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ISDA® Research Note

Adoption of RFRs: Major Developments in 2021

The transition from interbank offered rates (IBORs) to alternative reference rates remains high on the agenda of policy-makers and market participants. The UK Financial Conduct Authority (FCA) announcement on March 5, 2021 on the timing for the cessation or loss of representativeness of all 35 LIBOR settings gave market participants a clear set of deadlines across all currencies and tenors. This announcement, along with other major upcoming developments in 2021, should significantly accelerate LIBOR transition efforts.

This paper examines several major developments in 2021 that have been announced and/or are expected to occur related to the adoption of replacement benchmarks such as risk-free rates (RFRs). It also reviews the significant progress made on the transition from LIBOR and other IBORs to RFRs in 2020.

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SUMMARY

The transition from IBORs to alternative rates remains a high priority for the industry

The transition from IBORs to alternative rates such as RFRs remains high on the agenda of policy-makers and market participants. This paper examines several major developments in 2021 that have been announced and/or are expected to occur related to the adoption of alternative reference rates. It also reviews the significant progress made on the transition from LIBOR and other IBORs to RFRs in 2020.

Major 2021 developments that have occurred or are expected to occur include:

- On March 5, 2021, the UK FCA announced the timing for the cessation or loss of representativeness of all 35 LIBOR settings, giving market participants a clear set of deadlines for all currencies and tenors[1]. As well as providing a timetable for the transition to alternative rates, the FCA announcement clarified when new fallbacks for outstanding LIBOR exposures will apply, resulting in a fixing of the fallback spread adjustments.

- New fallbacks for derivatives linked to key IBORs came into effect on January 25, 2021 and apply to all new derivatives referencing LIBOR or other covered IBORs from that date. As of March 30, 2021, more than 13,600 entities across 85 jurisdictions had adhered to the ISDA 2020 IBOR Fallbacks Protocol, which allows firms to include the fallbacks into legacy transactions entered into with other adhering parties before January 25.

  Adoption of these fallbacks, which are based on a clear, consistent and transparent methodology, significantly reduces the risk of market disruption if a key IBOR ceases to exist or LIBOR is deemed to be non-representative before efforts to transition away from those rates are complete. According to analysis by the FCA, over 85% of non-cleared interest rate derivatives (IRD) in the UK referenced to sterling LIBOR now have effective fallbacks in place because both counterparties have adhered to the protocol[2]. The protocol remains open for adherence.

- Regulators and various working groups have set target dates for ceasing new issuance of IBOR-linked derivatives and cash products in 2021 (although some exceptions exist for the risk management of existing positions).

  - In the US, the Alternative Reference Rates Committee (ARRC) has recommended that dealers change the market convention for quoting US dollar-based derivatives from LIBOR to SOFR in March 2021.

  - The ARRC has also recommended that no new LIBOR derivatives maturing after 2021 are initiated after June 30, 2021, unless those trades are intended for risk or default management of legacy LIBOR positions[3].

[1] FCA Announcement on Future Cessation and Loss of Representativeness of the LIBOR Benchmarks https://www.fca.org.uk/publication/documents/future-cessation-loss-representativeness-libor-benchmarks.pdf

[2] Speech by Edwin Schooling Latter, Director Markets and Wholesale Policy at the FCA, delivered at City & Financial's Managing LIBOR Transition event on January 26, 2021 https://www.fca.org.uk/news/speeches/libor-are-you-ready-life-without-libor-end-2021

[3] ARRC Recommended Best Practices for Completing the Transition from LIBOR https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2020/ARRC-Best-Practices.pdf

- In March 2021, the ARRC published a progress report on the transition from US dollar LIBOR that outlined key reference rate reform efforts, progress to date and areas requiring further work. Based on the ARRC's estimates, the outstanding gross notional of all financial products referencing US dollar LIBOR was about $223 trillion at the end of 2020, including $171 trillion of over-the-counter (OTC) derivatives, $43 trillion of exchange-traded derivatives (ETD) and $9 trillion of cash products[4].

- In November 2020, the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC) issued supervisory guidance encouraging banks to stop entering new contracts that use US dollar LIBOR as soon as practicable and in any event by December 31, 2021, except in limited circumstances[5].

- In the UK, the Working Group on Sterling Risk-free Reference Rates has recommended that no new sterling LIBOR-linked linear derivatives that expire after the end of 2021 are issued after the end of the first quarter of 2021, except for the risk management of existing positions.

- Development of a forward-looking term structure for RFRs: In the UK, ICE Benchmark Administration (IBA) and Refinitiv launched term SONIA reference rates (TSRRs) in January 2021. In the US, the ARRC announced in March 2021 that although trading activity in SOFR derivatives is growing, it will not be able to recommend a forward-looking SOFR term rate by its original mid-2021 target based on current levels of SOFR derivatives market liquidity[6].

- Development of credit-sensitive alternative LIBOR replacement rates: ISDA recently updated its interest rate definitions to add the American Interbank Offered Rate (AMERIBOR) as a floating rate option. ISDA expects to add similar provisions for other credit-sensitive benchmarks that may be used as alternatives for US dollar LIBOR.

- Conversion of cleared outstanding EONIA overnight index swap (OIS) contracts into corresponding €STR-based OIS contracts: The conversion is expected to take place in October 2021.

- Conversion of cleared outstanding IBOR swaps into market-standard OIS contracts referencing the agreed RFRs for the relevant currency: This conversion will occur on (or shortly before) an index cessation effective date.

Each of these points is addressed in more detail in the following pages.

[4] Progress Report: The Transition from US Dollar LIBOR https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/USD-LIBOR-transition-progress-report-mar-21.pdf

[5] Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency Statement on LIBOR Transition https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20201130a1.pdf

[6] ARRC Provides Update on Forward-Looking SOFR Term Rate https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/arrc-press-release-term-rate-for-publication

MAJOR DEVELOPMENTS IN 2021

A clear timetable has now been set for the end of LIBOR

FCA Announcement

On March 5, 2021, the FCA announced the timing for the cessation or loss of representativeness of all 35 LIBOR benchmark settings currently published by IBA, the administrator of LIBOR[7].

As well as setting a clear timetable for the transition to alternative rates, the FCA announcement clarified when new fallbacks for outstanding LIBOR exposures will apply, resulting in a fixing of the fallback spread adjustments at the point of the announcement[8]. This clarity should significantly accelerate LIBOR transition efforts.

All seven euro and Swiss franc LIBOR tenors, overnight, one-week, two-month and 12-month sterling LIBOR, spot next, one-week, two-month and 12-month Japanese yen LIBOR, and one-week and two-month US dollar LIBOR will permanently cease immediately after December 31, 2021. Publication of the overnight and 12-month US dollar LIBOR settings will permanently cease immediately after June 30, 2023.

The FCA further announced that it will consult on requiring IBA to continue publishing one-month, three-month and six-month sterling LIBOR on a non-representative, synthetic basis for a further period after the end of 2021, and one-month, three-month and six-month yen LIBOR on a non-representative, synthetic basis for an additional year after end-2021, under proposed new powers included in the Financial Services Bill.

The FCA also announced that it will consider whether to require IBA to continue publishing one-month, three-month and six-month US dollar LIBOR on a non-representative, synthetic basis for a further period after the end of June 2023.

Extending the publication of certain US dollar LIBOR tenors until June 30, 2023 will allow most legacy US dollar LIBOR contracts to mature before LIBOR discontinuation, enabling market participants to focus on remaining legacy exposures that extend past mid-2023.

On the same day as the FCA statement, IBA announced that, in the absence of sufficient panel bank support and without the intervention of the FCA to compel panel banks to continue contributing to LIBOR, it is not possible for IBA to publish the relevant LIBOR settings on a representative basis beyond the intended cessation dates[9].

The use of synthetic LIBOR by UK regulated firms will not be permitted for new trades, while use by regulated firms in legacy transactions will be subject to permission from the FCA under its proposed new powers under the Financial Services Bill.

In the US, supervisory guidance encourages banks to cease entering into new contracts referencing US dollar LIBOR as soon as practicable and in any event by December 31, 2021, except in limited circumstances[10].

[7] FCA Announcement on Future Cessation and Loss of Representativeness of the LIBOR Benchmarks https://www.fca.org.uk/publication/documents/future-cessation-loss-representativeness-libor-benchmarks.pdf

[8] IBOR Fallbacks https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf

[9] ICE LIBOR Feedback Statement on Consultation on Potential Cessation https://www.theice.com/publicdocs/ICE_LIBOR_feedback_statement_on_consultation_on_potential_cessation.pdf

[10] Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency Statement on LIBOR Transition https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20201130a1.pdf

While the LIBOR spread adjustments were fixed at the point of the FCA announcement on March 5, 2021, the fallbacks will apply when each LIBOR setting actually ceases or becomes non-representative. For outstanding derivatives that reference euro, sterling, Swiss franc and yen LIBOR, the fallbacks will automatically take effect on the first London banking day on or after January 1, 2022[11].

The fallbacks for all US dollar LIBOR settings will apply on the first London banking day on or after July 1, 2023[12]. While one-week and two-month US dollar LIBOR will cease at the end of 2021, the new fallbacks will not immediately take effect. Instead, these rates will be computed until mid-2023 by each calculation agent using linear interpolation between the next shorter and next longer tenors that continue to be published[13].

[11] This is expected to be January 4, 2022, unless that date is an unscheduled holiday on the London banking day calendar

[12] This is expected to be July 3, 2023, unless that date is an unscheduled holiday on the London banking day calendar

[13] ISDA Guidance: FCA Announcement on LIBOR Benchmarks https://www.isda.org/2021/03/05/isda-guidance-uk-fca-announcement-on-the-libor-benchmarks/

New IBOR Fallbacks for Derivatives

The new fallbacks ensure a viable safety net is in place for derivatives linked to certain key IBORs

New fallbacks for derivatives linked to key IBORs came into effect on January 25, 2021, ensuring a viable safety net is in place in the event an IBOR becomes permanently unavailable while firms continue to have exposure to that rate[14].

ISDA has amended certain floating rate options in the 2006 ISDA Definitions to include fallbacks that would apply following the permanent discontinuation of certain key IBORs or, in the case of LIBOR, a non-representativeness determination. ISDA has also modified certain floating rate options that use US dollar LIBOR as an input to incorporate fallbacks that would apply if US dollar LIBOR is permanently discontinued or becomes non-representative.

ISDA published the IBOR Fallbacks Supplement and ISDA 2020 IBOR Fallbacks Protocol on October 23, 2020. The supplement incorporates the fallbacks into all new non-cleared derivatives contracts from January 25, 2021 that reference the 2006 ISDA Definitions.

Transactions that existed prior to January 25, 2021 (legacy derivatives) continue to be based on the 2006 ISDA Definitions as they existed before the supplement, and therefore do not include the amended floating rate options with the fallbacks.

However, participants can incorporate the fallback into legacy non-cleared derivatives contracts via use of an ISDA protocol or through bilateral negotiation. The ISDA 2020 IBOR Fallbacks Protocol allows firms to include the amended floating rate options, and therefore the fallbacks, into legacy derivatives contracts with other parties that also adhere to the protocol.

The fallbacks included as a result of adhering to the protocol are exactly the same as the fallbacks included in new transactions entered into from January 25, 2021 that reference the 2006 ISDA Definitions.

As of March 30, 2021, more than 13,600 entities across 85 jurisdictions had adhered to the protocol, which remains open for adherence[15].

Firms also have the option to include the fallbacks into legacy non-cleared derivatives contracts through bilateral negotiation, and ISDA has published templates to help with that.

For cleared derivatives, central counterparties (CCPs) have incorporated the ISDA IBOR fallbacks in their rule books for both new and legacy contracts.

[14] New IBOR Fallbacks Take Effect for Derivatives https://www.isda.org/2021/01/25/new-ibor-fallbacks-take-effect-for-derivatives/

[15] ISDA 2020 IBOR Fallbacks Protocol https://www.isda.org/protocol/isda-2020-ibor-fallbacks-protocol/

Target Milestones for US Dollar LIBOR

The ARRC recommends new LIBOR derivatives maturing post-2021 should stop after June 30, 2021

In September 2020, the ARRC developed a set of recommended best practices to help market participants prepare for the transition from LIBOR. These best practices do not constitute binding rules or regulatory guidance[16].

The recommendations include: adhering to the ISDA 2020 IBOR Fallbacks Protocol; including ARRC-recommended fallback language as soon as possible in new US dollar LIBOR cash products; and stopping new issuance of US dollar LIBOR-based products.

Table 1 highlights some of the major developments in 2021 outlined in the ARRC recommended best practices and the ARRC's paced transition plan for developing SOFR markets.

Table 1: ARRC Target Milestones for 2021

Date	Target Milestones
December 2020	No floating rate notes using US dollar LIBOR and maturing after 2021 should be issued after December 31, 2020.
March 2021	Dealers should change the market convention for quoting US dollar-based derivatives from LIBOR to SOFR.
June 2021	Market participants should not initiate new LIBOR derivative trades maturing after 2021 that will increase LIBOR risk unless such trades are for risk or default management of legacy LIBOR positions after June 30, 2021. No business loans using US dollar LIBOR and maturing after 2021 should be originated after June 30, 2021. Other than collateralized loans obligations (CLOs), no floating-rate securitizations using US dollar LIBOR in its tranches and maturing after 2021 should be issued after June 30, 2021. Creation of a term reference rate based on SOFR derivatives markets once liquidity has developed sufficiently to produce a robust rate in the first half of 2021.
September 2021	No CLOs (both corporate and commercial real estate) referencing US dollar LIBOR should be issued after September 30, 2021.

Source: ARRC recommended best practices

[16] ARRC Recommended Best Practices for Completing the Transition from LIBOR https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2020/ARRC-Best-Practices.pdf

Target Milestones for Sterling LIBOR

New sterling LIBOR-linked linear derivatives that expire after end-2021 to cease after March 31, 2021

The Working Group on Sterling Risk-free Reference Rates (RFRWG) in February 2021 published an update to its priorities and roadmap for the final year of transition from sterling LIBOR[17]. With the goal of preparing for the end of sterling LIBOR by the end of 2021, the working group recommended stopping new products that reference sterling LIBOR and converting legacy products to SONIA or other alternative rates. Table 2 outlines some of the milestones published by the working group.

Table 2: RFRWG Target Milestones for 2021

Date	Target Milestones
Q1 2021	Cease initiation of new sterling LIBOR-linked loans, bonds, securitizations and linear derivatives that expire after the end of 2021, except for risk management of existing positions. Complete identification of all legacy sterling LIBOR contracts expiring after end-2021 that can be actively converted and accelerate active conversion where viable. Widespread sign-up to the ISDA protocol ahead of effective date. Live production of term SONIA reference rates.
Q2 2021	Cease initiation of new sterling LIBOR non-linear derivatives that expire after end-2021, except for risk management of existing positions. Cease initiation of new sterling LIBOR exchange-traded derivatives that expire after end-2021, except for risk management of existing positions. Progress active conversion of all legacy sterling LIBOR contracts expiring after end-2021 where viable. If not viable, then ensure robust fallbacks are adopted where possible.
Q3 2021	Complete active conversion of all legacy sterling LIBOR contracts expiring after the end of 2021 where viable. If not viable, then ensure robust fallbacks are adopted where possible.
Q4 2021	Be fully prepared for the end of sterling LIBOR.

Source: Working Group on Sterling Risk-Free Reference Rates

[17] Priorities and Roadmap for Transition by End-2021 https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/rfr/rfr-working-group-roadmap.pdf

Target Milestones for Yen LIBOR

New interest rate swaps linked to yen LIBOR maturing after end-2021 to stop by September 30, 2021

In November 2020, the Cross-industry Committee on Japanese Yen Interest Benchmarks published a roadmap to prepare for the discontinuation of LIBOR for cash products (see Table 3)[18]. In March 2021, the Sub-group for the Development of Term Reference Rates reached consensus on the steps to discontinuing LIBOR in the Japanese yen interest rate swaps (IRS) market[19].

Table 3: The Cross-industry Committee on Japanese Yen Interest Rate Benchmarks Target Milestones for 2021

Date	Target Milestones
Q1 2021	Develop systems and operations for overnight RFR compounding (fixing in arrears).
Q2 2021	Cease issuance of new loans and bonds referencing LIBOR.
Q3 2021	Significantly reduce the amount of loans and bonds referencing LIBOR. Adopt new quoting conventions for yen interest rate swaps based on TONA instead of LIBOR no later than the end of July 2021. Market participants should adopt the new quoting conventions earlier if they can. Cease initiation of new interest rate swaps referencing yen LIBOR that mature after the end of 2021 no later than the end of September 2021, except for the risk management of existing positions. Market participants should transition before the end of September if they can.

Source: The Cross-industry Committee on Japanese Yen Interest Rate Benchmarks

Target Milestones by the HKMA

Issuance of new LIBOR-linked contracts to stop by the end of 2021

In July 2020, the Hong Kong Monetary Authority (HKMA) and the Treasury Markets Association (TMA) set out benchmark transition milestones for authorized institutions (AIs), as set out in Table 4.

In March 2021, the HKMA and the TMA announced that it is no longer appropriate to stick to an earlier deadline of ceasing to issue new LIBOR-linked products by the end of June 2021. Instead, AIs should continue with their transition preparations and cease to issue new LIBOR-linked contracts by the end of this year[20].

Table 4: HKMA Target Milestones for 2021

Date	Target Milestones
January 2021	Authorized institutions should be in a position to offer products referencing alternative reference rates from January 1, 2021. Adequate fallback provisions should be included in all newly issued LIBOR-linked contracts that will mature after 2021 from January 1, 2021.
December 2021	Authorized institutions should cease to issue new LIBOR-linked products that will mature after 2021 by the end of 2021.

Source: Hong Kong Monetary Authority

[18] Final Report on the Results of the Second Public Consultation on the Appropriate Choice and Usage of Japanese Yen Interest Rate Benchmarks https://www.boj.or.jp/en/paym/market/jpy_cmte/cmt201130b.pdf

[19] Report from the Sub-group for the Development of Term Reference Rates https://www.boj.or.jp/en/paym/market/jpy_cmte/cmt210326b.pdf

[20] Hong Kong Monetary Authority Reform of Interest Rate Benchmarks https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2021/20210325e1.pdf

Development of a Forward-looking Term Structure for RFRs

Forward-looking term rates are under development in several jurisdictions

While regulators have been encouraging market participants to transition to RFRs compounded in arrears rather than waiting for forward-looking term rates to emerge, the development of term rates can be an important step in the transition to RFRs. Forward-looking term rates can provide certainty for calculating interest payments and other contractual payments in advance, which may be important for some products and market participants.

SOFR

In September 2020, the ARRC released a request for proposal for an administrator to publish forward-looking SOFR term rates for one-month and three-month maturities and potentially six-month or one-year maturities if considered feasible[21].

However, the ARRC announced in March 2021 that although trading activity in SOFR derivatives is growing, it will not be in a position to recommend a forward-looking SOFR term rate by its original mid-2021 target based on current levels of liquidity in SOFR derivatives markets. The ARRC also announced that it is still evaluating the limited set of cases in which it believes a term rate could be used[22].

The US Federal Reserve has been calculating and publishing indicative forward-looking SOFR derived from end-of-day SOFR futures prices since 2019. However, these rates are for informational purposes only and are not intended for use as reference rates in financial contracts[23]. These indicative forward-looking term rates are derived from end-of-day CME SOFR futures prices and compound averages of daily SOFR rates[24].

CME Group also started publishing prototype CME term reference rates for viewing only in 2020. Currently, one-month, three-month and six-month term SOFR are presented as an illustrative preview. These rates are derived from transaction prices and executable orders in CME SOFR futures using a methodology similar to the one developed by the Federal Reserve[25].

In addition, Intercontinental Exchange (ICE) has launched an indicative forward-looking term SOFR, which is based on prices for SOFR-linked futures contracts and OIS[26].

SONIA

UK authorities and the RFRWG have stated their expectation that the use of forward-looking benchmarks should be relatively limited. Instead, sterling fixed income and wholesale lending markets should predominantly transition to SONIA compounded in arrears as part of the move from LIBOR.

[21] ARRC Releases Request for Proposals for the Publication of Forward-Looking SOFR Term Rates https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2020/ARRC_Press_Release_Term_Rate_RFP.pdf

[22] ARRC Provides Update on Forward-Looking SOFR Term Rate https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/arrc-press-release-term-rate-for-publication

[23] Inferring Term Rates from SOFR Futures Prices https://www.federalreserve.gov/econres/feds/files/2019014pap.pdf

[24] Indicative Forward-looking SOFR Term Rates https://www.federalreserve.gov/econres/notes/feds-notes/indicative-forward-looking-sofr-term-rates-20190419.htm

[25] CME Term SOFR Reference Rates https://www.cmegroup.com/market-data/cme-group-benchmark-administration/term-sofr.html

[26] ICE US Dollar Reference Rates https://www.theice.com/iba/usd-rates

In March 2021, the FICC Markets Standards Board published a transparency draft of a new standard on the use of term SONIA reference rates[27]. The standard has been developed to identify where there may be a robust rationale for using term SONIA for transactions in the loan, bond and derivatives markets, and sets out certain expected behaviors of market participants when using or issuing term SONIA products[28].

Both IBA and Refinitiv launched their own TSRRs in January 2021[29, 30]. This follows an initial testing period that started in June 2020. During testing, each benchmark provider made an initial beta version of their TSRR available for information and testing purposes[31].

The IBA and Refinitiv TSRRs are available in one-, three-, six- and 12-month tenors. The term rates are calculated using eligible prices and volumes for specified SONIA-linked IRD products provided by trading venues. The starting point for the calculations is SONIA OIS quotes provided by participants in interdealer central limit order books.

Table 5 compares waterfall methodologies used for TSRR calculations by IBA and Refinitiv. The waterfall is applied individually to each tenor of the benchmark.

Table 5: TSRR Waterfall Methodology Comparison

Waterfall	ICE TSRR[32]	Refinitiv TSRR[33]
Level I	Tradeable bid and offer prices and volumes for eligible SONIA-linked overnight index swaps (OIS) available on the central limit order books of regulated, electronic trading venues.	Committed (executable) quotes for spot-starting SONIA OIS contracts taken from dealer-to-dealer multilateral trading facilities.
Level II	Dealer-to-client bid and offer prices and volumes for eligible SONIA-linked OIS displayed electronically by trading venues.	Committed (executable) quotes for spot-starting SONIA OIS contracts from a dealer-to-client trading platform.
Level III	a) SONIA-linked futures settlement prices for contracts maturing within each calendar month spanned by the relevant tenor period, published on the preceding trading day on an electronic trading venue. b) Overnight SONIA rates on the date the term rate is being derived and from the beginning of the current calendar month. c) Scheduled Monetary Policy Committee meeting dates during the tenors of the relevant futures contracts.	Overnight SONIA published daily by the Bank of England and historical values of the Refinitiv term SONIA benchmark.

Source: ICE and Refinitiv websites

[27] FMSB Publishes new Standard on the Use of Term SONIA Reference Rates https://fmsb.com/fmsb-publishes-new-standard-on-the-use-of-term-sonia-reference-rates/

[28] Standard on Use of Term SONIA Reference Rates https://fmsb.com/wp-content/uploads/2021/03/FMSB-Term-Rate-Standard_TRANSPARENCY-DRAFT_Final.pdf

[29] ICE Term SONIA Reference Rates https://www.theice.com/iba/risk-free-rates

[30] Refinitiv Term SONIA https://www.refinitiv.com/en/financial-data/financial-benchmarks/term-sonia-reference-rates

[31] FTSE Russell and IHS Markit have also been publishing daily prototypes of SONIA term reference rates since July 2020, but have not launched a TSRR yet https://www.ftserussell.com/press/ftse-russell-publishes-indicative-term-sonia-reference-rates

[32] ICE Term SONIA Reference Rates (TSRR) Calculation Methodology https://www.theice.com/publicdocs/data/TSRR_-_Calculation_Methodology.pdf

[33] Refinitiv Term SONIA Methodology https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/term-sonia-methodology.pdf

€STR

In the euro area, the Working Group on Euro Risk-free Rates published a consultation to identify EURIBOR fallback provisions based on €STR for cash products. The consultation proposed a forward- and backward-looking €STR term structure as a component of the fallbacks[34].

The forward-looking term structure would be based on a methodology using €STR OIS committed quotes that was examined by the working group in 2019[35]. This method would require a successful transition from EONIA to €STR, with a significant transfer of liquidity to €STR OIS markets. However, current liquidity of the €STR OIS market remains modest.

Several benchmark administrators submitted proposed methodologies for forward-looking fallback rates to the working group in 2020. First tests of these rates were expected to be published at the end of 2020 or beginning of 2021[36].

This methodology may become available once an OIS market based on €STR is sufficiently developed to support the production of a robust benchmark that is compliant with the European Union Benchmarks Regulation and is accepted by the market.

TONA

In Japan, the Cross-industry Committee on Japanese Yen Interest Rate Benchmarks selected Quick Corporation as administrator to calculate and publish a forward-looking term version of TONA in February 2020[37].

The Tokyo Term Risk Free Rate (TORF) is based on market data for OIS transactions in Japanese yen, and is available in one-, three- and six-month tenors. Like existing interest rate benchmarks, the rate is fixed at the start of the interest rate calculation period[38].

Prototype rates have been published on a weekly basis since May 2020 and on a daily basis since October 2020. These prototypes have been used by market participants and interest rate benchmark users to develop their administrative frameworks. Publication of production rates for use in actual transactions is scheduled to begin before mid-2021.

[34] Public Consultation by the Working Group on Euro Risk-free Rates on €STR-based EURIBOR Fallback Rates https://www.ecb.europa.eu/pub/pdf/other/ecb.pubcon_ESTRbasedEURIBORfallbackrates.202011~d7b62f129e.en.pdf

[35] Second Public Consultation by the Working Group on Euro Risk-free Rates on Determining an ESTER-based Term Structure Methodology as a Fallback in EURIBOR-linked Contracts https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.summaryofresponses01_201902.en.pdf

[36] Survey Replies on Forward-looking Rates Production https://www.ecb.europa.eu/paym/interest_rate_benchmarks/WG_euro_risk-free_rates/shared/pdf/20200702/Item_2_1_Update_administrators_forward_looking_%20term_rates_EuroSTR.pdf

[37] Minutes of the Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks: https://www.boj.or.jp/en/paym/market/jpy_cmte/cmt200317a.pdf

[38] TORF https://corporate.quick.co.jp/en/torf

Development of Credit-sensitive Alternative LIBOR Replacement Rates

Several rates with a credit-sensitive component have emerged as an alternative to SOFR

While market participants have generally been supportive of using adjusted RFRs as fallbacks to LIBOR and other IBORs in derivatives markets, some cash market participants have expressed a strong desire for a credit-sensitive rate as an alternative to SOFR.

In November 2020, the Federal Reserve, the OCC and the FDIC announced they would not endorse a specific replacement for LIBOR-based loans. Banks may use any reference rate for loans they deem appropriate for their funding model and customer needs. However, banks should include fallback language in lending contracts that ensures a robust fallback rate would apply if the initial reference rate is discontinued[39].

Several indices have been created and some are still being developed as alternatives to SOFR. ISDA recently updated its interest rate definitions to add AMERIBOR as a floating rate option and expects to add similar provisions for other credit-sensitive benchmarks that may be used as alternatives for US dollar LIBOR, including the ICE Bank Yield Index (BYI), the Bloomberg Short-term Bank Yield Index (BSBY), the IHS Markit USD Credit Spread Adjustment and Rate and others that may exist in the future. These updates to ISDA's standard definitions are meant to facilitate hedges for loans and other cash instruments that may use these rates.

AMERIBOR

AMERIBOR is an interest rate benchmark based on overnight unsecured loans transacted on the American Financial Exchange. It reflects the actual borrowing costs of thousands of small, medium and regional banks across the US. Compared to SOFR, AMERIBOR contains a credit spread component based on unsecured loans[40].

ICE BYI

ICE BYI will be a forward-looking, credit-sensitive benchmark developed as a potential LIBOR replacement for US dollar lending activity. The index will measure the average yields at which investors are willing to invest US dollar funds over one-month, three-month and six-month periods on a wholesale, senior unsecured basis in large, internationally active banks.

The index will be based on primary market funding and secondary market bond transactions, which represent wholesale, unsecured bank investment yields. There will be no requirement for data contributors to use expert judgement when providing input data. IBA currently publishes daily ICE BYI test results and continues to solicit feedback from market participants on the index methodology[41].

BSBY

BSBY represents a series of credit-sensitive reference rates that incorporate systemic bank credit spreads. It measures the average yields at which large global banks access US dollar senior unsecured marginal wholesale funding.

[39] Statement on Reference Rates for Loans https://www.fdic.gov/news/financial-institution-letters/2020/fil20104a.pdf

[40] AMERIBOR https://ameribor.net/background

[41] ICE Bank Yield Index https://www.theice.com/iba/bank-yield-index

The index is based on consolidated anonymized transaction-related and firm executable quotes, including pricing observations sourced from Bloomberg's foreign exchange (FX) and money-market electronic trading services, as well as trades in senior unsecured bank corporate bonds reported by the Financial Industry Regulatory Authority. The values are calculated for overnight, one-, three-, six- and 12-month tenors[42].

IHS Markit USD Credit Spread Adjustment and Rate

IHS Markit is developing a US dollar credit spread adjustment[43] that will use commercial paper and certificates of deposit, secondary market bank bond transactions and indicative price quotes for bank bonds. It will allow lenders to adjust secured reference rates so they include a credit risk component of borrowers or issuers. The spread will be available for overnight, one-, three-, six-, and 12-month tenors.

IHS Markit is also considering publishing an all-in rate to facilitate the transition for firms that cannot use a spread or prefer to use a single rate versus a base rate plus a spread adjustment add-on.

[42] Introducing the Bloomberg Short-term Bank Yield Index (BSBY) https://assets.bbhub.io/professional/sites/10/986760_Introducing-the-Bloomberg-Short-Term-Bank-Yield-Index-BSBY.pdf

[43] IHS Markit to Publish Daily Credit Spread Adjustment for SOFR from Q2 2021 https://ihsmarkit.com/research-analysis/publish-daily-credit-spread-adjustment-for-sofr-from-Q2-2021.html

Cleared EONIA Swaps Conversion to €STR

LCH will convert outstanding EONIA trades into €STR-based contracts

In October 2020, LCH issued a consultation on the treatment of cleared EONIA OIS contracts that are outstanding as of the end of 2021 and their potential conversion into (or replacement with) corresponding €STR-based OIS contracts[44].

Based on responses to the consultation, LCH will move forward with its proposed approach of converting outstanding EONIA trades into corresponding €STR-based contracts. EONIA will be replaced by €STR flat in the EONIA leg and the non-EONIA leg of the contract will be left unchanged.

To neutralize the resulting valuation difference, LCH will apply cash compensation, whereby the CCP will calculate and report the present value of the 8.5 basis points spread between €STR and EONIA at the contract level and provide cash compensation as a single net settlement at the clearing-account level. The conversion is expected to take place on October 15, 2021.

Cleared Swaps Conversion from IBORs to RFRs

Cleared LIBOR swaps will switch to market-standard RFR OIS trades before a cessation effective date

In December 2020 and January 2021, LCH and CME issued proposals on proactively converting outstanding IBOR swaps into market-standard OIS contracts referencing the agreed RFRs for the relevant currency at or near the point of a cessation effective date[45, 46].

Under the LCH plan, conversion of Swiss franc, euro and yen LIBOR contracts outstanding as of close of business on Friday December 3, 2021 will occur over that weekend. Conversion of sterling LIBOR contracts outstanding at the close of business on Friday December 17, 2021 will take place over that Saturday and Sunday. Further information on US dollar LIBOR will be provided closer to the relevant index cessation date[47]. The CME consultation remains open.

Although CCPs have incorporated the ISDA IBOR fallbacks into their rule books for both new and legacy OTC IRD in line with official sector guidance[48], the fallbacks alone are viewed as insufficient to complete the IBOR transition arrangements at CCPs. To this end, the contractual conversions have been proposed, building on the prescribed fallback relationships.

Relying on fallbacks for cleared trades would create a bifurcated market between transactions that have fallen back to the spread-adjusted RFR and new RFR-referencing OIS trades. This would result in liquidity fragmentation and could impact CCP risk and default management capabilities.

To address these concerns, the CCPs proposed plans to transition all outstanding LIBOR transactions to market-standard RFR OIS trades at or shortly before a cessation effective date. As the conversion will create valuation differences between the original LIBOR contracts and the new RFR trades, the CCPs will introduce a compensation mechanism.

[44] Summary of LCH's Consultation on its Solution for Outstanding Cleared EONIA Contracts https://www.lch.com/membership/ltd-membership/ltd-member-updates/summary-lchs-consultation-its-solution-outstanding

[45] Summary of LCH's Consultation on its Solution for Outstanding Cleared LIBOR Contracts https://www.lch.com/membership/ltd-membership/ltd-member-updates/summary-lchs-consultation-its-solution-outstanding-0

[46] CME Group Cleared Swaps Considerations for IBOR Fallbacks and Conversion Proposal https://www.cmegroup.com/trading/interest-rates/files/cleared-swaps-considerations-for-ibor-fallbacks-and-conversion-proposal.pdf

[47] Supplementary Statement on LCH's Solution for Outstanding Cleared LIBOR Contracts https://www.lch.com/membership/ltd-membership/ltd-member-updates/supplementary-statement-lchs-solution-outstanding

[48] FCA LIBOR Transition and Contractual Fallbacks https://www.fca.org.uk/news/speeches/libor-transition-and-contractual-fallbacks

Based on the feedback in response to the LCH consultation, LIBOR will be replaced by the relevant compounded RFR plus a non-compounded spread adjustment in the LIBOR leg[49].

Given the decision to carry the spread adjustment on the RFR leg of the converted contract, LCH confirmed that it intends to retain the roll dates and accrual periods of the original LIBOR contract, use compounded RFRs as applicable over those periods and apply currency-specific payment lags to these legs in line with current market conventions for RFR-based swaps. All terms and conditions of the non-LIBOR leg will remain unchanged.

For basis swaps, each contract that would otherwise result in an RFR/RFR contract on conversion will be split into a pair of fixed-for-floating contracts in a preparatory conversion event in the third quarter of 2021.

Meanwhile, forward rate agreements (FRAs) will be directly converted into a corresponding single period RFR swap as an integrated part of the conversion event in each currency. This conversion will avoid the impact that a backward-looking fallback methodology could have on these products[50].

[49] Summary of LCH's Consultation on its Solution for Outstanding Cleared LIBOR Contracts https://www.lch.com/membership/ltd-membership/ltd-member-updates/summary-lchs-consultation-its-solution-outstanding-0

[50] LCH's Proposed Position in Respect of Benchmark Fallbacks and Forward Rate Agreements (FRAs) https://www.lch.com/membership/ltd-membership/ltd-member-updates/lchs-proposed-position-respect-benchmark-fallbacks-and

Futures and Options Fallbacks

Plans have been made to transition key LIBOR-linked futures and options and/or include fallbacks

Subject to regulatory approval, CME intends to implement rule amendments to include US dollar LIBOR fallbacks into the contract terms for CME three-month Eurodollar futures and options on three-month Eurodollar futures contracts[51]. These rule amendments will incorporate trigger provisions relating to fallback events that are equivalent to those set out in the ISDA IBOR fallbacks.

At the effective date of the relevant fallback event, trading in three-month Eurodollar futures and options on three-month Eurodollar futures would terminate. Open positions in CME three-month Eurodollar futures would be converted to three-month SOFR futures. Eurodollar futures options would be replaced with corresponding three-month SOFR options. The conversion would be executed according to a methodology and procedure published by CME[52].

The proposed incorporation of US dollar LIBOR fallback provisions is intended to promote close alignment of OTC and ETD contracts, as well as cleared and non-cleared markets.

In addition, ICE Futures Europe has published a proposed transition plan for futures and options referencing LIBOR at the end of 2021[53]. ICE plans to convert all outstanding three-month sterling futures and options and three-month euro Swiss franc futures into three-month SONIA futures and options and three-month SARON futures, respectively, following the close of business on December 17, 2021. The conversion will be applicable to all contract delivery months.

[51] Amendments to the Three-Month Eurodollar Futures and Options on Three-Month Eurodollar Futures Contracts to Implement USD London Inter-bank Offered Rate (LIBOR) Fallback Provisions https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2021/2/21-082.pdf

[52] LIBOR Fallback Proposal for CME Eurodollar Futures and Options https://www.cmegroup.com/education/files/webinar-fallbacks-for-eurodollars.pdf?itm_source=rates_recap_article&itm_medium=hypertext&itm_campaign=rates_recap&itm_content=022021

[53] ICE Futures Europe LIBOR Transition Fallback Proposals https://www.theice.com/publicdocs/futures/IFEU_LIBOR_Transition_Fallback_Proposal.pdf?utm_source2=ICE_FY21_FixedIncome_Brand_RatesLIBORTransition_2903

Steps taken in 2020 have reduced the systemic threat of a key IBOR becoming permanently unavailable

2020 REVIEW: MAJOR MILESTONES AND TRADING IN RFR-LINKED DERIVATIVES

The financial industry achieved several major milestones in the transition from LIBOR and other IBORs to RFRs in 2020. While there is still considerable work to be done, the steps taken last year have significantly reduced the threat of market disruption posed by the permanent cessation of a key IBOR.

Key 2020 developments include:

- ISDA launched the IBOR Fallbacks Supplement and ISDA 2020 IBOR Fallbacks Protocol in October 2020, marking a major step in reducing the systemic impact of a key IBOR becoming unavailable or LIBOR being deemed non-representative while market participants continue to have exposure to that rate.
- Major CCPs changed their price alignment interest (PAI)/amount (PAA) and discounting curves for cleared euro-denominated IRD from EONIA to €STR in July 2020.
- Major CCPs changed PAI/PAA and discounting curves for cleared US dollar IRD from the effective federal funds rate (EFFR) to SOFR in October 2020.
- The FCA and the Bank of England (BoE) published a statement encouraging market-makers to change the market convention for sterling IRS from LIBOR to SONIA from October 27, 2020.
- The Board of Governors of the Federal Reserve System, the OCC and the FDIC issued supervisory guidance encouraging banks to cease entering new contracts that use US dollar LIBOR as soon as practicable and in any event by December 31, 2021, except in limited circumstances.
- IBA published a consultation in December 2020 on its intention to cease the publication of certain LIBOR settings on December 31, 2021 and continue the publication of several widely used US dollar LIBOR settings until June 30, 2023.
- There were several major regulatory, accounting and tax updates that provided specific guidance and reduced uncertainty about the impact of the anticipated discontinuation of IBORs.
- While trading activity in RFR-linked derivatives grew in 2020 compared with the prior year, the market was still dominated by LIBOR-based derivatives.

IBOR Fallbacks

New fallbacks for IBOR derivatives came into effect on January 25, 2021

In July 2020, Bloomberg Index Services Limited (BISL) began calculating and publishing fallbacks for certain key IBORs. Calculations published by BISL include the adjusted RFR (compounded in arrears), the spread adjustment and the 'all-in' IBOR fallback rates for the following IBORs across various tenors: the Australian dollar Bank Bill Swap Rate, the Canadian Dollar Offered Rate, EURIBOR, euro LIBOR, euroyen TIBOR, HIBOR, sterling LIBOR, Swiss franc LIBOR, US dollar LIBOR, yen LIBOR and yen TIBOR.

In October 2020, ISDA published the IBOR Fallbacks Supplement and ISDA 2020 IBOR Fallbacks Protocol[54]. The supplement incorporates the fallbacks into all new derivatives transactions referencing the 2006 ISDA Definitions that are entered into on or after January 25, 2021, unless the parties specifically exclude them. The protocol includes the fallbacks into legacy non-cleared derivatives trades with other counterparties that choose to adhere to the protocol.

The fallbacks for a particular currency will apply following a permanent cessation of the IBOR in that currency[55]. For derivatives that reference LIBOR, the fallbacks in the relevant currency would also apply following a determination by the FCA that LIBOR in that currency is no longer representative of its underlying market. In each case, the fallbacks will be adjusted versions of the RFRs identified in each currency.

The implementation of fallbacks for derivatives mitigates the systemic risk that could occur following the disappearance of LIBOR or another key IBOR. With the fallbacks in place, derivatives market participants will be able get on with transitioning their IBOR exposures with confidence that there is a robust back-up in case of need.

[54] ISDA Launches IBOR Fallbacks Supplement and Protocol https://www.isda.org/2020/10/23/isda-launches-ibor-fallbacks-supplement-and-protocol/

[55] The fallbacks cover Australia's Bank Bill Swap Rate, the Canadian Dollar Offered Rate, EURIBOR, euro LIBOR, euroyen TIBOR, HIBOR, the Singapore dollar Swap Offer Rate, sterling LIBOR, Swiss franc LIBOR, the Thai Baht Interest Rate Fixing, US dollar LIBOR, yen LIBOR and yen TIBOR

ISDA® Safe, Efficient Markets

CCP Shift to PAI and Discounting Based on €STR and SOFR

The change in CCP discounting to €STR and SOFR has helped embed these rates into derivatives markets

As part of the industry transition to RFRs, CCPs including CME Clearing, Eurex Clearing and LCH SwapClear changed their PAI/PAA and discounting curves on all cleared euro-denominated IRD from EONIA (€STR + 8.5 basis points) to €STR flat (no spread) in July 2020[56]. CCPs also changed PAI/PAA and discounting for cleared US dollar IRD from EFFR to SOFR in October 2020.

While the change of PAI/PAA and discounting curves to €STR and SOFR did not affect the reference rate for swaps, the transition played an important role in embedding €STR and SOFR within the derivatives market and driving liquidity in these products.

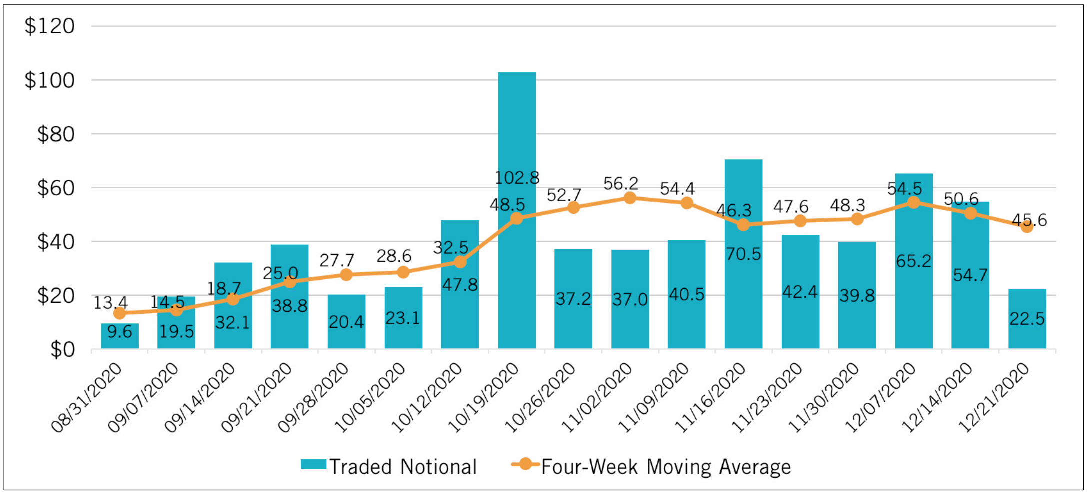
As a result of the shift, market participants that clear euro- and US dollar-denominated derivatives had to make internal reporting changes to transition their own profit and loss and risk management for cleared derivatives to €STR and SOFR discounting to correctly value their trades. As €STR and SOFR have become a critical part of valuation and risk management frameworks, familiarity with these new rates has increased, supporting industry transition to RFRs.

As part of the shift to SOFR, LCH transitioned more than one million contracts with a total notional of $120 trillion. The change applied to all SwapClear contracts denominated in 10 currencies (US dollar, Mexican peso, Indian rupee, Chinese yuan, South Korean won, Columbian peso, Chilean peso, Brazilian real, new Taiwan dollar and Thai baht), deliverable and non-deliverable FX forwards and options in the ForexClear service, and all cross-currency swaps registered in the LCH SwapAgent service[57].

CME transitioned over $7.2 trillion notional of cleared US dollar OTC cleared interest rate products from EFFR to SOFR discounting and price alignment[58]. The change included US dollar-denominated fixed-for-floating IRS, OIS, FRAs, zero-coupon swaps, basis swaps and swaptions.

The switch to SOFR discounting for cleared swaps had a positive impact on SOFR liquidity. At the beginning of September, a trailing four-week average of traded notional was $13.4 billion, but it jumped to $56.2 billion at the beginning of November (see Chart 1).

Chart 1: Weekly SOFR Traded Notional (US$ billions)



Source: DTCC SDR

56 The switch was planned for June 2020, but was delayed by five weeks due to disruptions caused by COVID-19

57 LCH Successfully Completes Transition to SOFR Discounting https://www.lch.com/resources/news/lch-successfully-completes-transition-sofr-discounting

58 A Big Moment Arrives for SOFR https://www.cmegroup.com/openmarkets/finance/2020/A-Big-Moment-Arrives-For-SOFR.html#:~:text=A%20long%2Dawaited%20step%20for,for%20cleared%20swap%20market%20participants

Switch to SONIA in IRS Markets

The convention for quoting sterling swaps changed from LIBOR to SONIA in October 2020

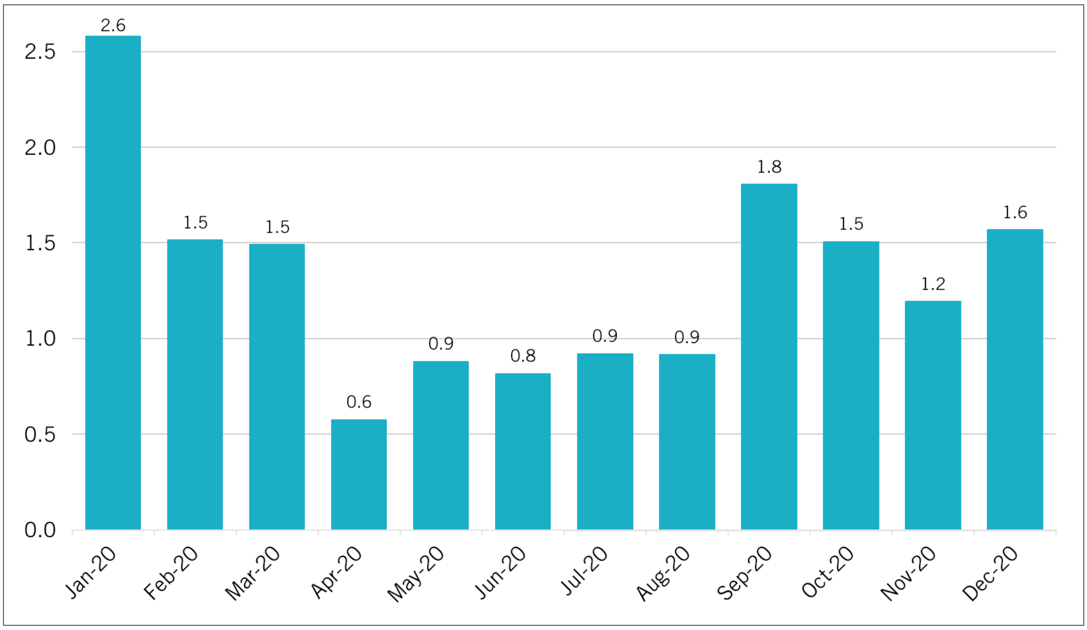
The FCA and the BoE published a statement in September 2020 encouraging market-makers to change the market convention for sterling IRS from LIBOR to SONIA from October 27, 2020. This change was originally proposed for implementation in March 2020, but was delayed due to the COVID-19 pandemic[59].

This implies that market-makers will quote and offer new IRS based on SONIA rather than sterling LIBOR, although sterling LIBOR swap transactions can still be executed. For LIBOR FRAs, the default trade structure changes to LIBOR single period swaps, which is more compatible with the ISDA fallbacks approach.

These changes do not prohibit trading in sterling LIBOR swaps, but are intended to move the greater part of new sterling swaps trading to SONIA and reduce the risk from new sterling LIBOR exposures.

Monthly SONIA DV01 transacted, including OTC and ETD contracts, totaled $1.6 billion in December 2020 compared to $2.6 billion in January 2020 (see Chart 2).

Chart 2: Monthly SONIA DV01 Transacted (including OTC and ETD) (US$ billions)



Source: ISDA-Clarus RFR Adoption Indicator

[59] The FCA and the Bank of England Encourage Market Participants in Further Switch to SONIA in Interest Rate Swap Markets https://www.bankofengland.co.uk/news/2020/september/fca-and-boe-joint-statement-on-sonia-interest-rate-swap

IBA Consultation

IBA issued a consultation on the future of LIBOR in December 2020

In December 2020, IBA published a consultation on its intention to cease publication of certain LIBOR settings on December 31, 2021 and continue publishing several widely used US dollar LIBOR settings until June 30, 2023[60, 61].

IBA announced the results of the consultation on March 5, the same day as the FCA's announcement on the cessation or non-representativeness of all 35 LIBOR settings.

In response to the IBA's proposed consultation, the FCA set out its potential approach to exercise proposed new powers under the Financial Services Bill to prohibit some or all new use by supervised entities in the UK of a critical benchmark (such as LIBOR currency tenor settings) where a benchmark administrator has confirmed its intention that the benchmark will cease[62].

60 ICE LIBOR Consultation on Potential Cessation https://www.theice.com/publicdocs/ICE_LIBOR_Consultation_on_Potential_Cessation.pdf

61 In July 2017, the UK Financial Conduct Authority (FCA) announced its intention that it would no longer be necessary to persuade, or compel, banks to submit to LIBOR after December 31, 2021 https://www.fca.org.uk/news/speeches/the-future-of-libor

62 FCA Response to IBA's Proposed Consultation on Intention to Cease US Dollar LIBOR https://www.fca.org.uk/news/statements/fca-response-iba-proposed-consultation-intention-cease-us-dollar-libor

Statement from US Regulators

US regulators are encouraging banks to stop new contracts linked to US dollar LIBOR by December 31, 2021

In November 2020, the Federal Reserve Board of Governors, the FDIC and the OCC released a statement that encouraged banks to cease entering into new contracts that reference US dollar LIBOR as soon as feasible and in any event by December 31, 2021, except in limited circumstances[63].

These circumstances include: transactions executed for purposes of required participation in a CCP auction procedure in the case of a member default, including transactions to hedge the resulting US dollar LIBOR exposure; market making in support of client activity related to US dollar LIBOR transactions executed before January 1, 2022; transactions that reduce or hedge the bank's or any client of the bank's US dollar LIBOR exposure on contracts entered before January 1, 2022; and novations of US dollar LIBOR transactions executed before January 1, 2022.

The regulators also stated that new contracts executed before December 31, 2021 should either use a reference rate other than LIBOR or have robust fallback language that includes a clearly defined alternative reference rate after LIBOR's discontinuation.

[63] Statement on LIBOR Transition https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20201130a1.pdf

Regulatory, Accounting and Tax Updates Related to IBOR Transition

Regulatory Update

Changes have been made to regulatory, accounting and tax requirements to enable transition

In August 2020, the Commodity Futures Trading Commission issued revised no-action letters that provide additional relief to swap dealers and other market participants transitioning from IBORs to RFRs[64]. Each revised letter outlines conditions under which counterparties will qualify for relief in connection with amending swaps to update provisions referencing LIBOR or other IBORs. The revised letters also provide relief for additional types of amendments and refine relief previously provided based on feedback from market participants[65].

The relief is provided to swap dealers from registration de minimis requirements, non-cleared swap margin rules, business conduct rules, confirmation, documentation and reconciliation obligations, and certain other eligibility requirements. Additionally, time-limited relief is provided from the trade execution requirement and swap clearing obligation and related exemptions.

Accounting Update: US Generally Accepted Accounting Principles (GAAP)

In March 2020, the Financial Accounting Standards Board (FASB) issued an accounting standard update (ASU) that sets out temporary optional guidance to ease the potential burden in accounting for reference rate reform[66].

The ASU addresses operational challenges likely to arise in accounting for contract modifications and hedge accounting because of benchmark reform. The amendments provide optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. The changes only apply to transactions or relationships that reference LIBOR or another reference rate expected to be discontinued.

In January 2021, the FASB issued *Accounting Standards Update No. 2021-01, Reference Rate Reform (Topic 848): Scope* to clarify that the scope includes derivatives subject to changes in the interest rate used for margining, discounting or contract price alignment as a result of reference rate reform (that is, the discounting transition)[67].

[64] CFTC Provides Additional Relief to Market Participants Transitioning from LIBOR https://www.cftc.gov/PressRoom/PressReleases/8228-20

[65] The original no-action letters were issued in December 2019 https://www.cftc.gov/PressRoom/PressReleases/8096-19

[66] FASB Issues Guidance to Assist in Transition Away from Interbank Offered Rates to New Reference Rates https://www.fasb.org/cs/ContentServer?c=FASBContent_C&cid=1176174312301&d=&pagename=FASB%2FFASBContent_C%2FNewsPage

[67] Accounting Standards Update No. 2021-01, Reference Rate Reform (Topic 848): Scope https://www.fasb.org/cs/Satellite?c=Document_C&cid=1176175899139&pagename=FASB%2FDocument_C%2FDocumentPage

Accounting Update: International Financial Reporting Standards (IFRS)

In August 2020, the International Accounting Standards Board (IASB) issued *Interest Rate Benchmark Reform—Phase 2—Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16*, which tackled replacement issues that might affect financial reporting when an existing interest rate benchmark is either reformed or replaced. Specifically, it covered: (i) changes in the basis for determining contractual cash flows of financial assets, financial liabilities and lease liabilities; (ii) hedge accounting; and (iii) disclosures[68, 69].

UK Tax Update

In March 2021, the UK Finance Bill was published, which includes measures addressing the transition of LIBOR (and other benchmark rates) to RFRs. The bill includes proposed powers enabling the Treasury to address, through secondary legislation, any unintended tax consequences arising from the discontinuance/reform of LIBOR should it be necessary to do so[70].

In March 2020, HM Revenue & Customs published guidance for businesses (and draft guidance for individuals) regarding the UK tax implications of transitioning instruments referencing LIBOR (and other benchmarks) to RFRs[71].

US Tax Update

The US Treasury and Internal Revenue Service (IRS) issued proposed regulations in October 2019, which set out favorable US tax guidance for transition from an IBOR to another replacement rate – specifically, these changes would not cause a taxable event for parties to the relevant contract, so long as certain requirements are met.

In October 2020, the IRS released *Revenue Procedure 2020-44*, which states that the modification of a contract to incorporate a specified fallback provision published by the ARRC or ISDA (in each case, with certain permitted deviations) would not cause a taxable event to the relevant parties[72].

[68] IASB Completes Response to IBOR Reform with Amendments to IFRS Standards https://www.ifrs.org/news-and-events/2020/08/iasb-completes-response-to-ibor-reform/

[69] The IASB identified two groups of accounting issues that could affect financial reporting in 2018, splitting the work into two phases: phase one pre-replacement issues and phase two replacement issues. *Interest Rate Benchmark Reform—Phase 1—Amendments to IFRS 9, IAS 39 and IFRS 7* was issued in September 2019, providing temporary exceptions to specific hedge accounting requirements and requiring related disclosures in the period during which there is uncertainty about contractual cash flows arising from interest rate benchmark reform

[70] Finance Bill 2021 https://www.gov.uk/government/collections/finance-bill-2021

[71] Tax Implications From the Withdrawal of LIBOR and Other Benchmark Rate Reforms https://www.gov.uk/government/publications/draft-guidance-on-the-taxation-impacts-arising-from-the-withdrawal-of-libor-and-other-benchmark-rate-reform

[72] *Rev. Proc. 2020-44* https://www.irs.gov/pub/irs-drop/rp-20-44.pdf

Trading Activity in RFR-linked Derivatives in 2020

Trading in RFRs climbed in 2020, but LIBOR-linked trades continued to dominate

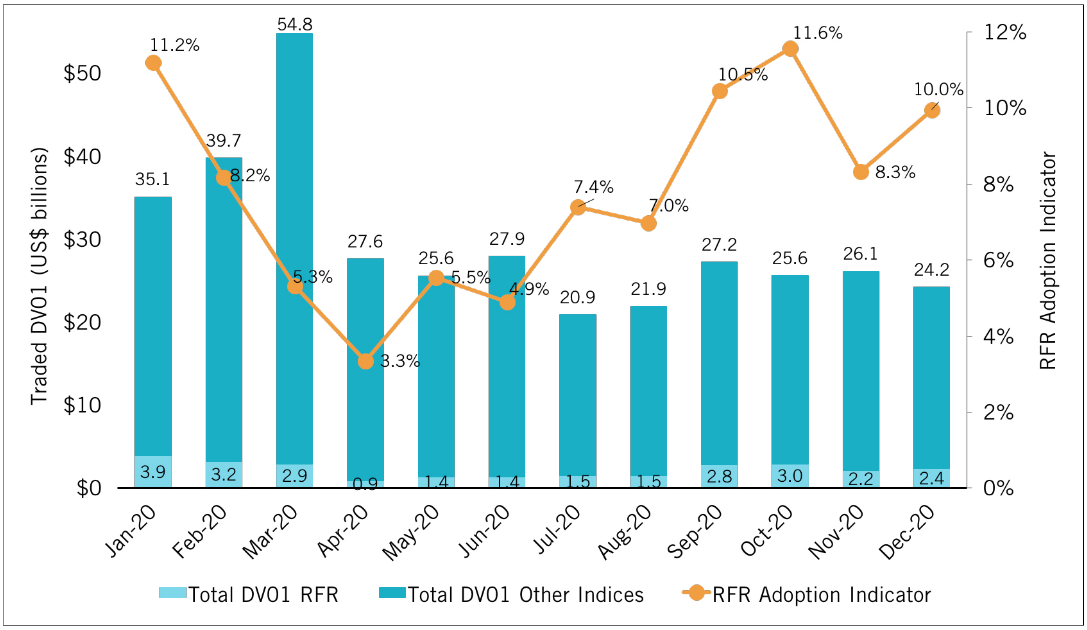
While trading activity in RFR-linked derivatives grew in 2020 compared with the prior year, the market was still dominated by LIBOR-based derivatives. Following an increase in RFR-linked derivatives trading activity during the first three months of 2020, there was a significant decline in RFR-linked transactions from April 2020 to August 2020. The decline trend reversed in September 2020, and there was a pick-up in RFR-linked trading activity in the last four months of the year.

Global RFR-linked OTC and Exchange-traded IRD

The monthly ISDA-Clarus RFR Adoption Indicator reached its highest level of 11.6% in October 2020[73]. In comparison, the highest level in 2019 was 6.6%[74]. The indicator tracks how much global trading activity (as measured by DV01) is conducted in cleared OTC and exchange-traded IRD that reference the identified RFRs in six major currencies[75].

In January 2020, RFR-linked IRD DV01 was $3.9 billion, while total IRD DV01 was $35.1 billion. RFR-linked IRD DV01 fell to $0.9 billion in April 2020 and the ISDA-Clarus Adoption Indicator declined to its lowest 2020 level of 3.3%. In December 2020, RFR-linked IRD DV01 totaled $2.4 billion, while total IRD DV01 was $24.2 billion (see Chart 3).

Chart 3: RFR Adoption Indicator: % of DV01 Transacted as RFR-linked IRD Products



Source: ISDA-Clarus RFR Adoption Indicator

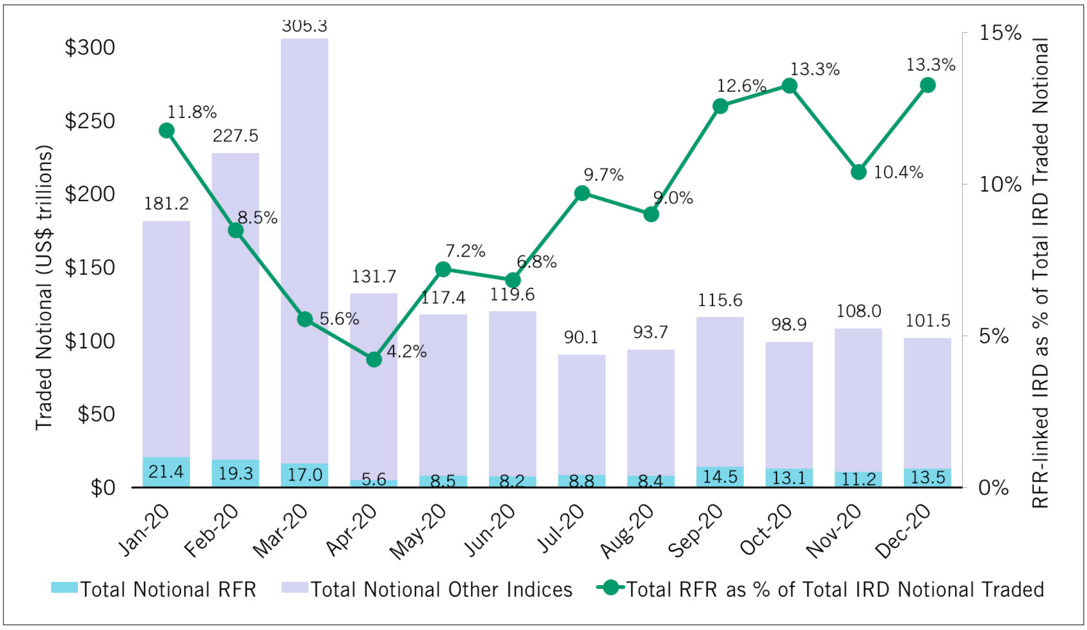
RFR-linked IRD traded notional represented 11.8% of total IRD traded notional in January 2020. It declined to 4.2% in April 2020 but bounced back to 13.3% in December 2020. RFR-linked IRD traded notional, including OTC and ETD, was $13.5 trillion in December 2020, while total IRD traded notional was $101.5 trillion (see Chart 4).

[73] ISDA launched the indicator in July 2020 to monitor the adoption of RFRs in derivatives trading, https://www.isda.org/2020/07/28/isda-launches-risk-free-rate-adoption-indicator/

[74] To access interactive charts and download monthly data, go to https://rfr.clarusft.com

[75] ISDA-Clarus RFR Adoption Indicator White Paper https://www.isda.org/a/SImTE/ISDA-Clarus-RFR-Adoption-Indicator-Whitepaper.pdf

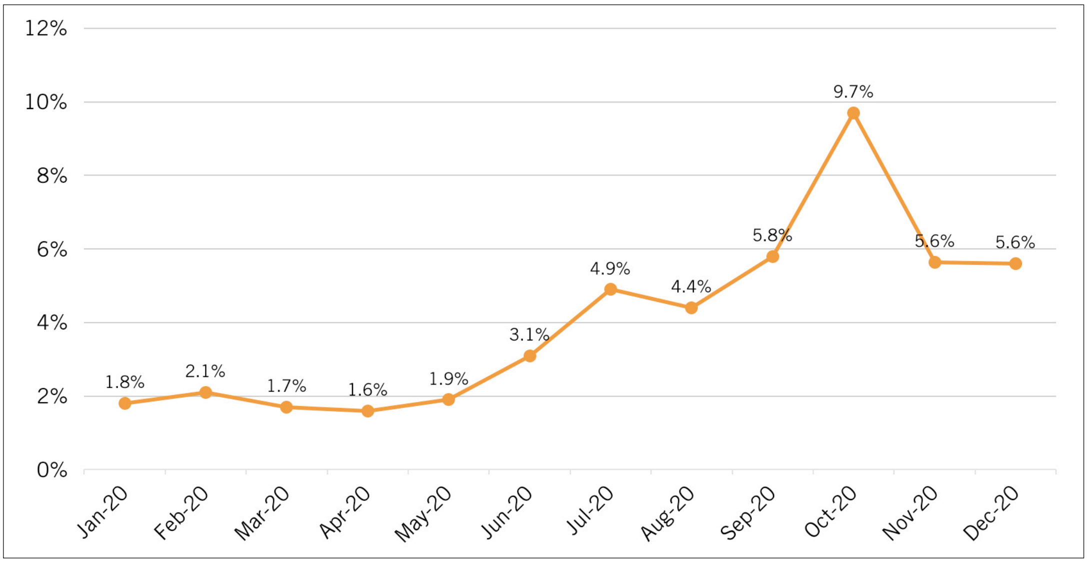
Chart 4: Global IRD Traded Notional (including OTC and ETD)



Source: ISDA-Clarus RFR Adoption Indicator

The percentage of trading activity executed in SOFR significantly increased in 2020. SOFR IRD DV01 accounted for 1.8% of total US dollar IRD DV01 in January 2020, but climbed to 9.7% in October 2020 before declining to 5.6% in November and December (see Chart 5). In comparison, the highest percentage of trading activity in SOFR in 2019 was 3.0%[76].

Chart 5: SOFR DV01 as % of Total US Dollar IRD DV01 Transacted (including OTC and ETD)

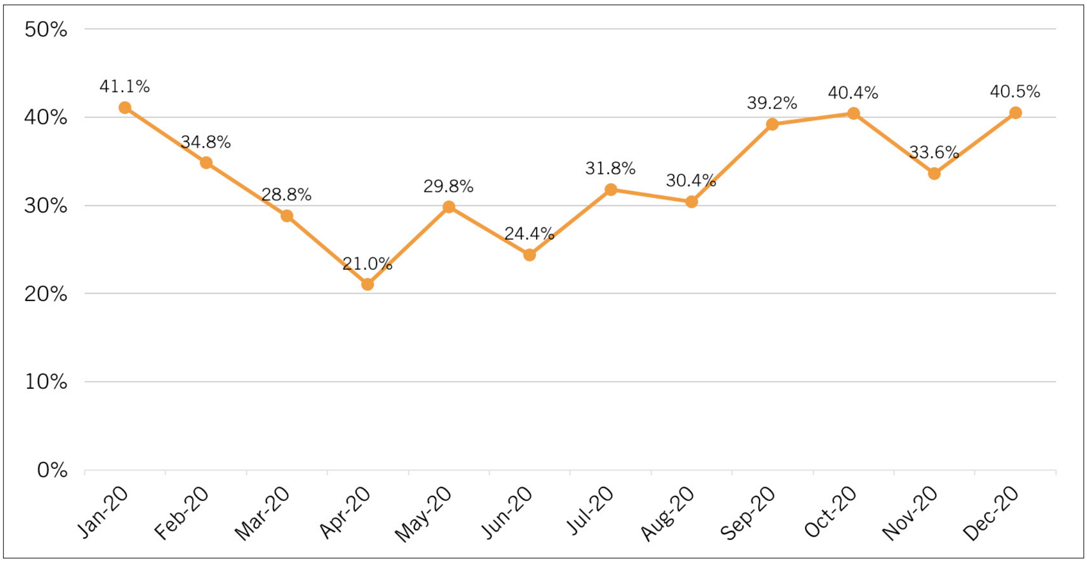


Source: ISDA-Clarus RFR Adoption Indicator

SONIA represented the largest percentage of RFR-linked IRD trading activity by currency in 2020. SONIA IRD DV01 accounted for 41.1% of total sterling IRD DV01in January 2020. It declined to 21.0% in April 2020, but bounced back to 40.5% in December 2020 (see Chart 6).

[76] To access interactive charts and download monthly data, go to https://rfr.clarusft.com

Chart 6: SONIA DV01 as % of Total Sterling IRD DV01 Transacted (including OTC and ETD)



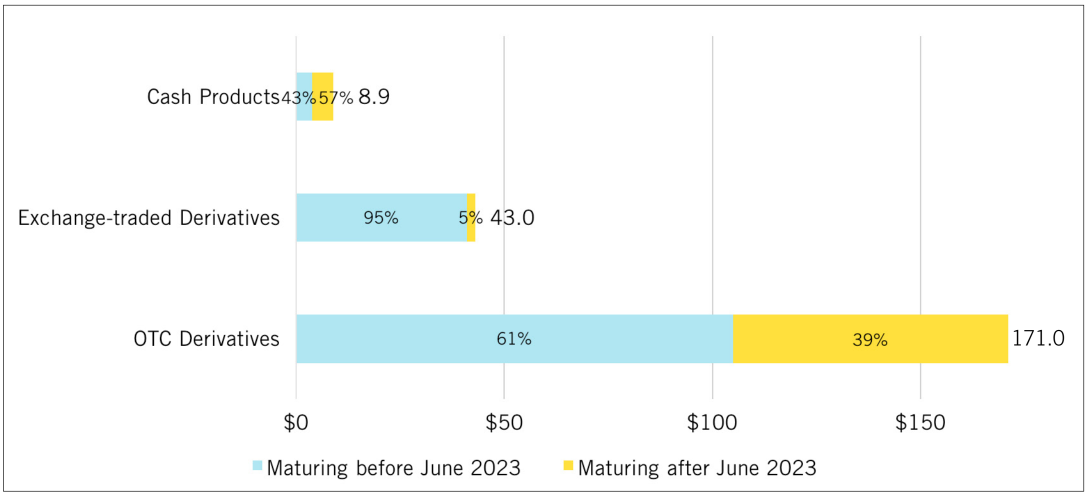
Source: ISDA-Clarus RFR Adoption Indicator

Outstanding US Dollar LIBOR Exposure

Based on the ARRC's estimates, the outstanding gross notional of all financial products referencing US dollar LIBOR was about $223 trillion at the end of 2020, including $171 trillion of OTC derivatives, $43 trillion of ETD and $9 trillion of cash products[77].

Roughly 61% of OTC derivatives, 95% of ETD and 43% of cash products notional outstanding is expected to mature before June 2023. This leaves about $73 trillion of total outstanding gross notional referencing US dollar LIBOR set to mature after June 2023 (see Chart 7).

Chart 7: Gross Notional Outstanding of All Financial Products Referencing US Dollar LIBOR (US$ trillions)



Source: ARRC Progress Report

[77] Progress Report: The Transition from U.S. Dollar LIBOR https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/USD-LIBOR-transition-progress-report-mar-21.pdf

RFR-linked OTC IRD in the US

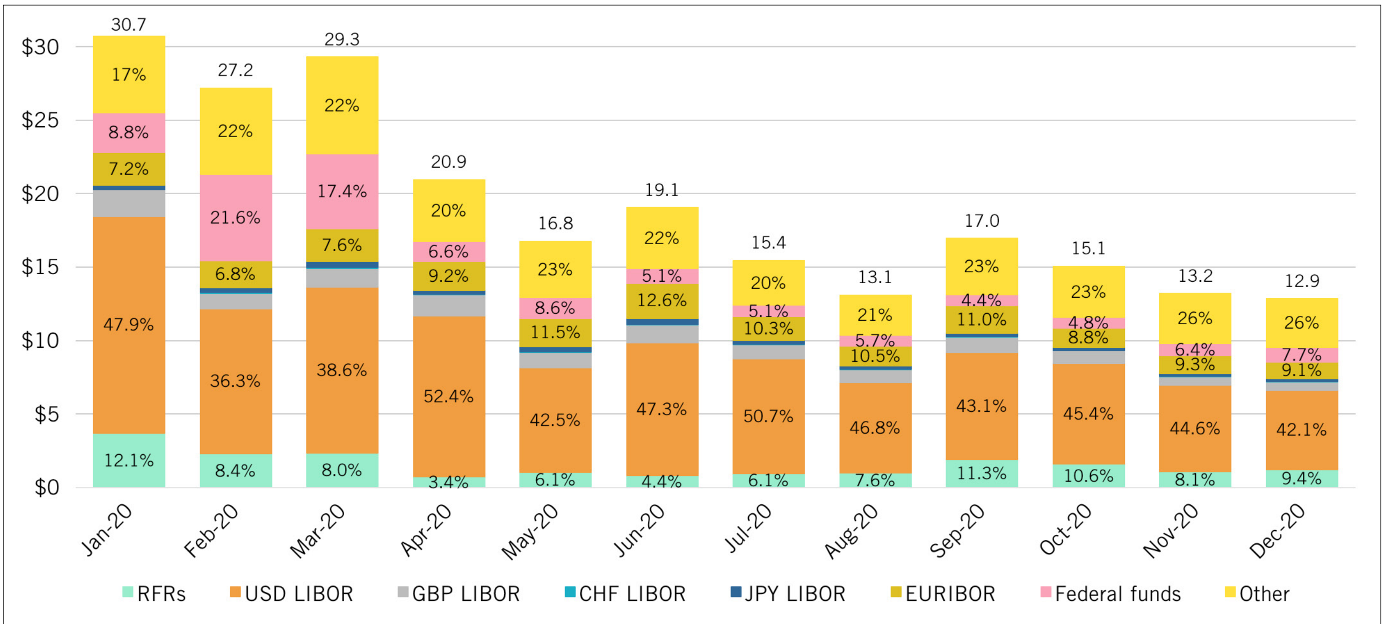
In the US, OTC IRD traded notional referencing alternative RFRs totaled $3.7 trillion in January 2020 compared to $1.2 trillion in December 2020[78]. RFR transactions accounted for 12.1% and 9.4% of total OTC IRD traded notional in January 2020 and December 2020, respectively (see Chart 8).

OTC IRD traded notional referencing LIBOR denominated in euro, sterling, Swiss franc, US dollars and yen, as well as EURIBOR and TIBOR, totaled $19.1 trillion in January 2020, representing 62.1% of total IRD traded notional. In December 2020, transactions referencing these rates totaled $7.4 trillion, accounting for 57.1% of total IRD traded notional.

IRD traded notional based on US dollar LIBOR equaled $14.7 trillion in January 2020, accounting for 47.9% of total IRD traded notional. It declined to $5.4 trillion in December 2020 and represented 42.1% of total IRD traded notional.

On an annual basis, RFR transactions accounted for 8.1% of total OTC IRD traded notional in the full year 2020 versus 3.4% in the prior year. OTC IRD traded notional referencing IBORs totaled 60.7% of total IRD traded notional in 2020 compared to 61.8% in the full year 2019[79].

Chart 8: OTC IRD Traded Notional by Underlying Interest Rate Benchmarks in the US (US$ trillions)



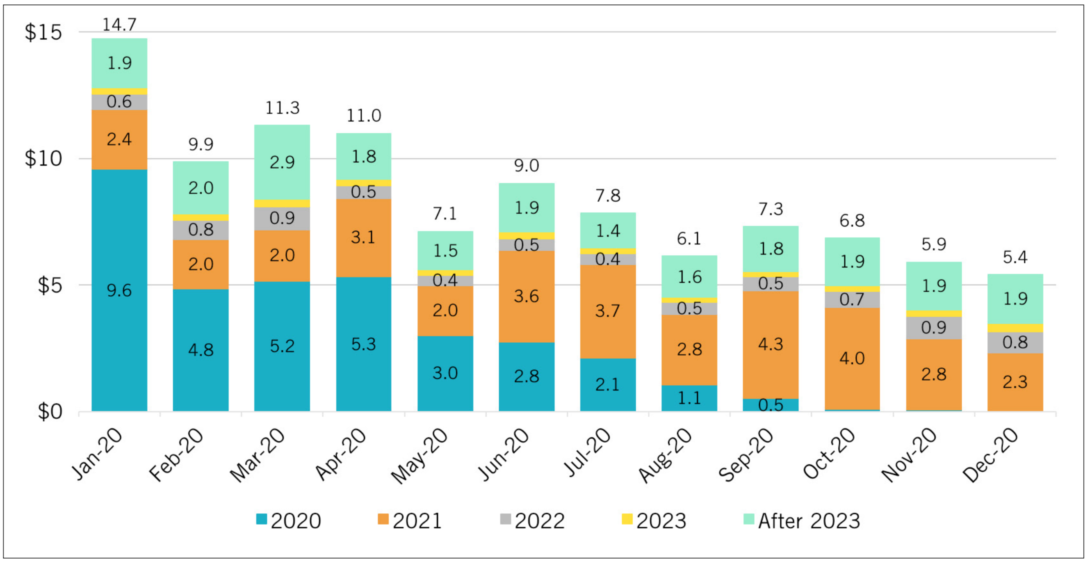
Source: DTCC SDR

A significant portion of US dollar LIBOR transactions have a maturity after 2023. Out of $5.4 trillion of US dollar LIBOR traded notional executed in December 2020, $2.3 trillion has a 2021 maturity, $0.8 trillion is set to mature in 2022, $0.3 trillion matures in 2023, while $1.9 trillion has a maturity after 2023 (see Chart 9).

[78] This data covers only transactions that are required to be disclosed under US regulations

[79] Transition to RFRs Review: Full Year 2020 and the Fourth Quarter of 2020 https://www.isda.org/a/ZqCTE/Transition-to-RFRs-Review-Full-Year-2020-and-Q4-of-2020.pdf

Chart 9: US Dollar LIBOR-based IRD Traded Notional by Maturity (US$ trillions)



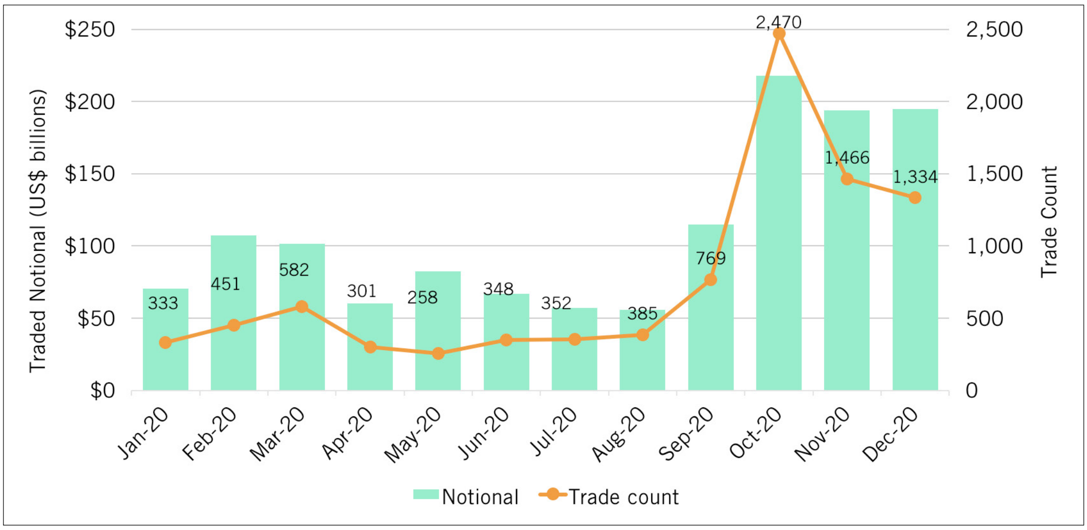
Source: DTCC SDR

Trading activity in SOFR-linked OTC IRD picked up in the last three months of 2020 following the CCP change of PAI/PAA and discounting curves to SOFR in October 2020. As dealers usually hedge their discounting liabilities, it was expected they would start using SOFR-based products instead of EFFR-linked swaps and futures following the switch. The transition to SOFR discounting created additional trading in SOFR OIS and EFFR-SOFR basis swaps.

Traded notional of OTC IRD referencing SOFR increased from $70.3 billion in January 2020 to $194.6 billion in December 2020. Trade count increased from 333 to 1,334 over the same period (see Chart 10).

In the full year 2020, SOFR-linked OTC IRD traded notional totaled $1.3 trillion and accounted for 0.6% of overall IRD traded notional. In comparison, SOFR-linked IRD traded notional equaled $379.9 billion and represented only 0.1% of total IRD traded notional in 2019.

Chart 10: SOFR OTC IRD Traded Notional and Trade Count in the US

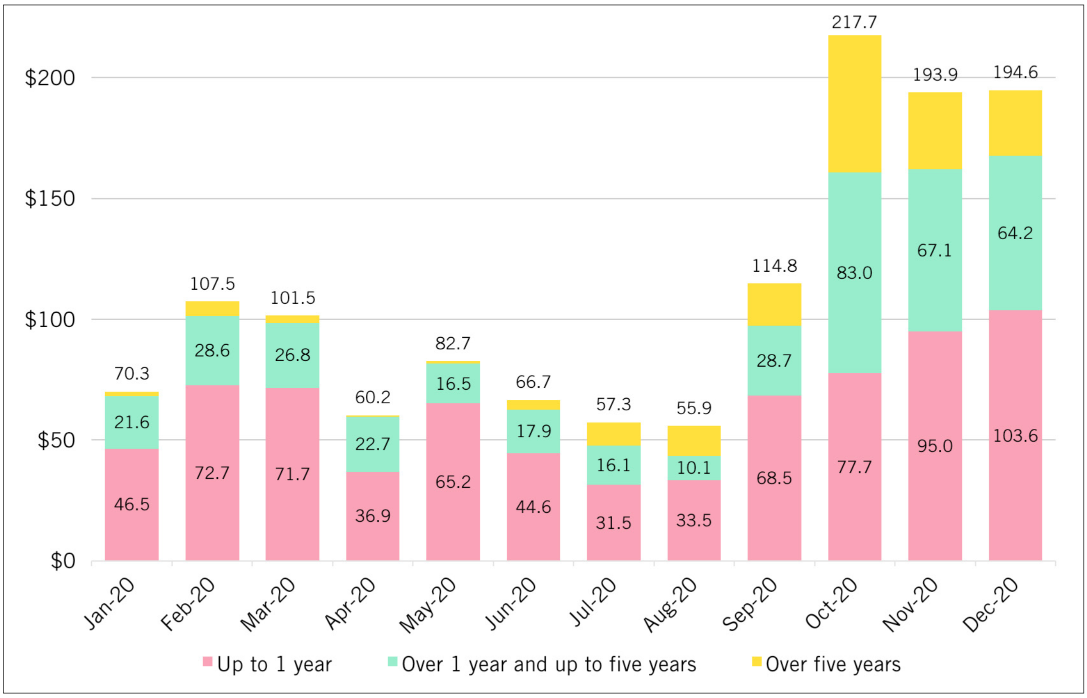


Source: DTCC SDR

Before the CCP change of PAI/PAA and discounting curves to SOFR, most OTC IRD transactions referencing alternative RFRs had a tenor up to one year[80]. As CCPs issued compensating/hedging EFFR-SOFR basis swaps with longer maturities as part of the transition to SOFR discounting, the unwind/auction of these swaps by some market participants extended the tenors of SOFR swaps and created more liquidity across the entire SOFR curve.

For example, out of $194.6 billion of SOFR-linked IRD traded notional in December 2020, $103.6 billion (53.3%) had a tenor up to one year, $64.2 billion (33.0%) was between one and five years and $27.0 billion (13.9%) had a tenor over five years (see Chart 11).

Chart 11: SOFR OTC IRD Traded Notional by Tenor (US$ billions)



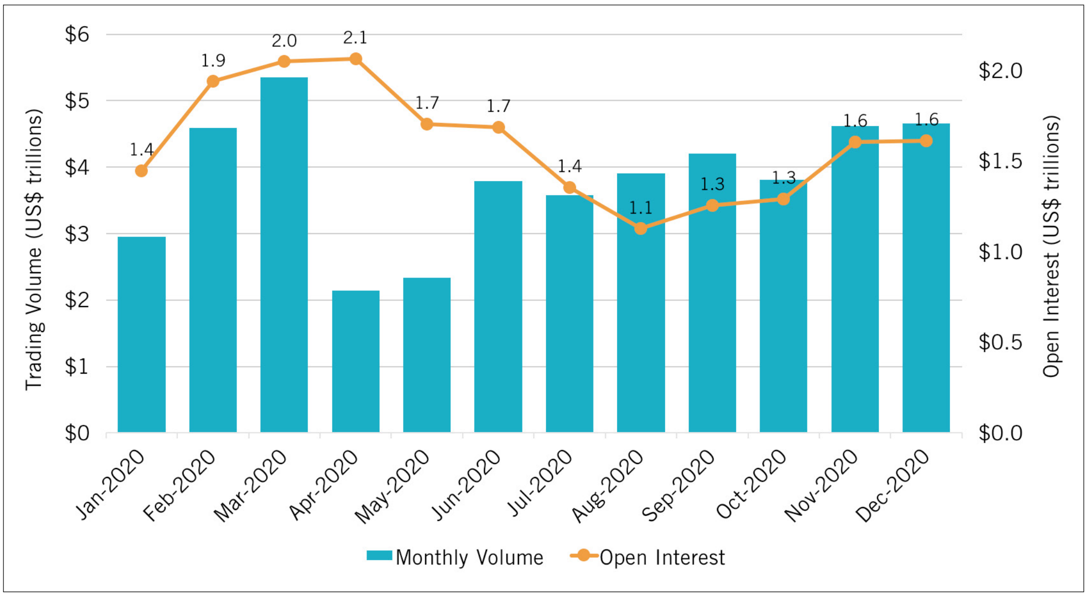
Source: DTCC SDR

Trading Volumes in SOFR Futures

Trading in SOFR futures jumped significantly in February and March 2020, declined over the following two months and then gradually increased during the second half of 2020 (see Chart 12). Trading volume in SOFR futures was $3.0 trillion in January 2020, increasing to $4.7 trillion in December 2020. Open interest reached $1.6 trillion at the end of December 2020 from $1.4 trillion at the end of January 2020.

[80] Tenor is calculated as the difference between the effective date and the maturity date

Chart 12: SOFR Futures Monthly Trading Volume and Open Interest (Implied Notional in OTC Equivalent)

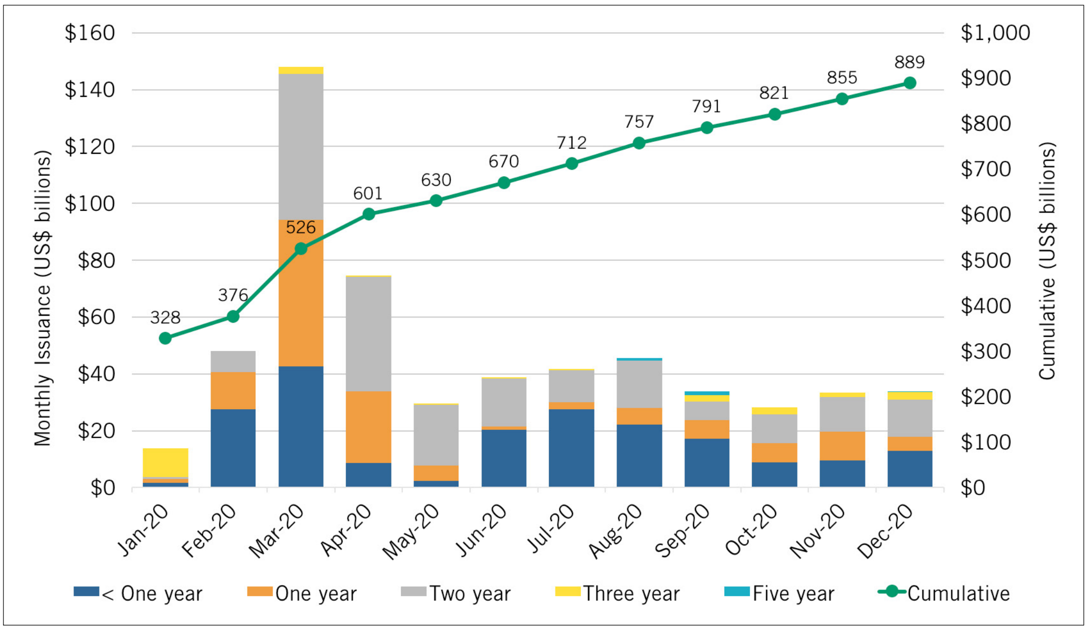


Source: CME and ICE

Issuance of SOFR-based Cash Products

Monthly issuance of SOFR-based cash securities jumped in March 2020, but remained under $50.0 billion in the second half of the year. Cumulative issuance exceeded $889.0 billion at the end of December 2020 compared to $328.0 billion at the end January 2020 (see Chart 13). While most of the debt referencing SOFR was issued by banks and financial companies, there has been some issuance by non-financial corporates, including Enbridge, Siemens, NextEra Energy, Verizon and AT&T.

Chart 13: Issuance of SOFR-based Cash Securities



Source: Bloomberg, compiled by CME Group

CONCLUSION

ISDA expects a pick-up in trading volume linked to alternative reference rates in 2021

The transition from IBORs to alternative reference rates remains high on the agenda of policy-makers and market participants. The FCA announcement on the timing for the cessation or loss of representativeness of all 35 LIBOR settings gave market participants a clear set of deadlines across all currencies and tenors. This announcement, along with other major upcoming developments in 2021, should significantly accelerate LIBOR transition efforts.

The financial industry achieved several major milestones in the transition from LIBOR and other IBORs to alternative reference rates such as RFRs in 2020. While there is still considerable work to be done, the steps taken in 2020 have significantly reduced the systemic risk posed by a permanent cessation of key IBORs.

While trading activity in RFR-linked derivatives increased in 2020 compared with the prior year, the market was still dominated by LIBOR-based derivatives. The expected growth in the issuance of RFR-based cash products in 2021 will likely propel the need for hedging activity and increase demand for RFR-based derivatives products. ISDA expects there will be a pick-up in RFR-linked derivatives trading activity during 2021 as the end of LIBOR swiftly approaches.

ISDA has published other recent research papers:

- ***ISDA-Clarus RFR Adoption Indicator: February 2021, March 2021***
  https://www.isda.org/a/m5ZTE/ISDA-Clarus-RFR-Adoption-Indicator-February-2021.pdf

- ***Transition to RFRs Review: Full Year 2020 and the Fourth Quarter of 2020, January 2021***
  https://www.isda.org/a/ZqCTE/Transition-to-RFRs-Review-Full-Year-2020-and-Q4-of-2020.pdf

- ***SwapsInfo Full Year 2020 and the Fourth Quarter of 2020, January 2021***
  https://www.isda.org/a/wNCTE/SwapsInfo-Full-Year-2020-and-Q4-of-2020-Review-Full-Report.pdf

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Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has over 925 member institutions from 75 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: www.isda.org. Follow us on Twitter, LinkedIn, Facebook and YouTube.