MORGAN STANLEY | INSTITUTIONAL SECURITIES GROUP

NOTICE TO CLIENTS REGARDING LIBOR CESSATION RISKS AND GLOBAL BENCHMARK REFORM

July 2023

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

Other than with respect to some "tough legacy" transactions, the market's transition away from LIBOR is now complete:

- All settings of USD LIBOR have ceased to be published on a representative basis following the June 30, 2023 publication. The 1, 3 and 6 month USD LIBOR settings will still be published per U.K. regulation on a synthetic basis after June 30, 2023, solely for use in legacy transactions for a limited time ending on September 30, 2024.
- All settings of GBP LIBOR have ceased to be published on a representative basis. The 3 month GBP LIBOR setting is being published per U.K. regulation on an unrepresentative synthetic basis for a limited period ending on March 31, 2024, solely for use in legacy transactions; and
- All settings of JPY, CHF and EUR LIBOR are no longer published.

Announcements in March 2021 of LIBOR cessation dates by the U.K Financial Conduct Authority ("FCA") and ICE Benchmark Administration ("IBA"), the regulator and administrator of LIBOR, respectively, resulted in the International Swaps and Derivatives Association ("ISDA") <u>statement</u> 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 <u>fallback spread adjustment</u> 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.

In addition, the Alternative Reference Rates Committee ("ARRC") <u>confirmed</u> 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 <u>cash</u> markets. The ARRC's spread adjustments are the same as ISDA's spread adjustments.

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, were discontinued immediately after June 30, 2023
 across all major settings;
- 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. The results of the public consultation were published on March 15, 2023;
- 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; and
- 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.

Following the cessation or non-representativeness of all LIBOR settings and certain 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"), ceased publication of all tenors of USD LIBOR ISR on June 30, 2023, in tandem with the cessation of USD LIBOR.

Market participants can still 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 will likely 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 cessation of all USD LIBOR ISR tenors and in light of guidance from US regulators, market participants should consider:

- (i) using USD SOFR ICE Swap Rate in new cash and derivative transactions; 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.

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

U.K. and "Synthetic" LIBORs

The FCA has compelled IBA to continue publishing 3 month synthetic GBP LIBOR until the end of March 2024, after which it will cease permanently. Synthetic GBP LIBOR is 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) 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.

The FCA also requires IBA to publish of 1, 3 and 6 month USD LIBOR settings on an unrepresentative synthetic basis until the end of September 2024. The synthetic USD LIBOR rates are calculated based on CME Term SOFR plus the ISDA fallback spread adjustment.

"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 3 month synthetic GBP LIBOR will cease on March 31, 2024, and publication of 1, 3 and 6 month USD LIBOR settings will cease on September 30, 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 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.

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. Following USD LIBOR's cessation at the end of June 2023, the U.S. LIBOR Act, automatically and without further action, overrides and applies the SOFR-based rate and statutory spread in legacy USD LIBOR contracts that either contain (i) fallback language to a LIBOR-based 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 (and USD LIBOR ISR) Contracts

- Legacy LIBOR contracts may not adequately provide for the occurrence of a permanent cessation or non-representativeness determination 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 remaining 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 is 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 fully covered by existing legislative or regulatory initiatives, 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 permanent cessation and/or non-representativeness determination in relation to LIBOR 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 may vary across products, currencies, jurisdictions, 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 currently no legislation dealing with USD LIBOR contracts governed by the laws of jurisdictions other than the U.S. In addition, there is no legislation that addresses 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 has been granted by many jurisdictions. Clients should evaluate the applicability of tax, accounting and regulatory risks to their own circumstances, in consultation with their own professional advisors taking into consideration that such relief is not uniform across the relevant jurisdictions.

The risks identified above with respect to LIBOR also apply to USD LIBOR ISR.

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 the market liquidity of TORF has not yet been sufficiently developed since when the administrator started TORF publication in 2021 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.
- ARRs (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 ARRs recommended by the ARR Committees to replace LIBOR.
- The administrators of the ARRs 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
- + Sterling Risk Free Rates Working Group
- + Euro Risk Free Rates Working Group
- + Cross-Industry Committee on Japanese
 Yen Interest Rate Benchmarks
- +Steering Committee for SOR & SIBOR Transition to SORA (SC-STS)

<u>ISDA</u>

- + Benchmark Reform and Transition from LIBOR
- + IBOR Alternative Reference Rates Disclosure