ASIFMA VIRTUAL EVENT:

IBOR TRANSITION IN ASIA PACIFIC
Agenda:

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-10:15am</td>
<td><strong>Keynote: HKMA Deputy Chief Executive Arthur Yuen</strong></td>
</tr>
<tr>
<td></td>
<td>• Arthur Yuen, Deputy Chief Executive, Hong Kong Monetary Authority</td>
</tr>
<tr>
<td>10:15-10:20am</td>
<td><strong>ASIFMA Regional Update</strong></td>
</tr>
<tr>
<td></td>
<td>• Rebecca Weinrauch, Executive Director - Head of Fixed Income, ASIFMA</td>
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<tr>
<td>10:20-11:05am</td>
<td><strong>Updates by industry associations</strong></td>
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<td></td>
<td>• Andrew Ferguson, Chief Executive Officer, APLMA</td>
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<td></td>
<td>• Jing Gu, Head of Legal, Asia Pacific, ISDA</td>
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<td></td>
<td>• Mushtaq Kapasi, Managing Director – Chief Representative Asia Pacific, ICMA</td>
</tr>
<tr>
<td>11:05-11:15am</td>
<td><strong>Update by Bloomberg</strong></td>
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<tr>
<td></td>
<td>• Dennis To, Regulatory Data Specialist, Enterprise Solutions, Asia Pacific, Bloomberg L.P.</td>
</tr>
<tr>
<td>11:15-11:30am</td>
<td><strong>Q&amp;A</strong></td>
</tr>
</tbody>
</table>
Get involved by:

Asking a question anytime via the “Q&A” box on your tool bar
Keynote: HKMA Deputy Chief Executive Arthur Yuen

Arthur Yuen, JP
Deputy Chief Executive
Hong Kong Monetary Authority
FSB-BCBS Report on Supervisory Issues Associated with Benchmark Transition

Arthur Yuen | Deputy Chief Executive | Hong Kong Monetary Authority

23 July 2020
Saudi Arabian G20 priorities on benchmark transition

1. [NOV 2019] Saudi Arabian G20 priorities
   - G20 tasked FSB to conduct a questionnaire on supervisory issues related to LIBOR transition to:
     - Improve collective understanding of the progress of LIBOR transition
     - Increase awareness of the importance of ensuring a timely transition

2. [DEC 2019] Distribution of questionnaire to BCBS, FSB and non-FSB RCG members for completion

3. [JUL 2020] Publication and submission of report to G20
A note of caution in interpreting the analysis

1. There were **57 responses** to the questionnaire, but with varying degrees of completeness and levels of details.

   **Submitted responses**

   - **57 responses**
   - Asia-Pacific Region: 8 FSB jurisdictions
   - 5 non-FSB jurisdictions

2. Submitted data on LIBOR exposures are sparse and of different degrees of granularity.

   **Submission status of exposure data**

   - LIBOR
   - Non-LIBOR FSB
   - Others

   - Full
   - Incomplete
   - None
   - Asia-Pacific Region

**Note:** Euro Area jurisdictions (which contain both FSB and non-FSB jurisdictions) are counted individually and included in the “LIBOR” category; 6 jurisdictions responded without submitting the questionnaire template.
Most FSB jurisdictions indicated significant negative impact of LIBOR transition and have a strategy in place for the transition.

By contrast, only half of the non-FSB jurisdictions indicated the same.

Almost all of the responded jurisdictions in the Asia-Pacific region have a transition strategy in place.
LIBOR jurisdictions have adopted a more systematic approach to monitor LIBOR exposures of FIs, while non-LIBOR jurisdictions have taken a more ad-hoc approach. Both LIBOR and non-LIBOR jurisdictions have significantly less monitoring of non-FIs than FIs.

Monitoring status of the progress of FIs on LIBOR transition
(As % of total number of respondents within their respective group)

<table>
<thead>
<tr>
<th>Collecting quantitative data on FIs’ LIBOR exposure</th>
<th>Asking FIs to provide transition plans</th>
<th>Not monitoring the progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% LIBOR jurisdictions</td>
<td>100% Non-LIBOR FSB jurisdictions</td>
<td>100% Asia-Pacific Region</td>
</tr>
<tr>
<td>86%</td>
<td>86%</td>
<td>7.5%</td>
</tr>
<tr>
<td>48%</td>
<td>57%</td>
<td>39%</td>
</tr>
</tbody>
</table>

As % of total number of respondents within their respective group.
LIBOR exposures

- LIBOR exposures are highest in **LIBOR jurisdictions**; USD LIBOR exposures are also fairly high in **non-LIBOR FSB jurisdictions**; and exposures to LIBORs are relatively smaller **outside of the FSB jurisdictions**
- On maturity, **roughly 40-50% of assets and derivatives exposures** are expected to mature after 2021

**Note:** Figure above each bar is the number of jurisdictions included in that group. Data were aggregated across jurisdictions without adjusting for double counting. For certain jurisdictions, total exposure was provided without a breakdown in currencies.
Awareness and readiness to transition

- **FIs in LIBOR jurisdictions** have shown better transition progress, while **those in non-LIBOR jurisdictions** presented a wider range in the level of preparedness.
- **FIs viewed their clients to have demonstrated relatively slower progress** towards transition as compared to themselves.
- **FIs in most FSB jurisdictions have started working with their non-FI clients**.

**Status of FIs’ awareness of, and preparedness for, LIBOR transition**
(Share of responses within their respective group)

![Status of FIs’ awareness of, and preparedness for, LIBOR transition](image)
Transition risks and challenges

Transition risks
- Operational
- Legal
- Prudential
- Conduct, litigation, and reputational
- Hedging
- Accounting

Transition challenges

Main obstacles to a successful transition for FIs
(As % of total number of respondents)

- Challenges agreeing contract amendments: 61.5%
- Lack of term rates for new RFRs: 61.5%
- Lack of liquidity: 53.8%
- Lack of action/engagement from market participants: 30.8%
- Inadequacy of fallback provisions: 15.4%
- Lack of awareness: 23.1%
- Cross border issues: 7.7%
- Lack of understanding on the use of RFRs: 15.4%
- No answer: 7.7%
- Challenges arising from the prudential regulatory framework: 7.7%
- Others: 0%

Asia-Pacific Region
Supervisory actions and challenges

- Authorities in **LIBOR jurisdictions** have undertaken more **supervisory engagements** with banks:
  - Sending “Dear CEO” letters to enhance awareness and preparedness
  - Collecting **data on LIBOR exposures**
  - Encouraging banks to set **internal targets and deadlines**
  - Conducting **desktop reviews** or **on-site examinations**

- FSB jurisdictions also mentioned a number of **available tools to speed up transition**:
  - **Initial stage**
    - Meeting with FIs’ senior management and board of directors
    - Issuance of non-binding best practices
  - **More intensive stage**
    - On-site inspections
    - Request to improve operation capabilities
    - Capital add-ons
    - Restrictions on specific product offering
    - Administrative sanctions or other legal actions

Supervisory challenges:

- Engagement with FIs have just begun
- **Resource intensive** for smaller FIs to prepare for transition
- Lack of insight into **non-regulated clients**
- Lack of clarity on **readiness of external systems**
- **Reliance on home supervisors** by host supervisors
Identification of transition risk and challenges
- Issue public statements and Dear CEO letters
- Request updates from FIs on LIBOR exposures, key risks and action plans

Facilitation of LIBOR transition
- Communicate on the timing of proposed change in market convention for new contracts
- Provide clarification on existing requirements
- Conduct desktop reviews and on-site examinations

Coordination to foster LIBOR transition
- Promote industry-wide coordination
- Exchange views through international forums
- Work with national bodies to identify legislative solutions for tough legacy contracts

Recommendations and next steps

Examples

Recommendations

Next steps

1. Continued assessment of transition progress
Be “SMART”

1. Start preparing for transition now / Speed up the transition process
2. Monitor exposures, resources and progress
3. Assess the transition risks and challenges
4. Respond to the risks and challenges
5. Transition smoothly
Q&A Session for Mr. Arthur Yuen
ASIFMA Regional Update:

Rebecca Weinrauch
Executive Director - Head of Fixed Income
ASIFMA
Areas to cover:

- IBOR Transition Guide for Asia published by ASIFMA, ICMA, ISDA and ICMA
- Survey of ASIFMA Members on external frictions yet to be resolved
- Regional education program: Singapore, Malaysia, Philippines, Thailand, Vietnam, Indonesia, and India
Updates by industry associations:

Andrew Ferguson
Chief Executive Officer
APLMA
IBOR TRANSITION
Update on APAC loan markets

Andrew Ferguson
Chief Executive Officer
APLMA

23rd July 2020
Loan Volume by Benchmark (in USD Billions) - all active loans due from July 2020 onwards*

Source: Bloomberg

By "Active" loan volume, it refers to loans that are in signed status maturing later than June 30th 2020. This means that the search excludes loan transactions that are currently funged, retired, prepaid, restructured and refinanced, maturing after June 30th, at the tranche level. This way, the data will only include loan volumes are still active on the market, that have not yet been made inactive prior to reaching their maturity date.

*Data as at 7 July 2020
Nothing incentivizes like a deadline (2021)

Regulators continue to insist that 'change' be market-led

RFR's do not represent a seamless replacement of LIBOR – many problems

There have been bond issues referencing SONIA and SOFR (very few overall?). No loans!!!

What about local IBOR'S? (HIBOR, SIBOR, KLIBOR?)

Source: Bloomberg

*Data as at 7 July 2020
Compounded Average RFR

- Complicated mathematical formula required to calculate compounded average of historical O/N RFR’s at end of interest period
- Bank and borrower systems are typically not set up to calculate and process interest based on historic overnight rates
- Indices don’t help much in the loan markets
- US institutions gravitating back to simplified average rates?
- Note: LSTA Concept Document uses simple SOFR
Forward Looking Rates

APLMA and LMA are still committed to the development of forward-looking rates

Derived from RFR’s or some other accepted source
Credit Adjustment Spreads

- **Term benchmarks**: LIBOR is a forward-looking term rate published for 7 tenors (e.g. 1, 3, 6 months); *RFRs are backward-looking overnight rates*
- **Credit premium**: LIBOR includes term bank credit risk; *RFRs are near risk-free*
- **Term liquidity premium**: LIBOR will include the premium paid on longer-dated funds; *RFRs will not include a premium for term*
Observation Shifts and Lag Periods

Strange and unnatural in loan markets → Virtually untested → 5-business day lag likely to become the norm
Fallbacks

• If the published screen rate is not available, what should the fallbacks be?
  • Bank Rate?
  • Fed Funds
  • Treasuries
  • Cost of funds?
Additional Responsibilities for the Agent Bank

- No screen rate to refer to?
- Manual calculations for compounded averages?
- Unplanned prepayment and secondary trades
- Appointment a calculation agent?
Pilot Transactions

• There have been insufficiently few to establish consensus on appropriate market practice
  • National Express (bilateral)
  • BAT (switch)
  • Capital Land in Singapore (bilateral)

• One swallow doesn’t make a summer
Legacy Deals

• Many thousands of extant loan contracts will have to be amended or re-documented

• Or completely refinanced

• Work can only start when there is consensus on calculation methodology and other conventions

• Have banks engaged their clients?
Milestones and Timetables

Bank of England Working Group

ARRC

HKMA
Accelerate Transition in Loan Markets?

1) Consensus on calculation methodology and other loan market conventions

2) Significant investment in operating systems

3) More “pilot deals”

4) Focus on legacy deals with post 2021 maturities

5) More regulator involvement? – leading the way to consensus and best practice
Transition is no small task!

- Will bank and borrower systems be developed in time?
- Can we hardwire SOFR into our docs now?
- Can credit and term adjustments be calculated sensibly?
- Will forward looking term rates ever be developed?
- Currency and product fragmentation is “undesirable”
- How do we manage the legacy issue?
Updates by industry associations:

Jing Gu
Head of Legal, Asia Pacific
ISDA
Implementation of Fallbacks in Derivative Contracts

Jing Gu
Head of Legal, Asia Pacific
ISDA
Preparing for IBOR transition  
Overview of alternative RFR identification

Working Groups in each jurisdiction have recommended robust, alternative RFRs to transition away from existing IBORs, the alternative RFR benchmarks are overnight, whereas the current use of IBORs is largely in term rates.

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Working Group</th>
<th>Alternative RFR</th>
<th>Rate administration</th>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>Working Group on Sterling Risk-Free Reference Rates</td>
<td>Reformed Sterling Overnight Index Average (SONIA)</td>
<td>Bank of England</td>
<td>Unsecured</td>
<td>Currently being published</td>
</tr>
<tr>
<td>US</td>
<td>Alternative Reference Rates Committee</td>
<td>Secured Overnight Financing Rate (SOFR)</td>
<td>Federal Reserve Bank of New York</td>
<td>Secured</td>
<td>Currently being published</td>
</tr>
<tr>
<td>Europe</td>
<td>Working Group on Risk-Free Reference Rates for the Euro Area</td>
<td>European Short Term Rate (ESTR)</td>
<td>European Central Bank</td>
<td>Unsecured</td>
<td>Currently being published</td>
</tr>
<tr>
<td>Switzerland</td>
<td>The National Working Group on CHF Reference Rates</td>
<td>Swiss Average Rate Overnight (SARON)</td>
<td>SIX Swiss Exchange</td>
<td>Secured</td>
<td>Currently being published</td>
</tr>
<tr>
<td>Japan</td>
<td>Study Group on Risk-Free Reference Rates</td>
<td>Tokyo Overnight Average Rate (TONA)</td>
<td>Bank of Japan</td>
<td>Unsecured</td>
<td>Currently being published</td>
</tr>
</tbody>
</table>
## IBOR Fallbacks: ISDA’s Work – Fallback Rates (1)

<table>
<thead>
<tr>
<th>Relevant IBOR and corresponding floating rate options in 2006 ISDA Definitions</th>
<th>Fallback rate</th>
</tr>
</thead>
</table>
| GBP LIBOR | GBP-LIBOR-BBA  
GBP-LIBOR-BBA-Bloomberg | SONIA |
| CHF LIBOR | CHF-LIBOR-BBA  
CHF-LIBOR-BBA-Bloomberg | SARON |
| JPY LIBOR | JPY-LIBOR-FRA/SETT  
JPY-LIBOR-BBA  
JPY-LIBOR-BBA-Bloomberg | TONA |
| TIBOR | JPY-TIBOR-TIBM  
JPY-TIBOR-17095  
JPY-TIBOR-17097  
JPY-TIBOR-TIBM (All Banks)-Bloomberg | TONA |
| Eureyen TIBOR | JPY-TIBOR-ZTIBOR | TONA |
| BBSW | AUD-BBR-AUBBSW  
AUD-BBR-BBSW  
AUD-BBR-BBSW-Bloomberg | RBA Cash Rate |
| USD LIBOR | USD-LIBOR-BBA  
USD-LIBOR-BBA-Bloomberg | SOFR |
| HIBOR | HKD-HIBOR-HKAB  
HKD-HIBOR-HKAB-Bloomberg | HONIA |
| CDOR | CAD-BADOR  
CAD-BADOR-Bloomberg | CORRA |
| EUR LIBOR | EUR-LIBOR-BBA  
EUR-LIBOR-BBA-Bloomberg | €STR |
| EURIBOR | EUR-EURIBOR-Reuters | €STR |
IBOR Fallbacks: ISDA’s Work – Fallback Rate (2)

• A number of key Asian benchmarks are synthetic benchmarks derived by applying a forward FX curve to the USD LIBOR curve. When USD LIBOR is no longer available after the end of 2021, the sustainability of these benchmarks is in doubt:

• Key benchmarks are: SOR (Singapore); THBFIX (Thailand); MIFOR (India) and PHIREF (Philippines).

• Planning for the cessation of LIBOR is led by the respective administrators and regulators of these benchmarks. Some have replacement rates for new transactions identified and transition timelines in place (SOR and THBFIX), whereas others are yet to identify the replacement rates.

• ISDA IBOR Fallback Protocol and Supplement cover SOR and THBFIX
  ▪ Index cessation event is triggered by the occurrence of an “Index Cessation Event” applicable to USD LIBOR

• Links to the National RFR Working Groups in the APAC region
  • https://www.bot.or.th/Thai/FinancialMarkets/Pages/ReferenceInterestAndEndOfUseLIBOR.aspx
  • https://www.abs.org.sg/benchmark-rates/about-sora
  • https://www.tma.org.hk/en_market_LIBOR.aspx
  • https://afma.com.au/ibor_transformation_working_group
  • https://www.isda.org/2020/05/11/benchmark-reform-and-transition-from-libor/
  • https://www.boj.or.jp/en/paym/market/jpy_cmte/index.htm/
IBOR Fallbacks: ISDA’s Work – Implementation of Fallbacks in Supplement

Form of Amendments

• **Supplement to the 2006 ISDA Definitions**: To account for any permanent discontinuation of a relevant IBOR, amendments to the floating rate options in Section 7.1 of the 2006 ISDA Definitions for the relevant IBORs will take the form of:
  - a statement identifying the objective triggers that would activate the selected fallbacks (the trigger defined as ‘Index Cessation Event’); and
  - a description of the fallbacks that would apply upon the occurrence of that trigger, which will be:
    i. the relevant RFR adjusted using methodologies to account for (A) the fact that the RFR is an overnight rate and (B) the various premia included within the IBOR; and
    ii. if the relevant RFR is permanently discontinued, one or more further fallbacks.

Upon publication of the Supplement, all **new** derivative transactions entered into on or after the date of the amendments that incorporate the 2006 ISDA Definitions will include the fallbacks (counterparties will **not** have to take any additional steps).
Form of Amendments

- **ISDA 2020 IBOR Fallbacks Protocol:** ISDA will also publish a protocol to facilitate inclusion of the amended floating rate options (i.e., the definitions with fallbacks) into existing derivative contracts entered into prior to publication of the Supplement.
  
  - Adherents to the Protocol will agree that derivative transactions that they have entered into with other adherents prior to publication of the Supplement will be based on the relevant amended floating rate options in the 2006 ISDA Definitions, notwithstanding when the transactions were entered into.
  
  - The Protocol will cover those ISDA master agreements, ISDA credit support documents and confirmations that:
    
    i. incorporate one of several ISDA definitional booklets;
    
    ii. reference an IBOR as defined in or has the meaning in one of several ISDA definitional booklets; or
    
    iii. reference an IBOR howsoever defined.
  
  - The Protocol will also extend to additional non-ISDA master agreements and credit support documents.
  
  - ISDA will also provide translation of the IBOR Fallbacks Supplement and Protocol for certain jurisdictions.
IBOR Fallbacks: ISDA’s Work – Triggers

• The fallbacks apply upon the **permanent discontinuation** of the relevant IBOR (based on pre-determined, objective triggers) and will be to the relevant alternative risk-free rate (RFR), subject to term and spread adjustments. The **permanent discontinuation** trigger is defined as “Index Cessation Event” in the non-LIBOR Rate Options.

• The fallbacks will not apply until the actual discontinuation of the relevant IBOR (if that is after the announcement date). This date is defined as the “Index Cessation Effective Date”.

• For LIBOR in GBP/CHF/USD/EUR/JPY, the fallbacks apply upon the **earlier to occur of (i) the permanent discontinuation or (ii) the non-representativeness (as determined by the UK FCA) (a so-called “pre-cessation” trigger)** of LIBOR in the relevant currency (based on pre-determined, objective triggers) and will be to the relevant alternative RFR, subject to term and spread adjustments. The combined **permanent discontinuation** and **pre-cessation** trigger is also defined as “Index Cessation Event” in the LIBOR Rate Options.
  - The Index Cessation Effective Date for the pre-cessation trigger will be the date on which LIBOR in the relevant currency ‘is no longer representative’, which may either coincide with or be after the date of an announcement that it is ‘no longer capable of being representative’.
IBOR Fallbacks: Adjustments to Fallback Rates

Form of Adjustments

• The RFRs are adjusted (1) to reflect the fact that the IBOR is a term rate and (2) to factor in the embedded bank credit spread element of the IBOR.

• The current methodology is:
  – RFRs are based on the **compounded setting in arrears rate** and the **five year historical median approach to the spread adjustment**.
  – The **compounded setting in arrears rate** is the RFR observed over a period (generally equivalent to the relevant IBOR tenor) and compounded daily. The rate is adjusted whereby the observation period is backward-shifted to allow for the rate to be known prior to the relevant payment date.
  – The **five-year historical median approach to the spread adjustment** is based on the median spot spread between the IBOR and the term-adjusted RFR calculated over a static lookback period of five years prior to the Index Cessation Event. The spread adjustment will be added to the compounded setting in arrears rate (but will not be compounded itself).

Information about the relevant consultations and results, as well as test data and example calculations from Bloomberg, are available at ISDA Benchmark Reform and Transition from LIBOR webpage [https://www.isda.org/2020/05/11/benchmark-reform-and-transition-from-libor/](https://www.isda.org/2020/05/11/benchmark-reform-and-transition-from-libor/)
IBOR Fallbacks: Adjustments to Fallback Rates

• Bloomberg will publish (i) the compounded setting in arrears rate, (2) the spread adjustment and (3) the ‘all in’ fallback rate on a daily basis
  • Publication will be on an indicative basis (i.e., ‘as if’ the fallbacks were triggered on the publication date)
    • Upon the occurrence of an ‘Index Cessation Event’ for the relevant IBOR, the spread adjustment will be fixed (but the indicative compounded setting in arrears rate and ‘all in’ fallback rate will continue to change on a daily basis). Contracts will continue to reference the relevant IBOR until the ‘Index Cessation Effective Date’ occurs.
    • Upon the occurrence of an ‘Index Cessation Effective Date’ for the relevant IBOR, contracts that continue to reference the relevant IBOR will reference the ‘all in’ fallback rate (which will include the spread adjustment that was set on the date of the ‘Index Cessation Event’ but with a changing compounded setting in arrears rate).

• Rulebook for final methodology published April 22, 2020. Available at http://assets.isda.org/media/34b2ba47/c5347611-pdf/.

• FAQs (to be updated from time-to-time) available at http://assets.isda.org/media/ddcb20e0/76dd3ab8-pdf/
# IBOR Fallbacks: Key Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloomberg begins publication of indicative fallback rates via:</td>
<td>Live as of July 17th</td>
</tr>
<tr>
<td>• Bloomberg Terminal</td>
<td></td>
</tr>
<tr>
<td>• Bloomberg Data License</td>
<td></td>
</tr>
<tr>
<td>• Bloomberg’s LIBOR Transition website (on a delayed basis)</td>
<td></td>
</tr>
<tr>
<td>Launch of IBOR Fallback Supplement and IBOR Fallback Protocol</td>
<td>Documents final by end of July</td>
</tr>
<tr>
<td>LIbor Fallback Supplement and IBOR Fallback Protocol</td>
<td>Launch after receive positive Business Review Letter from the US DoJ and similar comfort from other relevant competition law authorities (market will receive approximately two weeks’ notice of launch date)</td>
</tr>
<tr>
<td>Effectiveness of IBOR Fallback Supplement and IBOR Fallback Protocol</td>
<td>Approximately four months after publication (date to be set upon launch)</td>
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</tbody>
</table>
**IBOR Fallbacks: Other Templates and Materials**

- ‘Short form’ language for bilaterally incorporating the terms of the ISDA IBOR Fallbacks Protocol into agreements on a wholesale basis for purposes of bilateral adherence

- ‘Long form’ language setting out the language from the Attachment to the ISDA IBOR Fallbacks Protocol in full for purposes of bilateral adherence

- Template acknowledgment language for transactions entered into prior to publication of the IBOR Fallbacks Protocol

- Template wording for inclusion in (i) confirmations for new transactions or (ii) amendments to legacy transactions (on a counterparty-by-counterparty or transaction-by-transaction basis) between counterparties who adhered to the IBOR Fallbacks Protocol and/or bilaterally adopted the terms of the IBOR Fallback Protocols using either ‘short form’ or ‘long form’ language
  
  - Exclude transactions and agree to different fallbacks (e.g., to ‘perfectly match’ hedges)
  - Include enhanced Calculation Agent dispute provisions
  - Include additional documents and/or transactions
  - Exclude the pre-cessation fallbacks for LIBOR
  - Other templates as required/requested

- Potential supplemental amendments to fallbacks for non-linear derivatives (e.g., in arrears swaps, caps/floors, swaptions) – *currently seeking feedback on approaches*
## CCPs – Transition to €STR and SOFR Discounting

<table>
<thead>
<tr>
<th>€STR</th>
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</thead>
<tbody>
<tr>
<td>&gt; CCPs to switch discounting on all EUR-denominated products from EONIA to €STR flat.</td>
</tr>
<tr>
<td>&gt; CCP Transition Date: 24 July 2020.</td>
</tr>
<tr>
<td>&gt; CCPs to apply cash compensation payments to all accounts containing open EUR-denominated positions on the transition date.</td>
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</tbody>
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<thead>
<tr>
<th>SOFR</th>
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<tbody>
<tr>
<td>&gt; CCPs to switch discounting on all USD-denominated products from Fed Funds to SOFR.</td>
</tr>
<tr>
<td>&gt; CCP Transition Date: 16 October 2020 *</td>
</tr>
<tr>
<td>&gt; CCPs to offer a combination of cash compensation (in respect of valuation change) and swap compensation (in respect of risk profile change) to all accounts containing open USD-denominated positions on the transition date.</td>
</tr>
<tr>
<td>&gt; At certain CCPs, including LCH, client accounts will be able to elect for cash-only compensation, in lieu of swap compensation.</td>
</tr>
<tr>
<td>&gt; An auction process will be used to close out unwanted compensating swaps and provide a reference for cash compensation calculations.</td>
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*subject to regulatory approval*
ISDA Collateral Agreement Interest Rate Definitions

> ISDA has published the Collateral Agreement Interest Rate Definitions.

> Incorporation of these into ISDA collateral agreements will enable parties to include standardised definitions (including triggers and fallbacks) relating to overnight interest rates.

> The triggers and fallbacks are designed to mirror those used in derivative transactions which reference the relevant overnight interest rates included in the Definitions.

> The first version contains collateral rate definitions of EONIA (Collateral Rate) and EuroSTR (Collateral Rate). Subsequent versions to contain SOFR (Collateral Rate) and other RFR definitions.

> Parties can:

  > (i) incorporate the most recent version of the Definitions prior to entry into the relevant agreement, or

  > (ii) incorporate the Definitions as amended from time to time, and elect to apply Interest Rate Override. Option to override the definition of either a specified interest rate benchmark (eg Interest Rate Override (EONIA)), or all benchmarks (Interest Rate Override (All Rates)), already included in the relevant agreement with the definition of that interest rate benchmark from the Collateral Definitions.
### ISDA’s 2018 IBOR Global Benchmark Transition Report – Steps Market Participants Can Take to Prepare for Transition

<table>
<thead>
<tr>
<th>Assessment of IBOR Exposures</th>
<th>Assess Impact of Permanent Cessation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Inventory of products linked to IBORs</td>
<td>• Review existing contracts and assess fallbacks</td>
</tr>
<tr>
<td>• Dynamic quantification of net and gross exposure on and off balance sheet</td>
<td>• Determine re-papering/client outreach</td>
</tr>
<tr>
<td>• Calculate roll-off profiles ahead of 2019, 2020, 2021</td>
<td>• Engage with industry working groups to enhance fallbacks</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Transition Route Map</th>
<th>Mobilization of an IBOR Transition Program</th>
</tr>
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<tbody>
<tr>
<td>• Contribute to demand for, design of and trading in new RFR products</td>
<td>• Allocate responsibility to senior executive</td>
</tr>
<tr>
<td>• Review relevant RFR WG publications, roadmaps etc</td>
<td>• Federate governance structure</td>
</tr>
<tr>
<td>• Apply to participate in RFR WGs</td>
<td>• Budget &amp; resourcing</td>
</tr>
<tr>
<td>• Determine required infrastructure and process changes</td>
<td>• Project objectives</td>
</tr>
<tr>
<td>• Develop an implementation route map of key projects, milestones and ownership</td>
<td>• Stakeholder education</td>
</tr>
</tbody>
</table>
ISDA IBOR Fallback Update

IBOR Fallbacks: Additional Information

- ISDA/Bloomberg/Linklaters IBOR Fallbacks Fact Sheet
- Understanding IBOR Benchmark Fallbacks
- Benchmark Reform at a Glance
- IBOR Transition Guide for Asia co-published by ISDA, ASIFMA, ICMA and APLMA.

All of these materials, as well as additional information about ISDA’s work to implement IBOR fallbacks and other benchmark reform initiatives, are available on the ISDA Benchmark Reform and Transition from LIBOR webpage at https://www.isda.org/2020/05/11/benchmark-reform-and-transition-from-libor/
Updates by industry associations:

Mushtaq Kapasi
Managing Director – Chief Representative Asia Pacific
ICMA
A lot of progress is already being made with the adoption of new RFRs in bond markets:

**US Dollar:**
- Over US$300 billion of SOFR-linked FRNs
- Mainly SSAs, financial institutions
- Conventions are evolving
- SOFR Index now available

**UK Sterling:**
- Approx. £60 billion of SONIA-linked FRNs
- Approx. £27 billion of SONIA-linked securitisations
- Mainly SSAs, banks and building societies, with a broadening base of investors
- 180+ transactions
- Same market conventions
- SONIA Index to be available from early August
The official sector in the US and the UK has encouraged alternatives to LIBOR for new bond issuance

- If this is not possible, any new contracts referencing LIBOR and maturing beyond 2021 should contain robust fallbacks to risk-free rates
- For new USD LIBOR FRN contracts, the ARRC (Alternative Reference Rates Committee) in the US has produced fallback language – this hardwires a waterfall of fallbacks
- In the UK, issuers have included alternative fallback language to address a permanent cessation of IBORs since mid-2017. This is typically benchmark and currency agnostic
- GBP LIBOR-referencing transactions have all but ceased
Legacy bonds referencing LIBOR are due to mature beyond the end of 2021, when LIBOR may no longer be available.

• By way of illustration, it has been estimated that the global total of legacy bonds referencing LIBOR with a maturity beyond the end of 2021 is more than US$800 billion equivalent
• Around 80% of that total references USD LIBOR
• If LIBOR is discontinued, many legacy bonds will fall back to a fixed rate, in accordance with the fallbacks drafted into the documentation at a time when permanent discontinuation of the rate would not have been anticipated
• This is unlikely to be aligned with the commercial intention of the counterparties at the time of the transaction
Unlike derivatives, bonds are contracts between multiple parties and are freely tradeable, meaning the identity of the parties can change.

Bonds cannot be amended by way of adherence to an industry protocol.

Bonds usually contain provisions allowing the terms of the contract to be amended - this requires consent from bondholders by way of a process known as consent solicitation.

Depending on the governing law of the bond and relevant market practice, the consent threshold require for amendments of interest rate provisions may be high (e.g. 75% under English law, and 100% under NY law).

Amending bonds by way of consent solicitation is time-consuming and administratively burdensome for issuers and bondholders. It is a voluntary process with no guarantee of success.
Consent solicitation in practice

• In the UK, a number of consent solicitations have been successfully undertaken by financial and corporate issuers.

• Some transactions may be too difficult to amend, and may fall into a ‘tough legacy’ bucket (i.e. contracts which cannot remove their reliance on LIBOR ahead of its anticipated discontinuation).

• Market estimates suggest that that there are around 700 ISINs for GBP LIBOR bonds across approx. 430 deals.
UK ‘tough legacy’ proposals

• A ‘Tough Legacy Task Force’ in the UK recommended that the UK Government consider legislation in May

• In June, the UK Government said that it would propose an amendment to the UK’s benchmark legislation to strengthen the FCA’s powers

• The FCA would be empowered to direct LIBOR’s administrator to change the methodology for LIBOR in certain circumstances

• But there is no guarantee that the FCA can or will exercise these powers, and the FCA and Bank of England have urged parties to continue with “active transition”
In the US, where consent solicitation is more problematic, the ARRC has set out a summary of possible NY state legislation for USD-LIBOR contracts.

The possible US legislative proposal operates as follows:

- For contracts with no fallbacks, ARRC-recommended SOFR fallback rate and spread adjustment would apply.
- For contracts which fall back to a LIBOR-based rate, ARRC-recommended SOFR fallback rate and spread adjustment would apply.
- For contracts where an agent has discretion to choose the new benchmark rate, the agent would have protection under a “safe harbour” if the ARRC-recommended SOFR fallback rate and spread adjustment is chosen.
- Counterparties making conforming changes to documentation to accommodate the transition would also benefit from the safe harbour.
- Parties would be able to mutually opt out.
- Not yet clear whether this will be enacted in NY law and how this would interact in practice with the UK ‘tough legacy’ proposals.
Other options for legacy LIBOR bonds include:

- Buy-backs or other **liability management exercises**

- **Allowing existing fallbacks to operate** without amendment (as a result of which, many FRNs will become fixed rate unless the FCA is given, and exercises, powers to amend LIBOR methodology as outlined above)
Update by Bloomberg:

Dennis To
Regulatory Data Specialist, Enterprise Solutions, Asia Pacific
Bloomberg L.P.
Practical Challenges of LIBOR Transition

Dennis To
Regulatory Data Specialist, Enterprise Solutions
Asia Pacific, Bloomberg L.P.

July 23 2020
Impact Assessment – Where to Begin?

Benchmark transition impact various work streams simultaneously. Challenges arises as market participants take time to identify gaps in new data sets, analytics, valuation and impacts on in-house system as transition gradually takes place.

1. Business and Front Office
   - Bloomberg support:
     - Position/product inventory
     - New curve construction & risk management change
     - Repapering legacy contracts
   - Other considerations:
     - Identify business lines in scope
     - Economic sensitivities
     - Client outreach and communications

2. Operations
   - Bloomberg support:
     - Collateralization/management
     - PAI
     - Settlement/cash flow
     - Confirmations

3. Contracts
   - Bloomberg support:
     - Identification of all contracts
     - Fall-back provisions
   - Other considerations:
     - Renegotiating/rewriting legacy contracts
     - Legal consent & legal/statutory obligations
     - Standard documentation (e.g., ISDA and FIA)

4. Compliance
   - Bloomberg support:
     - Different regulatory requirements/treatment of RFRs across jurisdictions
   - Other considerations:
     - Regulatory tracking and impact
Impact Assessment – Where to Begin?

Benchmark transition impact various work streams simultaneously. Challenges arise as market participants take time to identify gaps in new data sets, analytics, valuation and impacts on in-house system as transition gradually takes place.

5. Treasury
   - Bloomberg support:
     - ALM Internal funding
     - Changes to issuance and hedging programs
     - Transfer pricing implications

6. Valuations and Market Risk
   - Bloomberg support:
     - Valuation impacts (e.g., term structure curves/market value/secured vs unsecured)
     - Risk management (hedging)
     - Models' review & market risk sensitivities
     - Price testing

7. Accounting and Finance
   - Bloomberg support:
     - Hedge accounting/effectiveness
     - Forecast transactions
     - Impact on discounting
   - Other considerations:
     - Differences in tax treatment/payments due
     - Modification accounting

8. IT and Infrastructure
   - Bloomberg support:
     - Adjusting relevant support systems (e.g., trade capture, payment systems & inter-company funding arrangements)
   - Other considerations:
     - Technology enhancements
     - Infrastructure impact mapping
Identify New Data Requirements in Libor Transition

**Data-sets specific questions**

- *What new data sets are required as we transition to the new RFRs?*

**Assess readiness by considering**


- For trades referencing the new RFRs: capturing all necessary attributes related to the new RFRs (e.g. compounding conventions, index lag / lockout), hence ensuring all front-line pricers can properly price these new trades
Identify New Data Requirements in Libor Transition

Data-sets specific questions

- Where can we locate more information on various types of fallback, especially for cash products?

Assess readiness by considering

- For legacy Libor trades: automate the identification of existing fallback language provisions written in cash securities, and determine the practicality of such fallbacks.

- Both investors and banks / issuers should identify susceptible fallback provisions as they will likely change in the future. They should also proactively monitor fallback languages incorporated in similar bond issuance for references.
Identify New Data Requirements in Libor Transition

Data-sets specific questions

• *How can we construct new interest rate curves that references the new RFRs?*

Assess readiness by considering

• Evaluate if your existing system infrastructure can handle calculation conventions of the new RFRs (e.g. daily compounding in arrears).

• Ensure your system has flexibility on the composition of new RFR curves. As liquidity on new RFR trades improves, these curves should be updated to reflect the new market data available.

• Recognize system dependency on these new curves.
Quantify Valuation Impacts in Libor Transition

Analytics and valuation-specific questions

• How can we quantify the valuation impact of my existing Libor-linked positions when we adopt the new RFR curves for discounting?

Assess readiness by considering

• Ascertain if your incumbent systems (e.g. pricing tools, risk management system) are ready for various Libor cessation scenarios and timeline, as well as contingency plan for other product types such as options, cross currency swaps and structured products.

• Evaluate if your systems could concurrently handle Libor and RFR-based discounting, attribute differences in valuation and manage your interest rate exposures risk under a multi-curve regime.
Quantify Valuation Impacts in Libor Transition

Analytics and valuation-specific questions

• *How do we assess the repapering terms? When should I begin negotiating with my counterparties for repapering?*

Assess readiness by considering

• Perform scenario analysis based on various curves, spread adjustment and time horizon assumptions, before the actual repapering negotiation takes place.

• Appraise if your incumbent systems could assess repapering terms as presented by your counterparties on a timely fashion.

• Identify if contracts that have fallback languages defined would require updating.
Thank You

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Q&A Session

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