

MORGAN STANLEY | INSTITUTIONAL SECURITIES GROUP

NOTICE TO CLIENTS REGARDING LIBOR RISKS AND GLOBAL BENCHMARK REFORM

December 2022

While the risks highlighted in this notice primarily focus on LIBOR, they are also relevant to other benchmarks that are, or may be, subject to proposals for reform or discontinuation.

Overview

Cessation or Non-Representativeness of LIBOR

The industry transition away from LIBOR in all its currencies is well underway. Following December 31, 2021:

- All settings of GBP and JPY LIBOR ceased to be published, except for the 1, 3 and 6 month settings for which a synthetic LIBOR rate is being published for a limited period (but which is unrepresentative and solely for use in legacy transactions);
- All settings of CHF and EUR LIBOR ceased to be published; and
- The 1 week and 2 month USD LIBOR settings ceased to be published.

The remaining settings of USD LIBOR (namely, overnight, 1, 3, 6 and 12 month USD LIBOR) will cease to be published immediately after the June 30, 2023 publication, but are already restricted from use in new transactions under U.S. bank supervisory guidance and U.K. regulation (with certain limited exceptions – see below for further details).

Announcements in March 2021 of LIBOR cessation dates by the U.K. Financial Conduct Authority (the “FCA”) and the ICE Benchmark Administration (the “IBA”), the regulator and administrator of LIBOR, respectively, resulted in the International Swaps and Derivatives Association (“ISDA”) [statement](#) that an index cessation event had occurred under the ISDA IBOR Fallbacks Supplement and the ISDA 2020 IBOR Fallbacks Protocol (collectively, the “ISDA IBOR Fallbacks”) for all 35 LIBOR settings. As a result, the ISDA [fallback spread adjustment](#) published by Bloomberg was fixed on March 5, 2021 for all EUR, GBP, CHF, USD and JPY LIBOR settings. The fallbacks to the adjusted “risk-free” rate (“RFR”) plus the fixed fallback spread adjustment automatically apply to outstanding LIBOR derivatives contracts that incorporate the ISDA IBOR Fallbacks on the first reset date following:

- For outstanding derivatives referencing all EUR, GBP, CHF and JPY LIBOR settings, immediately after December 31, 2021; and
- For outstanding derivatives referencing USD LIBOR settings, immediately after June 30, 2023. Under the fallback methodology, the rate for the 1 week and 2 month USD LIBOR settings is computed using linear interpolation for the period between December 31, 2021 (when these tenors ceased), and June 30, 2023, before falling back to the adjusted risk-free rate plus spread commencing with the 1st reset date immediately after June 30, 2023.

In addition, the Alternative Reference Rates Committee (“ARRC”) [confirmed](#) that the March 2021 announcements by the FCA and IBA fixed the spread adjustments with respect to all USD LIBOR settings under the ARRC’s non-consumer recommended fallback provisions for the USD cash markets. These spread adjustments are the same as ISDA’s.

Cessation or Non-Representativeness of Non-LIBOR Benchmarks

There have also been significant developments with respect to Non-LIBOR Benchmarks:

- Each of the Singapore Swap Offer Rate (“SOR”), Thai Baht Interest Rate Fixing (“THBFIX”), Philippines Interbank Reference Rate (“PHIREF”) and Mumbai Interbank Forward Rate (“MIFOR”), which rely on USD LIBOR in their computation, will similarly be discontinued immediately after June 30, 2023 across all major settings, and are already restricted by local regulators/central banks from use in new transactions for certain (or in the case of SOR, all) asset classes (with certain limited exceptions - see below for further details);
- Euroyen TIBOR is expected to cease publication at the end of December 2024. The JBA TIBOR Administration (“JBATA”) has started to conduct public consultations and take other actions to develop a robust fallback;
- Refinitiv Benchmark Services (UK) Limited (“RBSL”), as administrator of the Canadian Dollar Offered Rate (“CDOR”), announced that, following a market consultation, the calculation and publication of all tenors of CDOR will permanently cease immediately following its final publication on June 28, 2024;
- The Warsaw Interbank Offered Rate (“WIBOR”) is expected to cease publication at the end of 2024. Following a public consultation, the Steering Committee of the National Working Group (convened by the Polish regulator KNF) identified the Warsaw Interest Rate Overnight (WIRON) rate as the nominated fallback rate for WIBOR; and
- Russia’s National Finance Association, as administrator of the MosPrime rate, has postponed the expected cessation date of MosPrime to June 30, 2023; it was previously expected to cease publication on January 1, 2023.

Following the cessation or non-representativeness of all non-USD LIBOR settings, and with little time remaining until the cessation of USD LIBOR and other (non-LIBOR) benchmarks, market participants should consider:

- (i) using alternative reference rates in new cash, derivative and loan transactions; and
- (ii) addressing any remaining legacy benchmark exposures in their portfolios through voluntary conversions of legacy transactions and/or amending these transactions to include robust fallbacks (e.g., the ISDA IBOR Fallbacks for derivatives or the ARRC recommended fallbacks for USD LIBOR-linked cash products).

Cessation of LIBOR Swap Rates

IBA, the administrator of USD LIBOR ICE Swap Rate (“USD LIBOR ISR”), recently announced that all tenors of USD LIBOR ISR will cease to be published in tandem with the cessation of USD LIBOR on June 30, 2023.

Market participants can now incorporate ARRC-recommended fallbacks to spread-adjusted SOFR-based swap rates (“USD LIBOR ISR Fallbacks”) into legacy USD LIBOR ISR over-the-counter derivative transactions via the ISDA USD Swap Rate Protocol launched in June 2022. Absent the adoption of the new USD LIBOR ISR Fallbacks via amendments to outstanding transactions, legacy USD LIBOR ISR fallbacks would apply under existing contractual arrangements. These legacy fallbacks may require the calculation agent or another party to run dealer polls or exercise discretion following the cessation of the USD LIBOR ISR, which may yield unintended and unpredictable economic consequences for market participants.

Given the expected cessation of all USD LIBOR ISR tenors and in light of guidance from US regulators, market participants should consider:

- (i) using SOFR ICE Swap Rate in new cash and derivative transactions, wherever possible; and

- (ii) addressing any remaining USD LIBOR ISR exposures in their portfolios through voluntary conversions of legacy USD LIBOR ISR transactions and/or including robust fallbacks (e.g., the USD LIBOR ISR Fallbacks for derivatives).

The JPY LIBOR Tokyo Swap Rate and the GBP LIBOR ICE Swap Rate ceased publication immediately after December 2021. The USD, JPY and GBP swap rate markets have transitioned for new activity to the SOFR ICE Swap Rate, TONA Tokyo Swap Rate and Sonia ICE Swap Rate, respectively.

Restrictions on Continued Use of USD LIBOR & Related Benchmarks in New Transactions

While the most widely used USD LIBOR settings (namely, overnight, 1, 3, 6 and 12 month USD LIBOR) will continue to be published until June 30, 2023, U.S. and U.K. regulators have issued regulatory guidance to restrict the continued use of USD LIBOR in new transactions after December 31, 2021. In particular, [supervisory guidance](#) and [FAQs](#) issued by the Federal Reserve, O.C.C. and F.D.I.C. in the U.S., along with comparable regulation issued by the FCA in the U.K., restrict regulated entities from entering into new USD LIBOR-linked cash or derivatives transactions after the end of 2021, with certain limited exceptions. These exceptions include:

- Drawdowns on outstanding USD LIBOR credit facilities;
- Trading derivatives which are risk reducing or hedging the client's or supervised institution's outstanding USD LIBOR exposures; and
- Secondary trading in outstanding USD LIBOR-linked cash securities and loans.

The central bank sponsored committees (ARR Committees) in Singapore, Thailand, Philippines and India have similarly issued target milestones for SOR, THBFIX, PHIREF and MIFOR, respectively to encourage the transition away from such USD LIBOR-derived rates. For example, the Singapore regulator issued guidance to restrict the continued use of SOR in new loans and securities with maturities beyond December 31, 2021, and to restrict the continued use of SOR in new derivatives contracts with certain limited exceptions. These exceptions include:

- Transactions for risk management and reduction or transition of SOR transactions;
- Market-making in support of client activity related to SOR transactions;
- Novations of SOR derivatives transactions; and
- Transactions executed for required participation in CCP procedures.

The Bank of Thailand also issued guidance to restrict the continued use of THBFIX in new loans and securities (with maturities beyond June 30, 2023), and to restrict the continued use of THBFIX in new derivatives contracts after July 1, 2022 (except for risk management of THBFIX legacy contracts).

Legislative and Regulatory Initiatives to Address "Tough Legacy" LIBOR Products

U.K. and "Synthetic" LIBORs

In September 2021, the FCA announced that it would require the IBA to continue to publish "synthetic" rates for 1, 3 and 6 month GBP and JPY LIBOR on a changed methodology (referred to as "synthetic LIBOR"). Synthetic LIBOR will not be published for EUR or CHF LIBOR or for other tenors of GBP and JPY LIBOR that ceased at the end of 2021.

The FCA recently announced that, following a market consultation, it has no intention to use its powers to compel IBA to continue to publish the 1 and 6 month "synthetic" GBP LIBOR settings beyond March 2023

and that therefore these settings will permanently cease immediately after final publication on March 31, 2023. The FCA has also announced that it will compel IBA to continue publishing 3 month synthetic GBP LIBOR until the end of March 2024, after which it will cease permanently. The FCA has previously stated that all the synthetic JPY LIBOR settings will cease at the end of 2022.

The FCA is now consulting on a proposal to require publication of 1, 3 and 6 month USD LIBOR settings on an unrepresentative synthetic basis until end of September 2024. The FCA is proposing that the synthetic USD LIBOR rate should be CME Term SOFR + ISDA fallback spread adjustment. The FCA has said that the overnight and 12 month USD LIBOR settings will cease at end-June 2023.

1, 3 and 6 month GBP and JPY synthetic LIBOR are calculated as the sum of: (i) the relevant tenor of the relevant risk free rate (i.e., the ICE Term SONIA Reference Rate provided by IBA for GBP LIBOR, and the Tokyo Term Risk Free Rate (TORF) provided by QUICK Benchmarks Inc., adjusted to multiply the value of TORF published for an applicable London business day by 360/365, for JPY) and (ii) the fixed spread adjustment that applies as part of the ISDA IBOR fallback for the relevant tenor and that is published for the purposes of the ISDA IBOR Fallbacks Supplement and Protocol. "Synthetic" LIBOR has been designated by the FCA to be unrepresentative of the market or economic reality that it is intended to measure and is therefore not available for use in new transactions by FCA supervised entities.

There are a number of risks you should be aware of if you do not remediate your legacy LIBOR transactions and synthetic LIBOR applies to them, including that:

- a) The publication of synthetic LIBORs will be time-limited. As noted above, publication of 1, 3 and 6 month synthetic JPY LIBOR will cease at the end of 2022, publication of the 1 and 6 month synthetic GBP LIBOR settings will cease on March 31, 2023, and publication of 3 month synthetic GBP LIBOR will cease on March 31, 2024.
- b) In the future, the FCA may also impose a supervisory prohibition on certain legacy use of "synthetic" LIBOR, even if it is still being published.
- c) As the calculation methodology for "synthetic" LIBOR is different from the market-standard replacement rates determined pursuant to industry initiatives for the various products (e.g., the ISDA IBOR Fallbacks and the ARRC recommended fallbacks for USD LIBOR-linked cash products), it may become increasingly difficult and/or costly to unwind or hedge your unremediated legacy LIBOR transactions. There may also be mismatches between your unremediated legacy LIBOR transactions and other products, e.g., cleared derivatives.

Global regulators, including in the U.K. and Japan, have emphasized that market participants should not rely on "synthetic" LIBORs as a long-term solution for legacy exposures and that active transition of legacy LIBOR transactions should continue. In November 2021, the Bank of Japan issued a report outlining the procedural steps that parties should follow when using synthetic LIBOR to mitigate dispute risk.

U.S. Federal Legislation for USD LIBOR

In March 2022, the "Adjustable Interest Rate (LIBOR) Act" (the "U.S. LIBOR Act") was signed into federal law to address "tough legacy" USD LIBOR fallback provisions in contracts by replacing these fallbacks with a SOFR-based rate to be determined pursuant to Federal Reserve Board ("FRB") rulemaking plus a statutory spread adjustment that mirrors the spreads in the ISDA IBOR Fallbacks and the ARRC's recommended hardwired fallbacks for cash products. Upon USD LIBOR's cessation at the end of June 2023, the U.S. LIBOR Act will, automatically and without further action, override and apply the SOFR-based rate and statutory spread in legacy

USD LIBOR contracts that either contain (i) fallback language to a LIBOR-based rate or bank polling to determine a USD LIBOR rate; or (ii) no existing fallback language. The U.S. LIBOR Act does not override contracts that fall back to a specific non-LIBOR rate, such as the Prime Rate or Fed Funds. Where one party has the right to exercise discretion to determine the fallback rate in a USD LIBOR cessation, that party may opt into the statute and use the SOFR-based rate determined pursuant to the FRB's rule and statutory spread and avail themselves of a safe harbor from litigation. The U.S. LIBOR Act includes pre-emption provisions that override state law, such as New York State's 2021 USD LIBOR legislation.

The FRB's implementing rule applies different SOFR-based rates for each of the following asset classes: derivatives, institutional cash products (corporate bonds, loans and securitized products), consumer loans and Government-Sponsored Enterprise covered contracts.

Risks Related to Legacy LIBOR Contracts

- Legacy LIBOR contracts may not adequately provide for the occurrence of a permanent cessation or non-representativeness determination (or a future announcement thereof) in relation to LIBOR. For example, legacy ISDA derivative contracts and bonds/notes typically include fallbacks that were designed at a time when market participants did not contemplate a permanent cessation of LIBOR (e.g., a dealer poll and/or fallback to the last LIBOR fixing). Such fallbacks may result in increased uncertainty (e.g., dealer polls may not result in a sufficient number of quotes) and/or lack of market pricing transparency and may materially change the economics of the contract (e.g., a last LIBOR fixing would convert a floating rate instrument into a fixed rate contract). As a result, market participants should consider actively transitioning their legacy LIBOR transactions and/or introducing robust fallbacks covering permanent cessation and non-representativeness of LIBOR (such as the ISDA IBOR fallbacks or the ARRC recommended fallbacks for USD LIBOR-linked cash products).
- There may be a population of LIBOR-linked products ("tough legacy products") that cannot be amended due to an inability to obtain sufficient consent from counterparties or product owners. For example, bonds and notes linked to LIBOR typically involve high noteholder consent requirements, while structured transactions that involve one or more instruments (such as bonds, loans and/or swaps) may require the consent of multiple classes of creditors whose interests may differ from each other. Some of these products may not be covered by legislative or regulatory initiatives regarding tough legacy products, e.g., "synthetic" LIBORs, or the U.S. LIBOR Act. For risks relating to products where "synthetic" LIBORs may apply, please see the section on "Synthetic" LIBORs above.
- The occurrence of a permanent cessation and/or non-representativeness determination in relation to LIBOR (or any announcement thereof) may lead to Morgan Stanley exercising discretion to determine a replacement rate, spread and other adjustments to contractual terms. Any such determination made by Morgan Stanley, while exercised in good faith and taking into account relevant market practice or regulatory guidance where available, may be inconsistent with, or contrary to, your interests or positions.
- New industry ARR fallbacks, such as those recommended by ARR Committees, may change the operational mechanics and/or economics of financial products. As a result, the replacement of LIBOR with alternative reference rates may require significant modifications and/or development of systems, models and other analytics (including by third party vendors). For example, interest and other amounts linked to the RFRs may be determined at or around the end of an applicable calculation period, whereas those linked to LIBOR are typically determined at the start of the applicable calculation period.
- LIBOR fallback provisions (regardless of whether they are new or legacy provisions) may vary across products, currencies, regions, and even within asset classes. As a result, there may be economic mismatches between instruments (e.g., a bond or a loan referencing LIBOR and a related derivative

transaction intended to operate as a hedge, or between a noncleared (“OTC”) derivative and a cleared derivative intended to hedge that OTC derivative).

- There is no guarantee that legislative and/or regulatory initiatives implemented or contemplated in different jurisdictions (e.g., the U.S., the U.K., the E.U., Japan, or other jurisdictions) will have the same scope of application or result in the same outcomes or timing for transitioning legacy LIBOR-referencing transactions (e.g., there is currently no legislation dealing with USD LIBOR contracts governed by the laws of jurisdictions other than the U.S.). As a result, market participants should not assume that legislation or regulation dealing with legacy LIBOR exposures will be implemented in all applicable jurisdictions or that, if implemented, it will be consistent across jurisdictions, currencies, regions and products. In addition, at present, there are no legislative initiatives that address any of the LIBOR Swap Rates.
- The replacement of LIBOR in existing contracts, as well as the introduction or modification of fallback terms, may lead to additional tax, accounting and regulatory impact or risk, which may vary across jurisdictions and products. Some relief and/or official guidance to ensure the continued grandfathering of trades from applicable tax, accounting and regulatory requirements has been granted in each of the major jurisdictions (including the U.S., E.U. (or its member states), U.K. and Japan). Clients should consider the applicability of tax, accounting and regulatory risks to their own circumstances, as well as the availability of any relevant relief, in consultation with their own professional advisors taking into consideration that such relief is not uniform across the relevant jurisdictions.
- The retention of LIBOR in existing contracts could also lead to additional tax, accounting and regulatory risk. For example, regulators and relevant industry bodies have and may look to apply more conservative and/or cumbersome requirements or guidance (including on tax, accounting, capital and other regulatory requirements or guidance) in order to encourage the transition away from LIBOR, such as the limitations on regulated entities’ entering into new USD LIBOR-linked transactions after the end of 2021. Clients should consider these risks and weigh them against any risks arising from replacing LIBOR in existing contracts, in consultation with their own professional advisors.

Risks related to the Alternative Reference Rates

- Alternative reference rates (“ARRs”) chosen by ARR Committees to replace LIBOR in each currency have different characteristics (in particular, unlike LIBOR, they are primarily overnight “risk-free” rates that do not embed a forward-looking term structure or credit risk premium). As a result, they may perform materially differently than LIBOR and/or may not gain universal market acceptance in one or more asset classes due to these differences in composition and characteristics. In addition, where forward-looking term RFRs have been developed and are used as replacement rates in contracts, such term RFRs may not include a credit risk premium or be suitable for all asset classes. The ARR Committee in Japan has recommended TORF, but TORF may severely lack market liquidity and there remains uncertainty as to whether an established trading market will develop. In addition, replacing LIBOR with another IBOR (e.g., TIBOR) may increase potential dispute risk with respect to the spread adjustment methodology and exhibit hedging challenges. The ARR Committee in Singapore has recommended SORA, and the ARR Committee in Thailand has recommended THOR, but markets and products referencing alternative reference rates such as SORA and THOR continue to develop and there are currently differing levels of liquidity in each such market.
- Replacing LIBOR with the ARRs (including through the inclusion of fallbacks or active conversions to the ARRs) may not be economically equivalent (even after the inclusion of industry-standard adjustment spreads), and therefore may result in contracts or instruments not performing in the same way as when linked to LIBOR and/or having lower secondary market liquidity, which may adversely impact their value, pricing, or return.

- ARR (in particular, SOFR and ESTR, but also SONIA and TONA for certain products and markets) have a limited history and their future performance may not be capable of being predicted based on historical performance. Spread adjustments and market conventions regarding the use of these RFRs in different products and currencies have recently been developed and may change over time.
- New reference rates may be developed over time and may be different from and compete for liquidity with the ARR recommended by the ARR Committees to replace LIBOR.
- The administrators of the ARR may make changes to their calculation methodology over time, which may adversely impact the value and/or liquidity of instruments linked to them.

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Links to key LIBOR Transition Resources:

ARR Committees in U.S., U.K., E.U., Japan, Singapore and Thailand

- + [Alternative Reference Rates Committee](#)
- + [Euro Risk Free Rates Working Group](#)
- + [Sterling Risk Free Rates Working Group](#)
- + [Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks](#)
- + [Steering Committee for SOR & SIBOR Transition to SORA \(SC-STIS\)](#)
- + [BOT Steering Committee on Commercial Banks' Preparedness on LIBOR Discontinuation](#)

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- + [Benchmark Reform and Transition from LIBOR](#)
- + [IBOR Alternative Reference Rates Disclosure](#)