LIBOR’S LONG GOODBYE

Readiness for LIBOR transition
## IBOR Transition Readiness Matrix

This matrix ranks LIBOR (and select other IBOR) jurisdictions and products according to the level of readiness for LIBOR transition, on a scale of 1 to 5, with 1 indicating the least ready, and 5 indicating the most ready.

A "5" grade indicates that substantial certainty exists and that there are no or very few additional steps that need to be taken; a "1" grade indicates that significant developments need to occur in order to achieve readiness.

**Grade Key:**

- **1**: Significant developments needed.
- **2**: Significant work underway.
- **3**: Minimal or no additional work.
- **4**: Significant work completed.
- **5**: Substantial certainty.

### IBOR Jurisdiction

<table>
<thead>
<tr>
<th>IBOR Jurisdiction</th>
<th>UK/Sterling /SONIA</th>
<th>US/USD /SOFR</th>
<th>Euro zone/euro /ESTR</th>
<th>Japan/Yen /TONA</th>
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</thead>
<tbody>
<tr>
<td>Derivatives - in overnight RFRs*</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>5</td>
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<tr>
<td>Derivatives - in forward term rates **</td>
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<td>1</td>
<td>TIBOR/Euroyen TIBOR</td>
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<td>Derivatives- fallbacks</td>
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<tr>
<td>FRNs - in overnight RFRs, compounded in arrears*</td>
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<tr>
<td>FRNs- fallbacks</td>
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<tr>
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<td>Securitizations – fallbacks</td>
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<thead>
<tr>
<th>IBOR Jurisdiction</th>
<th>Switzerland/ CHF/SARON</th>
<th>Australia/A$/ AONIA</th>
<th>Canada/C$/ CORRA</th>
<th>Hong Kong/ HK$/HONIA</th>
<th>Singapore$/S$/ SORA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derivatives - in overnight RFRs*</td>
<td>3</td>
<td>5</td>
<td>4</td>
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<tr>
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</table>
Rankings of overnight RFRs include an assessment of receptivity to transition of legacy IBOR books to compounded RFRs, in arrears.** Forward term rates refer to rates other than LIBOR. For forward term rates in multiple-rate jurisdictions, two rankings are given: (i) one for such jurisdiction’s existing non-LIBOR IBOR; and (ii) one for a forward term rate derived from such jurisdiction’s identified RFR.

1. Among the factors examined are: the degree of liquidity that exists; the degree of consensus achieved regarding market conventions; whether impediments exist with respect to the development or adoption of a product; and the degree of uncertainty remaining with respect to market consensus or legal, regulatory, accounting or tax treatment.

2. We note that derivatives trading in forward term rates based-off RFRs does not necessarily involve the use of a rate that is being used as a benchmark.

3. Some market appetite exists in the US for simple average SOFR in arrears because it may be easier to operationalize a simple average rate than a compounded rate with respect to loans, which are relatively easier to prepay than other debt. In addition, a simple average may be easier to use to calculate prices for loan trades with delayed settlement.

4. To date, most fallbacks with respect to loans have adopted an amendment approach, rather than a hardwired approach.

5. This assessment includes not only a contractual fallback from EUR LIBOR, but also a contractual fallback from EURIBOR.

6. As currently constituted, SIBOR is vulnerable to a discontinuation of USD LIBOR, since SIBOR relies on the SGD Swap Offer Rate (SOR), which is an FX swap implied interest rate computed from actual transactions in the USD/SGD FX swap market, and which uses USD LIBOR as an input in its waterfall methodology. For this reason, regulators in Singapore determined that SIBOR would not be a suitable alternative to SDR in SGD interest rate derivatives.

7. See Sterling Working Group 2020 Top Level Priorities; BoE and FCA, Next steps for LIBOR transition in 2020: the time to act is now


10. Sterling Working Group, Minutes of 7 November 2019 Meeting.


12. See, e.g., BoE’s Libor collateral haircut set to accelerate Sonia trading, IFLR Practice Insight, 28 February 2020.
According to IOSCO, “USD LIBOR is by far the most significant and widely used benchmark.” The US has not adopted a multiple-rate approach and has identified SOFR as its RFR. SOFR has been published since the second quarter of 2018.

The ARRC has stated that it views the first four steps as having been accomplished on or prior to their target completion dates, and that the fifth step will likely be accomplished at least six months earlier than its target completion date.

Unfortunately, the sixth and last step, the development of a term reference rate based on SOFR, appears unlikely to occur by its target completion date. At the October 2019 meeting of the ARRC, staff from the US Federal Reserve Board made a presentation which noted that, while SOFR futures volumes have grown significantly since the inception of SOFR, current market depth and trading volumes significantly lag fed funds futures and do not yet appear to be sufficient to create a robust IOSCO-compliant SOFR term rate.

The ARRC has not retreated from step 6’s target completion date. It has said that it intends to endorse a forward term rate for SOFR, provided consensus can be reached among its members that a robust, IOSCO-compliant term benchmark that meets appropriate criteria set by the ARRC can be produced. However, it has cautioned that the production and timing of such a rate cannot be guaranteed.

<table>
<thead>
<tr>
<th>Step</th>
<th>Original target completion date</th>
<th>Actual completion date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Infrastructure for futures and/or OIS trading in the new rate is put in place by ARRC members.</td>
<td>2018 H2</td>
<td>Began in 2018</td>
</tr>
<tr>
<td>2. Trading begins in futures and/or bilateral, uncleared, OIS that reference SOFR.</td>
<td>End of 2018</td>
<td>Began in May 2018</td>
</tr>
<tr>
<td>3. Trading begins in cleared OIS that reference SOFR in the current (EFFR) PAI and discounting environment.</td>
<td>2019 Q1</td>
<td>Began in 2018</td>
</tr>
<tr>
<td>4. CCPs begin allowing market participants a choice between clearing new or modified swap contracts (swaps paying floating legs benchmarked to EFFR, LIBOR, and SOFR) into the current PAI/discounting environment or one that uses SOFR for PAI and discounting.</td>
<td>2020 Q1</td>
<td>Began in 2018</td>
</tr>
<tr>
<td>5. CCPs no longer accept new swap contracts for clearing with EFFR as PAI and discounting except for the purpose of closing out or reducing outstanding risk in legacy contracts that use EFFR as PAI and discount rate. Existing contracts using EFFR as PAI and the discount rate continue to exist in the same pool, but would roll off over time as they mature or are closed out.</td>
<td>2021 Q2</td>
<td>CME and LCH have announced that they expect to move SOFR PAI/discounting on both new and legacy swaps on 16 October 2020.</td>
</tr>
<tr>
<td>6. Creation of a term reference rate based on SOFR derivatives markets once liquidity has developed sufficiently to produce a robust rate.</td>
<td>End 2021</td>
<td>?</td>
</tr>
</tbody>
</table>

14. See here.
15. See here.
16. ARRC, Consultation on Swaptions Impacted by CCP Discounting Transition to SOFR.
18. Minutes of 22 October 2019 meeting of the ARRC. The Federal Reserve Staff stated that volume in SOFR trades was concentrated in near-term contracts and that there was a lack of depth in the order book for SOFR futures. The Federal Reserve Staff also stated that, “[w]ith regard to benchmark robustness, the IOSCO principles embed a sense of proportionality – the more widely a reference rate is used, the more robust it needs to be.” The staff said that the limited futures market depth risks SOFR term rates that may be overly volatile or inconsistent with other market term rates sensitive to spurious trades and subject to manipulation.
European Central Bank launched €STR on 2 October 2019. As part of a multiple-rate approach for euro, €STR is set to exist alongside reformed EURIBOR. EONIA, which is currently quoted, is to transition out of existence. From and after 2 October 2019 until 3 January 2022 (when EONIA will cease), EONIA has been recalibrated to refer to €STR plus a fixed spread of 8.5 basis points.

Because EONIA will be discontinued completely in 2022, the Working Group on euro risk-free rates (euro Working Group) has recommended that market participants transition from EONIA to €STR as soon as possible.66 The euro Working Group has also published a recommended legal action plan for a transition from EONIA to €STR67 and (in February 2020) a report on the transfer of EONIA’s cash and derivatives markets liquidity to €STR.68

In July 2019, the European Money Markets Institute (EMMI), the EURIBOR administrator, published the EURIBOR Benchmark Statement, which sets out a new hybrid methodology for calculating EURIBOR. This reformed methodology includes a waterfall of inputs, including expert judgment as the lowest tier. Also in July 2019, the Belgian Financial Services and Markets Authority confirmed that the reformed EURIBOR hybrid methodology meets the requirements contained in the EU Benchmarks Regulation (which reflects the IOSCO principles).69 The transition to the new methodology occurred in phases. In November 2019, EMMI confirmed that such transition had been completed.70 LCH, Eurex and CME are scheduled to transition discounting and PPI for cleared euro products from EONIA to €STR on or around 22 June 2020.

The euro Working Group has published recommended language for EURIBOR fallbacks.71 The euro Working Group has also published fact sheets on EONIA to €STR transition and EURIBOR fallbacks.72 The euro Working Group plans to issue two consultations on fallbacks in the second quarter of 2020, with recommendations expected for June 2020. Forward looking term structures for €STR will depend on the development of liquid €STR swaps and futures markets, which appear to be in their infancy at this point. ISDA received feedback in response to a consultation on spread and term adjustments for derivatives referencing EUR LIBOR and EURIBOR. The overwhelming majority of respondents agreed with an implementation based on the compounded setting in arrears rate approach with a backward-shift adjustment and a spread adjustment based on a historical median over a five-year lookback period for fallbacks in derivatives referencing EUR LIBOR and EURIBOR.73 These results are consistent with the results of prior ISDA consultations for other IBORs.

The report of the Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks (Japan Working Group) on its benchmark consultation indicated that the target date for introducing LIBOR fallbacks was Q1 2020.74 The report did not discuss fallbacks from TIBOR. The importance of alignment of fallbacks for Yen bonds with ISDA fallbacks was emphasized by a majority of respondents in order to maintain a hedge accounting relationship.75

Currently, the trading of Over-Night Call Rate Futures on the Tokyo Financial Exchange is suspended and is expected to resume trading at some point in 2020.76 The Japan Working Group had proposed an OIS rate (Option 3 of the consultation) for a forward term rate for TONA, and not a rate that included information derived from futures trades. The resumption of trade in Over-Night Call Rate Futures on the Tokyo Financial Exchange is a precondition for the development of Option 4 of the consultation, a forward term rate based on futures. Option 5 of the consultation for a JPY LIBOR fallback was TIBOR.

The Japan Working Group agreed to begin initiatives toward the publication of Option 3, and to begin to publish this rate on a phased basis: (i) first calculating and publishing a “prototype” rate; and (ii) then publishing a “production” rate. The production rate of Option 3 is planned to be developed by mid-2021. The Japan Working Group also announced that it had selected Quick Corp. to calculate and publish prototype rates for JPY term reference rates.77

In March 2020, the Financial Services Agency and the Bank of Japan released a “Summary of Survey Results on the Use of LIBOR and Main Actions Needed” with respect to a survey undertaken of Japanese financial institutions.78 That summary indicated that “most of the survey items chosen indicate that preparations as a whole [for LIBOR transition] are still in process or not yet started.”

68 Euro Working Group, Report on the transfer of EONIA’s cash and derivatives markets liquidity to the €STR.
70 See https://www.emmi-benchmarks.eu/euribor-org/about-euribor.html. For more on EURIBOR and €STR generally, see Euribor Markets, which appear to be in their infancy at this point.
72 Euro Working Group, Report on the transfer of EONIA’s cash and derivatives markets liquidity to the €STR.
73 Euro Working Group, Report on the transfer of EONIA’s cash and derivatives markets liquidity to the €STR.
75 Euro Working Group, High level recommendations for cash products and derivatives transactions referencing EURIBOR, 6 November 2019.
76 Euro Working Group, High level recommendations for cash products and derivatives transactions referencing EURIBOR, 6 November 2019.
82 Available here.
Switzerland/CHF/SARON

SARON was established in 2009 and has been calculated back to 1999. In October 2018, the National Working Group on CHF Reference Interest Rates (Swiss Working Group) stated that a forward term SARON was not currently feasible and recommended using compounded SARON whenever possible as an alternative to a term rate.

At its 5 February 2019 meeting, the Swiss Working Group stated that it found no impediment to issuing FRNs referring to compounded SARON in arrears. In July 2019, the Swiss Working Group issued a Discussion paper on SARON Floating Rate Notes. This discussion paper included sample interest provisions for FRNs referring to SARON compounded in arrears, including fallback language.

SIX Group, the SARON benchmark administrator, has announced that it is in the process of launching SARON compound indices.

Australia/A$/AONIA

AONIA is the RFR for Australia, which has adopted a multiple-rate approach. This RFR (also referred to as the “cash rate”) is set to exist alongside BBSW.

In June 2019, the first FRN referencing AONIA was issued by the South Australian Government Financing Authority.

According to the Reserve Bank of Australia (RBA) website on Interest Rate Benchmark Reform, Australian market participants have been engaged in the ISDA Asia-Pacific Benchmark Working Group. This resulted in BBSW being included in ISDA’s Consultation on Benchmark Fallbacks, with AONIA as the fallback rate. The RBA expects market participants to adopt more robust fallbacks for BBSW following this process.

The Australian Securitisation Forum conducted a survey in 2019 regarding interest rate benchmarks, and published the results of the survey in November. Survey respondents indicated that the use of 1 month BBSW in securitizations was well supported by respondents for the twelve-month period following the date of the survey (referred to in the results as the short term), but respondents were uncertain of the utility of such rate in securitizations after that period. For the medium term, there was no clearly preferred alternative to BBSW, but three alternatives had support: 3-month BBSW, AONIA and Term AONIA (which does not yet exist). Several respondents expressed the view that Australian markets should be cognizant of changes in global markets in order to remain competitive. In addition, some respondents noted that debt fallback language and securitization fallback provisions should be aligned with other and might differ slightly from derivatives provisions.
CORRA is the RFR for Canada, which has adopted a multiple-rate approach. This RFR is set to exist alongside CDOR.

CORRA is expected to be reformed. In February 2019, the Canadian Alternative Reference Rate Working Group (CARR) published a consultation paper for an enhanced methodology to calculate CORRA. The results of the consultation and the final methodology were published in July 2019.

On 20 February 2020, The Bank of Canada published the methodology it will use to publish CORRA. The Bank of Canada also announced its intention to become the administrator of CORRA and stated that it would take over the responsibility for calculating and publishing CORRA effective from 15 June 2020. CARR’s Term Risk-Free Rate subgroup is planning to launch a survey to determine whether there is a need for a forward-looking term RFR in the Canadian market. According to the FSB, “Based on feedback and analysis, CARR will potentially develop a methodology and specifications for the Canadian term risk-free rate benchmark, including how to ensure that it is IOSCO-compliant and which maturities should be published.”

CARR published Principles for Enhancements to Fallback Language in January 2019. In May 2019, CARR proposed draft fallback language for cash products that reference CDOR. This language will be finalized and published after the results of ISDA’s consultation on fallbacks for derivatives that reference CDOR are finalized.

Bourse de Montréal Inc. is currently working on a three-month CORRA futures product.

According to the FSB, “The Hong Kong Monetary Authority (HKMA) continues to work with the [Hong Kong Treasury Markets Association (TMA)] to ensure that HIBOR follows better the IOSCO Principles for Financial Benchmarks, having regard to local market conditions. The TMA is planning to conduct its regular review on the tenor structure and calculation methodology of HIBOR in due course. In doing so, the TMA will gather industry feedback and take into account other jurisdictions’ experience. On HONIA, the TMA completed an industry consultation in May 2019 on some technical refinements to HONIA. This was part of its ongoing initiative to enhance the robustness of the benchmark. Taking into account feedback from the consultation, the TMA will consider how best to put in place the relevant refinements and publish the consultation conclusions in the second half of 2019. It will further engage market participants in Hong Kong to explore means of encouraging the adoption of HONIA in their business activities. The TMA is also exploring other possible means of developing term rates for HKD, such as an OIS market for HONIA-based transactions.”

HONIA is the RFR for Hong Kong, which has adopted a multiple-rate approach. This RFR is set to exist alongside HIBOR.

It will draw reference from other jurisdictions’ experience in promoting the development of OIS market in Hong Kong.”

In December 2019, the TMA published a consultation conclusion on technical refinements to HONIA. The publication included feedback received from an April 2019 consultation conducted by the TMA, as well as the TMA’s responses.

See here.

See Minutes of CARR 16 December 2019 meeting.

See Minutes of CARR 2 May 2019 meeting.

See here.

Consultation conclusion on technical refinements to HKD Overnight Index Average (HONIA); see also TMA, Alternative Reference Rate for Hong Kong Interbank Offered Rate (HIBOR) - Consultation with Industry Stakeholders April 2019.
As noted by the FSB 2019 report, "Unlike other jurisdictions where IBOR rates are used in derivatives, Singapore Dollar (SGD) derivatives do not reference SIBOR but reference the SGD Swap Offer Rate (SOR) instead. SOR is an FX swap implied interest rate, computed from actual transactions in the USD/SGD FX swap market, and utilising USD LIBOR as an input. As SOR relies on USD LIBOR in its computation methodology, the outlook for USD LIBOR beyond end-2021 has implications on the long-term viability of SOR." In effect, SOR reflects the cost of a synthetic borrowing of SGD envisaged by notionally (i) borrowing USD and (ii) “swapping” the “borrowed” USD to SGD by means of an FX transaction. SIBOR (which has been reformed) is in the process of being further reformed. The ABS Benchmarks Administration Co Pte Ltd and the Singapore Foreign Exchange Market Committee (jointly known as ABS-SFEMC) finalized proposals to enhance SIBOR in July 2018. The key recommendations aim to increase reliance on market transactions by using a waterfall of inputs. Transitional testing of a new enhanced waterfall methodology for SIBOR was conducted in the second half of 2019. ABS-SFEMC are expected to provide an update on the proposed enhancements to SIBOR during Q2 2020, including the targeted implementation date of the new waterfall methodology. However, ABS-SFEMC have stated that SIBOR, as currently constructed, is vulnerable to a discontinuation of USD LIBOR, since it relies on SOR as an input in its waterfall methodology. For this reason, ABS-SFEMC determined that SIBOR would not be a suitable alternative to SOR in SGD interest rate derivatives.

ABS-SFEMC recommended that SGD interest rate derivatives transition from SOR to SORA. ABS-SFEMC recommended that “SGD cash markets could continue to use multiple rates as is the case today, where various interest rates (e.g., SORA, SIBOR, bank deposit/board rates) would coexist as reference rates” and that “forward looking interest rate benchmarks based on derivatives referencing SORA (henceforth labelled as ‘term-SORA’) could be developed later when activity in the SORA-based derivatives market picks up. Such benchmarks could serve as alternative reference rates for cash market users.”

The Steering Committee for S达转换 to SORA (SC-STS), which was established by the MAS, is reviewing the results of ISDA’s supplemental consultation concerning fallbacks for derivatives contracts that reference SOR. The SC-STS is expected to work with ISDA to incorporate contractual fallbacks for SOR, at the same time as for LIBOR, in the amended ISDA definitions and protocol. ABS-SFEMC further stated that “[t]he establishing of new market conventions for the trading of SORA-based cash and derivatives market products would be among the first priorities of [SC-STS]. It is expected that industry guidance on these matters should be made available in 1H 2020.”

44. See ABS, Calculation Methodology for the ABS Benchmarks 1 October 2019.
45. See here. See also ABS-SFEMC, Response to Feedback Received from the Consultation Paper on the Evolution of SIBOR 24 July 2018. Among other things, 12-month SIBOR is expected to be discontinued, and a waterfall of inputs to SIBOR has been established.
46. ABS-SFEMC, Roadmap for Transition of Interest Rate Benchmarks: From SGD Swap Offer Rate (SOR) to Singapore Overnight Rate Average (SORA) 30 August 2019, FAQs, Q5.
47. ABS-SFEMC, Roadmap for Transition of Interest Rate Benchmarks: From SGD Swap Offer Rate (SOR) to Singapore Overnight Rate Average (SORA) 30 August 2019, §2.2.2.
48. ABS-SFEMC, Roadmap for Transition of Interest Rate Benchmarks: From SGD Swap Offer Rate (SOR) to Singapore Overnight Rate Average (SORA) 30 August 2019 §§3.1.1, 3.1.2.
49. See here.
50. ABS-SFEMC, Roadmap for Transition of Interest Rate Benchmarks: From SGD Swap Offer Rate (SOR) to Singapore Overnight Rate Average (SORA) 30 August 2019, FAQs, Q9.
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