MIZUHO

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 5 July 2019, are summarised below:

Benchmark	Discontinuation / Reform measures
LIBOR	The London Interbank Offer 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 will 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 recently introduced EU Benchmarks Regulation (BMR) which was introduced to improve the integrity of benchmarks. The BMR transition period after which critical benchmarks cannot be used for new contracts has been extended to 31 December 2021. Attempts to reform EURIBOR are under way. In July 2019, EMMI was authorised as administrator of EURIBOR under the BMR and implementation of a new hybrid methodology for EURIBOR is expected to be completed before the end of 2019. EONIA will not be reformed and transition to the Euro Short-Term Rate (€STR) will commence once publication of €STR begins in October 2019.
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

In preparation for the transition away from certain IBORs, authorities and industry working groups, have identified various Risk Free Rates (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, European Central Bank, 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
- The European Central Bank is developing the Euro Short-Term Rate (€STR), a new unsecured overnight interest rate as an alternative to EONIA.

As at 5 July 2019, 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	Overnight rate published since April 2018. Term rates being considered	Overnight rate to be published on 2 October 2019 with €STR and EONIA published in parallel until E ONIA is discontinued on 3 January 2022. Term rates being considered	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. Term rates expected in second half of 2021 at the latest

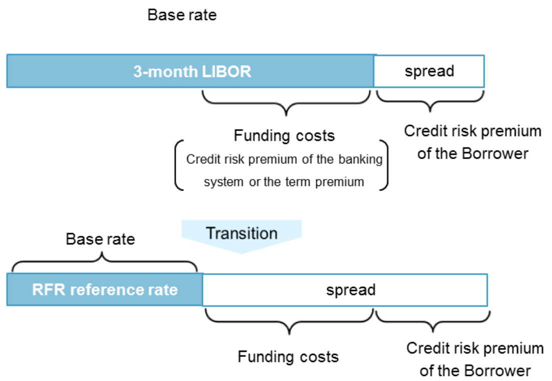
Differences between IBORs and RFRs

RFRs are described as ‘near risk free’ and are derived from actual transactions that have taken place in the liquid underlying markets. There 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 on the RFR.

- **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 overnight rates in arrears, as one potential option.

	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 and reform

At present, the exact scope and timing of changes to existing IBOR rates 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. References to IBOR rates in existing products may need to change to an alternative benchmark rate, which might be a RFR, an IBOR rate which is not being discontinued, or to a financial institution's cost of funds.

Any changes to benchmark interest rates 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 material mismatch between products (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;
- potential operational implications, such as changes to systems or processes (such as the impact on cashflow forecasting, when moving from backward looking to forward looking rates).

You should consider whether you require independent professional advice (whether legal, accountancy, tax or other advice), with respect to the changes, and continue to keep the position under review.

Next steps

Industry bodies are already working on the IBOR transition. In relation to syndicated loans, the Loan Market Association (LMA) has published language providing for mechanisms for implementing a replacement benchmark for IBORs. The International Swaps and Derivatives Association (ISDA) intends to implement a protocol system (for adhering parties) to amend legacy contracts and is working on updating the 2006 ISDA Definitions to implement fallbacks to IBORs in new contracts.

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

In the meantime 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 if you would like any further information.

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.