Linklaters

Rate of change

The impact of interest rate benchmark reform on the derivatives market

Introduction

Although interest rates have remained low in the aftermath of the financial crisis, interest rate benchmarks have featured frequently in the press for all the wrong reasons. The LIBOR scandal revealed that some of the most important worldwide financial benchmarks had been manipulated by key market participants. This resulted in intense political and regulatory scrutiny as to how those benchmarks are created and operated, culminating in a range of new rules and changes to many existing benchmarks.

In June 2012, the UK government asked Martin Wheatley, at that time the managing director of the Financial Services Authority, to conduct a review of the setting and usage of LIBOR. The related report (the Wheatley Review)[1] was published in September 2012.

The Wheatley Review resulted in an initiative to devise new methodologies for determining representative inter-bank lending rates and, ultimately, so called 'risk free' rates that may be used as an alternative to LIBOR in certain situations. Given that LIBOR rates are a standard feature of many agreements that include a funding element, these changes will represent a significant move for nearly all participants in the derivatives market, as well as funding markets more generally.

This note seeks to explain the new regulatory landscape affecting interest rate benchmarks, including the current initiatives to reform LIBOR, and to explore what this may mean for derivatives documentation.

What has happened so far?

It has been an eventful few years for interest rate benchmarks – see the timeline on the next page. Following the Wheatley Review, the Board of the International Organisation of Securities Commission (IOSCO) produced nineteen principles which are to apply to benchmarks used in financial markets (the IOSCO Principles)[2] and the Financial Stability Board (FSB) subsequently published a report outlining its proposals for change in the context of major interest rate benchmarks (the FSB Paper).[3] Most recently, in June 2016, the EU Benchmark Regulation was published in the Official Journal.[4]

Why are inter-bank rates so important?

Inter-bank rates are used as a reference point in a huge number of financial contracts. The FSB estimated that, as of July 2014, financial transactions with a total notional outstanding amount of (i) US$220 trillion reference LIBOR, (ii) US$150-180 trillion reference EURIBOR and (iii) US$5 trillion reference TIBOR.[5] This note largely focuses on the changes to LIBOR, although similar initiatives are underway in respect of the other major interest rate benchmarks.

Background

What were the key findings of the Wheatley Review?

The recommendations of the Wheatley Review included:

> comprehensive reform, rather than replacement, of LIBOR
> transaction data should be used to support submissions
> statutory regulation of the administration of, and submission to, LIBOR
> the British Bankers' Association (BBA) should transfer responsibility for LIBOR to a new administrator
> LIBOR should cease to be published for currencies and tenors for which there is insufficient trade data
> individual LIBOR submissions should be published after three months

How does this relate to the IOSCO Principles?

Following a recommendation by the Wheatley Review, IOSCO created a task force in September 2012 to draft principles to enhance the integrity, reliability and oversight of benchmarks generally. Martin Wheatley and Gary Gensler, the then Chairman of the U.S. Commodity Futures Trading Commission, chaired the committee, which published the IOSCO Principles in July 2013. The IOSCO Principles provide an overarching framework for benchmarks used in financial markets, including the quality of the benchmark, quality of the methodology (i.e. the rules and procedures according to which information is collected and the benchmark determined) and accountability.

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[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191762/wheatley_review_libor_finalreport_280912.pdf

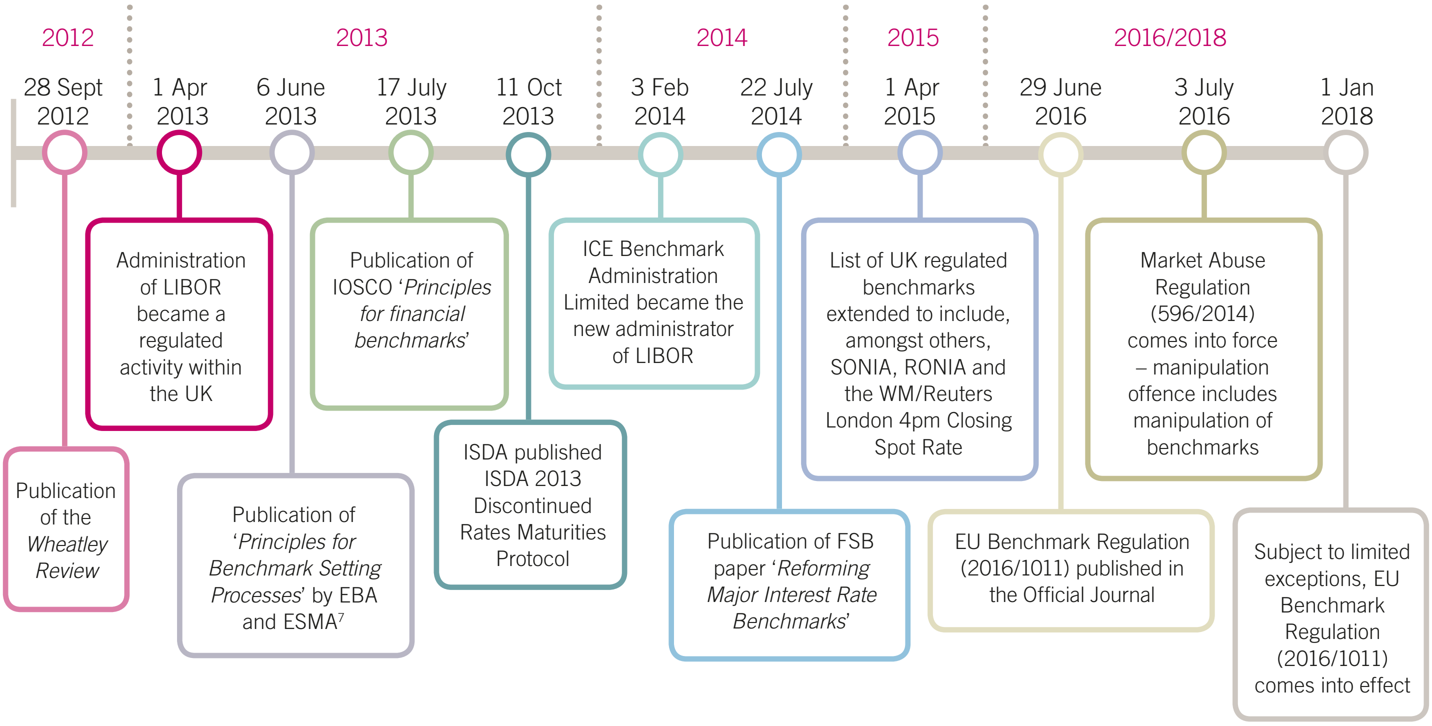
[2] https://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf

[3] http://www.fsb.org/wp-content/uploads/r_140722.pdf

[4] Regulation (EU) 2016/1011 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds.

[5] FSB *'Reforming Major Interest Rate Benchmarks'*, 22 July 2014.

Timeline



What is the FSB Paper?

The G20 asked the FSB to undertake a review of major interest rate benchmarks and provide suggestions for reform to ensure that benchmarks are robust and properly used by market participants. The FSB published its paper in July 2014[6] in which it endorsed the adoption of the IOSCO Principles and requested IOSCO to conduct a more specific review of LIBOR, EURIBOR and TIBOR against those principles. IOSCO published its First Review in July 2014 and its Second Review in February 2016. The FSB also published progress reports in July 2015 and July 2016.

The FSB steering group was also tasked with encouraging the private sector to identify alternative benchmarks and considering potential issues in transitioning to a new benchmark. To achieve this, five currency sub-groups were established to consider factors specific to each jurisdiction relevant to interest rate benchmarks (namely euro, British pound, Swiss franc, U.S. dollar and Japanese yen), together with a global sub-group tasked with considering transition to alternative benchmarks. The FSB's report concluded that a 'multiple-rate approach' should be adopted.

What is the 'multiple-rate approach'?

It represents a move away from a single, dominant reference rate and is intended to give market participants greater flexibility as to the rates they can include in a contract. The benefits of this approach include:

> flexibility to choose the most appropriate rate
> removal of dependence on a single rate, increasing market resilience (provided that fragmentation does not result in insufficient liquidity and therefore reference data with which to establish the rate)
> preservation of rates which include bank credit risk, enabling some parties to avoid the related costs of transitioning to risk-free rates (on which, see below).

The multiple-rate approach involves strengthening existing inter-bank offered rates (or IBORs) by underpinning them with transaction data as far as possible. These strengthened rates are referred to by the FSB as 'IBOR+'. It is anticipated that IBOR+ rates will be best suited to bank lending products, where a rate incorporating bank credit risk is appropriate. Secondly, the FSB recommended development of alternative (nearly) risk-free rates, which will be more appropriate for many derivatives intended to focus solely on interest rate risk.

How does this interact with the Benchmark Regulation?

The EU Benchmark Regulation (2016/1011) introduces a common framework to ensure the accuracy and integrity of benchmarks within the EU. It implements a number of the IOSCO Principles (such as imposing an obligation on administrators to develop a code of conduct to which benchmark contributors must adhere). In August 2016, EURIBOR was designated as the first critical benchmark under the EU Benchmark Regulation. This will enable competent authorities to provide that certain entities (such as banks) must contribute data to EURIBOR if there would otherwise be inadequate data to publish an accurate rate. It is possible that LIBOR will also be added to the list of critical benchmarks. The EU Benchmark Regulation also contains provisions which will apply to interest rate benchmarks (such as LIBOR and EURIBOR) more generally (for example, prescribing the frequency with which the independent oversight committee, which oversees the provision of the benchmark, must meet). The majority of the provisions of the EU Benchmark Regulation will apply from 1 January 2018.

Inter-bank Offered Rates

What are inter-bank rates?

The IBORs are interest rate benchmarks which track the average rate at which banks lend to one another on an unsecured basis for a given currency and time period. LIBOR, the London inter-bank rate, was developed in the 1970s to facilitate loan transactions. In the 1980s, a standardised rate emerged administrated by the BBA.

Why change the administrators?

Whilst the Wheatley Review concluded that LIBOR should continue to be administered by a private sector body, the review also identified the need to establish greater independence from the institutions that submit the rates. To this end, administration of LIBOR was transferred from the BBA to ICE Benchmark Administration (IBA) as of 1 February 2014. Many of the other IBOR benchmarks have undergone (and continue to undergo) similar changes in order to introduce codes of conduct and to enhance the integrity of the benchmark.

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[6] http://www.fsb.org/wp-content/uploads/r_140722.pdf

[7] https://www.esma.europa.eu/sites/default/files/library/2015/11/2013-659_esma-eba_principles_for_benchmark-setting_processes_in_the_eu.pdf

Are other changes required?

Further thought is being given to appropriate fall-back sources for benchmarks. Traditionally, if a benchmark is no longer published, determination of the relevant rate may fall back to quotations from reference banks (a common approach under many of the Rate Options that form part of the 2006 ISDA Definitions). The Wheatley Review highlighted that, in most cases, the reference banks are the same as the LIBOR submitting banks. There is consequently a risk that, in circumstances where LIBOR is not published, those banks will be unable to provide quotations. As a result, Wheatley and the FSB recommended that new contingency provisions should be designed that do not rely on bank submissions.

How has the UK regulation of benchmarks changed?

This depends on the particular benchmark. Following the Financial Services Act 2012, the setting of certain specified benchmarks is a regulated activity in the UK (requiring specific approval). The list of relevant benchmarks currently includes LIBOR, the Sterling Overnight Index Average (SONIA) and the Repurchase Overnight Index Average (RONIA). Furthermore, it is now a criminal offence to make false or misleading statements in relation to benchmarks.[8] Further requirements will apply in respect of benchmarks when the EU Benchmark Regulation comes into effect (see above).

Why were certain rates discontinued?

The Wheatley Review also concluded that a significant proportion of the then 150 LIBOR benchmarks were not adequately supported by trade data and were not heavily used by market participants.

Alternative benchmarks were more commonly used for a number of the currencies, where there was greater liquidity of transactions in the domestic market. It was also felt that interpolation and extrapolation could be used to create intermediate maturities (rather than requiring separate benchmarks).[9] As a result, LIBOR, which was previously published for fifteen maturities and ten currencies, is now published for seven maturities and five currencies and EURIBOR, which was previously published for fifteen maturities, is now published for eight maturities.

When will IBOR+ be introduced?

Reform of the IBOR methodologies is happening incrementally, so there is no hard deadline for the transition. Notably, the methodologies, rather than the names of the rates, are changing.

In the context of LIBOR, the IBA has published a 2016 roadmap for implementation of a 'transaction waterfall' under which panel banks will form their determinations of LIBOR.[10] Determinations will be based firstly on transactions, secondly on transaction-derived data (i.e. adjusted historical transactions) and thirdly on expert judgement. Panel banks will only use expert judgement where there is insufficient data to submit based on transactions or transaction-derived data. The IBA is also conducting a feasibility study for centralising the determination of the rate (i.e. collection by the IBA of the transaction data) and, if approved, the related changes are expected to be introduced in 2017.

Risk-free Rates

What are risk-free rates?

The IBORs are based on unsecured inter-bank lending and therefore a proportion of the rate reflects perceived credit risk (i.e. the premium charged by a lender to account for the risk that a borrower will not repay). By contrast, risk-free rates isolate the interest rate without the credit element.

An example in the UK is SONIA, which is the main benchmark for overnight unsecured money market transactions (brokered in London and denominated in sterling). Whilst not entirely free from credit risk (and, so, only a proxy for a truly risk-free rate), it incorporates lower credit risk when compared with longer tenors (where the window in which a default may occur is greater). As an overnight rate, SONIA does not have a maturity curve, however, the Overnight Index Swap (or OIS) market can be used to derive values for longer maturities.

Why would parties wish to use a risk-free rate?

Whilst IBORs reflect an appropriate rate for lending activity, there has been an important shift towards risk-free rates where a transaction is intended to isolate the underlying interest rate (i.e. a pure representation of rate expectations, ignoring any credit risk element). Examples include the discount factor frequently used to present-value derivative positions and the rate of return typically paid in respect of cash collateral.

What is an OIS rate?

Overnight index swaps are agreements to swap a fixed rate leg for a floating leg based on an OIS rate. We briefly discussed SONIA above, which is an example of an OIS rate. Other examples include the Federal Funds Effective Rate, being the main OIS rate in respect of the U.S. dollar, and the Euro Over Night Index Average (EONIA), in respect of the euro.

Why has derivatives valuation changed?

Traditionally, derivatives positions are valued by using an interest rate to calculate the present value of future cash flows (i.e. a payment obligation of £100 due next year may be valued at £98 today). Economic theory dictates that a risk-free rate should be used for this process, as it is purely identifying the utility/cost of providing the value early. Before the financial crisis, it was common for dealers to use the IBORs for this purpose on the basis that banks were generally of very good credit standing and there was little to distinguish the IBOR and overnight rates. Following the financial crisis, however, the credit risk embedded in the IBORs resulted in a sharp increase when compared to corresponding risk-free rates. The graph on the next page takes the GBP LIBOR and SONIA rates and illustrates the extent of the difference during that period. This led to a movement to risk-free rates for the purposes of valuations.

Why is collateral relevant in this context?

Risk-free rates, such as SONIA, are also frequently used to calculate the interest amount payable in respect of cash collateral posted under, for example, a Credit Support Annex. This makes sense because the interest is only intended to compensate the collateral-provider for the return the collateral it posted may otherwise have generated and therefore the inclusion of a premium for credit risk is not necessary.

Are OIS rates the definitive risk-free rate?

No, they are just one option. One potential disadvantage of OIS rates is the comparative lack of liquidity at longer tenors and that there is still some debate about the appropriate 'fix' for the rate (i.e. a consensus about the appropriate source for determining it). Alternative risk-free rates include:

> an unsecured rate, such as the yield on high-quality, short-term debt – in order to minimise the credit element, parties may look at government debt with a maturity of less than one year

> repo rates, which represent a source of secured funding – the advantage being that parties could use an existing published rate, such as RONIA.

Who is responsible for driving the change to risk-free rates?

The five currency sub-groups (sterling, euro, Swiss franc, dollar and yen) formed by the FSB steering group are responsible for driving the change to risk-free rates. For sterling, this is the Working Group on Sterling Risk-Free Reference Rates (WG) which is comprised of senior representatives from major sterling swap dealers, ISDA (as observer) and representatives from the Bank of England and the FCA. The corresponding currency sub-group in respect of U.S. dollars is the Alternative Reference Rates Committee (ARRC) and European authorities and market participants are also considering the development of alternative risk-free rates in relation to the euro.

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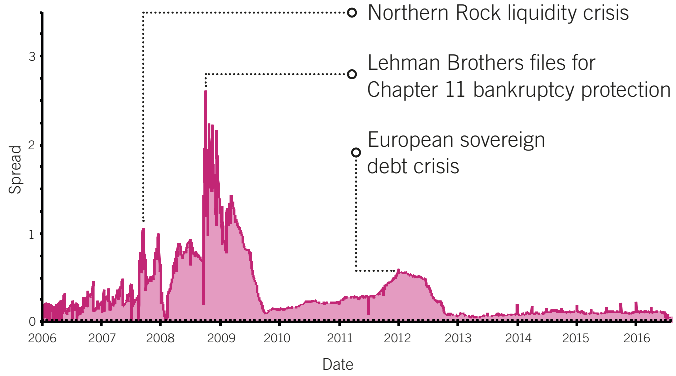
[8] Financial Services Act 2012, Section 91.

[9] The ISDA 2013 Discontinued Rates Maturities Protocol provides a method of adjusting some existing contracts.

[10] ICE Benchmark Administration, *'Roadmap for ICE LIBOR'*, 18 March 2016: https://www.theice.com/publicdocs/ICE_LIBOR_Roadmap0316.pdf

Spread between 3 month GBP LIBOR and SONIA



Source: Bloomberg L.P.

The graph shows that, following certain events which undermined confidence in banks' creditworthiness, the difference between LIBOR and SONIA increases. This is due to the increased premium for bank credit risk included in LIBOR following such events.

What changes can we expect to risk-free rates?

The five currency sub-groups have each identified risk-free rates which could be used as an alternative to the IBORs.

In respect of sterling, the first candidate is a reformed SONIA. As of 25 April 2016, the Bank of England took on administration of SONIA. In its October 2016 consultation paper,[11] the Bank of England sought views on reformed SONIA. Current plans include extending the inputs to bilaterally negotiated transactions (in addition to brokered transactions) to increase resilience as well as calculating the rate by reference to the volume-weighted median rate of eligible transactions (rather than the volume-weighted mean) to reduce the skew effect of any outlying rates. One expected consequence is that reformed SONIA will be one to two basis points lower than current SONIA.

The WG is also considering creation of a new secured overnight index. Whilst a reformed SONIA would be easier to implement, there may be a greater volume of transactions underlying a secured benchmark which could make it more robust than SONIA.

ARRC has similarly suggested two possible alternative risk-free rates, namely the Overnight Bank Funding Rate (OBFR) (which is a volume-weighted median of both overnight fed funds and Eurodollar transactions) and some form of Overnight Treasury General Collateral repo rate (i.e. a rate based on overnight lending collateralised by the transfer of U.S. treasury securities).

[11] http://www.bankofengland.co.uk/markets/Documents/soniareformcp1016.pdf

When will the new risk-free rates be available?

As market consultation is still ongoing the WG and ARRC have deferred their decisions regarding new risk-free rates until further information is obtained. However, the Bank of England expects to publish the reformed SONIA benchmark in the fourth quarter of 2017 following a nine-month notice period and the Federal Reserve Bank of New York began publishing the OBFR in March 2016 (and a related OBFR Supplement to the 2006 ISDA Definitions was published in October 2016).

Impact on Derivatives

What does this mean in practice?

It is certain that the floating rates that are referenced in the majority of derivatives contracts will be subject to change in the coming years (or at least the methodology underlying those rates). Whilst the emergence of the new IBOR+ rates will undoubtedly result in a more robust and reliable measure of inter-bank lending rates, the suggested move to risk-free rates (and the reform of the related benchmarks) will mark a far more significant shift, particularly from a business perspective if legacy positions are required to be amended.

How will the market transition from one benchmark to another?

Once the market consultation process has been completed, each of the WG and ARRC will identify a nearly risk-free rate for sterling and U.S. dollars respectively. The Bank of England's October 2016 consultation paper focuses on the transition from current SONIA to reformed SONIA and envisages a point-in-time switchover at a specified date (or a big bang). This will result in no SONIA being published on the big bang date and will also result in central counterparties (CCPs) adjusting their processes for payment of interest on margin balances (price alignment interest or PAI). Given that the sterling OIS market tends to be a short term market, the Bank of England is hoping that a nine-month notice period of the change will be sufficient for the majority of live trades to have been entered into with knowledge of the reform.

Conversely, once ARRC identifies the new risk-free rate for U.S. dollars, it recommends a paced transition which would initially begin with voluntary trading in derivatives referencing the new rate instead of the old Federal Funds Effective Rate and ultimately lead to CCPs ceasing to accept transactions referencing the old Federal Funds Effective Rate, except for compression of trades referencing the old rate.

How will this affect derivatives documentation?

The interest rate reform may impact documentation in different ways. Firstly, to the extent that there is a change in definition of a particular rate, its use in ISDA documentation (such as the ISDA 2006 Definitions) as well as any long-hand definitions (such as cash collateral interest rates in CSAs) may need to be updated. In relation to any big bang approach, any such updates will need to affect both new and existing trades. Secondly, the introduction of new contingency provisions to avoid reliance on bank submissions may result in amended Rate Options under the 2006 ISDA Definitions, again possibly for both new and existing trades. Similarly, amendments may also be required to CCP Rules to reflect the revised PAI as well as to securitised transactions, which are unlikely to be caught by any ISDA Protocol or similar multi-lateral amendment process.

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