The Wheatley Review of LIBOR:

initial discussion paper

August 2012

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Introduction

The Wheatley Review, commissioned by the Chancellor of the Exchequer following the emergence of attempted manipulation of LIBOR and EURIBOR, will report on the following:

- necessary reforms to the current framework for setting and governing LIBOR;
- the adequacy and scope of sanctions to appropriately tackle LIBOR abuse; and
- whether analysis of the failings of LIBOR has implications on other global benchmarks.

This discussion paper sets out the direction of the Review's initial thinking on these issues, inviting responses from involved and interested parties.

The need for reform of LIBOR

LIBOR is the most frequently utilised benchmark for interest rates globally, referenced in transactions with a notional outstanding value of at least $300tn.

However, LIBOR has a number of significant weaknesses that have eroded its credibility as a benchmark:

- LIBOR is intended to be a representation of unsecured inter-bank term borrowing costs; as this segment of the market has significantly declined, submissions to LIBOR have become increasingly reliant on expert judgement rather than transaction data.
- Banks and individuals working for banks have an incentive to attempt to manipulate the submissions that compile the rate, either to signal their perceived institutional creditworthiness or to support trading positions.
- The mechanism by which LIBOR is administered leaves opportunity for contributors to attempt to manipulate submissions in line with these incentives; submissions are not always based on transactions and the process is self-policing.
- There are weaknesses in governance arrangements for the compilation process, and within contributing banks themselves. Stronger oversight, with greater independence and transparency is needed.

There are ongoing investigations by a number of global financial regulators and public authorities into alleged attempted manipulation of LIBOR. It is already clear that at least some serious misconduct has taken place relating to LIBOR submissions in recent years.

Options for reform

Retaining LIBOR unchanged in its current state is not a viable option, given the scale of identified weaknesses and the loss of credibility that it has suffered. Therefore, LIBOR has to be significantly strengthened to take account of these weaknesses, while, in parallel, alternative benchmarks that can take on some or all of the roles that LIBOR currently performs in the market should be identified and evaluated.

Strengthening LIBOR

This paper sets out detailed ideas on how LIBOR could be comprehensively reformed in order to deal with the issues identified and restore confidence in the rate. Options for strengthening all aspects of the LIBOR framework should be considered:

- The mechanism for calculating LIBOR could be significantly improved, with the calculation and compilation methodologies made more robust and transparent in the light of the issues identified. For instance, a trade reporting mechanism could be established to improve the availability of transaction data.
- Governance of the LIBOR process could be amended to make it more independent, robust and transparent, both within the contributing banks and within the administrator of LIBOR. For example, a code of conduct could be introduced to establish clear guidelines relating to policies and procedures concerning LIBOR submissions.
- The regulatory framework could be reformed to bring administration of or submission to LIBOR within the regulatory purview. Furthermore, if necessary, sanctions could be strengthened.

Alternatives to LIBOR

Whatever improvements are made to LIBOR, it is likely that markets will want to consider alternative benchmarks for at least some of the types of transaction that currently rely on LIBOR. In some cases, there are existing rates that could be used more widely. For other types of transactions, new benchmarks may need to be developed.

Any migration to new benchmarks would require a carefully planned and managed transition, in order to limit disruption to the huge volume of outstanding contracts that reference LIBOR.

Given the global importance of LIBOR, a decision to migrate towards alternative benchmarks should be coordinated at an international level by relevant bodies. The UK authorities should take a leading role in these reforms.

Implications for other benchmarks

The issues that have been identified with LIBOR have broader implications for a range of other benchmarks, both within financial markets and beyond.

Some benchmarks are already under scrutiny; IOSCO is investigating on oil spot prices, while the European Commission is looking into other financial benchmarks, such as EURIBOR.

It is worth considering whether there is a clear set of principles or characteristics that should be applied to all globally used benchmarks. These could include:

- a robust methodology for calculation;
- credible governance structures;
- an appropriate degree of formal oversight and regulation; and
- transparency and openness.

1 Introduction

1.1 The London Inter-Bank Offered Rate (hereafter referred to as LIBOR) refers to a series of daily interest rate benchmarks administered by the British Bankers' Association (the BBA). These rates are calculated across ten currencies and fifteen tenors (borrowing periods) ranging from overnight to one year. They serve as a series of indices of the average cost to banks of unsecured borrowing for a given currency and time period.

1.2 Since 2009, the Financial Services Authority (FSA), along with regulators and public authorities in a number of different jurisdictions – including the United States, Canada, Japan, Switzerland and the European Union – have been investigating a number of institutions for alleged misconduct relating to LIBOR, EURIBOR and other benchmarks.

1.3 As part of its response to these investigations, the UK Government has established an independent review into a number of aspects of the setting and usage of LIBOR. This review is being led by Martin Wheatley, managing director of the FSA and CEO-designate of the new Financial Conduct Authority (FCA), the body which will have responsibility for regulation of wholesale markets in the UK's new regulatory framework.

1.4 Box 1.A sets out the Review's terms of reference. It should be emphasised that the Review will not consider any specific allegations against particular financial institutions or individuals regarding attempts to manipulate LIBOR or other benchmarks. These allegations will continue to be investigated by the FSA and other regulators around the world.

1.5 This discussion paper sets out the Review's initial analysis of the issues that have come to light in relation to LIBOR. The paper is structured as follows:

- Chapter 2 identifies issues and failures within the current LIBOR processes that have contributed to the current state of affairs.
- Chapter 3 explores the options to strengthen LIBOR, covering the calculation mechanism, governance structures, and options for regulation and sanctions relating to manipulation and attempted manipulation of the rate.
- Chapter 4 considers whether LIBOR could be replaced by an alternative benchmark to reflect issues that have been identified, as well as changes in the applications for which the benchmark is used in today's financial markets.
- Chapter 5 addresses the question of whether the thinking applied to LIBOR in this paper is relevant to other benchmarks set in financial and other markets.

Box 1.A: Terms of reference of the Wheatley Review

The Wheatley Review will formulate policy recommendations with a view to:

1. Reforming the current framework for setting and governing LIBOR. This work should, inter alia, consider:
   - Whether participation in the setting of LIBOR should be brought into the regulatory perimeter under the Financial Services and Markets Act 2000 as a regulated activity;
   - How LIBOR is constructed, including the feasibility of using of actual trade data to set the benchmark;
   - The appropriate governance structure for LIBOR;
   - The potential for alternative rate-setting processes;
   - The financial stability consequences of a move to a new regime and how a transition could be appropriately managed.
2. Determining the adequacy and scope of sanctions to appropriately tackle LIBOR abuse. This work should consider:
   - The scope of the 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.
3. Whether similar considerations apply with respect to other price-setting mechanisms in financial markets, and provide provisional policy recommendations in this area.

Other responses to the issue

1.6 As noted, there are already a number of regulatory investigations into allegations of attempted manipulation of LIBOR and other similar benchmarks currently underway.

1.7 Additionally, Parliament has established a Parliamentary Commission on Banking Standards. This commission will investigate wider questions relating to professional standards and culture within the UK banking sector, as well as lessons to be learned about corporate governance, transparency and conflicts of interest, and their implications for regulation and Government policy. The Parliamentary Commission will make legislative recommendations by 18 December, in time for inclusion in the forthcoming banking reform Bill, which will implement the Government's response to Sir John Vickers' Independent Commission on Banking.

1.8 A number of other national and international authorities – such as the European Commission – are also conducting policy reviews of the framework surrounding the setting of benchmarks for interest rates.

Next steps for the Review

1.9 The Wheatley Review has been tasked with reporting by the end of the summer. This timetable will enable any immediate recommendations regarding the regulation of LIBOR and other benchmarks to be considered by the Government in time for any proposals taken forward to be included in the Financial Services Bill (which is currently being considered by the House of Lords).

1.10 With this timetable in mind, the Review will aim to present its findings to the Chancellor of the Exchequer by the end of September. Given the time available, consultation on this discussion paper will be necessarily brief. Responses are requested within four weeks, by 7 September 2012.

1.11 Recognising the challenging timetable, Martin Wheatley and the Review team will be seeking to engage actively with stakeholders in person, through meetings and seminars, as well as through written responses. If you wish to arrange such a meeting please contact the Review team using the details provided below. The Review is particularly interested in participating in events involving a wide range of market participants or other stakeholders. Expressions of interest from trade associations, user groups and other representative bodies will therefore be particularly welcome.

How to respond to this discussion paper

1.12 The Review team invites responses to a number of specific questions, which can be found at the end of each chapter, and are listed in full in Annex C. Respondents are also invited to provide additional contributions on any issues they consider to be relevant.

1.13 Responses are requested by 7 September 2012. Please ensure that responses are sent in before this date, as the Review team cannot guarantee that responses received after this date will be considered. When responding, please state whether you are doing so as an individual or on behalf of an organisation.

1.14 Given the short timescale of this response period, the Review team will accept interim submissions in response to the paper.

1.15 Responses can be sent by email to: wheatleyreview@hmtreasury.gsi.gov.uk. Alternatively they can be posted to:

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

1.16 Submissions to the Review will be published online. If you would like some or all of the information that you provide to be treated as confidential – and not to be published – please mark this clearly in a covering note or e-mail (confidentiality language included in the body of any submitted documents, or in standard form language in e-mails, is not sufficient), identifying the relevant information and explaining why it is confidential. However, please note that even where such requests are made, the Review cannot guarantee that confidentiality will be maintained in all circumstances, in particular if disclosure should be required by law.

2 Issues and failings with LIBOR

Introduction and summary

2.1 LIBOR is the most frequently utilised benchmark for interest rates globally, referenced in transactions with a notional outstanding value of at least $300tn.

2.2 However, LIBOR has a number of significant weaknesses that have eroded its credibility as a benchmark:

- LIBOR is intended to be a representation of unsecured inter-bank term borrowing costs; as this segment of the market has significantly declined, submissions to LIBOR have become increasingly reliant on expert judgement rather than transaction data.
- Banks and individuals working for banks have an incentive to attempt to manipulate the submissions that compile the rate, either to signal their perceived institutional creditworthiness or to support trading positions.
- The mechanism by which LIBOR is administered leaves opportunity for contributors to attempt to manipulate submissions in line with these incentives; submissions are not always based on transactions and the process is self-policing.
- There are weaknesses in governance arrangements for the compilation process, and within contributing banks themselves. Stronger oversight, with greater independence and transparency is needed.

2.3 There are ongoing investigations by a number of global financial regulators and public authorities into alleged attempted manipulation of LIBOR. It is already clear that at least some serious misconduct has taken place relating to LIBOR submissions in recent years.

2.4 Retaining LIBOR unchanged in its current state is not a viable option, given the scale of identified weaknesses and the loss of credibility that it has suffered. Therefore, LIBOR has to be significantly strengthened to take account of these weaknesses, while, in parallel, alternative benchmarks that can take on some or all of the roles that LIBOR currently performs in the market should be identified and evaluated.

The development and use of LIBOR

2.5 LIBOR is an indication of the costs of unsecured borrowing in the London interbank markets. In essence it is a benchmark that gauges the interest rate, credit premium and liquidity premium that a leading bank would expect to be offered by another similar institution.

2.6 It was established in the 1980s in order to provide a fair and standardised interest rate benchmark for loans, thereby facilitating the growth of the syndicated loans market. Standardised inter-bank rates were attractive as a benchmark for investors and borrowers as they allowed the lending banks to pass on changes in the funding costs of an average bank over the course of the duration of the loan. The development of LIBOR was also driven, from an early stage, by the growth in new financial instruments such as forward rate agreements, which also required a standardised interest rate benchmark.

Box 2.A: Definition of LIBOR

LIBOR is calculated by Thomson Reuters on behalf of the BBA. Contributing banks submit a response to the following question for each currency and tenor:

"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?"

The highest and lowest submissions are discarded, with the remaining submissions averaged to create LIBOR for the given day. For some currencies, more outliers are discarded as there are a higher number of contributing banks.

2.7 Today, inter-bank benchmarks such as LIBOR and EURIBOR are used across the world for a range of financial products by a wide variety of financial market participants, for both hedging and speculative purposes. Table 2.A sets out some of the more common uses for LIBOR, along with an estimate of the notional value of financial products using LIBOR, which in total adds up to at least $300tn. No comprehensive source of data on the use of LIBOR exists so this data is drawn from a number of different published sources and relies on a number of assumptions, none of which will be complete or exact. Table 2.A should therefore be treated as indicative rather than comprehensive. A number of other estimates of the value of contracts linked to LIBOR exist in the public domain, ranging from $300tn up to $800tn.

Table 2.A: Use of LIBOR in Financial Contracts

Instrument/Application	Estimated value of contracts with LIBOR as benchmark
Syndicated Loans	~$10tn[(a)]
Floating Rate Notes	~$3tn[(b)]
Interest Rate Swaps	$165[(c)] – $230tn[(d)]
Exchange-traded Interest Rate Futures and Options	$30tn[(d)]
Forward Rate Agreements	$25[(d)] – $30tn[(e)]
Total	**~$300tn**

Note: Assumptions are that 50% of contracts reference LIBOR and that this list is not exhaustive.
Sources: (a) Oliver Wyman; (b) Dealogic; (c) DTCC; (d) Bank for International Settlements; (e) Trioptima

2.8 Although LIBOR is currently published for ten currencies and fifteen maturities, this was not always the case. LIBOR was originally published for just three currencies – Sterling, US Dollar and Japanese Yen – before growing to cover a total of 16 currencies prior to the introduction of the euro in 2000. Similarly, the number of maturities has increased over time from 12 to 15 – in 1998 the 1-week rate was added, and in 2001 the overnight and 2-week rates were added.

2.9 Although LIBOR is calculated in London, it is based on daily submissions from a number of international banks and is used as a benchmark globally. The increasing global integration of financial markets has meant that contracts have converged to a single internationally recognised benchmark, and LIBOR in particular has benefited from a combination of the rise of the euro markets and the convenient time-zone in which London sits. Additionally, as the prevalence of LIBOR-linked contracts increased, there were network effects that made it more attractive for other products to link to LIBOR: for example, adjustable rate mortgages in local markets moved from being linked to niche measures of cost of funds to the more widely recognised and more easily hedged LIBOR.

2.10 Several alternative benchmarks, such as the New York Funding Rate, have been established. However, with the exception of EURIBOR, few have been able to build up market share comparable to that of LIBOR.

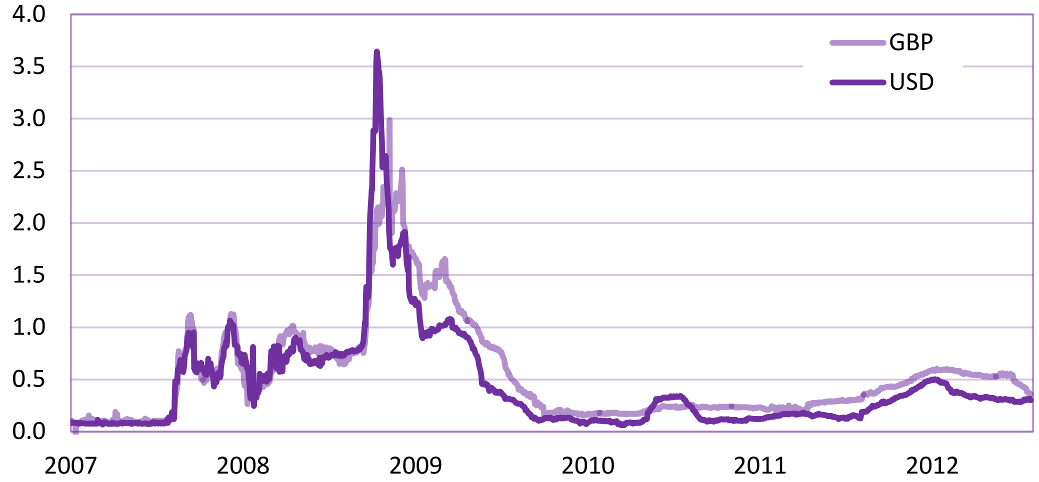
Developments in the inter-bank borrowing market

2.11 Inter-bank benchmarks, such as LIBOR and EURIBOR, are an indication derived from information and activity in the market for inter-bank borrowing costs. Therefore the functioning of these underlying markets will have a direct impact on the benchmarks, and consequently on all contracts referenced to them. Unsecured inter-bank markets for term borrowing have come under severe stress and banks have been relying on other sources of funding for a greater proportion of their funds, including secured borrowing, retail deposits and liquidity provided by central banks.

2.12 This has been driven by several factors:

- There has been a significant increase in perceived risk of counterparty default (i.e. credit risk), particularly in the aftermath of the collapse of Lehman Brothers. The spread between inter-bank term interest rates and projected overnight cash rates (derived from Overnight Index Swaps, hereafter "OIS") increased sharply around this time, although has since fallen (Chart 2.A). Further, regulatory capital charges arising from this increase in counterparty risk have reduced the demand for unsecured funding.
- The introduction of liquidity coverage ratios – in the UK and in Basel III – have modified the demand and supply of inter-bank funding, as banks transition to more longer maturity funding and more secured funding sources.
- There was, and continues to be, a significant increase in liquidity available to banks as a consequence of the exceptional measures taken by major central banks during and after the crisis.

Chart 2.A: 3m LIBOR-OIS Spread

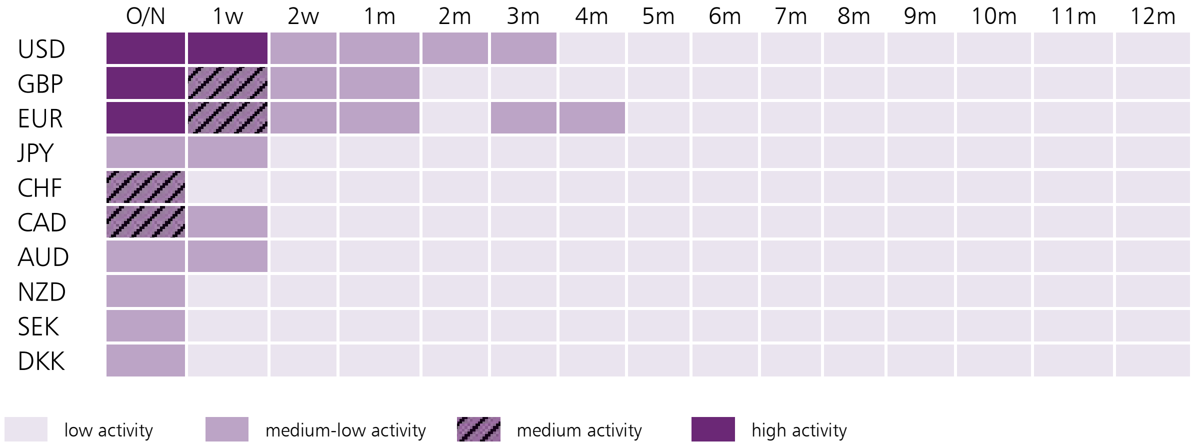


Source: Bloomberg

2.13 The long-term impact of these factors will vary. The increase in perceived counterparty credit risk may be cyclical, although its effect on the inter-bank market may last for longer. The effect of central bank operations has reduced the reliance of banks on private credit facilities. However, the changing regulatory requirements concerning capital and liquidity – both in the UK, and anticipated at an international level – reflect a permanent structural change, and so might have a permanent effect on the volume of lending in the inter-bank market, and particularly on inter-bank unsecured lending at longer maturities.

2.14 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 (see Annex A). However it might make the expert judgement required to determine the appropriate rate submission more difficult. The problem of limited transactions is not uniform. While there is still some inter-bank lending, for many currencies and maturities trading remains very thin (see Chart 2.B).

Chart 2.B: Transactions underlying LIBOR, per bank in 2011 (using current LIBOR definition)



Note: This is based on data from a subset of contributing banks and may not be representative for all currencies.
Source: Oliver Wyman

2.15 Overall, the limited number of transactions means that there are some problems inherent in a widely used benchmark that is nominally derived from unsecured inter-bank term lending. First, determining an appropriate rate for all required points is difficult. Second, a relatively small and illiquid market is used as the basis for determining rates in global loan and derivative contracts that have a nominal outstanding value that is several multiples of the value of the underlying inter-bank transactions.

2.16 However the large majority of financial contracts use only a small sub-set of these maturities. In particular, three and six months are used most often, while use of the other tenors in contracts is very limited. And dollar, yen and sterling rates continue to be by far the most widely used, as Chart 2.C demonstrates in the cases of interest rate swaps and floating rate notes.

Chart 2.C: The use of LIBOR as a reference rate

Interest rate swaps and floating rate notes

	1m	3m	6m	12m	Total
USD	5.6%	52.8%	0.3%	0.1%	59%
EUR	-	-	0.1%	-	0%
GBP	0.4%	2.9%	8.9%	-	12%
JPY	0.1%	3.6%	23.5%	-	27%
CHF	0.1%	0.4%	1.6%[1]	-	2%
AUD	-	-	-	-	0%
CAD	-	-	-	-	0%
NZD	-	-	-	-	0%
SEK	-	-	-	-	0%
DKK	-	-	-	-	0%
Total	6%	60%	34%	0%	100%

[1]Swiss National Bank monetary policy target rate.

Source: Dealogic; Depository Trade and Clearing Corporation

2.17 Furthermore, it could be argued that In the current environment inter-bank lending rates are dominated by credit risk and there is a large dispersion in the perceived creditworthiness of banks. This, together with the low volume of interbank unsecured lending transactions, arguably means that the concept of an average inter-bank rate derived from a panel of diverse banks has less meaning as a measure of bank funding costs.

Failures of the current LIBOR regime

2.18 As discussed, LIBOR and similar benchmarks have in recent years come under increasing scrutiny from regulators around the world. In the UK, the issue achieved widespread public awareness with the publication of the FSA's findings against Barclays (see Box 2.B). This is only the first of a number of investigations the FSA is carrying out into contributing banks.

Box 2.B: The FSA's Final Notice to Barclays[1]

On 27 June 2012, the FSA fined Barclays Bank plc £59.5 million for significant failings relating to LIBOR and EURIBOR. Barclays' breaches occurred over a number of years. Barclays were found to have breached several of the FSA's Principles for Businesses in relation to its submissions to the LIBOR and EURIBOR setting process. It breached the following Principles:

A firm must observe proper standards of market conduct (Principle 5)

Barclays acted inappropriately and breached Principle 5 on numerous occasions by making LIBOR and EURIBOR submissions which took into account requests made by its interest rate derivative traders. These traders were motivated by profit and sought to benefit Barclay's trading positions.

Further, on numerous occasions Barclays sought to influence the EURIBOR submissions of other banks.

Barclays acted inappropriately and breached Principle 5 on numerous occasions by making LIBOR submissions that took into account concerns over the negative media perception of Barclays' LIBOR submissions, which were seen by some commentators as a measure of their inability to raise funds. Senior management's concerns resulted in instructions being given by less senior managers to reduce LIBOR submissions to avoid negative media comment.

A firm must take reasonable care to organise and control its affairs responsibly and effectively, with adequate risk management systems (Principle 3)

Barclays breached Principle 3 by failing to have adequate risk management systems or effective controls in place relating to its LIBOR and EURIBOR submissions processes. There were no specific systems and controls in place until December 2009. The extent of Barclays' misconduct was exacerbated by these inadequate systems and controls.

A firm must conduct its business with due skill, care and diligence (Principle 2)

Compliance failures meant that inappropriate submissions and inadequate controls persisted. Barclays failed to conduct its business with due skill, care and diligence when considering issues raised internally in relation to its LIBOR submissions, thereby breaching Principle 2. LIBOR issues were escalated to its internal Compliance function on three occasions, and in each case Compliance failed to assess and address them effectively.

As a consequence of these breaches, the FSA fined Barclays £59.5m, which included a 30% discount under the FSA's executive settlement procedures for agreeing to settle at an early stage. Were it not for this discount, Barclays would have been fined £85m. Barclays was separately fined $360m by the US authorities for attempted manipulation of and false reporting concerning LIBOR and EURIBOR benchmark interest rates over a four year period commencing as early as 2005.

There are a series of ongoing investigations by regulatory authorities concerning conduct with respect to LIBOR, and the Barclays settlement is merely the first to conclude.

[1] This box is a summary of the Final Notice issued in respect to the Barclays case. The document is available in full at http://www.fsa.gov.uk/static/pubs/final/barclays-jun12.pdf.

2.19 LIBOR is a representation of unsecured inter-bank borrowing costs, and given not all contributing banks need to borrow at all maturities and in all currencies every day, it involves an element of judgement and inference on the part of the contributor.

2.20 The need for judgement on the part of a contributor involves a discretion which can be misused. Some contributing banks have sought to exploit the conflicts of interest that arose from their respective roles as contributor to the rate, user of the rate, and wider participant in the market. There is a risk that submissions may have reflected inappropriate factors, such as the bank's trading position, or concerns as to adverse media comment, as illustrated above.

2.21 There are two types of problem that might arise from these conflicts of interest:

- First, the credit-signalling (or stigma) effect: although a bank's daily LIBOR submission does not necessarily reflect increased counterparty risk, it may be interpreted by external observers as an indication of the creditworthiness of that particular bank. During periods of market stress there is therefore an incentive to lower submissions in order that perception of that bank's relative creditworthiness is not negatively affected.

- Second, there are private economic incentives: contributing banks are both users of and contributors to LIBOR and will therefore have assets and liabilities with substantial sensitivities to changes in LIBOR. This then gives traders within banks a clear incentive to seek to affect the overall LIBOR rate for the benefit of a particular trading exposure. Further, the possibility of collusion between contributing banks exists.

2.22 Whatever the ultimate outcome of the ongoing investigations into alleged attempted manipulation of LIBOR by a number of global banks, it has become increasingly clear that there are a number of potential failings that need to be considered in detail:

- weaknesses in the LIBOR mechanism;

- limitations in the existing governance and regulation framework; and

- a question around whether existing regulatory powers and sanctions are appropriate

Weaknesses in the LIBOR mechanism

2.23 The detailed procedures by which LIBOR is calculated are described in Annex A. In summary terms, contributing banks for each currency submit interest rates for a range of maturities, responding to a hypothetical question. From these submissions, an average is calculated once data points at the top and bottom of the range have been excluded.

2.24 While this seems a relatively straightforward mechanism, specific problems include the following factors:

- The rates that banks submit require expert judgement and inference on the part of the contributor. This allows flexibility when determining rates but can give rise to a risk of manipulation due to conflicts of interest.

- There is currently no standard, regularly employed, procedure to corroborate individual submissions, which can allow contributors to act on the conflicts of interest set out above.

- It is difficult to corroborate individual submissions as the market that LIBOR is intended to provide an assessment of is illiquid and the types of transactions are becoming increasingly less relevant for bank funding. This is particularly the case for less well-used currencies and maturities.

- Knowledge of intended or recent submissions from individual banks can facilitate manipulation and individual submissions to LIBOR are made public on a daily basis.
- The rate definition is for a cost of funds for the contributors own bank. Although it provides transparency and accountability, such information is market sensitive as it can be interpreted as an indicator of a particular bank's creditworthiness.
- The existing LIBOR panels are relatively small. Although they vary in size, even the largest panels have only 18 banks at most. Furthermore, participation is voluntary, so a large group of users benefit from the contribution of a small group of banks.

Limitations of the current governance framework

2.25 The day-to-day running of LIBOR is the responsibility of BBA LIBOR Ltd, a subsidiary of the BBA and run by the LIBOR Manager. A separate company, Thomson Reuters, is responsible for collecting the submissions from contributing banks and submitting them to checks and verification, before publishing the final calculation to the market.

2.26 Clearly, contributing banks should themselves be primarily responsible for the quality of the submissions they make to the LIBOR process. In order to fulfil this responsibility, the management of these banks should ensure that they have robust processes in place, with appropriate systems and controls in place to ensure high quality of submissions. Furthermore, responsibility should be subject to the internal governance provided by the boards of these banks.

2.27 However, there is also a need for a degree of centralised oversight to ensure the integrity of the benchmark. Oversight of LIBOR is the responsibility of the Foreign Exchange and Money Markets Committee (FX&MM). Its remit includes the design of the benchmark and the governance and scrutiny of all data and panel bank contributions. One of the important functions played by FX&MM is to set, and periodically review, the parameters against which submissions are verified by Thomson Reuters. The Fixings and Oversight subcommittees of FX&MM are respectively responsible for investigating issues with submissions, and taking necessary action against contributors. Annex A sets out the current governance framework in detail.

2.28 However, these arrangements have a number of potentially significant limitations. First, there appears to be insufficient independence built into these governance structures. There is currently a substantial overlap between the roles of contributing banks in providing the inputs that are used to compile LIBOR, and in overseeing the LIBOR setting process (including technical and procedural standards). Combined with the fact that contributing banks are also users of the benchmark, this overlap suggests that there might be insufficient incentive for those responsible for enforcing standards to do so with complete objectivity and independence. At the very least, the lack of independence does little to enhance the credibility of the governance framework.

2.29 Second, oversight is insufficiently robust – specifically:

- internal compliance and systems and controls within contributing banks, or within BBA LIBOR Ltd, are not systematically overseen in order to provide assurance before any potential misconduct arises; and
- it is not clear that the oversight function carried out by the Oversight subcommittee has either the capacity – in terms of resource and expertise – or the appropriate sanctions to detect, investigate and enforce against misconduct effectively.

2.30 Third, there is an apparent lack of transparency – the oversight and scrutiny provided by FX&MM and its two subcommittees does not appear to be sufficiently open and transparent to provide the necessary degree of accountability to firms and markets with a direct interest in being assured of the integrity of LIBOR. For example:

- the membership of FX&MM and its subcommittees is not publicly known; and
- information regarding referrals of potentially problematic submissions to the LIBOR manager or the Fixings Subcommittee, or relating to any enforcement action taken by the Oversight Committee, is not published.

Regulation of LIBOR-related activities

2.31 As detailed in Annex B, the current regulatory and legal framework is not designed to allow the FSA to regulate activities related to LIBOR. First, and most fundamentally, the activities of contributing to or administering LIBOR (or any similar benchmark) are not currently "regulated activities" as defined under the Financial Services and Markets Act 2000 (FSMA).

2.32 While the FSA is currently taking regulatory action in relation to attempted manipulation of LIBOR by firms, this has been on the basis of the connection between LIBOR submitting and other regulated activities, and there is no directly applicable specific regulatory regime covering LIBOR-related activities. Further, as LIBOR setting is not a regulated activity, individual employees of banks involved in the process do not have to be "approved persons" under FSMA, restricting the FSA's ability to take disciplinary action against individuals.

2.33 As noted above, a related issue is that participation on a LIBOR panel is currently voluntary. LIBOR provides a significant benefit to a wide variety of market participants including banks, investment banks, credit card and loan providers and investors. However, only a small subset of these – specifically a few large banks – contribute to the setting of LIBOR, while the remainder are able to benefit from its availability to the wider market. Given that contributing to LIBOR, particularly in the current environment, is largely an unrewarding activity and comes with potential risks. It could be argued that one of the gaps in the current regulatory regime is the lack of a lever to compel participation in LIBOR panels.

Sanctions – the market abuse regime

2.34 Even in the absence of a purpose-built regulatory regime for LIBOR-related activities, the civil market abuse regime governed by Section 118 of FSMA could provide the FSA with an alternative means of taking action in relation to misconduct in this area. However, for the reasons discussed in Annex B, much manipulation and attempted manipulation of LIBOR is unlikely to fall under the market abuse regime.

2.35 European legislation is currently under development that may have implications in this area – in particular, the Market Abuse Regulation (MAR) and the Criminal Sanctions Directive for insider dealing and market manipulation (CSMAD) (see Box 2.C). This European legislation may result in a strengthened UK regime through which it would be possible to address LIBOR-related issues. However, it will be over two years until these could come into force.

Box 2.C: European legislation regarding market abuse

On 25 July the European Commission published its amendments to the proposed MAR and CSMAD. These pieces of draft legislation constitute proposals for a new EU market abuse regime, a piece of EU conduct regulation which creates prohibitions against (and sanctions to apply to) insider dealing and market manipulation. The proposed amendments will prohibit and criminalise the manipulation of benchmarks, including LIBOR and EURIBOR.

Specifically, the European Commission has published amendments to the proposed Market Abuse Regulation to bring benchmarks into the scope of the Regulation, using a definition of benchmarks based on that proposed in the Regulation for Markets in Financial Instruments (MiFIR). It has also proposed amendments to the definition of the offence of market manipulation, to capture both attempted and actual manipulation of benchmarks themselves. The justification for these amendments has been presented in the recitals.

Similarly, the European Commission has proposed amendments to the draft CSMAD, to include the MiFIR definition of benchmarks, amendments to the criminal offence of market manipulation to include the manipulation of benchmarks themselves, and amendments to the criminal offence of "inciting, aiding and abetting and attempt" to include these behaviours in relation to benchmarks.

The Commission proposes to require each member state to provide for criminal sanctions in its national laws to cover the manipulation of benchmarks, as defined by the proposed changes outlined above. The Commission is not proposing to set the minimum types and levels of criminal sanctions; however it has proposed to undertake a review of the appropriateness of such minima within four years of the Directive's entry into force.

At present, the UK Government has not committed to opt into CSMAD, and will review this decision upon the completion of the Markets in Financial Instruments Directive (MiFID) and the MAR. At present, the UK already has a domestic civil regime for market abuse under FSMA and a criminal regime in the Criminal Justice Act 1993.

As part of the European Commission's announcements on its proposed changes to the market abuse regime, Commissioner Barnier has said that even more specific formula and approaches will be required for all benchmarks, and that all those involved in the markets should be subject at least to public supervision and public regulation, including in relation to benchmarks. The European Commission and the European Central Bank, along with the International Organisation of Securities Commissions and the Financial Stability Board are currently examining how benchmarks are established in order to identify weaknesses and shortcomings and suggest possible ways of addressing the problems at hand. This work is not limited to interest rate benchmarks. Commissioner Barnier also announced that the European Commission and its partners intend to submit a proposal to create a direct and integrated supervisory mechanism by the beginning of September.

Sanctions – criminal offences

2.36 A further issue – as set out in the Review's terms of reference – is whether the criminal sanctions in respect of potential LIBOR manipulation and attempted manipulation are sufficient to provide effective enforcement and deterrence. The current situation with respect to criminal sanctions is detailed in Annex B.

2.37 In summary, LIBOR manipulation and attempted manipulation is unlikely to constitute a criminal offence which falls under the prosecutorial responsibility of the FSA. Even the most likely offence in FSMA, concerning misleading statements and practices established by Section 397 of FSMA, is unlikely to apply.

2.38 However, LIBOR manipulation and attempted manipulation may well constitute a criminal offence under the law relating to fraud – for example, fraud by false representation under Section 2 of the Fraud Act 2006 – but this regime is not enforced and prosecuted by the FSA. The Serious Fraud Office (SFO) has announced that it intends to proceed with investigations into LIBOR, but the application of law relating to possible LIBOR-related offences is, for now, untested.

Approaches to reform

2.39 It is clear that, in light of the allegations of manipulation of the LIBOR benchmark by a number of major banks, the existing LIBOR framework has lost credibility. The actual and potential weaknesses identified above suggest that some strengthening of the LIBOR framework will be needed if this credibility is to be restored.

2.40 The very public way in which these failings of the current LIBOR framework have been exposed, and the significant scrutiny that the framework has come under, will clearly act as a strong driver for reform. Given the weaknesses in the current system, it seems likely that changes to all three aspects of the framework – the calculation methodology, independent governance, and regulatory oversight and sanctions – need to be considered carefully. This discussion paper therefore proceeds with a working assumption that retaining the status quo with no change at all will not be a viable approach.

Reform options

2.41 The Review will therefore consider and consult on two approaches to making changes to the status quo:

- strengthening LIBOR: the issues identified could be tackled through significant reform of the existing system – preserving the rate would limit the costs of transferring existing contracts, while reforms could deal with failings in the system; or
- finding an alternative to LIBOR: If the issues and failings of LIBOR are considered beyond resolution, new benchmarks could be recommended to replace some or all of LIBOR's role in financial markets.

2.42 It should be noted that these two options are not mutually exclusive. Changes could be made to the current framework in order to strengthen it, alongside developments of alternative benchmarks in the longer-term. Given the large volume of contracts that reference LIBOR, either approach will need to be conscious of transition risks and the potential role of international authorities in coordinating reform or migration to an alternative benchmark (see box 2.D). Further discussion of these issues can be found in Chapter 5.

Box 2.D: A global benchmark?

As noted, the existence of a common benchmark for interest rates has significant benefits, reducing transaction costs for participants in markets, and driving substantial network effects in that the more a particular benchmark is used in financial products, the more liquid these financial products are and the easier it is to manage exposures and hedge risk.

Given the globalisation of financial markets, these benefits clearly also apply across national boundaries. Indeed, the history of the development of LIBOR suggests that even when a reference rate does not begin as a global benchmark, these characteristics will tend to drive global convergence to a common benchmark.

Ultimately, the market will play an important role in determining which benchmarks to use, and the extent to which there is convergence to a common global rate. However, the consideration of whether a benchmark is likely to be used globally may have some implications for the regulatory approach to benchmarks. For example, if a common benchmark is going to be used across jurisdictions – in the EU, the US and beyond – then authorities will certainly need to be aligned. These issues are discussed in more detail in Chapter 5.

Box 2.E: Consultation questions

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

3 Strengthening LIBOR

Introduction

3.1 This chapter sets out detailed ideas on how LIBOR could be comprehensively reformed in order to deal with the issues identified and restore confidence in the rate. Options for strengthening all aspects of the LIBOR framework should be considered:

- The mechanism for calculating LIBOR could be significantly improved, with the calculation and compilation methodologies made more robust and transparent in the light of the issues identified. For instance, a trade reporting mechanism could be established to improve the availability of transaction data.
- Governance of the LIBOR process could be amended to make it more independent, robust and transparent, both within the contributing banks and within the administrator of LIBOR. For example, a code of conduct could be introduced to establish clear guidelines relating to policies and procedures concerning LIBOR submissions.
- The regulatory framework could be reformed to bring administration of or submission to LIBOR within the regulatory purview. Furthermore, if necessary, sanctions could be strengthened.

Strengthening the LIBOR mechanism

3.2 As summarised in Chapter 2, the key problems relating to the current LIBOR mechanism were as follows:

- submissions necessarily involve judgement and inference on the part of the contributor;
- there is no standard, regularly employed procedure to corroborate individual submissions;
- corroboration is difficult since the underlying market is increasingly illiquid and the types of transactions are less relevant for bank funding;
- daily publication of individual submissions can facilitate the effectiveness of attempted manipulation;
- LIBOR submissions may be perceived as an implicit signal about bank creditworthiness; and
- LIBOR panels contain relatively few contributors, allowing other banks to benefit from their contributions.

Options for addressing these weaknesses are set out below. It should be noted that significant change to the mechanism, governance and regulation of LIBOR will potentially cause some transition risks for those existing transactions that reference LIBOR.

Options to support contributors in submitting rates

3.3 The fact that submissions involve expert judgement and inference on the part of the contributor is not necessarily a weakness. However, it does create an opportunity for manipulation where incentives exist to exploit this.

3.4 One response to the criticism that the current system relies on judgement and inference would be to determine the rate from actual money market transactions. Interest rate benchmarks that rely on transaction data do exist: for example, the Sterling Overnight Index Average (SONIA) is a weighted average of interest rates from actual overnight unsecured sterling transactions, compiled by the Wholesale Markets Brokers' Association (WMBA).

3.5 Implementation of this option would require the establishment of a trade-reporting mechanism. Participating banks would need to report all relevant transactions to a central repository in a timely manner. Banks would no longer need to make individual submissions as collection could be automated. This would obviate the need for much of the governance and oversight framework that arises from the use of judgement in the current model.

3.6 However, the difficulties inherent in moving to an inter-bank lending rate based purely on transactions must be recognised:

- The number of transactions under the current LIBOR definition of inter-bank lending is particularly thin for certain maturities and currencies (see Chart 2.C).
- A key issue with using transaction data would be how to publish benchmarks for currencies and tenors with few transactions against which to corroborate submissions. One solution could be to use the previous day's rate. However, in periods of sustained illiquidity, the benchmark would effectively become fixed, and unreflective of the true state of wider market conditions (not just wholesale funding), which could cause market disruption.
- A transaction data approach is not immune to manipulation. Particularly in a low volume environment, only a small number of transactions at off-market rates would be sufficient to move the final rate fixing. Manipulation of this type may be harder to monitor as it could be attempted by both internal and external parties.
- There may also be issues arising from the timing of a fix based on trading data. SONIA and other overnight rate submissions are collected throughout the trading day and fixed at the close of the market (approximately 5pm). By contrast, LIBOR fixes at 11am for all currencies and this timing is embedded into some contracts. Use of transaction data means that either the timing of the fix would have to change, with the associated transition risk, or rates would need to be compiled over two calendar days (24hr period before 11am).
- Establishing a trade repository would be potentially complex and costly.

3.7 The use of expert judgement and inference in determining rate submissions makes those submissions vulnerable to a particular form of manipulation and attempted manipulation. Therefore, a submission-based approach could be augmented by the use of transaction data, where available and relevant. Furthermore, transactions data could be used to corroborate submissions by individual banks.

3.8 Contributor submissions could be required to have followed some specific determination process, with a requirement to use transactions data where relevant and useable. Where contributing banks use their judgement, that judgement must be capable of being scrutinised and justified *ex post* to ensure the integrity of those submissions. To do so, an auditable process must be followed. Matters such as a bank's trading position, profitability, concerns about negative media comment are clearly inappropriate factors on which to base submissions, and must not be taken into account.

Options to allow a process of corroboration of individual submissions

3.9 There could be a procedure for the organisation that collates, compiles and publishes the rate to corroborate individual submissions.

3.10 As an example, some authorities have required banks to determine their submissions based on certain specified factors, with own transactions being given the greatest weight, subject to certain specified adjustments and consideration. Third party transactions and offers may also be used, and adjustments can be made so that the most recent transactions and offers are given the most weight when determining a submission. Adjustments may also be made to take account of market events, maturity/term structure, credit standards and the non-representativeness of transactions. However, such an approach could also cause difficulties for submitters where they cannot take a precise view of the market, due to illiquidity or lack of interaction in the market.

3.11 The approach for creating a precise methodology for rate determination, when combined with widening the definition of wholesale funding (discussed below), could increase the ability for corroboration by banks and thereby reduce the reliance on inference and judgement. It would increase the operational burden on 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.

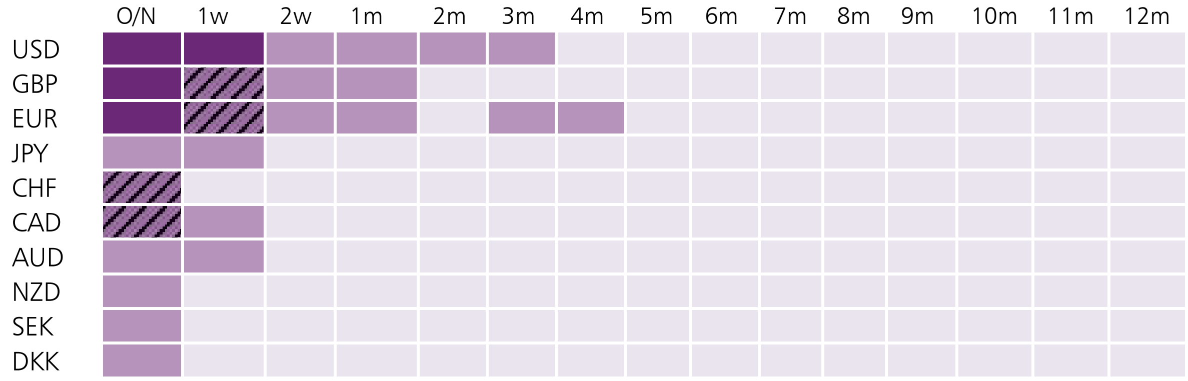
Options to allow corroboration of submissions against transactions

3.12 A potential solution to this could be to widen the definition of funding to include all wholesale deposits. The intent of LIBOR is to reflect banks' unsecured funding costs, so the benchmark scope could be broadened to encompass bank borrowing from money market funds, commercial paper, certificates of deposit, corporate deposits, and other funding sources.

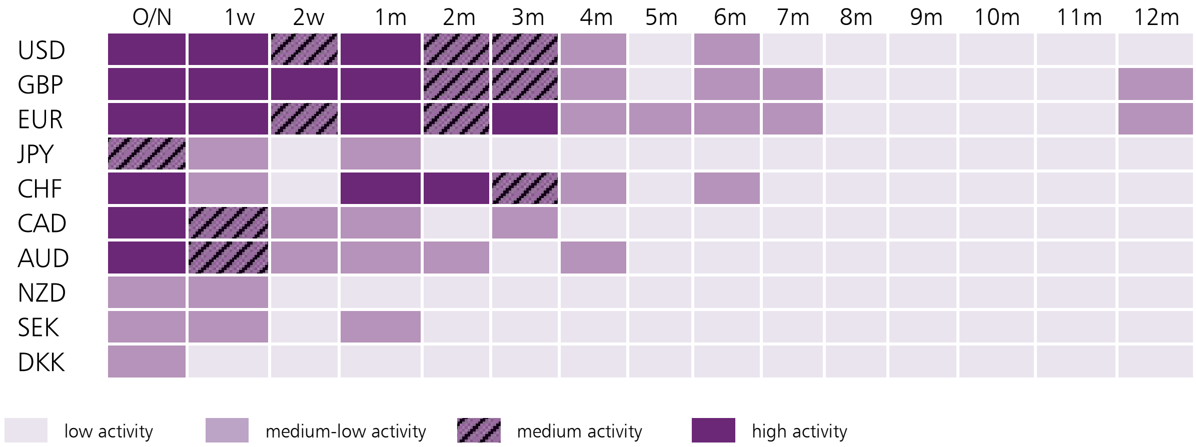
3.13 However, even with a wider definition the number of eligible underlying transactions is likely to be small and might facilitate other users to influence the rate (Chart 3.A). And any definitional change would have to be managed to ensure that existing LIBOR-referenced contracts were not invalidated.

Chart 3.A: Wholesale unsecured transactions per bank in 2011

Transactions underlying LIBOR, per bank in 2011 (using current LIBOR definition)



Transactions, per bank in 2011 (using broader LIBOR definition)



Note: This is based on data from a subset of contributing banks and may not be representative for all currencies.

Source: Oliver Wyman

3.14 Corroboration of submissions is much harder in the maturities and currencies where there are few trades. To mitigate this, one option could be to reduce the number of maturities and currencies submitted by LIBOR contributors, which would have the benefit of reducing the operational burden on contributing banks. Therefore a broad range of trades could be considered including FX forwards and swaps.

Options to narrow the coverage of LIBOR

3.15 In light of the relatively low volume of trade in some currencies and maturities one additional option would be to narrow the scope of LIBOR by reducing the number of currencies and maturities that are currently submitted. For example, a number of the longer-dated maturities and less used currencies are trading relatively thinly and coverage could be pared down.

Options to reduce vulnerability to manipulation

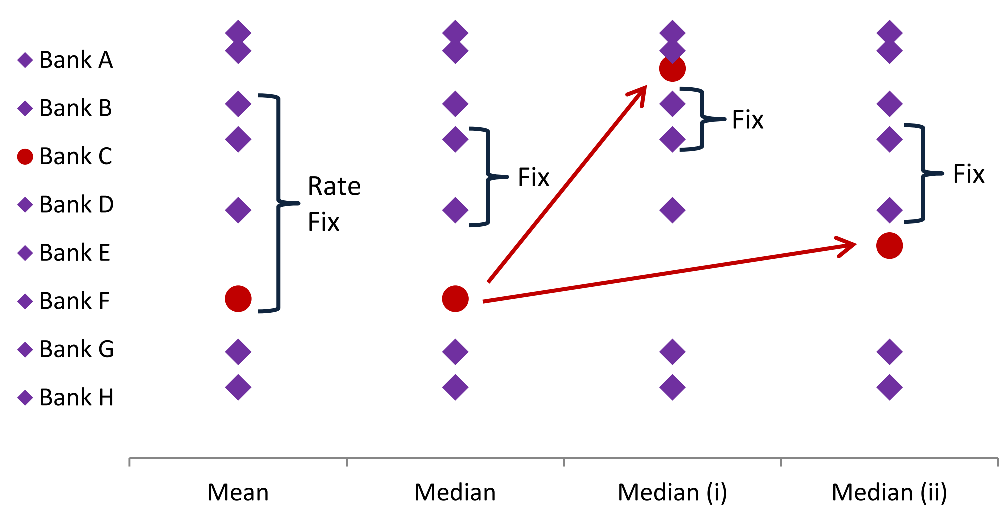
3.16 One of the weaknesses in the current regime that has been identified is the possibility that LIBOR can be manipulated by individual banks changing their submissions. This behaviour is difficult to police because of the difficulty in corroborating submissions.

3.17 Although it facilitates transparency and scrutiny, it is possible that the daily publication of individual submissions could also help to facilitate manipulation, or lead to other incentives to change submission based on non bank funding considerations. To avoid this, there may be a case for restricting the publication of daily individual submissions to an oversight body and delaying or aggregating the daily publication of individual submissions.

3.18 The existing calculation for LIBOR is the simple mean of the individual submissions of banks. However, there may be benefits to using the median as an alternative. As only the middle one (or two) submissions would affect the final rate, only movements by an individual contributor to the middle fixing pair, or crossing the submission (from below the middle pair to above, or vice versa) could affect the rate fix.

3.19 Chart 3.B illustrates an example. In the Median (i) scenario, the rate is influenced by Bank F's submission moving above the fix; in Median (ii) scenario, where the submission remains below the fix, the final rate fixing is unchanged. Behaviour of this type could be monitored actively and any suspicious movements into, out of or across the fix could trigger a scrutiny or corroboration process.

Chart 3.B: A fix using the mean and the median



3.20 There are alternative options for changing the calculation method. For example, the fix could be calculated by discarding the highest and lowest 25% of submissions, and then taking a random submission from the central 50%. Depending on how dispersed submissions tend to be, this may result in slightly higher day-to-day volatility than the current mean approach.

Options to mitigate perceived credit-signalling risk of LIBOR submissions

3.21 The most obvious solution to the stigma effect of LIBOR submission would be to aggregate, cease or delay the publication of individual submissions, although at the cost of reduced transparency.

3.22 Another potential option would be to amend the question contributing banks are asked, back to the LIBOR definition pre-1998. The question was:

> *"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 11am?"*

3.23 A potential benefit of this change would be to remove the conflict of interest arising from potential credit-signalling. However, such a change would introduce a further degree of inference and judgement to the process, which could be inconsistent with objective of improving corroboration. This change could also increase participation as it might potentially reduce the litigation risk to contributors. Further, in theory contributors would no longer be restricted to banks and could be expanded to include other participants in the wholesale funding market, although this would need careful consideration as it might interact with changes to the regulatory regime and other unintended consequences.

Options to increase participation in LIBOR panels

3.24 LIBOR provides a significant benefit to a wide variety of market participants including commercial banks, investment banks, borrowers and investors around the world. However, only a small subset of these – specifically a few large banks – contribute to the setting of LIBOR, while others benefit from the availability of the benchmark to the wider market.

3.25 24 banks currently contribute to LIBOR panels and the panels vary greatly in size between 6 and 18 banks. Therefore, even the largest of these panels contains relatively few contributors. At present, participation on a LIBOR panel is voluntary and contributing to LIBOR, particularly in the current environment, is largely an unrewarding activity and comes with potential costs.

3.26 While there are a number of ways through which the eligible pool of contributors could be widened, it is not clear that there is an obvious way to make contributing to LIBOR more attractive to potential contributors. Therefore it may be that the only option for increasing participation in LIBOR panels may be regulatory (see below, under discussion of regulation).

Strengthening governance and oversight

3.27 While the previous section discussed ways in which the mechanisms for obtaining the rate could be improved in order to restore lost confidence, important questions have also been raised with regard to the governance of the process for setting LIBOR rates. In particular, the governance and oversight function currently undertaken by the BBA and the FX&MM Committee appears to be:

- insufficiently independent;
- insufficiently robust; and
- lacking in transparency.

Options to make oversight and scrutiny more independent

3.28 The independence of the oversight function exercised by FX&MM could be significantly increased by broadening the membership of the Committee, which is currently dominated by contributing banks. FX&MM 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.

3.29 In order to comply with generally accepted standards of corporate governance best practice, the balance of membership of FX&MM would include a majority of such "independent" (i.e. non contributing bank) members. And they would have the same voting rights as other members of the Committee, and be fully involved in the scrutiny and oversight work of the subcommittees.

Options to increase the robustness of oversight

3.30 This section discusses various options for improving the robustness and rigour of the oversight and scrutiny provided by internal governance mechanisms.

3.31 First, as noted above, the oversight could support the establishment of effective systems and controls within firms by establishing a clear code of conduct relating to policies and procedures concerning LIBOR submissions. Such a code of conduct could cover, for example:

- contributing banks' internal policies covering the submission process, governance, systems, training, record keeping, compliance, audit and disciplinary procedures, including complaints management and escalation process;
- organisational structures, for example: a requirement that the LIBOR submitting function should be located within liquidity and liability management division of the bank, rather than a primarily trading division; and the establishment of internal communication barriers to mitigate conflicts of interest (so-called "Chinese walls");
- people issues: such as the need to have clearly accountable named individuals, at the appropriate level of seniority within the bank, responsible for LIBOR submissions and other relevant functions; the need for appropriate training and development programmes for all those involved; and the establishment of appropriate performance management frameworks, including remuneration policies;
- systems: to ensure consistent and timely delivery of submissions;
- record-keeping requirements covering all relevant aspects of the submission process for an appropriate time horizon;
- analysis and management information to support contributing banks' own monitoring of submission as well as oversight carried out by the overseeing body;
- compliance and audit: stipulating, for example, periodic internal and external audit of submissions and procedures; and
- disciplinary procedures: providing for clear internal sanctions, establishing a zero-tolerance policy for non-compliance, with a credible whistle-blowing policy.

3.32 A detailed code such as this would provide much clearer guidance to contributing banks as to the procedures they ought to be following in making LIBOR submissions. And it would also allow governance structures to take a much more systematic approach to its oversight of contributing banks to enable problems to be identified early and dealt with effectively.

3.33 Of course, the effectiveness of such a code will depend on the willingness of contributing banks to comply with it, and also on the credibility of oversight of the code provided by the governing body. Establishing credible oversight will depend on sufficient resource and expertise being devoted to this function, so that appropriate mechanisms can be put in place to regularly evaluate contributing banks' performance against the code. These mechanisms might include a degree of supervision, as well as more "automated" processes such as introducing additional checks to individual rate submissions that could trigger more detailed investigations – for example, submissions, or groups of submissions, that behave in a specific suspicious manner, or rates for particular maturities that do not appear to fit with the fixing curve.

3.34 Finally, effective oversight requires strong and credible sanctions. The existing oversight function has limited powers to sanction contributors for misconduct. It is not clear that the available sanction of preventing a contributor from continuing to participate in the panel is either a sufficient deterrent to misconduct, or an appropriate penalty for those that are found to have engaged in misconduct. Stronger sanctions could be introduced, such as financial or reputational penalties. Transparency, discussed in the next section, would also act to increase the credible deterrence effect of more robust oversight.

Options to increase transparency

3.35 Details of the membership of the relevant oversight and governance functions could be made public, along with any declarations of conflicts of interests and the processes for election or nomination to the oversight and governance functions.

3.36 Further, the minutes of important meetings could be published along with details of the interactions between overseers on the one hand and contributors and administrators on the other, with an appropriate delay if necessary. Transparency could also be extended to cover any sanctions imposed to increase their deterrent effect.

Institutional arrangements

3.37 Alongside consideration of the nature of the governance and oversight arrangements that will be needed to establish greater credibility sits the question of which institution should be given responsibility for them. Broadly speaking, there are two options:

- a representative body, along similar lines to the current arrangements; or
- a commercial body – a model exemplified by FTSE (a subsidiary company of the London Stock Exchange Group), which is responsible for the production and publication of the FTSE 100 and other equity, fixed income and investment indices.

Regulatory oversight and criminal sanctions

3.38 As set out in Chapter 2 the current regulatory and legal framework under which action is being taken in respect of attempts to manipulate LIBOR is complex and somewhat piecemeal. A purpose-built regime for the regulation of LIBOR would provide greater clarity and an express mandate for the regulatory authorities to get directly involved.

3.39 This section considers two possible options for reforms to the regulatory and sanction regime to address this issue:

- first, bringing LIBOR-related activities into the FSMA regulatory perimeter; and
- second, as highlighted in the Review's terms of reference, strengthening the criminal sanction regime in respect of LIBOR-related offences.

Options for regulating benchmarks

Bringing LIBOR-related activities under FSMA regulation

3.40 Making LIBOR-related activities regulated activities under FSMA would give the FSA a clear mandate to make rules which relate specifically to those activities, supervise the conduct of those individuals involved in the LIBOR setting process and take regulatory action against firms and individuals in relation to its misconduct.

3.41 As explained in Annex B, since activities of this kind are not currently included in the indicative list of activities which may be brought within regulation under FSMA as set out in Schedule 2 to FSMA, an amendment to FSMA would be needed before an amendment to the Regulated Activities Order could be made.

3.42 However, there are a number of issues that would need to be considered. First and foremost, is the question of which activities relating to LIBOR ought to be regulated. The potential for manipulation and attempted manipulation by contributing banks suggests that contributing to the setting of LIBOR ought, at least, to be captured if a regulatory regime is to be implemented. As firms which provide submissions to LIBOR are already regulated by the FSA, this should not involve bringing additional firms within regulation. However, as noted in the previous section on governance, it is also clear that there is a case to be considered for also bringing the activity of administering the benchmark within regulation.

3.43 Second, there is the question of whether and how the approved persons regime ought to be brought to bear on LIBOR-related activities.

3.44 There would be three potential approaches to achieve this. First, it might be sufficient for a member of senior management (for example the Board-level executive of a contributing bank with responsibility for LIBOR submissions) to be subject to additional requirements which relate specifically to their LIBOR role under the approved persons regime. This could be done within the existing framework and would not require additional primary legislation since senior management within regulated firms are already approved persons. The FSA would need to review the Statement of Principles which applies to senior management to ensure it adequately covered behaviour expected from these senior executives in relation to LIBOR.

3.45 A second option would be to bring those managers who are responsible for LIBOR related activities within the scope of the approved persons regime. If participation in the LIBOR setting process is made a regulated activity, it might be appropriate to make having significant influence over how the firm carries on such activities a "controlled function" for the purposes of the approved persons regime. This would ensure that individuals who are responsible for the firm's role in LIBOR setting, but who are not necessarily part of the senior management team, are subject to prior approval and enforcement action by the regulator.

3.46 A third option would be to bring those individuals responsible the firm's submissions to the LIBOR process within the approved persons regime. This would be a more significant departure from the current regime. The approved persons regime is currently limited to either those who have significant influence on the conduct of a firm's affairs or who has a role in dealing with customers or the property of customers. In other words, the approved persons regime is currently limited to those who have a management role or those who deal with customers or their property. Additional primary legislation would be needed to apply the approved persons regime to those who do not have a management responsibility for the firm's role in relation to LIBOR setting but who are responsible for making the firm's submission to the process.

3.47 If LIBOR administration was also specified as a regulated activity, there would also be a case for bringing those individuals who exercise key roles in relation to that process (such as the LIBOR Manager or members of FX&MM) within the scope of the approved persons regime.

3.48 Third, there is the question of whether contributing to LIBOR ought to be made subject to a form of regulatory compulsion. One of the issues with the current framework identified in Chapter 2 is that participation is currently voluntary. This creates a potential problem whereby some banks are able to benefit from having a publicly available benchmark without having contributed to its creation. The voluntary nature of the current regime may also impact adversely on the importance which firms and individuals within those firms attach to LIBOR submissions being accurate and reliable.

3.49 While there are a number of ways through which the eligible pool of contributors could be widened, it is not clear that there is an obvious way to make contributing to LIBOR more attractive to potential contributors. Therefore 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. It is not clear whether this is an appropriate function for the regulator to perform. Consideration would also need to be given as to whether compelling firms to contribute to LIBOR (and incurring considerable expense as a result) would be proportionate; which firms should be compelled to participate, and what the most appropriate way of achieving this would be.

The standalone market abuse regime

3.50 An alternative to full FSMA regulation, which would still have the effect of increasing the purchase of regulatory authorities on LIBOR-related activities, is provided by the civil market abuse regime. This regime – which, unlike full FSMA regulation, is generally applicable and so does not apply only to specific firms (authorised persons) or individuals (approved persons) – implements the European Market Abuse Directive 2003. As detailed in Annex B, this regime does not currently cover all abuses arising from LIBOR-related misconduct.

3.51 As discussed in the previous chapter, there is currently a negotiation underway to reform the civil market abuse regime through a new European regulation. As this is a regulation (rather than a directive), this new European legislation will be directly applicable, with very limited national discretion over how it is to be implemented. On 25 July 2012, the Commission adopted further specific amendments to the proposed MAR and CSMAD, in order to try and capture the manipulation of interbank offer rates and other benchmarks more clearly.

3.52 There is clearly merit in considering whether the regulatory framework ought to be strengthened in response to recent LIBOR-related events. The Review will consider these latest proposals, and the sufficiency of current sanctioning powers, in more detail in its final report.

Options for strengthening the criminal sanctions regime

3.53 A key element of the Review's terms of reference is to consider the question of whether new criminal sanctions are needed to deal with LIBOR-related offences. There are two elements to this question – first, whether there is a technical gap in terms of the existing legal provisions; and second, whether there is a clear policy case for closing such a gap with new offences.

3.54 As described in Annex B, there is a legal gap in the FSA's powers which means it cannot currently bring a criminal prosecution under FSMA for LIBOR-related offences. The most obviously relevant offence under FSMA is that of misleading statements and practices under Section 397. Section 397 is directed essentially at misleading statements or conduct which are undertaken for the purpose of inducing another person to act (or not act) a particular way in relation to certain agreements or investments, for example inducing them to enter into an agreement, including statements which are reckless as to whether that will be the result. These requirements set a high bar which means that attempts to manipulate LIBOR or other benchmarks are unlikely to be caught by the provision.

3.55 One option for bringing LIBOR under the criminal sanctions regime under FSMA, therefore, would be to broaden the scope of Section 397. This could be achieved – for example – by removing the requirement that the misleading statement or action must have been made for the purpose of inducing another person to act. It should be recognised that this would be a potentially significant change that went beyond LIBOR. Careful consideration would have to be given to whether such a change would be necessary or proportionate.

3.56 The Review recognises that the Government's wider policy is that there should not be a proliferation of unnecessary criminal offences, which applies also to amendments to existing offences to broaden their application.[1] Factors which would be relevant in considering whether or not a new or extended criminal offence may be necessary include:

- whether available alternatives, such as regulatory mechanisms, would provide effective, proportionate and dissuasive sanctions;

[1] The Ministry of Justice's Criminal Offences Gateway Guidance is available at http://www.justice.gov.uk/downloads/legislation/criminal-offences-gateway-guidance.pdf/

- any particular drivers behind the proposed new offences (including, for example, strong public interest in change);
- whether the behaviour is sufficiently serious to merit the stigma associated with a criminal conviction (which attempted benchmark manipulation arguably is);
- whether the behaviour is already caught by the existing criminal law;
- the formulation of the individual offences proposed, in particular whether they focus on the behaviour being targeted without criminalising behaviour more widely;
- where it is proposed to create a hierarchy of enforcement mechanisms, such as a regulatory system supplemented by criminal offences, whether the offences will be a sanction of last resort and how that is achieved (for example, by restricting criminal offences to the most serious or persistent breaches, with guidance to this effect for prosecutors).

3.57 The Review will consider the case for broadening section 397 – or for creating other LIBOR related offences (for example, colluding with other submitters to attempt to manipulate the benchmark) which the FSA could prosecute – on the basis of the factors listed above, together with other relevant factors.

3.58 Steps are also being taken in Europe to consider the implementation of a new criminal sanctions regime through CSMAD, which includes amendments to bring benchmark manipulation within scope. This would provide another route for bringing LIBOR manipulation under a criminal regime.

3.59 Some Member States – the UK, Ireland and Denmark – are not automatically opted in to the Directive. The UK Government has signalled its intention not to opt in at this stage, until the implications of the Directive can be assessed properly, once parallel negotiations on the civil regime and MiFID2 have concluded. The Review will nevertheless consider the draft proposals brought forward by the European Commission.

Box 3.A: Consultation questions

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?

4 Alternatives to LIBOR

Introduction

4.1 Whatever improvements are made to LIBOR, it is likely that markets will want to consider alternative benchmarks for at least some of the types of transaction that currently rely on LIBOR. In some cases, there are existing rates that could be used more widely. For other types of transactions, new benchmarks may need to be developed.

4.2 Any migration to new benchmarks would require a carefully planned and managed transition, in order to limit disruption to the huge volume of outstanding contracts that reference LIBOR.

4.3 Given the global importance of LIBOR, a decision to migrate towards alternative benchmarks should be coordinated at an international level by relevant bodies. The UK authorities should take a leading role in these reforms.

4.4 This Chapter therefore examines whether an alternative benchmark could provide a global benchmark that is sufficiently robust and credible. Any discussion of alternative benchmarks will need to consider three issues:

- The appropriate financial instrument, which is used to determine an interest rate;
- The mechanism or methodology by which the final benchmark is compiled; and
- The likely costs and impacts of migrating to an alternative rate, given the scale and scope of existing financial contracts that reference LIBOR.

Constructing alternative benchmarks

The uses of LIBOR

4.5 As discussed in Chapter 2, LIBOR was created as a standardised and uniform benchmark for use in the syndicated loans market. Since then use of LIBOR has expanded to derivatives and other financial contracts. As well as a standardised cost of bank funding, which allows banks to pass on their cost of funds to borrowers, interest rate derivatives, which reference LIBOR, are also used to hedge fluctuations in interest rates.

4.6 LIBOR has grown to be the most accepted benchmark across capital markets. Despite this, while some of the uses of LIBOR are specifically related to bank funding, not all are. It may be that for some market participants and contracts, LIBOR may not be the most appropriate interest rate reference. As a result, any alternative benchmark does not necessarily need to have identical features to LIBOR, but any rate must be fit for the purpose for which it is intended.

Determining an appropriate alternative interest rate instrument

Types of interest rate references

4.7 There are different types of potential interest rate references. As well as interest rates, some of these references (including LIBOR) reflect different degrees of credit and liquidity risk.

- Counterparty credit risk: LIBOR currently includes an element of counterparty credit risk of the average bank contributing to the LIBOR panel, as this is a component of their funding cost. This aspect is desirable for a benchmark for loans, as lenders can pass on their borrowing costs. It may be that some users do not require a credit risk component for the benchmark.
- Liquidity risk of using cash for an extended period: for example, LIBOR currently reflects the premium that lenders require to give up access to their funds for a specific period of time. Again, some usage of a benchmark may not require this feature.

4.8 Different levels of counterparty credit and/or liquidity risk can be appropriate for different applications in which interest rate references are used

Criteria for determining an appropriate alternative interest rate instrument

4.9 There are a number of criteria that can be used to determine the suitability of a particular interest rate instrument.

- The benchmark should have a maturity curve, to allow flexible use of the rate in different contracts and to allow the hedging of different interest rate exposures; i.e. the rate should contain a curve of future expected interest rates.
- For a benchmark rate to be representative and dynamic, there should be sufficient transaction volumes with which to establish a rate
- The rates provided should be resilient throughout periods of illiquidity. The rate should be able to be published even during periods of financial stress when many markets cease to function properly.
- Be simple and standardised with respect to the instruments and transactions that are used to determine the rate; particularly, across multiple currency jurisdictions. This in turn can facilitate a deep and liquid market, from which data inputs can be captured.
- Have a long data series, in order to have a robust data input into pricing and risk models.

Profile of potential interest rate instruments

4.10 There are different instruments that may be applicable for use as a reference for interest rates, which can then be used for financial contracts.

4.11 Central bank policy rate. This is the rate paid to banks by the central bank on target reserves held at the central bank and is the key lever for monetary policy. As such, movements in the policy rate have a significant impact in wider interest rates.

- There may be conflicting objectives for national central banks in directly determining private interest rates for a global benchmark. In practice, banks do not trade with each other at precisely the central bank policy rate.

4.12 Overnight unsecured lending: The representation of the central bank policy rate is the average overnight cash lending rate. In the UK, this is measured by the SONIA (Euro area equivalent is EONIA), which is comprised of the weighted average of all overnight sterling money trades, reported to WMBA.

- Overnight cash lending has increased since the decline in term unsecured lending began in 2007-08 meaning the rate is composed by a robust volume of transactions and is representative of interbank lending.

- However, as the lending is overnight, there is no maturity curve and very little credit or liquidity risk priced into the rate. Additionally, basing the rate on transactions would cause difficulties for simultaneous settlement in different currencies.

4.13 Certificates of deposit (CDs) or commercial paper (CP): Banks issue CDs and CP in order to raise cash funding. Both tend to pay a fixed rate of interest and have specific, short-term maturity dates. CDs are promissory notes on time deposits, whereas CP is a debt certificate. Prices of these instruments from trading in the secondary market can be used to generate a yield.

- CDs and CP are issued by commercial banks and hence reflect the credit risk of the issuer. CDs are also issued by some central banks (known as "bank bills"), which removes credit risk.
- There are low volumes in both the primary and secondary markets for CDs and CP; these markets have been adversely affected by concerns for counterparty credit risk since 2007-08. The low volumes also affect the ability for the rates to be representative of bank funding.

4.14 Overnight index swaps (OIS) are interest rate swaps between a fixed rate and the overnight cash lending rate (e.g. SONIA or EONIA), for a specific maturity. Transactions in the swap market can then be used to generate a maturity curve for overnight interest rates.

- The OIS curve should be a representation of the expected future path of the central bank policy rate.
- As the instrument is a swap, no principal is paid between counterparties and hence the rate does includes limited liquidity and counterparty risk premia. OIS as a benchmark would be heavily dependent on the robustness of the overnight cash rate.

4.15 Treasury Bills (T-Bills): Another alternative is to use the yield of high quality short-term government debt securities.

- A key advantage of this is that a well-established and liquid market for these securities already exists, and a yield curve exists for different maturities.
- Yields on sovereign bills include the liquidity and credit risk of the respective issuer.

4.16 Repurchase agreements ("repo rates"): Indices based on the rates paid for repo transactions could also be used. The recent increase in the use of repos for banks, as a response to counterparty risk concerns, may increase the relevance of a repo rate-based benchmark. Reflecting this, measures of repo rates have recently been launched in the UK or US.[1]

- Some specified and standardised set of collateral and haircuts would be required to be used for compiling a benchmark based on repo rates.
- Repo rates may reflect not only counterparty credit risk, but the credit and liquidity risks of the underlying collateral.
- Repo activity is mostly concentrated on short tenors.

Analysis of potential interest rate instruments

4.17 Each interest rate instrument has advantages and disadvantages. Importantly, many of the measures do not have credit and liquidity risks priced in; those that do include credit and

[1] For example, the Depository Trust and Clearing Corporation (DTCC) in the US has recently launched an index called the General Collateral Finance (GCF) Repo Index. In the Sterling market, the Wholesale Markets Brokers' Association (WMBA) have introduced the Repurchase Overnight Index Average (RONIA).

liquidity premia either have a limited or no maturity profile. In addition, it should be noted that some of these rates are based on, or incorporate, expert judgement and surveys.

Ultimately, the decision over which type of benchmark should be used for a particular transaction will be taken depending on the intended use of the benchmark. For example, not all products will require a benchmark that takes into account movements in credit and liquidity risks.

Table 4.A: Comparison of interest rate instruments

	Term unsecured lending	CB policy rate	Overnight unsecured lending	CDs/CPs	OIS	T-bills	Repo rates
Counterparty risk	●	○	◔	●	○	◔	◐
Liquidity risk/cash usage	●	○	◔	●	○	●	◐
Maturity curve	●	○	○	◐	●	●	●
Transaction volume	◐	N/A	●	◔	●	●	◐
Resilience	◔	●	◕	◔	◕	◕	◐
Standardised terms	●	N/A	●	◐	●	◕	◐
Long data series	●	●	●	◐	◕	●	◕

Determining an appropriate mechanism for compiling a benchmark

Issues for determining an appropriate benchmark methodology

4.18 In order to create a specific, final benchmark from individual interest rate instruments, some mechanism or methodology to organise the data inputs will be required. Again, there are a number of issues that can be used to measure the utility of each methodology:

- Simultaneous publication: if any alternative benchmark is intended to be used globally, rates for different currencies and maturities must be published simultaneously. Basis and cross-currency swaps – for example, a swap of 3m USD LIBOR to 3m GBP LIBOR – would require simultaneous publication of both rates in order to avoid any distortion from market movements that occur between different publication times.

- Deep and liquid market: In order for a robust and representative rate to be compiled, a significant volume of transactions, ideally for tenors up to twelve months, may be required. This allows contributors to take a robust assessment of the marker and is especially important where the rate is based solely on transaction data.

- Resilience in a stressed market: In stressed scenarios, market participants may be less willing to trade with one another. In turn, the number of transactions falls which could affect the availability of the rate. As an alternative benchmark would be referenced in a significant number of contracts, it is vital that the rate is available during stressed periods.

- Effect on contributor balance sheet: The mechanism should not impose a large burden on contributor balance sheet size. In particular, participants should not be forced to take on credit and liquidity risks that they do not require.

- The sample size: the benchmark compilation process can either use all or a sub-sample of the participants or transactions for a particular instrument. For example, LIBOR uses a sub-set of banks arranged into currency panels. In order to increase the overall representativeness of the rate, the number of participants/transactions should be high.

- Incentives to participate: the mechanism should not discourage the participation of particular contributors. Any disincentive to participate could compromise the availability of the benchmark, particularly in stressed conditions.

- Operational costs to contributors: similarly, the direct and indirect costs of participating in the benchmark mechanism should not be prohibitively high.

- Transparency of methodology: to ensure accountability and external evaluation of the robustness of the benchmark.

Profile of potential mechanisms for compiling a benchmark

4.19 There are three main mechanisms which can be used to calculate the benchmark.

4.20 Uncommitted submissions: A number of contributors provide submissions on the specific interest rate, which are then compiled – using some formula – into a final published rate. The submissions provided are not executable by other participants and hence are uncommitted. This is the mechanism currently used for LIBOR.

- This system is flexible in terms of publication timing. This methodology does not place any pressures on contributor balance sheets and is low cost. Contributors are required to make an assessment of the market conditions, which means that a rate can also be produced in any market scenario.

- However, if market conditions deteriorate, an uncommitted submission mechanism would become more reliant on the contributor's expert judgement, which may be susceptible to conflicts of interest. Therefore, a strong and robust governance framework is required to manage those conflicts.

4.21 Average transaction prices: In this mechanism, all, or a subset, of participants in a particular market are required to report transactions of the specified instrument to a central repository. At a set time each day, the price of those transactions can then be analysed using some calculation methodology (e.g. weighted average) to create a final interest rate fixing for that particular instrument.

- The compilation of the rate may not require increased contributor balance sheets and capital requirements unless contributors are required to enter into transactions to ensure a rate is published. Moreover, the rate would likely be an accurate representation of the underlying market.

- The robustness and availability of the rate may be affected by the volume and significance of transactions in the underlying market, both in normal times and particularly in a stressed scenario. Where transaction volumes are low, a rate based purely on transaction prices could still be subject to conflicts of interest or manipulation. Additionally, to take into account the maximum number of transactions, the rate should be published towards the end of each business day. If a similar rate was required for different currencies, this would prove difficult.

4.22 Committed quote-based trading platform: Another way to reveal the price at which banks are able to obtain funding from a marginal source is through a committed two-way quote (bid and offer) process. Banks would submit quotes to a trading auction platform either for unsecured cash or commercial paper, which are executable if matched by another participant.

- A platform where quotes can be executed would have the attraction that it forces banks to only submit quotes that they are willing to honour. This would reduce the incentives to manipulate the rate, as banks would be less likely to bid and offer rates at which they are unwilling to trade if they might be forced to trade at those rates.
- However, the corollary of this is that during periods of stress, contributors would likely submit wide bid-offer spreads to avoid the risk of their quotes being executed. This rate mechanism, especially when the rate is required to be published daily, could also expand contributor balance sheet, attracting further capital requirements. Operational costs to participants would also likely be high. These two issues would be clear disincentives to participate.

4.23 None of these mechanisms are immune from attempts to manipulate the benchmark, especially while conflicts of interest exist. Therefore, in order to mitigate these problems each mechanism would require credible governance and oversight procedures, and indeed, they may require official regulation.

Analysis of potential mechanisms for compiling a benchmark

Table 4.B: Comparison of benchmark compilation mechanisms

	Uncommitted survey	Average transaction prices	Committed quote-based/trading platform
Simultaneous publication	●	○	◐
Deep & liquid market required?	◐	○	◔
Resilience in stressed market	◔	○	◔
Effects on contributors' balance sheet	●	◔	○
Small sample size	◔	◐	○
Incentives to participate	◕	●	○
Operational and costs to contributors	●	◔	○
Transparency	○	●	●

Transition to an alternative benchmark

4.24 Estimates suggest that there are at least $300tn of existing transactions that reference LIBOR. The scale and scope of existing contracts, and the non-standardised documentation for those contracts, means that any transition to an alternative rate would be difficult to achieve.

Impact of replacing LIBOR with an alternative rate

4.25 A non-transitory change in the LIBOR time series (a step-up or –down), or a structural increase in volatility, would have a significant effect on the value of contracts. Due to the volume of outstanding contracts, even small changes in the LIBOR rate can have significant distributional consequences between counterparties. If the value of the successor rate is different from the existing rate, any move from LIBOR to any alternative benchmark would oblige all participants to take on a basis risk between LIBOR and an alternative benchmark on future contingent cash flows.

4.26 Furthermore, as the LIBOR definition and mechanism have not had any significant changes since 1998, there is at least 12 years of consistent historical data. The long data series allows participants to analyse long term historical volatility and correlation to other asset classes, which are important inputs when pricing credit risks, optionality and correlation. An alternative rate would need to be long-established before it could be relied upon to accurately price instruments.

4.27 There would also be other significant issues arising from any migration to an alternative rate. Primarily, existing contracts would need to be re-negotiated. The counterparties to each contract must first agree the rate that succeeds LIBOR. Any party whose contract value would be lessened by a migration to a successor rate is unlikely to agree to migration. If the migration were to be enforced, this would lead to litigation risk.

4.28 Secondly, contracts may need to be re-drafted in order to migrate to an alternative rate. Many existing contracts are not standardised and the precise manner in which contracts reference LIBOR is non-uniform. For example, some contracts refer broadly to the cost of inter-bank funds in the London market, some to "LIBOR" or "BBALIBOR", and others refer to the Thomson Reuters screen which displays the relevant rate. By contrast, standardised contracts, such as those which use the ISDA[2] Master Agreement documentation and those traded on-exchange, could be migrated less problematically. Any transition process would have to be sufficiently robust to ensure that all definitions and references had been captured, minimising any risk of uncertainty or litigation risks.

Role of legacy positions and migration to an alternative benchmark

4.29 It is difficult to determine a precise division between those exposures that reference LIBOR and those that reference an alternative rate. This is because existing exposures are a key driver of future transactions.

4.30 Future cash flows are generated from legacy contracts and are subject to a number of contingencies. Examples of such contingencies include: movements of delta, interest rate options, call-ability/put-ability of notes, early termination options, counterparty defaults and credit downgrades, amongst others. Therefore, existing contracts have contingent exposures to LIBOR – which are unknown in the present – and may require a new contract to hedge those LIBOR exposures. As such, the volume of legacy contracts which reference LIBOR is a determinant of future transactions.

[2] International Swaps and Derivatives Association (ISDA)

4.31 It would be difficult to mandate an immediate migration from one benchmark to an alternative. Such a transition would need to be carefully managed and acceptable to all counterparties to avoid disruption. There are four possibilities for a migration to an alternative rate:

4.32 Allow LIBOR and alternatives to co-exist: LIBOR is not discontinued and market participants are free to choose which rate they prefer. In this scenario, it is likely that inertia and the role of legacy contracts would not provide sufficient incentive for participants to choose an alternative. In this case, participants may require some direction to migrate away from LIBOR by the authorities. As with LIBOR, there may be network effects from an alternative rate, so exposures and liquidity in that rate will grow as the rate becomes more established. It is unlikely that this growth would be available in the short- to medium-term.

4.33 Peg LIBOR to an alternative benchmark after co-existence: After a specific time period of co-existence for LIBOR and an alternative, LIBOR becomes pegged at a fixed spread to an alternative benchmark (e.g. LIBOR = alternative benchmark + *X*). This approach allows LIBOR to continue to exist, but carries the possibility of transition risk.

4.34 Discontinue LIBOR after co-existence: In this migration approach, the two rates run in parallel until some pre-determined date, after which LIBOR is discontinued. Discontinuation of LIBOR would require re-negotiation and re-drafting of millions of contracts, which in turn would lead to litigation and disputes between counterparties. This approach would likely be severely disruptive.

4.35 Switch to an alternative rate on a specific deadline: This migration can be compared to the transition to the Euro from individual currencies. In order for this transition to be smooth it would be necessary for an alternative rate to be acceptable to all parties, including international authorities. As an alternative rate would not be available prior to deadline day, there would be significant re-distributional effects if an alternative is divergent from LIBOR, which could have macro-prudential consequences. This approach also presents similar disruption and litigation risks as discussed above.

4.36 All of the approaches to migration away from LIBOR above present risks to market participants. LIBOR as a benchmark is used globally and any enforced transition would require meticulous planning and international coordination. Consequently, it is likely that management of any transition would require universal agreement and a significant role for the global regulatory authorities.

The role of a global benchmark

4.37 Ultimately, the choice of benchmarks for financial contracts is largely market-driven. If market participants decide that alternatives to established benchmarks such as LIBOR are more appropriate, they will move towards using these alternatives. This said, migration to an alternative benchmark might be hindered by market inertia regarding the adoption of a new global benchmark.

4.38 However, decisions taken by regulatory authorities will influence the choices made by the market. If regulators and authorities determine to reform LIBOR in such a way that issues identified above are dealt with, markets might well take this action as an implicit approval to continue using the existing benchmark.

4.39 Given the importance of regulators and authorities in guiding market behaviour on benchmark usage, as well as the need for a carefully managed transition, it might be appropriate for an international authority to take a proactive role in coordinating the approach to the use of benchmarks in financial markets. Such a role could be undertaken by the International Organisation for Securities Commissions (IOSCO) or the Financial Stability Board (FSB).

Box 4.A: Consultation questions

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?

5 Potential implications for other benchmarks

Introduction

5.1 The issues that have been identified with LIBOR have broader implications for a range of other benchmarks, both within financial markets and beyond.

5.2 Some benchmarks are already under scrutiny; IOSCO is investigating on oil spot prices, while the European Commission is looking into other financial benchmarks, such as EURIBOR.

5.3 It is worth considering whether there is a clear set of principles or characteristics that should be applied to all globally used benchmarks. These could include:

- a robust methodology for calculation;
- credible governance structures;
- an appropriate degree of formal oversight and regulation; and
- transparency and openness.

5.4 It is important to note in this context that this Review primarily focuses on issues that address the failing of LIBOR. While there may be important interactions with initiatives elsewhere to address shortcomings of other benchmarks, this Review will not provide any detailed recommendations on how other benchmarks should be improved. However, the findings of this Review may nonetheless contribute some valuable insights to the wider international policy discussion on benchmarks. In particular the high level principles – set out in this chapter – that are informed by the LIBOR work may help guide work elsewhere.

Other major benchmarks

Other inter-bank rates

5.5 There are a number of other benchmark indices and rates that operate in financial markets around the world that may be vulnerable to similar conflicts of interest and weak governance issues as LIBOR. These indices play an important role in facilitating international financial transactions and due to the significance of their role may also benefit from being placed within a tighter framework of common rules and standards.

5.6 For example, there are many interbank benchmarks similar to LIBOR currently operating in different financial markets around the world (see table 5.A), most notably EURIBOR and TIBOR. In the wake of attempted manipulation of LIBOR, all of these have come under increasing scrutiny.

5.7 As with LIBOR, they are used as a reference rate in international financial markets, including in loans, bonds, derivatives contracts and as benchmark reference rates used in their respective currencies (e.g. EURIBOR for euro denominated contracts).

5.8 In some cases, these interbank rates exhibit similar characteristics to LIBOR such as:

- being based on a judgement-led surveys, requiring contributing banks to rely on inference and judgement rather than reporting actual borrowing rates;
- taking submissions from many of the same banks as LIBOR; and
- having similar governance structures to that of LIBOR, with relatively low levels of scrutiny of the rate.

5.9 This suggests that some of these rates may be susceptible to the same opportunities to be manipulated as LIBOR. Indeed, investigations into the attempted manipulation of some of these benchmarks are ongoing.

Table 5.A: Examples of global interbank benchmarks

Region	Example rates		
Europe	BUBOR (Budapest)	RIGIBOR (Riga)	PRIBOR (Prague)
	CIBOR (Copenhagen)	SOFIBOR (Sofia)	REIBOR (Reykjavik)
	EURIBOR	STIBOR (Stockholm)	VILIBOR (Vilnius)
	MOSIBOR (Moscow)	TRLIBOR (Turkey)	WIBOR (Warsaw)
	NIBOR (Norway)		
Asia	BKIBOR (Bangkok)	KLIBOR (Kuala Lumpur)	TIBOR (Tokyo)
	EIBOR (UAE)	KORIBOR (South Korea)	TAIPOR (Taipei)
	HIBOR (Hong Kong)	MIBOR (Mumbai)	TELBOR (Tel Aviv)
	IIBOR (Islamic/Shariah)	PHIBIOR (Philippines)	VINOBOR (Vietnam)
	JIBOR (Jakarta)	SHIBOR (Shanghai)	
	KIBOR (Karachi)	SIBOR (Singapore)	
Americas	CDOR (Canada)	CHILIBOR (Chile)	COLIBOR (Columbia)
	BRAZIBOR (Brazil)		
Africa	JIBAR (Johannesburg)	NIBOR (Nigeria)	SABOR (South Africa)
Oceania	BBSW (Australia)	BKBM (New Zealand)	

Benchmarks in other sectors

5.10 A number of benchmarks in other markets have also come under increased scrutiny. Typically, enquiries relating to these benchmarks have been based on allegations pertaining to a relative lack of transparency and accountability. For example, so called Price-Reporting Agencies (PRAs) which are responsible for compiling international commodity prices in particular the spot oil price have come under scrutiny for a perceived lack of transparency and concerns over processes in the benchmark formation.

5.11 As another example, some widely used indices are proprietary, and as a consequence information about them is not freely available to all. Although the component price feeds of indices generally relate to traded prices on regulated markets, the weightings and calculation methodology are determined by the index provider. These providers are usually unregulated, meaning there could potentially be a similar vulnerability to attempted manipulation as has been exposed in the case of LIBOR.

Ongoing international work on other benchmarks

5.12 International work is already underway in some areas to investigate potential weaknesses in other international benchmarks and appraising the scope for strengthening the governance arrangements and regulation in some of these markets.

5.13 First, one area where there is already ongoing work at an international level is in the spot oil market. Oil price benchmarks are widely used as references for transactions in a number of physical oil markets, exchanges, clearing houses and over-the-counter oil derivatives contracts, making these prices significant to the functioning of these markets. Oil Price Reporting Agencies (PRAs) are privately owned publishers and information providers who use information on physical and some derivatives trades voluntarily reported to them by market participants to assess prices for oil benchmarks. This activity is not subject to any regulation by financial market authorities.

5.14 The parallels with LIBOR are clear in that they are both widely used benchmarks that are compiled by private organisations and that are subject to minimal regulation and oversight by regulatory authorities. To that extent they are also likely to be vulnerable to similar issues with regards to the motivation and opportunity for manipulation and distortion. There are also potentially significant differences in that PRAs are independent of market participants, and there is greater use of verified transactional data.

5.15 The G20 has asked the International Organization of Securities Commissions (IOSCO) to submit recommendations on improving the functioning and oversight of PRAs to G20 Finance Ministers in November. IOSCO published a consultation document in March and an interim report in June.[1] The interim report sets out a number of principles for price integrity, and a number of potential areas of concern with the current process of benchmark formation, which will be addressed in more detail in IOSCO's final report.

5.16 Secondly, the European Commission has already acted to address attempted manipulation related to LIBOR, by making amendments to the proposals for a Regulation and a Directive on insider dealing and market manipulation, including criminal sanctions, initially published on 20 October 2011. The amendments will aim to prohibit the manipulation of benchmarks, including LIBOR and EURIBOR, and make such manipulation a criminal offence.

5.17 In addition, the European Commission's proposal for a Regulation on Markets in Financial Instruments (MiFIR) seeks to address a concern that licensing arrangements controlling the use of benchmarks can be used to frustrate fair competition. In particular, it seeks to ensure that competition among trading venues and clearing houses cannot be impeded by closed access to important financial benchmarks.

5.18 The above work strands are ongoing and will likely produce further recommendations in these areas that will inform the work of this Review. However, on account of wider concerns over the integrity of other international benchmarks in financial markets, this Review would encourage further work in the international arena to identify major global benchmarks and develop an international framework that benchmarks are subject to. In particular, this Review

[1] Available at www.iosco.org.

will consider making a recommendation for an international body such as the FSB to develop a set of principles and a common global standard that can aid to restore confidence in the international financial system and support the smooth functioning of markets by tackling manipulation and price distortions. .

Hallmarks of a credible benchmark

5.19 Insofar as comparable conflicts of interests and governance issues give rise to questions over the accuracy and integrity of the price formation process for these benchmarks, the reforms outlined in this document to address short-comings in LIBOR may be applicable to reform of these other benchmarks. For example, EURIBOR shares many common features with LIBOR, and therefore the problems associated with it as a benchmark, and the potential solutions, could be regarded to be similar.

5.20 Based on the analysis set out in the previous chapters and in light of the lessons learned from the attempted manipulation of LIBOR rates, it is possible to construct a set of key characteristics for a credible benchmark. A benchmark which instils confidence and can be used by market participants without questions over its integrity should exhibit the following characteristics:

- Robust methodology: the mechanism used to compile and calculate the benchmark needs to be sound and be subject to regular internal scrutiny and controls to underpin its reliability. A benchmark should be representative and reflect the true value and risk of the activity undertaken when determining its price. It should ideally be based on actual and verifiable data, rooted in sufficiently liquid and frequently traded markets.

- Credible governance structure: a benchmark must be trusted by market participants, requiring firm ground-rules and governance structures that build trust in the rate and help avoid manipulation. As such, the process of setting the benchmark needs to be governed by a clear and independent process that is free from conflicts of interest and limits its susceptibility to manipulation or price distortion.

- Formal oversight: confidence in the benchmark may be further enhanced through formal regulation and oversight and an appropriate sanctions regime that allows sanctions for improper conduct. This would improve the incentive system that underlies benchmarks, sharpen accountability and as a result add rigour to the process of compiling benchmarks.

- Transparency: to further build confidence and aid the efficiency of markets, a benchmark needs to be transparent and accessible, with fair and open access to the benchmark. Trust in any benchmark would benefit from a high degree of transparency on the process determining a benchmark, which would also help foster understanding of the benchmark in the market place. Knowing how a benchmark is derived and what information it encapsulates would support a more sophisticated application of the benchmark in other markets. However, transparency needs to be carefully balanced against protecting confidentiality, as the release of institution-specific information could lead to market manipulation. Finally, fair and open access would resonate with the near public good character of these benchmarks and their importance due to their widespread use in global markets.

5.21 The above principles are intended to capture the key requirements of a credible benchmark, in order to inform the ongoing debate on the credibility of benchmarks other than LIBOR, that operate in a variety of markets.

5.22 Inevitably, the way that these principles may be put into practice would likely differ across markets and benchmarks in order to be effective. Further work is therefore required in international forums to develop a comprehensive set of principles that is relevant for key global benchmarks. However, while principles may act as useful guides, regulators and domestic authorities should ultimately play a role in how any such principles are translated into specific rules and regulations. This approach would help take better account of diverse legal and supervisory structures across countries, as well as structural differences in local markets.

Box 5.A: Consultation questions

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?

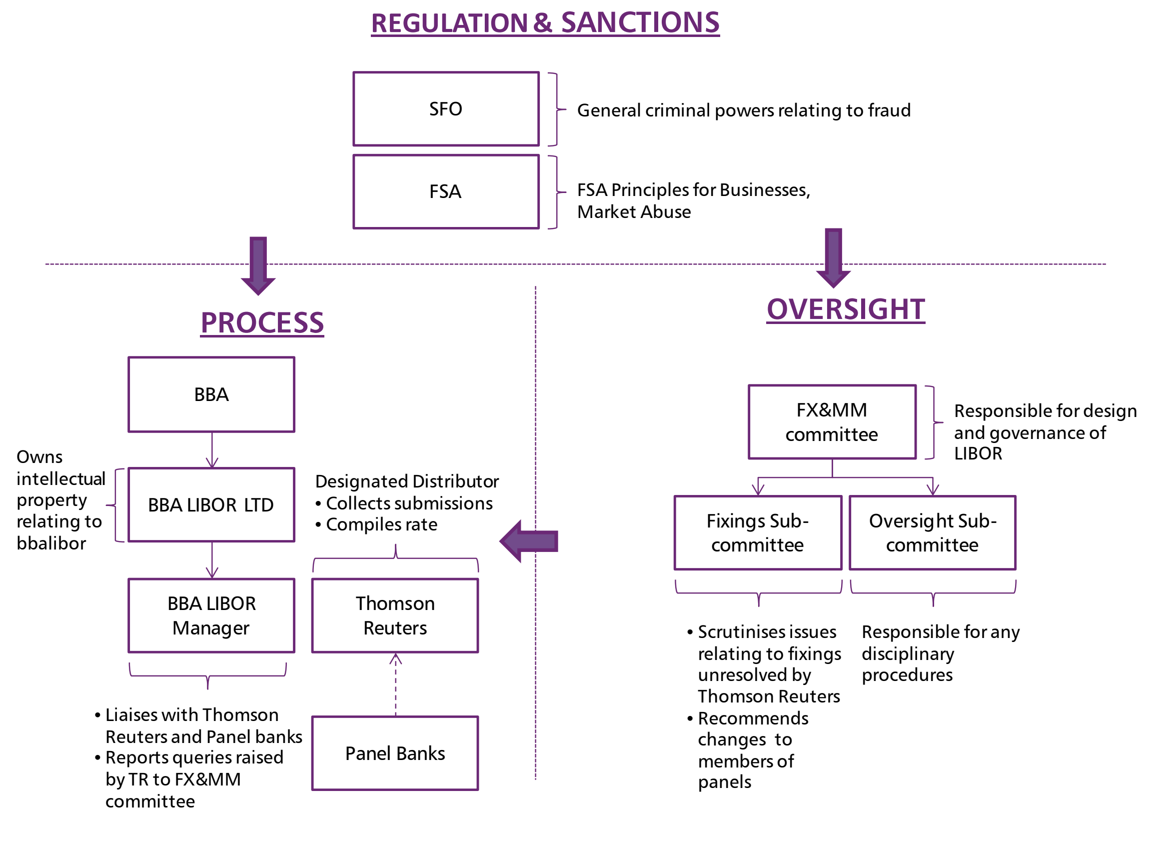
A The current mechanism and governance of LIBOR

Existing mechanisms for the compilation and calculation of LIBOR

A.1 LIBOR is calculated for 15 different maturities and 10 different currencies using submissions from a panel of between six and 18 contributing banks. Management of the process is undertaken by BBA LIBOR Ltd, a subsidiary of the BBA which is run by an executive known as the BBA LIBOR manager.[1]

A.2 This section sets out in detail the features of the process, including: the composition of the panels, the definition of the question to which contributors respond, the way in which contributions are determined and corroborated, and the calculation methodology employed. Chart A.1 summarises the roles of the main organisations involved.

Chart A.1: The current LIBOR model



[1] More information can be found at www.bbalibor.com.

Participation in the LIBOR process

A.3 In total, 24 banks currently contribute to LIBOR, although not every bank is a member of every currency panel; each panel contains between six and 18 banks. Individual banks apply to become a member of a particular LIBOR panel and are assessed for their suitability against three criteria by the body responsible for overseeing the LIBOR process (the Foreign Exchange and Money Markets (FX&MM) Committee), taking into account :

- the scale of market activity of the bank;
- the bank's reputation; and
- the bank's perceived expertise in the particular currency.

A.4 While this approach is intended to ensure that the most relevant banks participate, it does have the effect of restricting the pool of contributors to a fairly narrow set of institutions.

Definition of LIBOR

A.5 Individual contributions to LIBOR are obtained by asking each contributor bank the question:

> *"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 11am?"*

A.6 The rate definition is intended to reflect the rate of interest that the submitting bank could expect to pay for a cash loan in the London money markets each day. However, it is unlikely that each contributing bank will require unsecured funds every day in each of the currencies and maturities for which they quote LIBOR. Therefore individual LIBOR submissions are not based on actual rates obtained from transactions in the money market, but are based, to a large extent, on each bank's perception of their cost of funds. This allows 150 rates to be published each day, but does also mean that there is not necessarily a formal link between actual transactions and LIBOR submissions.

Determination and corroboration of rate submissions

A.7 Each contributing bank determines their LIBOR submission in accordance with a broad set of instructions outlined by BBALIBOR Ltd, detailed in Box A.1 below. It is notable that BBALIBOR does not prescribe a precise methodology that banks should follow to determine their submission, nor specific instructions to consider defined market or internal data sources. In particular, there is no specific requirement to base submissions on any actual transactions that may have occurred.

A.8 In the absence of such specific guidance, banks typically employ a broad approach to determining rate submissions, using a number of information sources such as: quotes from money brokers, interest rate derivatives markets and other related markets.

Box A.1: Instructions to BBALIBOR Contributor Banks

- An individual LIBOR contributor panel bank will contribute the rate at which it could borrow funds, were it to do so by asking for and then accepting inter-bank offers in reasonable market size, just prior to 1100 London time.
- Rates shall be contributed for currencies, maturities and fixing dates and according to agreed conventions.
- Contributor banks shall input their rate without reference to rates contributed by other contributor banks.
- Rates shall be for deposits:
    - made in the London inter-bank market in reasonable market size;
    - that are simple and unsecured;
    - governed by the laws of England and Wales;
    - where the parties are subject to the jurisdiction of the courts of England and Wales.
- Maturity dates for the deposits shall be subject to the ISDA Modified Following Business Day convention, which states that if the maturity date of a deposit falls on a day that is not a Business Day the maturity date shall be the first following day that is a Business Day, unless that day falls in the next calendar month, in which case the maturity date will be the first preceding day that is a Business Day.
- Rates shall be contributed in decimal form to at least two decimal places but no more than five.

Contributor banks will provide their rates to the Designated Distributor between 1100hrs and 1110hrs, London time.

Verification and calculation methodology

A.9 Thomson Reuters, acting as the "designated distributor" of LIBOR, receives the individual submissions and applies a specific formula to obtain the final rate.

A.10 As designated distributor, Thomson Reuters is also responsible for checking each contributing bank's daily submission against a set of parameters defined and regularly reviewed by FX&MM. These monitoring parameters are mainly confined to identifying unintended misstatements and large movements in submissions, because it is challenging to ex ante specify what types of changes in submission are intended to be manipulative.

A.11 If a discrepancy arises between a specific submission and the defined parameters, Thomson Reuters attempts to resolve it through contact with the contributing bank. As described in the next chapter, if the issue cannot be resolved in this way, it is escalated to the BBA LIBOR manager, and may be referred to the Fixings Subcommittee of FX&MM.

A.12 Once checked in this way, the current methodology for calculating the LIBOR rate is to use a "trimmed arithmetic mean" of all submissions. Specifically, individual submissions are listed in descending order and the highest and lowest submissions are excluded. Thomson Reuters then calculates a mean of the remaining submissions and publish the 150 rates, across ten currencies and 15 maturities, at 12:00pm London time.

A.13 The calculation methodology is both simple and transparent. The removal of the top and bottom submissions limits the ability of any outlier submissions (either high or low) to have an impact on the calculated rate. The use of a mean allows for the publication of a single reference rate that reflects the cost of funding for a hypothetical 'average' bank. There is no weighting placed on the submissions, either for reasons of creditworthiness or activity in the market.

Current governance of LIBOR

A.14 As already discussed, the day-to-day running of the LIBOR is the responsibility of BBA LIBOR Ltd, a subsidiary of the BBA run by the LIBOR Manager. An independent organisation, Thomson Reuters, acts as the designated distributor of LIBOR, is responsible for collecting the submissions from contributing banks – from a named individual in each case, typically the contributing bank's treasurer – and submitting them to checks and verification, before publishing the final calculation to the market.

A.15 Oversight of LIBOR is the responsibility of the Foreign Exchange and Money Markets Committee (FX&MM). Its remit includes the design of the benchmark and the governance and scrutiny of all data and panel bank contributions. One of the important functions played by FX&MM is to set, and periodically review, the parameters against which submissions are verified by Thomson Reuters.

A.16 The Committee has a chair and two deputy chairmen, all from contributing banks. Other committee members from contributing banks sit as representatives of their firms, but are expected to act in the best interests of the LIBOR benchmark and the market. The Committee also includes a representative from a non-contributing US bank, and a non-contributing European bank, both of which must be active in the money markets. Other members may include representatives from derivatives exchanges such as LIFFE or the Chicago Mercantile Exchange, and "rate takers" such as a fund manager, and a member of the Association of Corporate Treasures. The names of all firms represented are published, but not the names of individual members.

A.17 There are two subcommittees of FX&MM: the Fixings Subcommittee, and the Oversight Subcommittee, each chaired by one of the deputy chairmen. The Fixings Subcommittee scrutinises the fixing process if an issue is raised which has not been resolved by Thomson Reuters and the LIBOR manager. The Oversight Subcommittee is the mechanism for instituting disciplinary procedures arising from the Fixings Subcommittee's work.

A.18 If the Oversight Committee believes that a contributor is not acting in accordance with the LIBOR definition or terms of reference, it can discipline contributors through

- the use of written guidance;
- a requirement for the contributing bank to conduct a re-audit of the its rate submitting processes; or
- issuance of a recommendation to FX&MM that the contributor is removed from the panel at the next biennial review of membership of LIBOR panels.

The BBA LIBOR manager is also responsible for undertaking periodic scrutiny of the performance of the panels and the contributing banks that sit on them.

B Current regulation of LIBOR and criminal sanctions for manipulation

Current regulation of LIBOR

Regulation of firms

B.1 The submitting of rates by contributing banks, and the administration of the LIBOR setting process carried out by BBA LIBOR Ltd, are not currently regulated activities under the Financial Services and Regulated Markets Act 2000 (Regulated Activities) Order 2001 (the RAO). The FSA has taken regulatory action in relation to attempted manipulation of LIBOR by certain firms, and is investigating other firms in this regard on the basis that firms may have breached the FSA's general "Principles for Businesses".

B.2 However, the FSMA regime does not have any regulatory requirements relating specifically to LIBOR-setting. The ability of the FSA to supervise and take enforcement action in relation to such activities is affected by the fact that LIBOR-related activities are not regulated activities. For example, the concept of "regulated activities" is relevant for a number of the FSA's objectives (see in particular the definition of "consumer" which applies to the FSA's "consumer protection" objective and the definition of the "financial system" which underpins the FSA's "market confidence" objective). As a number of the FSA's key regulatory powers are exercisable by reference to the FSA's objectives, this may affect the manner in which those powers can be exercised.

B.3 The fact that activities in relation to LIBOR are not currently regulated activities and subject to specific rules and regulation by the regulator may also have implications for how firms view such activities. The potential attempted manipulation of LIBOR suggests that many individuals within submitting institutions did not regard the activity of submitting to LIBOR in the same way as activities which are regulated activities. In particular, individuals do not appear to have attached the same importance to ensuring that submissions to LIBOR were made accurately and with integrity as they would have done to the performance of a regulated activity such as accepting deposits.

B.4 Defining LIBOR submitting and administration as regulated activities would provide the FSA with a clear mandate to fully supervise and regulate the LIBOR setting process including by making specific rules which relate to that process and regulate those individuals involved in that process. Making activities in relation to LIBOR regulated activities may also impact on the way in which regulated firms and individuals within those firms view such activities.

B.5 Regulated activities are set out in secondary legislation made under FSMA. In most cases, additional regulated activities can be provided for without further primary legislation being enacted. This is because Schedule 2 to FSMA contains a list of activities of a kind which could be specified as regulated activities. Schedule 2 operates as an "indicative" list of the kind of activities which could be specified as regulated activities. Thus an amendment to Schedule 2 to FSMA may be needed to allow activities in relation to LIBOR to be brought within regulation under FSMA.

Regulation of individuals

B.6 The FSA's powers in relation to individuals working in regulated firms derive primarily from the "approved persons" regime. Individuals who perform certain functions (known as "controlled functions") in relation to the carrying on by a regulated firm of a regulated activity must be approved in advance by the FSA. It is for the FSA to specify which functions are "controlled" (subject to the criteria set out in FSMA). However, only functions which are connected to the exercise by the firm of regulated activities may be specified by the FSA as controlled functions.

B.7 As LIBOR submitting and administration are not regulated activities, participation in LIBOR setting is not, and could not be, specified as a controlled function by the FSA. As a result, the disciplinary powers established in relation to approved persons under s.66(2)(a) of FSMA are not available to the FSA.

B.8 If individual submitters happen also to be approved persons because they exercise another function which is a controlled function, then it will be possible for the FSA to take disciplinary action against them under s.66(2)(b) of FSMA if they are "knowingly concerned" in a contravention by a firm of a regulatory requirement imposed on that firm under FSMA, such as a breach by the firm of the FSA's Principles for Businesses. However, this provides the FSA with a highly contingent and indirect mechanism for taking disciplinary action against individual submitters.

Sanctions – Market Abuse

B.9 Another route for imposing sanctions on LIBOR manipulation and attempted manipulation is the current market abuse regime under section 118 of FSMA, which implements the EU Market Abuse Directive 2003. However, for a number of reasons, much manipulation and attempted manipulation of LIBOR or other benchmarks is unlikely to be covered by the market abuse regime:

1. Inter-bank lending and over-the-counter (OTC) interest rate swaps do not take place on a prescribed market;
2. Trading exchange-traded interest rate derivatives are potentially covered, but there might be difficulties showing in particular cases that benchmark manipulation had the requisite effect on a qualifying investment trading on a prescribed market;
3. Of the likely motivations for manipulation and attempted manipulation of LIBOR – the desire to avoid negative media coverage of a bank's financial soundness, improving returns in OTC interest rate swaps and improving returns in exchange traded interest rate derivatives, only the last and possibly the first will fall within the scope of the market abuse regime;
4. Even in the case of trading in exchange-traded interest rate futures, the s. 118 regime can be used only if one of the subsections applies. Subsection (8) is perhaps the most likely to be apt as it potentially applies if (a) a LIBOR submission is likely to give a regular user of the market a false or misleading impression as to the price or value of qualifying investments, or (b) a LIBOR submission would be, or would be likely to be, regarded by a regular user of the market as behaviour that would

distort, or would be likely to distort, the market in such an investment. However, subsection (8) will cease to have effect from 31 December 2014.[1]

B.10 In summary, section 118 is not specifically targeted at the manipulation of benchmarks and would at best catch only some instances of benchmark manipulation. The current market abuse regime is significantly limited as a means of taking action against a bank or individuals who may have attempted to manipulate LIBOR or other benchmarks.

B.11 As discussed above, the European Commission has proposed amendments to MAR and CSMAD which may address some of these issues.

The FSA's powers to prosecute criminal offences

B.12 FSMA provides the FSA with the power to prosecute certain criminal offences. Of these, the most relevant to the manipulation and attempted manipulation of LIBOR is that relating to misleading statements and practices under section 397 of FSMA.

B.13 However, manipulation and attempted manipulation of LIBOR or other benchmarks is unlikely to constitute an offence within section 397(1) or (3) of FSMA, as it is necessary for the misleading statement or course of conduct to be undertaken either for the purpose of inducing another to take (or not take) certain specific steps in relation to certain agreements or investments, or (for subsection (1)) with recklessness as to whether that will be the result. This is unlikely to apply to any manipulation and attempted manipulation of LIBOR submissions, as the alleged attempted manipulation seen to date has been to affect the value of pre-existing contracts, or to avoid media concerns in relation to financial soundness, rather than to induce another party to enter into an agreement.

Fraud/conspiracy offences

B.14 The manipulation of benchmarks could potentially constitute a criminal offence under legislation other than FSMA, for example fraud by false representation in breach of section 2 of the Fraud Act 2006. A person who intended to make a gain for himself or for another (e.g. a bank) by dishonestly making a representation which is untrue or misleading would be guilty of this offence. The maximum sentence on conviction in the Crown Court is imprisonment for no more than 10 years or a fine of any amount (or both).

B.15 However, the FSA does not have power to investigate such offences (although evidence obtained investigating FSMA offences or in investigating firms for regulatory purposes could potentially be used in other proceedings), and it is not FSA's practice to prosecute such offences unless they are ancillary to the commission of other FSMA offences or insider dealing under the Criminal Justice Act 1993. This is unlikely to be the case with any manipulation and attempted manipulation of LIBOR.

B.16 Action in respect of these offences is for other agencies, including the Serious Fraud Office. On 30 July, the Director of the Serious Fraud Office, David Green QC announced that he is satisfied that existing criminal offences are capable of covering conduct in relation to the alleged attempted manipulation of LIBOR and related interest rates. The SFO investigation, announced on 6 July, which involves a number of financial institutions, will proceed on this basis.

[1] See section 118(9). See section 118(9). Subsection 118(8) will cease to have effect from 31 December 2014, as this is a super-equivalent provision in the UK's market abuse regime and is subject to a sunset clause. As the Market Abuse Directive 2003 is being replaced with a directly-applicable Regulation, this provision will not exist under the future MAR.

C Consultation questions

Chapter 2: Issues and failings with LIBOR

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

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?

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?

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?

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This document can be found in full on our website: http://www.hm-treasury.gov.uk

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