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Bloomberg tickers ***UPDATED***
Disclaimer

Version 12.1

Date: June 27, 2023

Background

Inter-bank Offered Rates (IBORs), a series of interest rate benchmarks, are undergoing a period of change as regulators and industry groups have recommended that firms transition away from the London Inter-bank Offered Rate (LIBOR) and other IBORs and prepare to replace them with alternative, overnight Risk Free Rates (RFRs). These RFRs, including SOFR (USD), €STR (EUR) and SONIA (GBP), are typically administered and published by major central banks worldwide.

Transitioning to the RFRs will be a demanding and complex process for the industry as RFRs are structurally different from IBORs. They are overnight rates and exhibit different liquidity characteristics and supply/demand issues than IBORs.

To address the risk that one or more IBORs are discontinued while market participants continue to have exposure to that rate, counterparties are encouraged to agree to contractual fallback provisions that would provide for adjusted versions of the RFRs as replacement rates.

Due to the fundamental differences in the nature of IBORs and the RFRs, key adjustments are necessary if fallbacks to RFRs are to take effect in contracts that were originally negotiated to reference the IBORs. ISDA ran public consultations to finalize the adjustment methodologies and subsequently issued a tender invitation for a vendor to perform and distribute these necessary adjustments.

These consultations yielded industry consensus, and more information about them can be found here.

Bloomberg Index Services Limited (BISL) (collectively with its affiliates, Bloomberg) was selected as the vendor to calculate and distribute these adjustments.

General Overview

1. What is an IBOR fallback?

It is anticipated that over the next several years, LIBOR and potentially various other IBORs may be discontinued. On March 05, 2021 the Financial Conduct Authority and the LIBOR Administrator announced that LIBOR will permanently cease to be published or become non-representative for all but specific USD LIBOR tenors from the first London Banking Day on or after January 01, 2022 and will cease to be published or become non-representative for all other US LIBOR tenors from the first London Banking Day on or after July 1, 2023. Further details can be found here. To address the risk that counterparties may have exposure to a discontinued IBOR, they are encouraged to agree to contractual fallback provisions that would provide for adjusted versions of the RFRs as replacement rates. To facilitate such agreements, ISDA has amended its Definitions for derivative contracts that reference IBORs. These amendments incorporate fallbacks to adjusted versions of the RFRs that would apply in the event of permanent discontinuation of IBOR(s).¹

¹ Market participants may agree that they would move to the replacement rates (e.g., the Adjusted RFRs) upon certain events that occur prior to cessation. See ISDA's summary of responses to a consultation on pre-cessation issues <u>here</u>. We note that market participants could also separately voluntarily agree to amendments to their IBOR contracts to reference non-adjusted versions of the RFR prior to cessation.

2. Which IBOR benchmarks are included?

Below are the included IBOR benchmarks:

- Australian Dollar AUD BBSW
- Canadian Dollar CAD CDOR
- Danish DKK CIBOR
- Euro EUR LIBOR
- Euro EURIBOR
- Hong Kong Dollar HKD HIBOR
- Israeli ILS TELBOR
- Japanese Yen Euroyen JPY TIBOR
- Japanese Yen JPY LIBOR
- Japanese Yen JPY TIBOR

- Malaysian Ringgit MYR KLIBOR
- New Zealand Dollar NZD BKBM BID
- New Zealand Dollar NZD BKBM FRA
- Norwegian Krone NOK NIBOR
- Polish PLN WIBOR
- Singapore SGD SOR
- Sterling GBP LIBOR
- Swedish Krona SEK STIBOR
- Swiss Franc CHF LIBOR
- United States Dollar USD LIBOR

Figure 1
Additional details on the IBOR benchmarks covered

Currency	IBOR	RFR	IBOR Tenors	IBOR Bloomberg Tickers <index></index>	RFR Bloomberg Tickers <index></index>
AUD	BBSW	RBA Cash Rate	1M, 2M, 3M, 4M, 5M, 6M	BBSW1M, BBSW2M, BBSW3M, BBSW4M, BBSW5M, BBSW6M	RBACOR
CAD	CDOR	CORRA	1M, 2M, 3M, 6M, 12M	CDOR01, CDOR02, CDOR3, CDOR06, CDOR12	CAONREPO
CHF	LIBOR	SARON	S/N, 1W, 1M, 2M, 3M, 6M, 12M	SF00S/N, SF0001W, SF0001M, SF0002M, SF0003M, SF0006M, SF0012M	SRFXON3 - 6pm CET/CEST
DKK	CIBOR	DESTR	1W, 1M, 3M, 6M, 12M	CIBO01W, CIBO01M, CIBO03M, CIBO06M, CIBO12M	DESTR
EUR	EURIBOR	€STR	1W, 1M, 3M, 6M, 12M	EUROO1W, EUROO1M, EUROO3M, EUROO6M, EURO12M	ESTRON
EUR	LIBOR	€STR	O/N, 1W, 1M, 2M, 3M, 6M, 12M	EE00O/N, EE0001W, EE0001M, EE0002M, EE0003M, EE0006M, EE0012M	ESTRON
GBP	LIBOR	SONIA	O/N, 1W, 1M, 2M, 3M, 6M, 12M	BP00O/N, BP0001W, BP0001M, BP0002M, BP0003M, BP0006M, BP0012M	SONIO/N

HKD	HIBOR	HONIA	O/N, 1W, 2W, 1M,	HIHDO/N, HIHD1W,	HOISHKD
			2M, 3M, 6M, 12M	HIHD2W, HIHD01M,	
				HIHD02M, HIHD03M,	
				HIHD06M, HIHD12M	
ILS	TELBOR	SHIR	O/N, 1M, 3M, 6M,	TELBORON, TELBOROI,	SHIRON
			9M, 12M	TELBORO3, TELBORO6,	
			,	TELBOR09, TELBOR12	
JPY	Euroyen	TONA	1W, 1M, 3M, 6M,	EUYNOIW, EUYNOIM,	MUTKCALM
	TIBOR		12M	EUYNO3M, EUYNO6M,	
				EUYN12M	
JPY	LIBOR	TONA	S/N, 1W, 1M, 2M,	JY00S/N, JY0001W,	MUTKCALM
			3M, 6M, 12M	JY0001M, JY0002M,	
				JY0003M, JY0006M,	
				JY0012M	
JPY	TIBOR	TONA	1W, 1M, 3M, 6M,	TI0001W, TI0001M,	MUTKCALM
			12M	TI0003M, TI0006M,	
				TI0012M	
MYR	KLIBOR	MYOR	1M, 3M, 6M	KLIB1M, KLIB3M, KLIB6M	MYORRATE
NOK	NIBOR	NOWA	1W, 1M, 2M, 3M, 6M	NIBORIW, NIBORIM,	NOWA
				NIBOR2M, NIBOR3M,	
NIZD	DICDM	0.60	7NA ONA ONA 4NA	NIBOR 6M	NZOCDC
NZD	BKBM	OCR	1M, 2M, 3M, 4M,	NFIX1BID, NFIX2BID,	NZOCRS
	BID		5M, 6M	NFIX3BID, NFIX4BID,	
NZD	BKBM	OCR	1M, 2M, 3M, 4M,	NFIX5BID, NFIX6BID NFIX1FRA, NFIX2FRA,	NZOCRS
INZU	FRA	OCK	5M, 6M	NFIX3FRA, NFIX4FRA,	NZOCK3
	ITRA		JIVI, OIVI	NFIX5FRA, NFIX6FRA	
PLN	WIBOR	WIRON	O/N, T/N, 1W, 2W,	WIBOON, WIBOTN,	WIRON
	WIBOK	WINCH	1M, 3M, 6M, 12M	WIBOSW, WIBO2W,	VVIICOIN
			1111, 0111, 0111, 12111	WIBO1M, WIBO3M,	
				WIBO6M, WIBO1Y	
SEK	STIBOR	SWESTR	T/N, 1W, 1M, 2M,	STIBID, STIBIW, STIBIM,	SWESTR
			3M, 6M	STIB2M, STIB3M,	
			,	STIB6M	
SGD	SOR	SORA	O/N, 1M, 3M, 6M	SORFID, SORFIM,	SIBCSORA
				SORF3M, SORF6M	
USD	LIBOR	SOFR	O/N, 1W, 1M, 2M,	US00O/N, US0001W,	SOFRRATE
			3M, 6M, 12M	US0001M, US0002M,	
				US0003M, US0006M,	
				US0012M	

3. Why is there a need for fallbacks if IBORs are still available?

The Adjusted RFRs will only apply as reference rates if the fallbacks take effect because an IBOR is discontinued and therefore no longer available. The Fallback Rates were developed to ensure that contracts align as closely as possible to the original agreement after the fallback becomes applicable, resulting in a rate that is predictable, transparent and fair.

4. What is an Index Cessation Event to trigger the use of fallbacks?

The fallbacks in the 2006 (or updated 2021) ISDA Definitions will be triggered upon the following trigger events, each being an Index Cessation Event:²

- A public statement or publication of information by or on behalf of the administrator of the Applicable Rate announcing that it has ceased, or will cease, to provide the Applicable Rate permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to provide the Applicable Rate; or
- A public statement or publication of information by the regulatory supervisor for the administrator of the Applicable Rate, the central bank for the currency of the Applicable Rate, an insolvency official with jurisdiction over the administrator for the Applicable Rate, a resolution authority with jurisdiction over the administrator for the Applicable Rate or a court or an entity with similar insolvency or resolution authority over the administrator for the Applicable Rate, which states that the administrator of the Applicable Rate has ceased or will cease to provide the Applicable Rate permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to provide the Applicable Rate; or
- If the Applicable Rate is Sterling LIBOR, Swiss Franc LIBOR, U.S. Dollar LIBOR, Euro LIBOR or Yen LIBOR only, a public statement or publication of information by the regulatory supervisor for the administrator of such Applicable Rate announcing that (A) the regulatory supervisor has determined that such Applicable Rate is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such Applicable Rate is intended to measure and that representativeness will not be restored and (B) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts.

The first two bullet points above relate to permanent cessation. The concept of 'pre-cessation' also applies with respect to LIBOR rates only. These trigger events are relevant to the calculation of the Spread Adjustment, as described below, because these trigger events determine the Spread Adjustment Fixing Date. However, importantly, in connection with the permanent cessation fallbacks (or pre-cessation fallbacks in the case of LIBOR), the Fallback Rates will not apply until the actual cessation of the relevant IBOR (or the cessation of the relevant Tenor and all shorter or all longer Tenors) or actual non-representativeness of LIBOR (or the non-representativeness (in the case of LIBOR) of the relevant Tenor and all shorter or all longer Tenors).

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² Market participants may agree that they will move to the replacement rates (i.e., the Adjusted RFRs) upon certain events that occur prior to cessation. See ISDA's summary of responses to a consultation on pre-cessation issues here. We note that market participants could also separately voluntarily agree to amendments to their IBOR contracts to reference non-adjusted versions of the RFR prior to cessation.

5. What are the fallback adjustments?

Since RFRs are structurally different from IBORs, certain adjustments will be applied if the fallbacks are triggered and the replacement rates apply to contracts that continue to reference the IBORs upon the discontinuation of the relevant IBOR. These adjustments, incorporating feedback from market participants and regulators, are to account for:

- (i) the RFR being an overnight rate while IBORs have term structures (e.g., 1, 3, 6-month LIBOR); and
- (ii) the historical spread differential between IBORs and their 'term equivalent' RFR compounded rates.

For the term adjustment, respondents to ISDA's various consultations favored a 'compounded in arrears' approach to align with the applicable IBOR tenor.

For the Spread Adjustment, a five-year median comparison calculation between the relevant 'compounded in arrears' RFR and IBOR was the preferred approach.

The implementation mechanics for the calculations have been finalized and the IBOR Fallbacks Rate Adjustment Rule Book is available on the Terminal at <ISDA> <GO> and on the Bloomberg website at this <u>link</u>³.

Bloomberg's Role and the Methodology

6. What is Bloomberg's role in the calculation of this new rate?

ISDA announced that Bloomberg will be the adjustment services vendor for IBOR fallback calculations. Consequently, Bloomberg calculates and publishes the term and Spread Adjustments for the fallbacks that ISDA will implement for certain IBORs. The calculations are based on the methodology developed by ISDA through a series of market consultations, which can be viewed on ISDA's <u>website</u>.

7. What calculations are Bloomberg publishing?

- Adjusted Risk-Free Rate a compounded setting in arrears for each RFR, for each relevant term, based on daily compounding of the publicly available RFRs typically published by central banks (e.g. SOFR, SONIA). These calculations are separate and distinct from any compounded (term) indices calculated and published by central banks and/or the RFR administrator or calculation agent
- Spread Adjustment median of the historical difference, separately calculated for each tenor, between the IBOR for each tenor and the compounded RFR for that tenor over a five-year period prior to an announcement triggering a fallback
- The 'all in' Fallback Rate the combination of the Adjusted RFR and the Spread Adjustment for any given, <u>and the same</u>, original IBOR Rate Record Day

³ https://assets.bbhub.io/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book_V4.1_Jun2023.pdf

It is important to note that, prior to a trigger event and the fixing of the Spread Adjustment, Bloomberg calculates the Fallback Rates on an 'indicative' basis. In the case of LIBOR, the Spread Adjustments were fixed for all currencies and tenors as of March 05, 2021. A Technical Note explaining this and detailing the fixed Spread Adjustments can be found here. The calculations are NOT forward-looking or a prediction of what the Fallback Rates, including the Spread Adjustments, will be. They merely reflect an 'as-is status', or in other words, what the Fallback Rates, including the Spread Adjustments, would be if the trigger event were to occur 'today'.

8. How are the Reference Rate Spot Lag and IBOR Value Lag determined?

The Reference Rate Spot Lag and IBOR Value Lag refer to the settlement conventions for a fixed/float IBOR swap. These are both T+0 or T+2 for the IBOR in question and its associated RFR (e.g. USD LIBOR has a Value Lag and Reference Rate Spot Lag of 2).

The Reference Rate Spot Lag is used in the determination of the Accrual Start Date. The IBOR Value Lag is used in the determination of the IBOR Value Date, and hence the IBOR Maturity Date, in the calculation of the Spread Adjustment.

For a detailed explanation of the calculations and methodology, please refer to the IBOR Fallbacks Factsheet, IBOR Fallbacks Sample Calculation and IBOR Fallback Rate Adjustment Rulebook on the Terminal at <ISDA> <GO> or on the Bloomberg website.

9. What data has been used to calculate Spread Adjustments prior to the development of RFRs such as SOFR and €STR?

Historical values for the RFR used to calculate USD LIBOR Fallbacks

SOFR was first published by the Federal Reserve Bank of New York with a Value Date of 2nd April 2018. Where SOFR is required by the calculations in the methodology prior to this date, the following proxy sources and Value Dates are used:

- From 22nd August 2014 until 29th March 2018 (inclusive), the indicative (pre-launch) SOFR values published by the Federal Reserve Bank of New York (.SOFRHIST G <INDEX> <GO>)
- From 20th February 1998 until 21st August 2014 (inclusive), the Historical Overnight Treasury GC Repo Primary Dealer Survey Rate

Historical values for the RFR used to calculate the EUR LIBOR and EURIBOR Fallbacks

€STR was first published by the European Central Bank with a Value Date of 1st October 2019. Where €STR is required by the calculation in this methodology prior to this date, the following proxy sources and Value Dates are used:

- From 15th March 2017 until 30th September 2019 (inclusive), the preliminary (pre-€STR) values published by the European Central Bank (ECBYVWMR IR <INDEX> <GO>)
- From 4th January 1999 until 14th March 2017 (inclusive), the value of EONIA minus 8.5 basis points (0.085%) (EONIA <INDEX> <GO>)

 $^{^4\} https://assets.bbhub.io/professional/sites/10/IBOR_Fallbacks_LIBOR_Cessation_Announcement-2021-Mar.pdf$

Historical values for the RFR used to calculate the MYR KLIBOR Fallbacks

MYOR was first officially re-launched with an enhance design and governance framework and published by Bank Negara Malaysia with a Value Date of 2nd August 2021. Where MYOR is required by the calculation in this methodology prior to this date, the following data sources and Value Dates are used:

- From 31st December 2014 to 30th July 2021 (inclusive), the Overnight Overall Money Market rate published by Bank Negara Malaysia (IWAROVON <INDEX> <GO>)
- From 1st June 2011 to 30th December 2014 (inclusive), the Money Market Weighted Average Overnight Rate published by Bank Negara Malaysia (IWARWAOV <INDEX> <GO>)

Note that MYOR changed from a T+0 (for same day value) to T+1 (for prior business day value) publication basis on 2nd August 2021.

Historical values for the RFR used to calculate the NOK NIBOR Fallbacks

NOWA was first published by Norges Bank with a Value Date of 2nd January 2020. Where NOWA is required by the calculation in this methodology prior to this date, the following proxy sources and Value Dates are used:

• From 30th September 2011 to 31st December 2019 (inclusive), the estimated reformed NOWA rate published by Norges Bank (NOWAEST <INDEX> <GO>)

Historical values for the RFR used to calculate the SEK STIBOR Fallbacks

SWESTR was first published by Sveriges Riksbank with a Value Date of 1st September 2021. Where SWESTR is required by the calculation in this methodology prior to this date, the following proxy sources and Value Dates are used:

• From 4th January 2016 to 31st September 2021 (inclusive), the historical estimate values for SWESTR published by Sveriges Riksbank (SWESEST <INDEX> <GO>)

Historical values for the RFR used to calculate the DKK CIBOR Fallbacks

DESTR was first published by Danmarks Nationalbank with a Value Date of 1st April 2022. Where DESTR is required by the calculation in this methodology prior to this date, the following proxy source and Value Dates are used:

• From 1st March 2017 to 31st March 2022 (inclusive), the historical estimate values for DESTR published by Danmarks Nationalbank and referred to as pre-DESTR

Historical values for the RFR used to calculate the ILS TELBOR Fallbacks

SHIR was first published by the Central Bank of Israel with a Value Date of 2nd May 2022. Where SHIR is required by the calculation in this methodology prior to this date, the following proxy source and Value Dates are used:

From 2nd January 2015 to 30th April 2022 (inclusive), the Bank of Israel Base Rate

Historical values for the RFR used to calculate the PLN WIBOR Fallbacks

WIRON was first published by GPW Benchmark S.A. with a Value Date of 2nd January 2019. Where WIRON is required by the calculation in this methodology prior to this date, the following proxy source and Value Dates are used:

• From 2nd January 2017 until 31st December 2018 (inclusive), the historical estimate values for WIRON published by GPW Benchmark S.A. and referred to as WIRON estimated

10. Why did BISL treat April 02, 2021 and April 07, 2023 (both Good Friday) as non-publication days for the calculations of the accrual periods and fallback rates for USD LIBOR?

Friday April 02, 2021 and Friday April 07, 2023 were scheduled to be good business days. They were 'half-days' due to the release of employment figures and under the US SIFMA calendar, the calendar used by BISL to calculate USD LIBOR fallbacks, a 'half-day' constitutes a good business day. However, in both cases SOFR was not published. In such cases, General Rule 5.1 applies - Market Disruption Event. Non-publication of the RFR on a good business day is considered a Market Disruption under the Rulebook and therefore determined to not constitute a Business Day.

11. What calendar is being followed for AUD BBSW fallbacks and the business days for the reference rate, RBA Cash Rate (AONIA)?

AUD BBSW fallbacks were originally set up to follow the AFMA calendar. Upon review with the Australian Financial Markets Association in 2020, it was determined that the first Monday holidays in August and October should be considered good business days since AONIA is published. BISL now follows the RITS calendar (Reserve Bank Information and Transfer System) for those days on which AONIA is published.

12. When the market closed for a typhoon warning and no HKD HONIA rate was published, why did BISL treat Tuesday 13th October 2020 as a good business day for the purposes of inclusion in the accrual period for HKD HIBOR fallbacks?

HONIA is published at 17:00 HK Time on T+0. As the fallback methodology does not require a value for the Accrual End Date (T+1), BISL calculates the latest values on the business day prior to the Accrual End Date (i.e., on T+0), based on the relevant Hong Kong calendar. Since Tuesday 13th October 2020 was expected to be a good business day, it was included as a valid business day in the accrual period calculations that were made and published on Monday 12th October (the day prior to the Accrual End Date). This 'forward-looking calendar' approach is used when an RFR is published on T+0. This is also

the case for CHF LIBOR fallbacks where the RFR, SARON, is published on T+0 at 18:00 CET. This is also the case for ILS TELBOR and NZD BKBM BID and FRA where the RFRs, respectively SHIR and RBNZ OCR, are announced central bank rates and are valid for their date of publication. This is not the case with USD LIBOR fallbacks, GBP LIBOR fallbacks and the others as the relevant RFRs are published T+1 on the Accrual End Date.

13. What is the difference between the MAS Recommended Rate (MRR), as fallback for SGD SOR, and the Fallback Rate (SOR) calculated and published by the Association of Banks in Singapore?

The MRR, referred to herein as "SGD SOR (MRR)", is the contractual fallback rate for Fallback Rate (SOR) as set out in ISDA documentations as well as the SC-STS' recommended fallback template for bilateral and syndicated business loans, which will apply after Fallback Rate (SOR) is discontinued after 31 December 2024. Fallback Rate (SOR) uses the original methodology for the SGD SOR, and replaces the USD LIBOR input with Fallback Rate (SOFR). SGD SOR (MRR) is computed by BISL using the ISDA fallback methodology as the sum of Compounded-in-arrears SORA and an MRR Adjustment Spread, which is determined using the historical median of the spread between SOR and Compounded-in-arrears SORA, using a 5-year lookback period ending around 18 July 2022.

Regulatory Status

14. Are the fallbacks 'benchmarks' for regulatory purposes?

It is important to keep in mind that the IBOR transition is to RFRs typically produced by central banks based upon robust transaction data. The RFRs remain the essential benchmarks and we do not view the adjustments as changing that. Rather, the adjustments facilitate the adoption of these RFRs by applying straightforward calculations according to publicly available, transparent rules.

However, given the nature of this activity, Bloomberg is conducting the calculation of the adjustments within Bloomberg Index Services Limited, its authorized benchmark administrator.

Publication, access to, and licensed use of, Fallback Adjustment Data

15. How is this data made available?

Bloomberg makes IBOR fallback calculations broadly available to industry participants through the following mechanisms:

- Bloomberg:
 - The data is available to Bloomberg customers through various distribution channels such as the BLOOMBERG TERMINAL® service (including its Desktop API feature), Bloomberg Data License through Per Security or Bulk Files, including history, and Bloomberg B-PIPE. Bloomberg tickers can be found in Appendix 1. The latest available data is published at <FBAK> <GO> and through the ticker and <HP> <GO>.
 - Separate to the ISDA fallback calculations, Bloomberg Terminal customers already have access to view compounded RFR data at <OISC> <GO>. Further information about this, and the LIBOR transition more generally, is available at <RFR> <GO>.
- Third party vendors:
 - o The data is available from licensed redistributors.
- Bloomberg website:
 - Delayed data is publicly available on Bloomberg's <u>website</u>. Data is updated once per day after calculation of the Fallback Rates for USD LIBOR. The length of the delay ranges, approximately, between 24 and 36 hours, depending on the rate set (currency IBOR) and the relevant time zone.

16. What does it cost to access the ISDA Fallback Rates?

There are no end user subscription fees applicable <u>for receipt of the data</u>. Standard 'per-security' or Bulk File Data License fees apply for clients taking the data through these Bloomberg services.

Usage Terms apply and Usage Licenses may apply (see Q16).

17. Is a license required for usage of Bloomberg calculated ISDA Fallback Rates, Adjusted RFRs or Spread Adjustments? What use cases are covered with this license?

Depending on the type of use of Fallbacks data, a license will be required from Bloomberg.

There are three BISL License types that may apply depending on the use case(s) for ISDA IBOR Fallback Data (the all-in Fallback Rates and/or any component parts such as Spread Adjustments and Compounded RFRs). These license types are:

- A group-wide, global Usage License
- A group-wide, global Premium Usage License (previously referred to as an Infrastructure Usage License)
- A Re-distribution License

A Usage License permits firm-wide enterprise usage for multiple purposes of referencing the Fallback Rates, including the Adjusted RFRs and Spread Adjustments, within financial instruments. This is a group-wide global license and includes affiliates. There is no 'per user' count and no 'product' count.

Specifically, use of the Fallback Rates within ISDA contracts, including swaps and interest rate options, whether cleared or un-cleared, will require a usage license. The license also provides for use of Bloomberg's data outside the scope of an ISDA contract, for example, as a fallback in cash instruments such as loans, FRNs and mortgages, in addition to the use of the data for converting IBOR-referenced financial products to alternative reference rates. The license permits all the necessary pricing calculations and valuations to support such financial instruments. The license also permits the data to be used in communications and disclosures to third parties in connection with performance measurement, benchmarking, strategy outcome measurement and money market and other return calculations.

It is not a pre-requisite for firms to enter into a usage license to obtain the data. Full Usage Terms are published on Bloomberg's <u>website</u> and provided by third-party vendors who re-distribute the data.

A Premium Usage License includes all the rights granted under a Usage License and permits the following additional activities:

- Creation of, or use within, indices, derived benchmarks and products linked to such indices and derived benchmarks
- Creation of other derived data, for external distribution
- The listing, conversion, and maintenance of listed futures & options
- The conversion and/or maintenance of centrally cleared swaps and OTC derivatives

Commercial Terms¹ - ISDA Fallbacks (all figures in USD)

		Annual fee	Payable from
End User (per user) Access (i.e. receipt of data)	Realtime	n/a	n/a
(i.e. receipt of data)	24hr Delayed	n/a	n/a
	Realtime, including	\$50,000	Date of subscription
Vendor Redistribution License	24hr Delayed		to data
	24hr Delayed	\$10,000	Date of subscription to data
Premium Usage License	Single rate set	\$50,000	Date of subscription
(Exchanges, CCPs, etc.) and		,	to data
'for-profit' Benchmark	Two or more rate sets	\$100,000	Date of subscription
Administrators ²			to data
Premium Usage License for			Date of application ⁴
Government Agency or	Single rate set	\$50,000	of Fallbacks
Regulated 'not-for profit'			
Benchmark Administrators (for			Date of application ⁴
Benchmarks and Derived	Two or more rate sets	\$100,000	of Fallbacks
Benchmarks) ²		40000	- C II
	Two or more rate sets (Financial Institution)	\$20,000	Date of application ⁴ of Fallbacks
	Two or more rate sets	\$10,000	Date of application ⁴
	(non-Financial		of Fallbacks
Firm-wide Usage License ²	Institution)		
	Single rate set ³	\$5,000	Date of application ⁴
	(any Institution)		of Fallbacks
	Public Policy Financial	n/a	n/a
	Institution		

'Rate set' refers to Fallbacks, Spread Adjustments and Adjusted Reference Rates for any one of the 'IBORs, including all relevant tenors

Bloomberg reserves the right to amend the Commercial Terms

^{1.} Terms and Conditions governing the use of Bloomberg's ISDA IBOR fallbacks in financial instruments, and the need for a usage license, are available on the Bloomberg <u>website</u>, and will be provided by third-party vendors who are licensed to redistribute the data.

² The usage license applies to firms who, among other use cases, reference the ISDA fallbacks and/or adjusted RFRs and/or spread adjustments and/or official Bloomberg calculations of such data in 'ISDA-linked' financial contracts, whether cleared or un-cleared, and for use outside the scope of an ISDA contract, for example, as a fallback in cash instruments such as loans, FRNs and mortgages. The 'premium' usage license provides extended usage rights including for the creation of derived data, derived benchmarks and use in indices.

^{3.} Usage license fees are waived for institutions with total assets below \$5bn (defined in the license agreement and the Bloomberg website Usage Terms). The waiver does not apply to firms who require a 'premium' usage license.

^{4.} Given the LIBOR cessation announcement of March 05, 2021, for the purposes of the Commercial Terms, the 'Date of application' for LIBOR fallbacks is January 01, 2022 in the case of CHF, GBP, EUR and JPY LIBOR fallbacks and July 01, 2023 in the case of USD LIBOR fallbacks, or if earlier, the date that any of the data is applied in a financial instrument, for example when converting a LIBOR-referenced instrument to an alternative reference rate.

18. If my firm only uses the Spread Adjustment to make a one off conversion of IBOR contracts to alternative rates that are not the Adjusted RFR or all-in Fallback rates calculated by BISL, do I require a Usage License for the remaining lifetime of the converted contracts?

No. The annual Usage License is required for the single year in which the contract conversions are made. If there is no further use of BISL's Adjusted RFR or all-in Fallback rates, there is no need to renew the license to cover the remaining lifetime of the converted contracts.

19. At what times of the day is the data published?

Publication times are determined in accordance with the time zones and publication times of the relevant RFRs, and the necessary calculations and checks that are in place. Bloomberg typically publishes the most recent IBOR fallback data shortly after the latest RFR has been published by the relevant administrator or calculation agent. Upon receipt of the RFR and having performed automated checks before and after the calculations have been run, the IBOR fallbacks for all applicable tenors for the relevant rate are published. Bloomberg anticipates that, under normal circumstances, the IBOR fallbacks will be published within 45 minutes of the publication of the relevant RFR(s). On days where only Spread Adjustments are published for a particular rate set (e.g. where there is no RFR published and no Adjusted RFR and Fallback Rates to publish), the publication may occur prior to the normal, relevant, RFR publication time. RFR publication times and ISDA cut-off times, as described in Q20, are shown below in Figure 2.

Figure 2

Currency	RFR	RFR publication time	ISDA cut-off time
AUD	RBA Cash Rate	09:20 AEST/AEDT	11:30 AEST/AEDT
CAD	CORRA	09:00 EST/EDT	11:30 EST/EDT
CHF	SARON	18:00 CET/CEST	20:30 CET/CEST
DKK	DESTR	10:00 CET/CEST	12:30 CET/CEST
EUR	€STR	09:00 CET/CEST	11:30 CET/CEST
GBP	SONIA	09:00 GMT/BST	11:30 GMT/BST
HKD	HONIA	17:00 HKT	19:30 HKT
ILS	SHIR	11:00 IST/IDT	13:30 IST/IDT
JPY	TONA	10:00 JST	12:30 JST
MYR	MYOR	10:00 MYT	12:30 MYT
NOK	NOWA	09:00 CET/CEST	11:30 CET/CEST
NZD	OCR	09:00 NZST/NZDT	11:30 NZST/NZDT
PLN	WIRON	08:55 CET/CEST*	11:25 CET/CEST
SEK	SWESTR	09:00 CET/CEST	11:30 CET/CEST
SGD	SORA	09:00 SST	11:30 SST
USD	SOFR	08:00 EST/EDT	10:30 EST/EDT

20. Why does Bloomberg sometimes publish more than one fallback rate on the same Calculation Date?

BISL calculates and publishes fallback rates, in accordance with the Methodology Rulebook, on Reference Rate Business Days. Publication cannot occur if the Accrual End Date is, or is expected to be, a non-business day, including a weekend. Subject to the relevant Following or Modified Following Convention, an Accrual End Date that would otherwise have been a Saturday, Sunday or other non-business day, or would otherwise have been expected to be an other non-business day, will become the next or prior Reference Rate Business Day. Therefore, multiple Rate Record Date fallback rates may be calculated and published on any given Calculation Date which is a Reference Rate Business Day. See Q.12 for information about when a non-business day <u>may</u> be determined to be a valid Accrual End Date.

21. Until what time is the Fallback Rate effective on its publication date, for the purposes of use with the ISDA IBOR fallbacks, in accordance with the terms of the updated 2006 ISDA Definitions?

Pursuant to the relevant ISDA documentation, the cut-off time on the date that is two payment business days prior to the relevant payment for the fallbacks to be referenced in financial contracts shall, with the exception of fallbacks for AUD BBSW, be two and a half hours (150 minutes) after the RFR publication time on that date (see Figure 2 for the list of RFR publication times, current as of the date of publication of this document). The Fallback Rate to be used (i.e., the Fallback Rate for the relevant 'Original IBOR Rate Record Day') could be published any time prior to that cut off time, including on a previous calendar day. As per the terms of the revised 2006 ISDA Definitions, if the publication of the Fallback Rate is delayed beyond the relevant cut-off time, potentially as a result of a technical delay, non-publication of the relevant RFR or holiday calendars related to the calculation of the Fallback Rate, then parties should use the Fallback Rate published by the cut-off time on the date that is two payment business days prior to the relevant payment for the fallbacks to be referenced in financial contracts for the most recent 'Original IBOR Rate Record Day'. Correspondingly, any publication of the Fallback Rate, should be ignored by the parties.

22. Does Bloomberg publish a calculation time for the purposes of determining whether a Fallback Rate has been calculated and published before or after ISDA's daily cut-off time?

No. In the event of any material delay in publication or a re-statement which encroaches upon or passes the relevant ISDA cut-off time as defined in the amended Definitions and Protocol, Bloomberg will notify the market and maintain a record of such events on its website at https://www.bloomberg.com/professional/solution/libor-resource-center/.

Bloomberg Tickers

A file of tickers is available on the Terminal at <ISDA> <GO>.

List of Tickers for IBOR Fallbacks

IBOR Name	O/N	S/N	T/N	1W	2W	1M	2M	3M	4M	5M	6M	1Y
AUD BBSW	n/a	n/a	n/a	n/a	n/a	VBBSW1M	VBBSW2M	VBBSW3M	VBBSW4M	VBBSW5M	VBBSW6M	n/a
CAD CDOR	n/a	n/a	n/a	n/a	n/a	VCDOR01M	VCDOR02M	VCDOR03M	n/a	n/a	VCDOR06M	VCDORIY
DKK CIBOR	n/a	n/a	n/a	VCIBO01W	n/a	VCIBO01M	n/a	VCIBO03M	n/a	n/a	VCIBO06M	VCIBO1Y
CHF LIBOR	n/a	VSF00SN	n/a	VSF0001W	n/a	VSF0001M	VSF0002M	VSF0003M	n/a	n/a	VSF0006M	VSF001Y
EUR EURIBOR	n/a	n/a	n/a	VEUR001W	n/a	VEURO01M	n/a	VEURO03M	n/a	n/a	VEUR006M	VEUROIY
EUR LIBOR	VEE000N	n/a	n/a	VEE0001W	n/a	VEE0001M	VEE0002M	VEE0003M	n/a	n/a	VEE0006M	VEE001Y
GBP LIBOR	VBP00ON	n/a	n/a	VBP0001W	n/a	VBP0001M	VBP0002M	VBP0003M	n/a	n/a	VBP0006M	VBP001Y
HKD HIBOR	VHIHDON	n/a	n/a	VHIHD01W	VHIHD2W	VHIHD01M	VHIHD02M	VHIHD03M	n/a	n/a	VHIHD06M	VHIHDIY
ILS TELBOR	VTELBOON	n/a	n/a	n/a	n/a	VTELBOIM	n/a	VTELBO3M	n/a	n/a	VTELBO6M	VTELBOIY
JPY LIBOR	n/a	VJYOOSN	n/a	WI000YLV	n/a	VJY0001M	VJY0002M	VJY0003M	n/a	n/a	VJY0006M	VJY001Y
JPY TIBOR	n/a	n/a	n/a	VTI0001W	n/a	VTI0001M	n/a	VTI0003M	n/a	n/a	VTI0006M	VTI001Y
JPY EuroYen TIBOR	n/a	n/a	n/a	VEUYNOIW	n/a	VEUYNOIM	n/a	VEUYN03M	n/a	n/a	VEUYN06M	VEUYNIY
MYR KLIBOR	n/a	n/a	n/a	n/a	n/a	VKLIB1M	n/a	VKLIB3M	n/a	n/a	VKLIB6M	n/a
NOK NIBOR	n/a	n/a	n/a	VNIBORIW	n/a	VNIBORIM	VNIBOR2M	VNIBOR3M	n/a	n/a	VNIBOR6M	n/a
NZD BKBM BID	n/a	n/a	n/a	n/a	n/a	VNZD1BID	VNZD2BID	VNZD3BID	VNZD4BID	VNZD5BID	VNZD6BID	n/a
NZD BKBM FRA	n/a	n/a	n/a	n/a	n/a	VNZD1FRA	VNZD2FRA	VNZD3FRA	VNZD4FRA	VNZD5FRA	VNZD6FRA	n/a
PLN WIBOR	VWIBOON	n/a	VWIBOTN	VWIBOSW	VWIBO2W	VWIBO1M	n/a	VWIBO3M	n/a	n/a	VWIBO6M	VWIBO1Y
SEK STIBOR	n/a	n/a	VSTIB1D	VSTIB1W	n/a	VSTIB1M	VSTIB2M	VSTIB3M	n/a	n/a	VSTIB6M	n/a
SGD SOR	VSORFID	n/a	n/a	n/a	n/a	VSORFIM	n/a	VSORF3M	n/a	n/a	VSORF6M	n/a
USD LIBOR	VUS00ON	n/a	n/a	VUS0001W	n/a	VUS0001M	VUS0002M	VUS0003M	n/a	n/a	VUSOOO6M	VUS001Y

Note that for ILS TELBOR an additional 9M tenor exists with IBOR Fallback ticker VTELBO9M $\,$

List of Tickers for Adjusted RFRs

IBOR Name	O/N	S/N	T/N	1W	2W	1М	2M	3M	4M	5M	6M	1Y
AUD BBSW	n/a	n/a	n/a	n/a	n/a	XAONIAIM	XAONIA2M	XAONIA3M	XAONIA4M	XAONIA5M	XAONIA6M	n/a
CAD CDOR	n/a	n/a	n/a	n/a	n/a	XCORRAIM	XCORRA2M	XCORRA3M	n/a	n/a	XCORRA6M	XCORRAIY
CHF LIBOR	n/a	XSARONSN	n/a	XSARONIW	n/a	XSARONIM	XSARON2M	XSARON3M	n/a	n/a	XSARON6M	XSARONIY
DKK CIBOR	n/a	n/a	n/a	XDESTRIW	n/a	XDESTRIM	n/a	XDESTR3M	n/a	n/a	XDESTR6M	XDESTRIY
EUR EURIBOR	n/a	n/a	n/a	XESTRIW	n/a	XESTRIM	XESTR2M	XESTR3M	n/a	n/a	XESTR6M	XESTRIY
EUR LIBOR	XESTRON	n/a	n/a	XESTRIW	n/a	XESTRIM	n/a	XESTR3M	n/a	n/a	XESTR6M	XESTRIY
GBP LIBOR	XSONIAON	n/a	n/a	XSONIAIW	n/a	XSONIA1M	XSONIA2M	XSONIA3M	n/a	n/a	XSONIA6M	XSONIAIY
HKD HIBOR	XHONIAON	n/a	n/a	XHONIAIW	XHONIA2W	MIAINOHX	XHONIA2M	XHONIA3M	n/a	n/a	XHONIA6M	XHONIATY
ILS TELBOR	XSHIRON	n/a	n/a	n/a	n/a	XSHIR1M	n/a	XSHIR3M	n/a	n/a	XSHIR6M	XSHIRIY
JPY LIBOR	n/a	XTONASN	n/a	XTONAIW	n/a	XTONAIM	XTONA2M	XTONA3M	n/a	n/a	XTONA6M	XTONAIY
JPY TIBOR	n/a	n/a	n/a	XTONATIW	n/a	XTONATIM	n/a	XTONAT3M	n/a	n/a	XTONAT6M	XTONATIY
JPY EuroYen TIBOR	n/a	n/a	n/a	XTONAIW	n/a	XTONAIM	n/a	XTONA3M	n/a	n/a	XTONA6M	XTONAIY
MYR KLIBOR	n/a	n/a	n/a	n/a	n/a	XMYORIM	n/a	XMYOR3M	n/a	n/a	XMYOR6M	n/a
NOK NIBOR	n/a	n/a	n/a	XNOWAIW	n/a	XNOWAIM	XNOWA2M	XNOWA3M	n/a	n/a	XNOWA6M	n/a
NZD BKBM BID	n/a	n/a	n/a	n/a	n/a	XNZIONAI	XNZIONA2	XNZIONA3	XNZIONA4	XNZIONA5	XNZIONA6	n/a
NZD BKBM FRA	n/a	n/a	n/a	n/a	n/a	XNZIONAI	XNZIONA2	XNZIONA3	XNZIONA4	XNZIONA5	XNZIONA6	n/a
PLN WIBOR	XWIRONON	n/a	XWIRONTN	XWIRONIW	XWIRON2W	XWIRONIM	n/a	XWIRON3M	n/a	n/a	XWIRON6M	XWIRONIY
SEK STIBOR	n/a	n/a	XSWESTID	XSWESTIW	n/a	XSWESTIM	XSWEST2M	XSWEST3M	n/a	n/a	XSWEST6M	n/a
SGD SOR	XSORAON	n/a	n/a	n/a	n/a	XSORAIM	n/a	XSORA3M	n/a	n/a	XSORA6M	n/a
USD LIBOR	XSOFRON	n/a	n/a	XSOFRIW	n/a	XSOFRIM	XSOFR2M	XSOFR3M	n/a	n/a	XSOFR6M	XSOFRIY

Note that for ILS TELBOR an additional 9M tenor exists with Adjusted RFR ticker XSHIR9M $\,$

List of Tickers for Spread Adjustments

IBOR Name	O/N	S/N	T/N	1W	2W	1M	2M	3M	4M	5M	6M	1Y
AUD BBSW	n/a	n/a	n/a	n/a	n/a	YBBSW1M	YBBSW2M	YBBSW3M	YBBSW4M	YBBSW5M	YBBSW6M	n/a
CAD CDOR	n/a	n/a	n/a	n/a	n/a	YCDOR01M	YCDOR02M	YCDOR03M	n/a	n/a	YCDOR06M	YCDORIY
CHF LIBOR	n/a	YSF00SN	n/a	YSF0001W	n/a	YSF0001M	YSF0002M	YSF0003M	n/a	n/a	YSF0006M	YSF001Y
DKK CIBOR	n/a	n/a	n/a	YCIBO01W	n/a	YCIBO01M	n/a	YCIBO03M	n/a	n/a	YCIBO06M	YCIBO1Y
EUR EURIBOR	n/a	n/a	n/a	YEUR001W	n/a	YEUR001M	n/a	YEURO03M	n/a	n/a	YEURO06M	YEUROIY
EUR LIBOR	YEE00ON	n/a	n/a	YEE0001W	n/a	YEE0001M	YEE0002M	YEE0003M	n/a	n/a	YEE0006M	YEE001Y
GBP LIBOR	YBP00ON	n/a	n/a	YBP0001W	n/a	YBP0001M	YBP0002M	YBP0003M	n/a	n/a	YBP0006M	YBP001Y
HKD HIBOR	YHIHDON	n/a	n/a	YHIHD01W	YHIHD2W	YHIHD01M	YHIHD02M	YHIHD03M	n/a	n/a	YHIHD06M	YHIHDIY
ILS TELBOR	YTELBOON					YTELBOIM		YTELBO3M			YTELBO6M	YTELBOIY
JPY LIBOR	n/a	YJYOOSN	n/a	YJY0001W	n/a	YJY0001M	YJY0002M	YJY0003M	n/a	n/a	YJY0006M	YJY001Y
JPY TIBOR	n/a	n/a	n/a	YTI0001W	n/a	YTI0001M	n/a	YTI0003M	n/a	n/a	YTI0006M	YTI001Y
JPY EuroYen TIBOR	n/a	n/a	n/a	YEUYN01W	n/a	YEUYN01M	n/a	YEUYN03M	n/a	n/a	YEUYN06M	YEUYNIY
MYR KLIBOR	n/a	n/a	n/a	n/a	n/a	YKLIB1M	n/a	YKLIB3M	n/a	n/a	YKLIB6M	n/a
NOK NIBOR	n/a	n/a	n/a	YNIBORIW	n/a	YNIBOR1M	YNIBOR2M	YNIBOR3M	n/a	n/a	YNIBOR6M	n/a
NZD BKBM BID	n/a	n/a	n/a	n/a	n/a	YNZD1BID	YNZD2BID	YNZD3BID	YNZD4BID	YNZD5BID	YNZD6BID	n/a
NZD BKBM FRA	n/a	n/a	n/a	n/a	n/a	YNZD1FRA	YNZD2FRA	YNZD3FRA	YNZD4FRA	YNZD5FRA	YNZD6FRA	n/a
PLN WIBOR	YWIBOON	n/a	YWIBOTN	YWIBOSW	YWIBO2W	YWIBO1M	n/a	YWIBO3M	n/a	n/a	YWIBO6M	YWIBO1Y
SEK STIBOR	n/a	n/a	YSTIBID	YSTIBIW	n/a	YSTIBIM	YSTIB2M	YSTIB3M	n/a	n/a	YSTIB6M	n/a
SGD SOR	YSORFID	n/a	n/a	n/a	n/a	YSORFIM	n/a	YSORF3M	n/a	n/a	YSORF6M	n/a
USD LIBOR	YUS00ON	n/a	n/a	YUS0001W	n/a	YUS0001M	YUS0002M	YUS0003M	n/a	n/a	YUS0006M	YUSOO1Y

Note that for ILS TELBOR an additional 9M tenor exists with Spread Adjustment ticker YTELBO9M $\,$

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