

POSITION PAPER ON THE EVOLUTION OF ICE LIBOR

20 October 2014

1. Introduction

- 1.1 This document sets out ICE Benchmark Administration's ("IBA") findings since becoming the administrator of LIBOR, our proposed enhancements following the Financial Stability Board's ("FSB") publication on Reforming Major Interest Rate Benchmarks and an invitation for views on the proposals from all stakeholders in LIBOR.
- 1.2 IBA became the administrator for ICE LIBOR ("LIBOR") (formerly known as BBA LIBOR) on 1 February 2014 and the administrator for ISDAFIX on 1 August 2014.
- 1.3 On 22 July 2014, the FSB published its proposed reforms for major interest rate benchmarks.¹ The main areas of discussion in the FSB report revolve around a multiple-rate approach:
 - (1) Strengthening the existing IBORs and other potential reference rates based on unsecured bank funding costs by underpinning them to the greatest extent possible with transactions data ("IBOR+")
 - (2) Developing alternative, nearly risk-free reference rates (RFR) since FSB Members believe that certain financial transactions, including many derivatives transactions, are better suited to reference rates that are closer to risk-free.
- 1.4 The FSB Report further states that one of the overarching objectives of the reforms should be that:

"Reference rates should be based exclusively in actual transactions. However, in many cases insufficient transactions will be available to do this and so the degree of dependence on transactions should vary by currency and will depend on market liquidity, depth and data sufficiency. When conditions in the local market do not allow pure transaction rates (ones derived mechanically from transacted data without use of expert judgement), authorities should work with and guide the private sector to promote rates which are derived on a waterfall of different data types: underlying market transactions first, then transactions in related markets, then committed quotes, and then indicative quotes."
- 1.5 While LIBOR was established in the 1980s, there was little regulatory oversight until the Wheatley Review in 2012. Ensuing from this was a ten point plan for reform including the change that resulted in IBA taking over the administration in February 2014.² In July 2013 there was the publication of the IOSCO Principles for Financial Benchmarks. IBA welcomes these reforms and the further momentum for change provided by the FSB in its report. We set out below:
 - our findings to date in administering LIBOR since 3 February 2014
 - summary of improvements that have recently taken place to LIBOR

¹ See http://www.financialstabilityboard.org/publications/r_140722.pdf

² See http://cdn.hm-treasury.gov.uk/wheatley_review_LIBOR_finalreport_280912.pdf

- our response to the FSB Report and our proposed enhancements to elements of LIBOR
 - an initial request for views on the proposed enhancements, and
 - a questionnaire - based request for further information on the usage of LIBOR in relation to specific currencies and tenors ²
- 1.6 We also include separately an overview of IBA's approach to benchmark administration and a brief summary of the Financial Conduct Authority's ("FCA") regulatory requirements for benchmarks.
- 1.7 We warmly encourage you to provide us with your feedback on these proposals. We would very much appreciate your views and comments, by **Friday 19 December 2014**.
- 1.8 IBA would like to express gratitude to the many international authorities which have engaged with us in discussing the proposals below and in particular senior representatives from the following: the FCA, the Bank of England, the Federal Reserve Board of Governors in Washington, the Federal Reserve Bank of New York, the Swiss National Bank, the Japanese Financial Services Agency, The Bank of Japan, the European Central Bank and the Commodities and Futures Trading Commission.

2. Origins of LIBOR

- 2.1 LIBOR was initially developed in the 1980s to facilitate syndicated debt transactions. Its development was further driven by the growth in new financial instruments which also required standardised interest rate benchmarks.
- 2.2 Currently there is no single definition of LIBOR, rather different participants refer to LIBOR based on varying combinations of;
- its name - London Interbank Offered Rate
 - the question asked of submitters, which is currently *"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?"*, and
 - market practice for bank unsecured funding activity.

Some contracts refer to LIBOR based simply on its location on a specific Reuters screen, while others continue to refer to it as BBA LIBOR.

- 2.3 LIBOR has historically had an informal change mechanism operated by a committee of bank submitters. Since 2009 the composition of the submitting banks for each currency was reviewed biannually by the BBA with assistance from its Foreign Exchange and Money Markets (FX&MM) Committee. The most recent changes having been made in December 2011.
- 2.4 In 1998, the BBA also changed the LIBOR question from a rate at which the submitter believed a prime bank would be offered deposits in the market to a rate at which the panel bank itself could borrow funds. This was the last occasion when the definition was re-examined and changed.

² A tenor refers to a maturity period e.g. "overnight", "one month" etc.

- 2.5 Two fundamental objectives of IBA's proposed enhancements are (following consultation with all LIBOR stakeholders) to;
- create a single, clear, comprehensive and robust LIBOR definition, and
 - implement a construct for ensuring the rate can adapt to changing market conditions with appropriate consideration for the interests of all stakeholders.

3. IBA's findings to date

- 3.1 IBA's experience of administering LIBOR since 3 February 2014 has confirmed a number of key assumptions.
- 3.2 First, the inter-bank unsecured lending market had reduced significantly during the global financial crisis of 2007/2009 and the level of activity remains too low in some tenors fully to support an entirely transaction based rate.
- 3.3 The stress on the unsecured inter-bank markets for term borrowing has been driven by several factors:
- a significant increase in perceived risk of bank counterparty default (credit risk)
 - regulatory capital charges
 - the introduction of liquidity coverage ratios which have modified the demand and supply of inter-bank funding, as banks transition to longer maturity funding and more secured funding sources, and
 - a significant increase in liquidity available to banks through the exceptional measures taken by major central banks in response to the financial crisis.
- 3.4 The benchmark submitters to LIBOR have committed significant resources to put in place robust submission processes and internal governance within their organisations. The banks continually enhance their procedures and controls.
- 3.5 Each benchmark submitter has developed its own methodology for establishing LIBOR submissions. A variety of approaches now exists.
- 3.6 Benchmark submitters already use a wide range of transactions to anchor their LIBOR submissions within the existing waterfall of methodologies in Box 4.B of the Wheatley Review.

4. Summary of recent changes to LIBOR

4.1 The following recent enhancements have been made to the LIBOR process;

- the introduction by the UK authorities of statutory regulation for the administration of, and submission to, LIBOR, including an Approved Persons regime, to provide the assurance of credible independent supervision, oversight and enforcement, both civil and criminal
- the appointment of IBA as independent administrator and the increased governance that has been put in place in both the submission and administration processes making any manipulation of LIBOR rates harder
- implementation of IBA's surveillance system, with a dedicated team that assesses the credibility of submissions and seeks to identify breaches of submission standards and tolerances through a combination of alerts and pattern-matching.
- external auditing of administrator and submitters, and
- an assessment of IBA by IOSCO against their Principles for Financial Benchmarks.

4.2 As a result of these changes LIBOR is now harder to manipulate, making it more likely that any attempt to manipulate will be discovered, and there are appropriate legal punishments associated with any attempts at manipulation.

5. Proposed enhancements to elements of LIBOR submissions

5.1 As stated above, each benchmark submitter to LIBOR has developed its own methodology for establishing LIBOR submissions. This has led to a spectrum of methodology practices amongst benchmark submitters with a common starting point of their observable transactions in the market.

5.2 It is in the interests of users of LIBOR and benchmark submitters alike that a more unified transaction-based methodology should be adopted. We therefore propose a more prescriptive calculation methodology with pre-defined parameters that our Oversight Committee will keep under review. In order to ensure the rate is always available, even in times of market stress, we will implement a waterfall of calculation methodologies.

5.3 We recognise that users need to understand LIBOR and that over-complexity would not enhance the benchmark's credibility. Our proposals therefore seek to make the submission criteria transparent and objective whilst avoiding unnecessarily complex coefficients.

5.4 Implementing a more transaction-based approach for determining LIBOR submissions will require a different solution depending on the currency and tenor in question. It is nevertheless important that the solutions should be coherent across currencies and tenors for LIBOR in order to minimise both the transition risk and the time needed to deliver the enhanced approach.

5.5 Consistency and reliability of data are key success criteria.

- 5.6 As well as the focus on a standardised methodology for submissions, it is desirable to expand the number of contributing banks to ensure that the widest possible and most relevant activity is utilised for each currency and tenor.
- 5.7 To promote the objectives mentioned in section 2.2, together with improving benchmark integrity and transparency, IBA proposes a number of parameters to standardise the inputs to LIBOR. These will align the three elements from 2.1 (LIBOR's name, its question asked and market practice), to make the benchmark more formulaic and minimise the need to use expert judgement.

5.7.1 Eligible transactions:

Setting a transaction-based rate via a formulaic approach in the calculation process cannot work effectively in illiquid markets when benchmark submitters must rely on expert judgement to determine their submissions. In the UK benchmark regulation,³ the FCA requires a benchmark submitter to LIBOR to ensure that its benchmark submissions are determined using an effective methodology on the basis of objective criteria and relevant information.⁴ The FCA states that “an effective methodology for determining benchmark submissions in addition to quantitative criteria may include the use of qualitative criteria, such as the expert judgment of the benchmark submitter”. Box 4.B of the Wheatley Review contains the current LIBOR submission guidelines and the current hierarchy of acceptable transaction types.

IBA proposes that;

- submitters' unsecured wholesale funding deposits, Commercial Paper and primary issuance Certificates of Deposit should be directly included
- other transaction types, such as OIS, Repos, FX Forwards, FRAs and FRNs should only be included when a bank's lack of direct transactions means that the submitter has to rely on expert judgement.

Anchoring ICE LIBOR further in transactions would fulfil the strategic objectives set by the FSB and will bring a number of advantages:

- minimising the use of qualitative expert judgment in favour of verifiable and auditable data
- significantly reducing regulatory risk to submitting banks, making their submissions less susceptible to manipulation and maximising Benchmark submitters' ability to justify evidentially the basis for their submissions. This in turn will potentially restore the submitting banks' wish to participate in setting LIBOR and over time attract new banks wanting to play their part by providing transactional data to IBA for the compilation of LIBOR.

We note that some weightings, premia or discounts may need to be applied to additional transaction types.

³ Section 8 of the Market Conduct (MAR) part of the FCA's Handbook, available at <http://fshandbook.info/FS/html/FCA/MAR/8>

⁴ MAR 8.2.5.

5.7.2 Waterfall approach:

IBA is committed to evolving LIBOR as quickly as possible to a rate that is:

- generated from observable market transactions to the greatest extent possible, and
- calculated from submissions derived from transactions executed by banks in the wholesale unsecured market.

Where there are insufficient transactions to produce a reliable submission, a waterfall methodology should be followed, using pre-defined parameters specified by IBA from time to time in consultation with our LIBOR Oversight Committee, as follows;

- where transactions are not available for a currency and tenor, or are below minimum transaction size or aggregate volume, interpolation techniques should be utilised, and
- if interpolation is not possible then expert judgement should be used as a fall-back of last resort.

5.7.3 Location:

Location refers to the financial centres from which benchmark submitters derive their transactional data. The chosen locations currently depend in part on the level of activity within the banks' corporate groupings and on their corporate structure.

IBA proposes that eligible transactions booked in the primary funding centres should be used by benchmark submitters. The relevant centres should be determined by each bank individually and agreed with IBA as administrator.

The submitter's lesser activity in other financial centres would not be included; this is for a number of reasons – transactions from other funding centres would be less representative of the bank's funding cost; they would be less likely to be driven by the bank's funding desk; and they could introduce complexity of collection that could be prone to error.

It is noted that including multiple funding centres could entail using transactions from domestic as well as offshore funding centres for each currency.

5.7.4 Counterparties:

LIBOR was formed to be a gauge of unsecured funding for banks which was, to a very great extent, driven by inter-bank activity prior to the financial crisis. Activity in that market has since decreased markedly and banks consequently need to expand their sources of unsecured funding to other professional counterparties (including, for example, Sovereign Wealth Funds and Money Market Funds).

To be consistent with the original purpose of LIBOR and to reflect the changes in bank funding in recent years, all wholesale and professional entities should be regarded as eligible counterparty types, including central banks and large corporates.

5.7.5 Timing of transactions:

In determining their submissions, benchmark submitters' methodologies may take into account transactions within a time window to include a representative range of transactions.

We propose that benchmark submitters should include all of their eligible transactions since their LIBOR submission on the previous business day. This should allow the benchmark to be anchored as far as possible in transactions.

It may be appropriate to apply weightings according to whether the transactions were executed on the day of the submission or the previous business day.

5.7.6 Reasonable market size for transactions and for aggregated volume:

Submissions to LIBOR are based on the lowest perceived rate at which a bank can obtain funding in reasonable market size, for a given maturity and currency.

"Reasonable market size" was intentionally unquantified on the basis that it would have to be constantly monitored and may have to be changed frequently.

Benchmark submitters currently use a range of transaction sizes as yardsticks for deciding whether transactions are of eligible size to be included in determining their LIBOR submissions.

IBA will consider producing a matrix of eligible transaction sizes as well as minimum aggregated volume for each currency and tenor. Where there are insufficient transactions for a particular currency, a combination of interpolation using relevant transactions and foreign exchange rates may be used to determine each tenor.

5.7.7 Tenors of trades:

Transactions with durations between required submission tenors are important data points to incorporate in the formulation of LIBOR. Benchmark submitters currently use expert judgement to determine in which tenor such transactions should be reported. For example, a 2.5 month transaction might naturally populate the 2 or 3 month category, or indeed both.

To ensure a consistent methodology and remove the requirement for judgement we propose that benchmark submitters should follow a methodology provided by IBA.

5.7.8 Interpolation and extrapolation:

Interpolation and extrapolation techniques are currently used where appropriate by benchmark submitters according to formulas they have adopted individually.

We propose that inter/extrapolation should be used:

1. When a benchmark submitter has no available transactions on which to base its submission for a particular tenor but it does have transaction-derived anchor points for other tenors of that currency, and
2. If the submitter's aggregate volume of eligible transactions is less than a minimum level specified by IBA.

To ensure consistency, IBA will issue interpolation formula guidelines.

5.7.9 Expert Judgement:

Qualitative criteria, such as the expert judgment of the benchmark submitter, is currently used to a greater or lesser extent when banks have insufficient transactions to support a reliable submission based on pure quantitative data. In these instances, a submitter can use expert judgement to derive a submission from related transactions or alternatively, if no transactions are available, then expert judgement is more subjective and based off market data and other market indicators. In either case, the submission and supporting data is reviewed by both additional individuals at the submitting bank and also the surveillance team at IBA.

In evolving LIBOR, the use of qualitative criteria such as the expert judgment should only have a place as a fall-back of last resort.

5.7.10 Transaction Rate:

The current definition was adopted as the standard after a review by the BBA in 1998. Up until then, submissions were based on the following question: *“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?”* This contrasts with the current definition which is, *“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?”*. This was seen as effectively changing the rate from a hypothetical offered rate to a hypothetical transaction rate.

6. LIBOR calculation

- 6.1 LIBOR rates are calculated using a trimmed arithmetic mean: all submissions for a given tenor are ranked in descending order and then the highest and lowest 25% of submissions are excluded. This trimming of the top and bottom quartiles allows for the exclusion of outliers from the final calculation.
- 6.2 This ‘topping and tailing’ has a number of advantages. It provides smoothing of benchmark rates in order to contain volatility, it reduces the possibility of inclusion of errors, and in addition it reduces the likelihood of attempted manipulation of the rate. It may also reduce the effects of manipulation should it occur.
- 6.3 In evolving LIBOR to a rate that is anchored to the greatest extent in transactions, it may be expected that the volatility of rates will be increased on a day-to-day basis. Some smoothing may be seen as desirable by certain users.
- 6.4 One of the regulatory drivers for transaction-based rates is minimisation of any vulnerability to manipulation. From this perspective, ‘topping and tailing’ may be less relevant in that it would adjust a rate that had already been calculated formulaically from observable and testable evidence.
- 6.5 We are evaluating alternatives for the current ‘topping and tailing’ methods and would welcome comments on the extent, if any, to which such smoothing adds value.
- 6.6 An alternative calculation from the trimmed arithmetic mean may also be worth assessing, particularly for those currencies where there is a small number of submitting banks. Some of

many possible calculations that IBA is considering include moving to a median of rates or removing rates which are more than 5% away from the median values.

- 6.7 Currently an equal weighting is applied to the submission from each contributing bank per currency. There are currently no proposals to change this.
- 6.8 We would be interested in the views of LIBOR stakeholders on the merits and drawbacks of a different calculation methodology.

7. Delayed publication of individual submissions

- 7.1 Up until April 2013, benchmark submitters' individual LIBOR submissions were published daily alongside the final LIBOR rate. Such publication was intended as a mechanism to promote transparency and public accountability for the accuracy of submissions.
- 7.2 However, publishing submissions provided information to contributors and increased the susceptibility to manipulation since benchmark submitters could estimate the likely impact of their submission on the overall rate. Real-time publication of submissions also created an incentive to submit a lower rate than would otherwise have been submitted in order to avoid an implicit signal as to deterioration in the creditworthiness of a submitter. These considerations led the Wheatley Review to recommend publication of individual submissions after an embargo of at least 3 months.
- 7.3 IBA currently publishes a daily file containing the individual submissions made three months prior to that day and, on the first business day of each month, a monthly file containing all of the submissions that became unembargoed in the previous month. This ensures that there is a delay of at least three calendar months before the submissions are published. We invite comments from stakeholders on whether this process should remain the same going forward.

8. Panel composition

- 8.1 At present, 20 banks are benchmark submitters to LIBOR. The relevant currency panels vary in size:

Currency	Number of banks
US Dollar	18
Sterling	16
Euro	15
Yen	13
Swiss Franc	11

- 8.2 The current benchmark submitters nominated themselves in the past to the then FX&MM Committee of the BBA⁵ which based its selection criteria on relevant market activity, expertise and reputation.

⁵ The BBA was the administrator for LIBOR until 31 January 2014.

- 8.3 The Wheatley Review noted that, while the benefits of LIBOR are enjoyed by all banks (and a large number of other market participants), only a small group of banks contribute to the benchmark, and there are some notable large banks that do not participate in the LIBOR panels.
- 8.4 IBA has sought actively to streamline the process of making submissions to LIBOR to make it easier for benchmark submitters and to allow further time for them to calculate their submissions. From December 2014, IBA will be extending the submission window by 10 minutes from 11:00 to 11:09 and 59 seconds to 11:00 to 11:19 and 59 seconds (London Time), which is expected to reduce significantly benchmark submitters' risk of making a wrong submission.
- 8.5 We regard expansion of the existing currency panels as important for collating more transactions, particularly in currencies that may not be well represented by current submitting banks.
- 8.6 Nevertheless:
- contraction in the size of currency panels could occur through corporate activity
 - some existing benchmark submitters might wish to withdraw from acting as such notwithstanding that other parts of their businesses are users of LIBOR. We acknowledge that the FCA could exercise its powers of compulsion but our preferred approach would be to have a wider pool of activity from which to draw, and
 - we expect over time that our work in streamlining and 'derisking' the submission activity (i.e. basing rates on transactions) will both encourage existing panel banks to remain as submitters and lead to new banks wishing to participate in the formulation of LIBOR. Realistically, however, it is unlikely that the currency panels will increase organically at least in the short term.
- 8.7 We can envisage an approach under which perhaps 50 banks would contribute their transactions on a daily basis and the actual currency panels would be determined periodically by the LIBOR Oversight Committee based, among other considerations, on the banks' activity in the preceding period.

9. Usage of LIBOR

- 9.1 LIBOR has global significance. It is referenced by an estimated US\$ 350 trillion of outstanding business in maturities ranging from overnight to more than 30 years.
- 9.2 The global significance of LIBOR means that there is a very wide diversity in the interests and priorities of users of LIBOR.
- 9.3 We regard the continuity of LIBOR as imperative in order to:
- support the legal efficacy of existing, outstanding contracts, and
 - allow for development and continuous operation of efficient risk management tools to manage exposures undertaken within existing contracts.

- 9.4 The Final Report of the Market Participants Group on Reforming Interest Rate Benchmarks⁶ contains a detailed analysis of the impact of the FSB's benchmark reform on corporates in particular.
- 9.5 To inform the evolution specifically of LIBOR, IBA is seeking information about the usage and importance of individual tenors. We would welcome your responses to the attached Request for Information Questionnaire.

10. Timetable for change

- 10.1 In accordance with the timetable proposed by the FSB:

- **By end Q1 2015:**
IBA will have worked with contributing banks to analyse available transaction data.
- **By end Q2 2015:**
In conjunction with the Bank of England and FCA, IBA will have considered the recommended LIBOR methodology and the viability of each LIBOR tenor.
- **By end 2015:**
IBA will have publicly consulted on changes.

11. IBA's request for feedback

- 11.1 As a first step of public consultation on changes, IBA would be grateful to receive your feedback:

- generally on the proposals in this paper
- specifically in response to the LIBOR Usage Questionnaire.

- 11.2 We invite you to provide your feedback by **Friday 19 December 2014** to:

IBA@theice.com

Or by post to:

ICE Benchmark Administration Limited
Milton Gate
60 Chiswell St
London
EC1Y 4SA

- 11.3 Please also feel free to raise any other considerations that you think should be included to further enhance the LIBOR reforms.

⁶The Final Report was dated March 2014 and published on 22 July 2014. It is available at http://www.financialstabilityboard.org/publications/r_140722b.pdf

- 11.4 After analysing responses in conjunction with our LIBOR Oversight Committee, we will publish a feedback statement with stakeholders' summary comments and IBA's response to those comments. We expect to engage in a further public consultation in the first quarter of 2015.
