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Benchmark rate reform and transition to risk free rates

IBOR discontinuation and reform

Interbank Offered Rates (IBORs) are a series of benchmark interest rates, used globally for pricing loans, debt securities and derivatives. Following recommendations made by the Financial Stability Board in 2014, global initiatives have been undertaken to reform such benchmarks and to commence the transition to alternative benchmark or reference rates.

Developments in the three major IBORs, as at 26th May 2020, are summarised below:

Benchmark	Discontinuation / Reform measures
LIBOR	The London Interbank Offered Rate (LIBOR) is a global interest rate benchmark which is currently published across five currencies (Sterling, US Dollar, Euro, Swiss Franc and Japanese Yen) and seven terms (ranging from overnight to 12 months). The Financial Conduct Authority (FCA) has stated that it will no longer compel banks to submit LIBOR quotes beyond the end of 2021. As a result, it is anticipated that, from the end of 2021 LIBOR rates may cease to be published.
EURIBOR **EONIA**	The Euro Interbank Offered Rate (EURIBOR) and the Euro Overnight Index Average (EONIA) are the most important interest rate benchmarks within the Eurozone. European interest rates are subject to the EU Benchmarks Regulation (BMR) which was introduced in January 2018 to improve the integrity of, and set a common framework for regulation of, benchmarks across the EU. The BMR set a deadline for critical benchmarks to meet certain regulatory standards. The BMR transition period, after which critical benchmarks failing to meet the standards cannot be used for new contracts, has been extended to 31 December 2021. In July 2019, European Money Markets Institute (EMMI) was authorised as administrator of EURIBOR under the BMR and implementation of a new hybrid methodology for EURIBOR was completed in November 2019. EONIA will not be reformed and has been published in parallel with the Euro Short-Term Rate (€STR) since publication of €STR began on 2 October 2019. EONIA will be permanently discontinued on 3 January 2022.
TIBOR	Reform measures were introduced in 2017 in respect of The Tokyo Interbank Offered Rate (TIBOR), which is widely used as an interest rate benchmark for bank loans in Japan. It is not proposed that TIBOR be discontinued. Further reform may be undertaken, including the potential integration of Japanese Yen TIBOR and Euroyen TIBOR (Japanese offshore markets).

Replacing certain IBORs with Risk Free Rates

Risk free rates ("RFRs") are seen as a likely replacement or alternative to IBORs, due to their transparency and limited exposure to manipulation. RFRs are calculated on a different basis and are not like-for-like replacements for IBORs. RFRs are overnight rates which traditionally are retrospective, i.e. they are published after the period to which they relate, as opposed to IBORs, which are set at, or prior to, the commencement of the period to which they relate. The differences between the two types of rate are discussed further below.

In preparation for the transition away from certain IBORs, authorities and industry working groups have identified various RFRs as possible replacements for LIBOR and EONIA for each of the currencies across which LIBORs are currently published:

- The Bank of England's working group has recommended reformed Sterling Overnight Index Average (SONIA) as the preferred RFR alternative to Sterling LIBOR;
- The Federal Reserve Bank of New York, the European Central Bank, the SIX Swiss Exchange and the Bank of Japan have also established working groups to develop risk free rates to support the transition away from their respective currency LIBOR rates; and
- In October 2019, the European Central Bank began publishing the Euro Short-Term Rate (€STR), a new unsecured overnight interest rate as an alternative to EONIA.

As at 26th May 2020, the development of each RFR is at a different stage and they vary in a number of ways as highlighted in the table below.

Country/Region					
Administrator	Bank of England	New York Fed	ECB	SIX Swiss Exchange	Bank of Japan
Working Group	Working Group on Sterling Risk Free Reference Rates	Alternative Reference Rates Committee	Working Group on Euro Risk Free Rates	National Working Group on Swiss Franc Reference Rates	Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks
Candidate RFRs	Sterling Overnight Index Average (reformed) (**SONIA**) to replace Sterling LIBOR	Secured Overnight Funding Rate (**SOFR**) to replace USD LIBOR	Euro Short-term Rate (**€STR**) to replace EONIA	Swiss Average Rate Overnight (**SARON**) to replace CHF LIBOR	Tokyo Overnight Average Rate (**TONA**) to replace JPY LIBOR
Features	• Unsecured • Based on real trades • Overnight rate that is near risk-free • Volume-weighted trimmed mean	• Secured • Based on real trades • Overnight rate that is highly correlated to other short-term money market rates and is near risk-free	• Unsecured • Based on real trades • Overnight rate that is near risk-free • Volume-weighted trimmed mean	• Secured • Used since August 2009 as a benchmark of interbank overnight repo rate • Reflects interest payment of interbank overnight repo transactions	• Unsecured • Based on real overnight call transactions • Calculated daily using information provided by money market brokers • Volume-weighted average
Expected Timings / transition details	Reformed overnight SONIA has been published since April 2018. Term rates being considered in limited circumstances.	Overnight rate published since April 2018. Term rates being considered.	Overnight rate published from 2 October 2019 with €STR and EONIA published in parallel until E ONIA is discontinued on 3 January 2022. Term rates being considered as fallback to reformed EURIBOR.	Overnight rate used in repo markets since 2009. Application process for SARON to be endorsed under the EU BMR is planned. Term rates unlikely.	Overnight rate used in swap market. Transition as JPY LIBOR replacement to be confirmed

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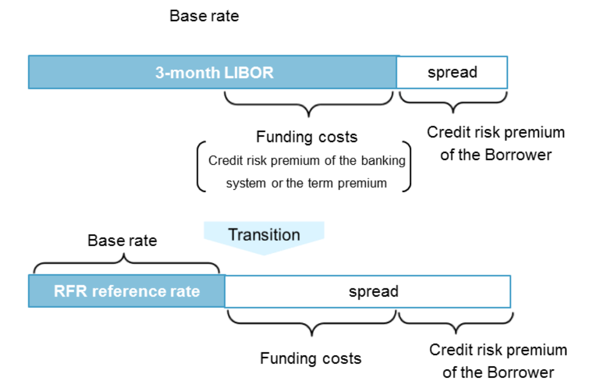
Differences between IBORs and RFRs

As set out above, RFRs are described as ‘near risk free’ and are derived from actual transactions that have taken place in the liquid underlying markets. There are a number of differences between IBORs and RFRs which will need to be addressed in the transition process away from certain IBORs, including:

- **Credit and Liquidity Premiums**: IBORs include the cost of bank credit risk and term liquidity risk as they are based on the submissions of panel banks indicating where they can borrow unsecured funds in the relevant interbank market, whereas RFRs are based on overnight transactions. Transitioning existing contracts from IBORs to RFRs may involve incorporating a spread into the RFR to cover the lender’s funding costs and the credit risk premium of the borrower.

- **Calculation direction**: RFRs are backward looking overnight rates whereas IBORs are forward looking term rates, meaning that for IBORs the rate of interest is fixed and publicly available at the beginning of each interest period. Industry working groups are exploring compounding RFRs in arrears, as one potential option to meet the demand for term rates.

	IBOR	RFR
Credit risk premium of the banking system	Included	Not included
Term structure	Various, such as 1, 3 and 6 months	Currently overnight only
Transaction based	Partially	Wholly
Calculation	Forward looking	Backward looking
Examples	LIBOR, EURIBOR, TIBOR	TONA, SONIA, SOFR, €STR



(*1) Base rate + spread may not be exactly the same as LIBOR + spread.
(*2) Transition to other alternative rates, such as TIBOR, is possible if there is an agreement.

Source: Compiled by Mizuho bank, Ltd.

Points for you to consider in relation to IBOR transition

At present, the exact scope and timing of changes to existing IBORs are unclear. Certain benchmarks may cease to be published, have their use restricted, cease to be in customary market usage or be calculated in a different way. Such changes may have an impact on references to IBORs in existing products and may necessitate use of an alternative benchmark rate, such as an RFR or an IBOR which is not being discontinued, or require fallback to a financial institution's cost of funds.

Any such changes may impact the loans, debt securities and derivatives you currently hold (and those you enter into in future), including:

- requiring the application of fallback provisions in the contract which provide for an alternative mechanism for calculating the relevant payment amount, such as when IBOR rates are not available, or the amendment of contracts to include fallback provisions;

- potential changes to the interest and other provisions of existing contracts, to provide for the transition to an alternative reference rate;

- the potential for a material mismatch between products in your portfolio (such as loans and corresponding hedges), which currently refer to the same benchmark rate;

- an impact on the value or pricing or cost to you of the product;

- potential accounting and tax issues, as many businesses use IBORs for derivative and other valuation purposes; and

- potential operational implications, such as changes to systems or processes (such as the impact on cashflow forecasting, when moving from forward looking to backward looking rates).

We recommend you keep up to date with the latest industry developments and consider whether you require independent professional advice (whether legal, accountancy, tax or other advice) in relation to IBOR transition and keep your position under review.

Next steps

Industry bodies are already working on IBOR transition. In relation to syndicated loans, the Loan Market Association (LMA) has published recommended language providing for mechanisms for implementing a replacement benchmark for IBORs. Further, on 23 September 2019 the LMA published two draft term and revolving facilities agreements; a sterling facility referencing SONIA and a dollar facility referencing SOFR (the Exposure Drafts). As there is currently insufficient established market practice or infrastructure to support publication of recommended forms of LMA documentation, the Exposure Drafts have been published to stimulate debate and to facilitate the development of a common approach by market participants to the various issues. The Exposure Drafts do not constitute recommended forms and contain numerous placeholders and optionality for parties to work through.

The syndicated loan market does not have a protocol system for amendments (such as that which is operated by ISDA) given the multilateral nature of syndicated loans and so loan agreements referencing LIBOR may need to be individually amended to refer to a replacement rate. On 25 October 2019 the LMA, to help streamline the amendment process, published an exposure draft reference rate selection agreement for use in relation to legacy transactions transitioning from LIBOR to an RFR. Again, the draft is not a recommended form but is intended to be a draft open for comment from the market, to be read alongside the Exposure Drafts.

The International Swaps and Derivatives Association (ISDA) intends to implement an IBOR Protocol (for adhering parties) to amend legacy derivatives contracts. ISDA is also working on updating by Supplement the 2006 ISDA Definitions (the Supplement) to implement fallbacks to IBORs in new derivatives contracts. ISDA has carried out a second pre-cessation consultation the results of which are currently implemented in the draft IBOR Protocol. The timing of release of the final version of the Supplement and publication of the IBOR Protocol is estimated to take place at the latest by the end of the third quarter of 2020; with the intention for the IBOR Protocol to take effect approximately 3-4 months later and publication of the Supplement will coincide with the IBOR Protocol coming into effect, likely in the last quarter of 2020. The LSTA (Loan

Syndication and Trading Association) has also published a draft "concept" credit agreement for a SOFR loan compounded in arrears.

Mizuho Bank, Ltd. and Mizuho International plc are preparing for IBOR transition and we will engage with our clients once there is more certainty at industry level with respect to the changes arising from the transition to new reference rates.

In the meantime, if you would like any further information, please contact your relationship manager or in relation to Mizuho Bank, Ltd. email MHBK.IBOR.enquiries@mhcb.co.uk and in relation to Mizuho International plc email MHI.IBOR.enquiries@uk.mizuho-sc.com.

Further information and resources

You can find further information from the USD Alternative Reference Rates Committee (ARCC) here, the Working Group on Sterling Risk-Free Reference Rates here, the JPY Study Group on Risk-Free Reference Rates here and the EURRFR Working Group here. You can also find publications from the LMA here and from ISDA here.