22 suggests an alternative hypothetical "prime" bank basis, under which the contributor bank would answer the following question: At what rate do you think interbank term deposits will be offered by one prime bank to another prime bank in reasonable market size at 11am today?

(3.4.3) Presuming that a strengthened Libor code of procedures were to include a clear definition of the hypothetical "prime" bank concept, the framework sketched in IDP 3.10 and IDP 3.30-31 would accommodate either of these two survey schemes.

(3.4.4) The hypothetical "prime" bank basis (3.4.2) offers four advantages relative to the "own" bank basis (3.4.1):

(a) *Avoidance of stigma*
Crucially, it would lessen the risk that a contributor bank's Libor submissions might disclose or signal financial distress.

(b) *Robustness and continuity*
By enabling contributor banks to answer in the hypothetical, instead of in terms of their own specific circumstances, the hypothetical "prime" bank basis facilitates day-to-day continuity and consistency. On any given day, a contributor bank Libor submitter may be unable to say precisely where others will offer to her, but she can almost always offer an informed view as to where one bank might plausibly offer to another.

(c) *Conceptual clarity*
It adheres more closely to users' intuitive understanding of Libor as a barometer of generalized, perceived fair value in unsecured term interbank interest rates.

(d) *Familiarity*
It is well known to market participants familiar with, *e.g.*, daily Euribor settings, or BBA Libor survey procedures prior to 1998.

[redacted]

(3.5) Options to increase Libor participation

(3.5.1) In addition to measures described in Section (3.1.6) above, broader Libor participation might be promoted, especially among US institutions, if the daily Libor setting were moved to a later hour than 11am GMT. For example, 2pm GMT (3pm CET, 9am ET) would be early enough to remain within the working day in the UK and the Eurozone, while being late enough to allow contributor banks to take account of early morning activity in US money markets.

More generally, to the extent that a later hour for the Libor setting were to increase contributor banks' information sets concerning the day's money market activity, it would reinforce the submission-plus-corroboration framework set forth in IDP (3.10) and IDP (3.30-31) and in *CFTC v Barclays*.

(3.5.2) The longstanding convention of conducting Libor settings for all benchmark currencies simultaneously, at one hour of the global working day, should be preserved. This is a key element of the standardization that contributes to BBA Libor's status as a global interest rate benchmark.

(3.6.) Regarding compulsory participation

IDP 3.49 proposes that "if increased participation in the Libor panels is a desirable outcome, consideration may need to be given to a specific power enabling the regulator to compel firms to participate," with the proviso that "it is not clear whether this is an appropriate function for the regulator to perform."

Unclear in this proposal is what legal or regulatory grounds would support such compulsion. Nor is it clear what body or agency would be invested with either the authority to compel or the requisite powers of sanction. In our view, it would be preferable for the Review to focus its recommendations on measures that would provide positive incentives for contributor bank recruitment and retention. (See Sections (3.1.6) and (3.5) *supra*.)

(4) Alternatives to Libor

Question: **Are there credible alternative benchmarks that could replace Libor's role in financial markets?**

Answer: **No.**

(4.1) Libor is a leading benchmark – in the case of sterling or US dollar, the indisputable leading benchmark – for unsecured term interbank funding rates. For many commercial banks, large and small, it serves not only as a natural and directly applicable gauge of funding costs, but also as the foundation for asset/liability management and risk control.

[redacted]

(4.2) Estimated exposures to US dollar Libor, taken alone, are extraordinarily large. As shown in Exhibit 4 below, these exposures run to $168.7 trillion notional of interest rate derivatives (both over-the-counter and listed) and more than $2.5 trillion of assets. (Excluded from the tally of asset exposures are consumer installment loans. Excluding educational loans, the outstanding amount of such debt is around $1.6 trillion, of which an unknown share is linked to Libor. Also excluded is the US dollar-denominated portion of the universe of outstanding Libor-reference syndicated loans, which IDP 2.7 and Table 2.A. give as $10 trillion.)

Exhibit 4 – Estimated Asset and Derivative Exposures Linked to US Dollar BBA Libor[17]

USD Derivatives and Assets	Actual/Notional Amounts Outstanding ($ blns)
Over-the-Counter Derivatives	**157,121**
Interest Rate Swaps	95,287
Forward Rate Agreements	30,973
Other (Basis Swaps, Caps, Floors, etc)	30,861
Listed Eurodollar Contracts	**11,543**
Futures	7,772
Options	3,771
Assets	**2,530**
Floating Rate Notes	880
Adjustable Rate Mortgages	950
Educational Loans	700

[17] Jersey, Ira, Michael Chang, and William Marshall, "Basis Points -- Libor Exposures," Credit Suisse Fixed Income Research, 28 August, 2012.

For adjustable rate mortgages –
Board of Governors of the Federal Reserve System, "Flow of Funds Accounts of the United States, Flows and Outstandings , First Quarter 2012,"Federal Reserve Statistical Release Z.1, Washington, DC, 7 June 2012, http://www.federalreserve.gov/releases/z1/Current/z1.pdf
Federal Housing Finance Agency, "Single-Family Mortgages Outstanding, 1990-2011," Washington, DC, 2 November 2011 , http://www.fhfa.gov/Default.aspx?Page=70
Nothaft, Frank, personal correspondence, Federal Home Loan Mortgage Corporation, August 2012.
Venkatu, Guhan, "How Many US Mortgages Are Linked to Libor," Federal Reserve Bank of Cleveland, 10 July 2012, http://www.clevelandfed.org/research/trends/2012/0712/01banfin.cfm?WT.oss=libor&WT.oss_r=130

For educational loans –
Consumer Financial Protection Bureau and US Department of Education, "Private Student Loans," 29 August 2012, http://files.consumerfinance.gov/f/201207_cfpb_Reports_Private-Student-Loans.pdf
"Quarterly Report on Household Debt and Credit," Research and Statistics Group, Federal Reserve Bank of New York, May 2012, http://www.newyorkfed.org/research/national_economy/householdcredit/DistrictReport_Q12012.pdf
SLM Corp, "US Securities and Exchange Commission Form 10-Q for Period Ending 30 June 2012," 3 August 2012 http://files.shareholder.com/downloads/ABEA-52OLZY/2039651560x0xS1193125-12-333514/1032033/filing.pdf

[redacted]

(4.3) Aside from the magnitudes displayed in Exhibit 4, two other features deserve mention. The first is that the notional value of derivative exposures is 66 times greater than the value of asset exposures, approximately two orders of magnitude. This is comparable to the examples of cash-to-futures market proportions given in Section (2.2.3) above.

(4.4) Secondly, the sums in Exhibit 4 signify the results of voluntary activity on the part of market participants. They use BBA Libor in a wide array of applications, not because they are compelled to do so, but because they have determined that it is useful for them to do so, and therefore have chosen to do so.

(4.5) For small and highly dispersed user bases, any transition to an alternative to Libor holds the potential to be disruptive, onerous, and politically contentious. To see this, consider two examples:

> *(a) US educational loans*
> Of the $900 bln of such loans estimated to be outstanding as of the end of 2012 Q1, around $700 bln -- approximately 80 percent -- reference Libor, primarily at the 1-month tenor and, to a lesser extent, at the 3–month tenor.
>
> *(b) US adjustable rate mortgages*
> At the end of 2012 Q1 nearly $1.6 trillion of adjustable rate mortgages were outstanding, of which approximately 60 percent (around $950 billion) reference Libor, primarily at the 12-month tenor or, to a lesser extent, at the 6-month tenor. The universe of such Libor-reference adjustable rate mortgages comprises around two million individual mortgage contracts.

(4.6) At any tenor other than overnight, Libor reflects a distinct category of interest rate exposure: the unsecured term interbank funding rate. This exposure is distinguished by its mixture of components, as identified in IDP 2.5 and IDP 4.7: the time value of money at the risk-free rate of interest; counterparty credit risk; and liquidity risk.

To make a suitable replacement, and to ensure that the replacement process does not generate unwanted disruption, any alternative or substitute would need to reflect the same mixture of components, and would need to be sufficiently robust to function under a wide range of market conditions and circumstances.

(4.7) The passages at IDP 4.10-16 examine various potential alternatives to Libor. Any of these candidates might be deemed worthy, on its own merits, to serve as a short-term interest rate benchmark. On close scrutiny, however, none of them embodies the same interest rate exposure as Libor:

(a) Overnight unsecured interbank placement rates do not incorporate a term premium, such as might reflect the liquidity risk in a placement with term to maturity longer than overnight. Under Basel III guidelines, moreover, the balance sheet impacts may differ as between overnight unsecured placements and unsecured placements with tenors beyond one month.

(b) Overnight index swap rates, which derive directly from overnight interbank deposit rates, likewise fail to reflect a term premium.

[redacted]

(c) Certificates of deposit are already within the scope of BBA Libor.

(d) Commercial paper rates are apt to reflect a different mixture of term premium versus other components. Unlike non-negotiable interbank placements, commercial paper issues are negotiable securities.

(e) Repurchase agreement rates will incorporate lower measures of counterparty credit risk, given that they apply to collateralized lending. They may, or may not, incorporate term premia for liquidity risk, depending upon institutional arrangements in the jurisdiction at hand (*e.g.*, measures for curing fails to receive or to deliver collateral).

(f) Treasury bills represent an entirely different risk exposure profile than unsecured term interbank placements. They bear the credit exposure of a government issuer, not the (presumably lower quality) credit exposure of a commercial bank. And they are a negotiable securities, rather than non-negotiable bank deposits.

Question: **Should an alternative benchmark fully replace Libor, or should it substitute for Libor in particular circumstances?**
Answer: **Better not to replace Libor at all. If it must be replaced, it must be fully replaced.**

(4.8) Any Libor-setting mechanism that entails "substitution in particular circumstances" of one benchmark methodology for another would be unappealing, for several reasons:

(a) It would require codification of the "particular circumstances" in which substitution of one computational methodology for another should occur. It also would require that any Libor code of procedures should incorporate a set of standards for determining if such "particular circumstances" obtain.

(b) If decisions as to "substitution" were entrusted to contributor banks, any such scheme would have the undesirable effect of extending and complicating the level of judgmental input involved in creating daily Libor submissions.

(c) Decisions as to "substitution" might instead be placed in the hands of some authority or body charged with overseeing Libor submissions by contributor banks. If so, then the applicable code of conduct for Libor contributor banks would need to specify the grounds on which such authority or body would adjudicate if and when "particular circumstances" obtain.

[redacted]

Question: **Over what time period could an alternative to Libor be introduced?**
Answer: **Not clear.**

(4.9) The interval needed for transition from the Libor mechanism to an alternative would depend on the extent to which such alternative departed from the Libor standard. As we have argued above, any such substitution is likely to be unnecessary and is likely to risk significant disruption to money and bond markets, as well as to markets for interbank funding and for interest rate derivatives.

Question: **Should particular benchmarks be mandated for specific activities?**
Answer: **No. Such mandate would risk being intrusive and overly prescriptive.**

(4.10) As noted earlier (Section (4.4) *supra*) fixed-income investors, borrowers, debt issuers, and derivatives users employ BBA Libor voluntarily. As long as a benchmark such as Libor is properly calculated, governed, and supervised, willing parties to contracts should be capable of using it as they see fit.

5) Potential Implications for Other Benchmarks

Question: **Should there be an overarching framework for key reference rates?**
Answer: **Not if it impedes creation and maintenance of valid benchmarks.**

(5.1) As a general principle, we believe that providing transparency with respect to the quality and integrity of both the price reporting methodology and price assessments is a desirable goal, one that would serve to restore and promote public confidence in Libor and other benchmarks or reference rates. However, any proposed framework should avoid taking a "one-size-fits-all" approach. Rather, it should provide sufficient flexibility to permit the framework to be tailored to the particular features and characteristics of each individual market. From one market to another, different benchmarking mechanisms may be required to summarize the information impounded in these features, in a way that would make such benchmarks useful to market participants. A benchmark structure that adequately indexes the features of one market may fail to do so when applied to those of another market. In the context of interest rate benchmarks:

> (5.1.1) *Transaction-based measures* are likely to suit markets with consistently heavy transaction flows. Examples would include interest rate benchmarks for overnight unsecured interbank money markets, such as Eonia, or the US daily effective federal funds rate.
>
> (5.1.2) *Committed quote-based measures* may suit certain institutional arrangements. For example, where a finance ministry or central bank oversees a cadre of designated primary dealers who furnish liquidity to the government's debt markets, it may construct daily price benchmarks for government securities issues on the basis of price quotes posted by the designated primary dealers.

[redacted]

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(5.1.3) *Surveys of non-actionable quotes* are suited to markets in which transaction flows are prone to be sparse or sporadic. Exemplars are BBA Libor and Euribor.

(5.2) IDP 5.20 remarks that "[a] benchmark that instills confidence and that can be used by market participants without question as to its integrity" should possess robust methodology, credible governance, and formal regulatory oversight, and should exhibit transparency.

We would agree, adding only that any such benchmark must feature regularity and reliability: To instill confidence, it must function in all seasons and under all conditions.

We thank you for giving us the opportunity to share these thoughts with you. Should you or your colleagues wish to discuss them or any matters relating to the Wheatley Review of Libor, we would welcome this. I encourage you to contact my colleague Frederick Sturm (312 930 1282, frederick.sturm@cmegroup.com) or me (312 930 3488, kathleen.cronin@cmegroup.com).

Sincerely yours,

Kathleen M Cronin

Kathleen Cronin
Senior Managing Director, General Counsel
and Corporate Secretary

[redacted]

Council of Mortgage Lenders

The Wheatley Review of LIBOR: initial discussion paper

Response by the Council of Mortgage Lenders
to the Wheatley Review of LIBOR

Introduction

1. The CML is the representative trade body for the first charge residential mortgage lending industry, which includes banks, building societies and specialist lenders. Our 109 members hold around 94% of the assets of the UK mortgage market. In addition to lending for home-ownership, the CML's members also lend to support the social housing and private rental markets.

2. The CML welcomes the opportunity to comment on the initial discussion paper and looks forward to the conclusion of the initial review of LIBOR and further discussion and comment on the appropriate changes to the calculation of LIBOR and other benchmarks.

3. This response has been drafted in consultation with our members. As such, we will limit our response to issues that are of most significance to their mortgage lending activities.

4. It should be noted that LIBOR (and EURIBOR) were only used as a pricing benchmark for a very small proportion of mortgages in the UK and we understand that most relate to sterling LIBOR. After consultation with our members, we would estimate that between 100,000-200,000 mortgages are linked to LIBOR or EURIBOR, representing between 1-2% of the outstanding mortgage market. The bulk of these mortgages were entered into pre-2008. Even so, any changes to definition of or composition of the benchmark rate will affect consumers and our members in the operation and administration of these mortgages. We consider that it is very important for there to be proper transitional arrangements to any new benchmark index.

5. In addition to the number of mortgages using LIBOR and EURIBOR as a benchmark for setting interest rates, our members also have significant exposure to these benchmarks in the form of derivative contracts necessary for the creation and hedging of a variety of mortgage products.

Comments on the discussion paper

6. Overall, we do not believe that it is in consumers' interest for the authorities to prescribe the use of a specific benchmark for products, particularly in the mortgage market. The prescriptive use of benchmarks has the potential to stifle innovation and competition and thereby raise costs for the consumers.

7. We believe that on balance the best option is to consider ways of redefining more robustly LIBOR and strengthening the processes and procedures round its compilation rather than its abolition and replacement with something entirely different:

   a. As outlined in table 4A (page 36) all the alternatives suggested involve to some degree or other judgement as to the correct level of interest rates. We, therefore, would conclude that all the alternatives are to some extent as potentially flawed as the existing LIBOR calculation arrangements.

   b. The appropriate benchmark for mortgage products should be the proxy of leading banks' unsecured borrowing costs. The analysis in the paper points to the use of Treasury Bills for the calculation of interest rates; however, this would fundamentally change the nature of the benchmark since, by definition, the use of Treasury Bills would not capture the element of credit risk that LIBOR does. The use of Treasury Bills would, therefore, change the nature of the index and would create significant transitional problems.

   c. We do not support the concept of discontinuing LIBOR and leaving counterparties to renegotiate existing contracts or to relay on the fall back position in their existing

address North West Wing Bush House Aldwych London WC2B 4PJ
[redacted] website www.cml.org.uk

documents. We believe this would be extremely costly and time consuming for counterparties. Furthermore we believe that in the process it could easily create significant financial risk with previous positions becoming un-hedged or imperfectly hedged. It would be especially unattractive in the mortgage market where individual lenders would be affected by the discontinuation.

8. We, therefore, support the broad range of options outlined in Chapter 3 designed to strengthen the calculation methodology and governance of the calculation of LIBOR. The existing failures of LIBOR can be addressed both by an improved calculation methodology but also an improved governance regime. In particular, while those banks involved in the submitting of LIBOR can improve their internal system of review and control, we believe that the authorities could also have a greater role in ensuring the integrity of key indices and prevent the manipulation of benchmarks.

9. We believe that the most appropriate method of dealing with the issues surrounding the failure of LIBOR is to improve the governance of the calculation etc., and we would warn that should LIBOR be replaced/discontinued, then an appropriate period of time would be needed to ensure that the transition could be achieved with the minimum of disruption to consumers. Should the review conclude that LIBOR should be replaced/discontinued, we would like to further consult with our members to establish what would be an appropriate time to allow for a smooth transition.

10. While it is possible to rely on existing mortgage documents to deal with the unavailability of LIBOR it should be noted that these clauses are designed to deal with market disruption rather than the discontinuation of LIBOR. We would conclude, therefore, that contractually, the best way to deal with discontinuation of LIBOR would be to have this proceed by statue.

11. If you have any comments or queries regarding this submission please contact:
Jon Saunders a[redacted] or [redacted].

CRÉDIT AGRICOLE
CORPORATE & INVESTMENT BANK

6 September 2012

BY EMAIL AND COURIER

The Wheatley Review
HM Treasury
1 Horse Guards Road
SW1A 2HQ

Dear Sirs,

The Wheatley Review of LIBOR: initial discussion paper, August 2012

We refer to the review of LIBOR which has been commissioned by the Chancellor of the Exchequer and which is being conducted by Martin Wheatley (the "**Wheatley Review**"), and to the initial discussion paper which was published in August 2012 entitled "*The Wheatley Review of LIBOR: initial discussion paper*" (the "**Discussion Paper**").

Interested parties have been invited to respond to the Discussion Paper and, accordingly, as one of the current panel banks for LIBOR, we now write to provide the comments of Crédit Agricole CIB, London Branch ("**CA-CIB London**").

An overview of CA-CIB London's key comments is set out under the heading "Summary" below. CA-CIB London's further responses to the specific questions raised in the Discussion Paper are set out below under the headings used in the paper.

As noted in the Discussion Paper, a very short timescale has been proposed for responding to the Wheatley Review. In view of the limited time available to prepare a response, CA-CIB London has not been able to provide an exhaustive and detailed response to every single issue raised in the Discussion Paper and has instead, in this submission, necessarily limited itself to high level comments which are provided in summary form. Accordingly, please note that the fact that CA-CIB London has not commented on any specific issue raised in the Discussion Paper, or on comments or recommendations made in respect of such issues, should not be taken to mean that CA-CIB London either accepts, agrees or disagrees with any such issues, comments or recommendations. CA-CIB London reserves its right to make further comments in respect of any issue raised in the Discussion Paper or otherwise at a later date.

CRÉDIT AGRICOLE
CORPORATE & INVESTMENT BANK

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Summary

CA-CIB London became a contributing bank in respect of GBP LIBOR and JPY LIBOR in December 2010 and in respect of USD LIBOR in February 2011, i.e. significantly after the matters referred to in the FSA's Final Notice to Barclays dated 27 June 2012.

Nevertheless, CA-CIB London recognises the current concerns surrounding the calculation of LIBOR, which is of fundamental importance to commercial and financial markets. CA-CIB London believes it is imperative that LIBOR be, and be seen to be, robust and credible and that LIBOR users, and the public generally, have confidence in this benchmark.

To that end, CA-CIB London supports global improvements to governance in respect of LIBOR and the supervision of the current benchmark.

CA-CIB London also strongly endorses an increase in the number of parties contributing to LIBOR. Such a step would reduce the impact any one institution's submission may have on LIBOR and hence further reduce any risk, whether real or perceived, that the rate is open to manipulation. Insofar as greater regulatory oversight may be desirable and necessary, CA-CIB London believes that this goal may be sufficiently addressed by making the LIBOR process a regulated activity under FSMA.

Finally, CA-CIB London believes that any change to the current definition of LIBOR, or the mandatory substitution of an alternative benchmark, is likely to be difficult to implement and would be potentially undesirable in any event, for the reasons set out below.

Chapter 2: Issues and failings with LIBOR

Question 1: do you agree with our analysis of the issues and failings of LIBOR?

CA-CIB London notes the comments in the Discussion Paper with respect to the current governance framework for LIBOR (paragraphs 2.25 to 2.30).

CA-CIB London agrees that LIBOR is of fundamental importance to financial and commercial markets and that the process for determining LIBOR needs to be, and be seen to be, robust, transparent and secure. Within the time frame available to provide comments on the Discussion Paper, CA-CIB London is not in a position, however, to comment in detail on the strengths and weaknesses of the way in which LIBOR is determined.

In view of recent events and press reports concerning matters said to have occurred before CA-CIB London became a contributing bank, including the matters covered in the FSA's Final Notice to Barclays dated 27 June 2012, CA-CIB London agrees that it is appropriate and timely to review the way in which LIBOR is set and to seek to strengthen this process.

Chapter 3: Strengthening LIBOR

Question 2: can LIBOR be strengthened in such a way that it can remain a credible benchmark?

CA-CIB London would support steps to reinforce global improvements to governance in respect of LIBOR and the supervision of the current benchmark.

A number of possible options are set out in the Discussion Paper regarding ways in which LIBOR may be strengthened. In the time frame available, it is not possible to comment on the desirability and workability of all of these options. However, CA-CIB London does have the following specific comments:

Changes to the definition and constitution of LIBOR

A number of the suggested options that have been proposed in the Discussion Paper would involve changes to the current BBA benchmark definition for LIBOR.

In respect of the specific proposals to broaden the scope to include other sources of funding (Discussion Paper, paragraph 3.12), including FX forwards and swaps (paragraph 3.14), such moves would have the advantage of increasing the pool of actual transactions upon which LIBOR could be based, but would also constitute a significant departure from the current definition of LIBOR.

In respect of any proposal to change the definition of LIBOR, CA-CIB observes that any new definition for LIBOR would only be credible if it corresponds with the needs of, and has the confidence of, LIBOR users. The current definition is widely accepted and utilised by commercial parties, as evidenced by the fact that, as noted in the Discussion Paper, there are currently some $300 trillion of commercial and financial contracts which are indexed to or reference LIBOR.

Any change to the definition of LIBOR also risks being highly disruptive, considering the enormous number of contracts and instruments which reference the current definition and the fact that these often do not use standard terms.

Options to support contributors in submitting rates

CA-CIB London would endorse the use of a determination process for all contributing institutions (paragraph 3.8). Particularly where there is limited or no relevant market activity, further guidance could be desirable with respect to appropriate criteria to be used by contributing institutions.

CA-CIB London agrees that increasing the number of institutions on each LIBOR panel could enhance the perceived credibility of the process by reducing the impact any one institution's daily submissions could have on the rate. However, in order to ensure LIBOR retains credibility, any increase in the size of the LIBOR panels should respect (as per paragraph 2.5) the "leading" nature of the contributors.

In respect of the proposals to aggregate, cease or delay publication of individual submissions (see, for example, Discussion Paper paragraphs 3.17), whilst this may reduce the risk of potential conflicts of interest, CA-CIB London believes that, overall, such a move could create risk with respect to the transparency and perceived credibility of LIBOR.

Question 3: could a hybrid methodology for calculating LIBOR work effectively?

The Discussion Paper discusses possible options for a "hybrid" method of determining LIBOR, under which rate setters would continue to exercise their judgment but would also be required to corroborate this with their own institution's transactions.

While CA-CIB London believes that the use of actual transactions has been and will continue to be an important factor for all contributing institutions, any prescribed methodology would also need to deal with the weight to be given to transactions of different sizes and tenors, transactions with non-standard starting dates, broken maturities and, in the event that the definition of LIBOR is broadened, the exact scope of transactions which may or should be considered. It would also need to deal with the procedure to be adopted where there are limited or no relevant transactions.

Question 4: could the number of maturities and currencies currently covered by the LIBOR benchmark be reduced?

CA-CIB London notes the issues surrounding longer maturities and currencies with low underlying activity (Discussion Paper, paragraph 3.15). However, because of the impact on commercial and financial contracts which reference such currencies and/or maturities, CA-CIB London believes a reduction in the number of maturities and/or currencies could raise a significant risk of market disruption that would need to be addressed.

Question 5: is an alternative governance body for LIBOR required in the short term?

Given the importance of restoring the credibility of LIBOR as a reliable benchmark, an alternative governance body under the supervision of the FSA should be considered.

Question 6: should the setting of and/or the submission to LIBOR be regulated activities?

CA-CIB London believes that bringing the LIBOR submission process under FSMA as a regulated activity, in respect of which sanctions could be applied in appropriate circumstances, would increase perceived credibility. However, in light of the continuing need for individuals to use their own judgment in setting daily contributions, particularly in a low activity market, careful thought should be given to the scope and application of criminal sanctions to ensure that these do not in fact have a chilling effect and act as a deterrent for leading banks and senior, qualified individuals to be involved in the LIBOR process, as this might actually serve to weaken the overall credibility of LIBOR by reducing the number of contributing banks.

Question 7: should the regulator be provided with specific powers of criminal investigation and prosecution in relation to attempted manipulation and manipulation of LIBOR?

As the review documents, there is currently ambiguity regarding regulators' powers to bring criminal actions in respect of any manipulation of LIBOR contributions and/or market abuse. CA-CIB London does not believe, however, that it is necessary to expand the criminal investigatory and prosecutorial powers of existing regulators in order to address this issue. Instead, CA-CIB London believes that bringing LIBOR-related activities under the FSMA regime should provide the regulator with the necessary powers and would, additionally, provide greater clarity for market participants.

Question 8: what role should authorities play in reforming the mechanism and governance of LIBOR?

In order to ensure the credibility of LIBOR as a benchmark in the financial markets, CA-CIB London agrees that the appropriate regulatory authorities should take a lead role in any reforms that may be considered necessary to the mechanism and governance of the process going forward, subject to full and proper consultation with relevant stake-holders.

Question 9: which types of financial contract, if any, would be particularly affected by the risks of a transition from LIBOR?

No comment.

Chapter 4: Alternatives to LIBOR

Question 10: are there credible alternative benchmarks that could replace LIBOR's role in the financial markets?

See answer to question 14 below.

Question 11: should an alternative benchmark fully replace LIBOR, or should it substitute for LIBOR in particular circumstances?

See answer to question 14 below.

Question 12: should particular benchmarks be mandated for specific activities?

See answer to question 14 below.

Question 13: over what time period could an alternative to LIBOR be introduced?

See answer to question 14 below.

Question 14: what role should authorities play in developing and promoting alternatives to LIBOR?

In general, CA-CIB London would support any reasonable strengthening of governance in respect of LIBOR and the supervision of the current benchmark. As set out above, LIBOR is of fundamental importance to retail, commercial and financial markets, and it is therefore imperative that LIBOR be, and be seen to be, robust and credible and that LIBOR users, and the public generally, have confidence in this benchmark.

CA-CIB London understands from the Discussion Paper that, in addition to strengthening governance and transparency with respect to LIBOR, the Wheatley Review is also considering whether other financial benchmarks could be used instead of LIBOR, either across the board, or in respect of certain types of instruments or in particular circumstances (for example, during periods of substantially reduced liquidity). The Discussion Paper identifies a number of potential alternative benchmarks and discusses the strengths and weaknesses of these various benchmarks, their suitability as alternatives to LIBOR and options for effecting any substitution of these benchmarks for LIBOR.

It is apparent from the charts 4.A at paragraph 4.17 and 4.B at paragraph 4.23 of the Discussion Paper that the current mechanism using unsecured lending seems the most appropriate benchmark.

CA-CIB London believes that, even if a more suitable benchmark to LIBOR could be identified, any mandatory substitution of such a benchmark for LIBOR may, in any event, be practically very difficult to achieve and, potentially, undesirable, even if such substitution were limited to certain products or circumstances. As discussed above, LIBOR is a widely used benchmark. As is the case for changing the definition of LIBOR itself, substituting a different benchmark entirely would risk creating significant disruption to a large number of parties who have elected to use LIBOR for their own commercial reasons. Indeed, as it is for final users to decide which benchmark is the best fit for their needs, it may ultimately be very difficult to enforce any mandated substitution if users decided they did not wish to use an alternative benchmark.

Any substitution of a different rate would also require wide-spread co-ordination from regulators worldwide. Any substitution would risk creating significant disruption to the markets, considering the volume of contracts which reference LIBOR, many of which are in non-standardised form.

Lastly, in respect of the specific proposal to substitute a different benchmark in particular circumstances, it would also be necessary to decide who would determine that such circumstances had occurred and how they would make that determination.

Chapter 5: Potential implications on other benchmarks

Question 15: are there other important markets or benchmarks that could face similar issues to those identified relating to LIBOR?

No comment.

Question 16: should there be an overarching framework for key international reference rates?

No comment.

Concluding comments

CA-CIB London thanks the Wheatley Review for the opportunity to provide its comments on LIBOR, and would be happy to discuss further any of the points raised in this letter. In this respect, we would ask that any communications be directed to Arnaud Chupin, UK Senior Country Officer at the address on the letterhead or by email to arnaud.chupin@ca-cib.com.

Yours faithfully,

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For and on behalf of Crédit Agricole Corporate and Investment Bank London Branch