LIBOR Transition

Executive Summary

What does this document seek to do?

The London Interbank Offered Rate (LIBOR), one of the most important reference rates in the financial markets, is set to be phased out by the end of 20211.

This guide aims to give UBS Asset Management (UBS AM) clients:
- An understanding of why LIBOR is being discontinued and the rates which will replace it
- An overview of how funds and client mandates will be impacted
- Details of how UBS AM is managing the transition to a post-LIBOR environment.

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Summary of Impacts

Regulators have announced that by the end of 2021 the market should stop relying on LIBOR. Therefore, as a client of UBS Asset Management you should be aware of the following changes:

- UBS funds or client mandates may use LIBOR benchmarks for performance measurement and/or in fee calculations. LIBOR benchmarks will need to be replaced with alternative benchmarks in the relevant documents.
- As an investment manager, AM portfolio managers will evaluate the impact of LIBOR discontinuation on LIBOR referencing financial instruments.
- UBS has established a Group wide transformation initiative to ensure a smooth transition to a post-LIBOR environment.

1 Certain tenors of USD LIBOR projected now to last until 30.06.23 pending ICE Benchmark Administration (IBA) consultation.
A brief recap of LIBOR and beyond

The London Interbank Offered Rate (LIBOR) is widely used as a reference rate, reflecting the interest rate on unsecured interbank borrowings of designated panel banks.

How it works: every day, a panel of contributing banks submit rates to the LIBOR administrator, ICE Benchmark Administration (IBA). They do so for five currencies (USD, EUR, GBP, CHF and JPY) and seven tenors (ON, 1W, 1M, 2M, 3M, 6M and 12M). IBA calculates LIBOR as an average from the interest rates submitted by the panel banks, based on the rate at which the submitting banks can borrow from other banks.

Over the last few decades, LIBOR and other Interbank Offered Rates (IBORs) served as an efficient and effective set of benchmark interest rates, widely used as a reference rate in contracts and for hedging. Globally, more than USD 400 trillion notional in derivatives, loans and other banking products are based on IBORs.

Alternative reference rates (ARRs), also known as risk-free rates (RFRs), have been identified as a replacement – although finding one for LIBOR is no easy task. LIBOR rates are linked to contracts worth trillions of US dollars. This is why UBS is actively involved during the transition process with regulators, central banks and industry bodies: we want to ensure a smooth transition for our clients.

ARRs are already in use in certain jurisdictions. They are linked to active underlying markets and are considered to be more robust than LIBOR. We support the transition to ARRs and are committed to help our clients navigate through the world beyond LIBOR.

Why is LIBOR being replaced?

LIBOR was introduced in 1969, when one of the first syndicated loans for USD 80 million was pegged to LIBOR. LIBOR is calculated by ICE Benchmark Administration (IBA) from submissions selected by panel banks of the unsecured interbank borrowings (i.e. the rate the banks either pay or would expect to pay to borrow from one another). Over the decades, LIBOR and other Interbank Offered Rates (IBORs) served as an efficient and effective set of benchmark interest rates.

Globally, more than USD 400 trillion notional in derivatives, loans and other financial products are based on IBORs. IBORs are also hardwired into many financial processes, including valuations and risk management.

Following the financial crisis, the number of transactions on the unsecured interbank market significantly decreased as banks became increasingly unwilling to lend to one another on an unsecured basis. As the underlying market that LIBOR seeks to measure is no longer sufficiently active, LIBOR is sustained by the use of expert judgement by the panel banks to form many of their submissions. This raised questions about the sustainability of the LIBOR framework.

Ultimately, in 2017, the UK’s Financial Conduct Authority announced it would not compel panel banks to continue to provide LIBOR submissions beyond the end of 2021. Thereafter, discussions around the transition away from LIBOR rapidly advanced and market participants started preparing for the transition to alternative reference rates, which aim to support a sound and resilient financial market.

UBS AM’s Position

– Internationally recognized and sustainable reference rates are the cornerstone for efficient and functioning financial markets. UBS supports the transition from LIBOR and other IBORs to new reference rates and is actively involved in industry discussions with all market participants.

– We are contributing to the industry dialogue with regulators, central banks and industry bodies on the identification of new reference rates that ensure continuity for all LIBOR-based products and, as a consequence, support the resilience of the financial markets.

– We have set up a cross-divisional and cross-functional change program to assess and address the impact of the LIBOR transition on processes, systems, documentation and product offering, among others.

2 Source: Reuters, August 2012
1 BIS Quarterly Review, March 2019
What are the main Alternative Reference Rates?

Different jurisdictions have developed different methodologies for their new ARRs, these are all at different stages in terms of market liquidity and development. These ARRs are managed by different administrators, as outlined below.

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Working Group</th>
<th>Alternative Rate</th>
<th>Secured vs. Unsecured</th>
<th>Rate Administration</th>
<th>Tenors</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>Alternative Reference Rates Committee</td>
<td>Secured Overnight Financing Rate (SOFR) Available: 3 April 2018</td>
<td>Secured</td>
<td>Federal Reserve Bank of New York</td>
<td>Overnight 30-, 90-, 180-day Compounded SOFR averages / SOFR index Term rate planned, H1 2021</td>
</tr>
<tr>
<td>U.K.</td>
<td>Working Group on Sterling Risk-Free Reference Rates</td>
<td>Reformed Sterling Overnight Index Average (SONIA)</td>
<td>Unsecured</td>
<td>Bank of England</td>
<td>Overnight Compounded SONIA averages and index Term rate planned, Q1 2021</td>
</tr>
<tr>
<td>Switzerland</td>
<td>The National Working Group on Swiss Franc Reference Rates</td>
<td>Swiss Average Rate Overnight (SARON)</td>
<td>Secured</td>
<td>SIX Swiss Exchange</td>
<td>Overnight 1-, 3-, 6-month compounded SARON in arrears Term rate not expected</td>
</tr>
<tr>
<td>Japan</td>
<td>Study Group on Risk-Free Reference Rates</td>
<td>Tokyo Overnight Average Rate (TONA) Available: 1 November 1997</td>
<td>Unsecured</td>
<td>Bank of Japan</td>
<td>Overnight Term rate planned, mid-2021</td>
</tr>
<tr>
<td>Euro Area</td>
<td>Working Group on Euro Risk-Free Rates</td>
<td>Euro Short-Term Rate (€STR) Available since: 2 October 2019</td>
<td>Unsecured</td>
<td>European Central Bank (ECB)</td>
<td>Overnight Term rate planned</td>
</tr>
</tbody>
</table>

How do these ARRs differ to LIBOR?
The alternative rates are structurally different from LIBOR and are not economic equivalents to LIBOR in any of the respective currencies.

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<tr>
<th>Components</th>
<th>LIBOR</th>
<th>ARRs</th>
</tr>
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<tbody>
<tr>
<td>Methodology</td>
<td>Methodology based on a waterfall methodology</td>
<td>SOFR, SONIA, €STR, SARON and TONA are anchored in real transactions</td>
</tr>
<tr>
<td>Term</td>
<td>Published for 7 maturities from overnight up to one year</td>
<td>Currently only available overnight</td>
</tr>
<tr>
<td>Credit Risk</td>
<td>Includes a risk adjustment to account for interbank credit spread and tenor</td>
<td>There is minimal credit spread adjustment as the ARRs are overnight rates and some ARRs are secured</td>
</tr>
<tr>
<td>Rate</td>
<td>The rate is set at the beginning of the period</td>
<td>The rate is based on daily observations and is only known at the end of the period</td>
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</table>

Will the ARRs have forward looking term structures?
The ARRs developed to date are overnight rates. There are several ongoing efforts by the ARR working groups looking to develop forward looking term structures for the ARRs (except for SARON). However, a forward looking term rate requires sufficient depth in the ARR derivatives market in order to be able to calculate the rate, so they may not be fully available for use by 2021.

What are ARR Compounded Index Rates?
An alternative to forward looking term structures is to provide the result of compounding a daily rate over a period (such as 30, 90, 180 days) and publishing these as indices. This may assist some market participants to adopt these rates as it can limit the amount of daily compounding calculations required.

Compounded indices for SONIA have been published by the Bank Of England since 3rd August 2020. In March 2020, the Federal Reserve began publishing 30-, 90-, and 180-day SOFR averages (as well as a SOFR Index) and SIX began publishing 1-, 3- and 6-month compounded SARON indices, (calculated in arrears).
How LIBOR transition impacts AM clients

1. UBS funds or client mandates may use LIBOR benchmarks for performance measurement and/or in fee calculations. For client mandates alternative benchmarks will require client agreement. LIBOR benchmarks will need to be replaced with alternative benchmarks in the relevant documents.

2. AM portfolio managers will evaluate the impact of LIBOR discontinuation on LIBOR referenced financial instruments (derivatives, floating rate securities, loans) held in each client mandate/fund’s portfolio and the portfolio manager will determine the best course of transition, which may include:
   - Transitioning the portfolio to newly-issued financial instruments that reference alternative reference rates;
   - Ensuring appropriate fallback language addressing LIBOR discontinuation is included in documents governing financial instruments purchased by a fund; or client mandate
   - Terminating financial instruments which reference LIBOR prior to LIBOR discontinuation where possible.

UBS AM LIBOR transition is underway and during 2021 your Client Relationship Manager (CRM) will be engaging with you on the transition. Listed below are some of the key aspects of the transition that UBS are addressing and for you to be aware of.

<table>
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<tr>
<th>UBS AM transition activities</th>
<th>For your awareness</th>
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<tr>
<td><strong>Electing replacement benchmarks</strong></td>
<td>We will amend fund and client mandates documents referencing LIBOR benchmarks once agreements are reached. Ensure all new funds or mandates use new reference rate targets and benchmarks.</td>
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<tr>
<td>Ensure mandate amendments are brought to the attention of your legal teams in a timely manner.</td>
<td></td>
</tr>
<tr>
<td><strong>Economic impact as a result of transitioning to ARRs</strong></td>
<td>UBS AM will engage clients on preferred replacements and timelines prior to implementing benchmark updates.</td>
</tr>
<tr>
<td>While UBS AM maybe one of your investment managers, consider the collective economic impact of transitioning from your current LIBOR referenced benchmarks and targets to ARR. Additionally, as ARRs are not economic equivalents to LIBOR rates, consider whether ARRs are an adequate replacement for your specific need.</td>
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<tr>
<td><strong>Communication</strong></td>
<td>In 2021, UBS AM CRMs will conduct client outreach to discuss options and approaches.</td>
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<td>Plan sufficient time to engage with your CRM for benchmark transition discussions.</td>
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<tr>
<td><strong>Fund Governance</strong></td>
<td>We will be reaching out to clients and fund boards (where applicable) in due course on amending fund benchmarks that reference LIBOR.</td>
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<tr>
<td>Please take notice of future UBS AM communications.</td>
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<tr>
<td><strong>5 ARRs have been identified to replace the 5 LIBOR rates</strong></td>
<td>UBS AM is aligned with market participants in recognising the target ARRs put forward by the National Working Groups (NWG) in the 5 jurisdictions.</td>
</tr>
<tr>
<td>Transition to ARR is an industry-led initiative supported by regulators but not mandated by them.</td>
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<tr>
<td><strong>Transitioning to new ARR products</strong></td>
<td>Our portfolio managers will evaluate the impact of LIBOR discontinuation on LIBOR referenced financial instruments held in mandate/fund’s portfolio and will determine the best course of transition.</td>
</tr>
<tr>
<td>Sufficient liquidity build-up is required to facilitate the transition to the new RFRs, as well as the development of forward-looking term structures. Widespread and simultaneous market adoption is required to enable orderly and controlled transition.</td>
<td></td>
</tr>
<tr>
<td><strong>Fallback language</strong></td>
<td>Our portfolio managers monitor LIBOR exposure and relevant fallback language.</td>
</tr>
<tr>
<td>Financial contracts contained short-term or temporary solutions to LIBOR disruption, therefore existing fallback methodologies may not be suitable for the long term. The market anticipates that instrument issuers will be engaging with holders of impacted securities to confirm a suitable fallback rate before the end of 2021.</td>
<td></td>
</tr>
<tr>
<td><strong>In an economic crisis, ARRs will behave differently from LIBOR</strong></td>
<td>Despite the impact of COVID-19 on markets, we recognise the need to transition away from LIBOR and portfolio managers continue transition to new ARR products where liquidity is available.</td>
</tr>
<tr>
<td>The COVID-19 pandemic has illustrated differences in spread between LIBOR-ARR today, this may not be the same under different market conditions.</td>
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</table>
Key Takeaways

– LIBOR is expected to be ceased after 2021 and the time to plan is now.

– UBS AM will engage with clients in H1 2021 to discuss LIBOR references within mandates and will propose benchmark replacement rates.

– UBS AM will monitor liquidity in ARRs and manage funds that are invested in LIBOR instruments.

– AM is actively engaged with other UBS business divisions and with the industry to identify challenges and collaborate on solutions as we navigate transition from LIBOR.

– Please do not hesitate to contact your client relationship manager for any queries.
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