# Leaving LIBOR: The Way Forward

October 13, 2021

## A Brief History of LIBOR

- London Inter-bank Offered Rate (LIBOR) was developed and launched in the mid-1980s by the British Bankers Association
- LIBOR is derived from submissions by panel banks, stating the rate at which they could borrow funds from other banks in London, in various currencies and tenors
- In practice LIBOR submissions have proven to be subject to manipulation and tampering, as evidenced by the rate rigging scandal that came to light in 2012
- Administration of LIBOR was shifted to the ICE Benchmark Administration (IBA) in 2014
- In July 2017, the UK Financial Conduct Authority (FCA) announced a potential phase-out of LIBOR by the end of 2021

## LIBOR Today

- LIBOR is currently produced on a daily basis in 5 currencies: US dollar, Euro, British pound sterling, Japanese yen, and Swiss franc
- 16 major money center banks are on the panel that contribute rates to USD LIBOR. The banks are based in various jurisdictions and all have operations in London
- LIBOR is calculated in various tenors including overnight, 1 week, 1 month, 2 months, 3 months, 6 months, 12 months
- IBA has taken significant steps to improve LIBOR, by establishing oversight, surveillance and validation procedures designed to reduce the possibility of manipulation
- Based on recent regulatory announcements, publication of LIBOR will cease after these dates:

| | |
|---|---|
| December 31, 2021: | US dollar 1 week and 2 month settings, and all non-US dollar settings |
| June 30, 2023: | all remaining US dollar settings |



## IOSCO Principles

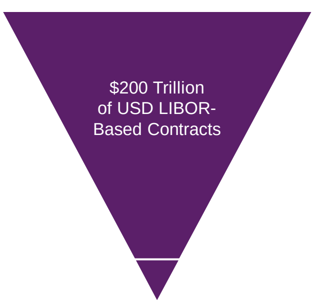
- In July 2013 the International Organization of Securities Commissions issued its Principles for Financial Benchmarks, following on the LIBOR rate rigging scandal
- The Principles are generally designed to address conflicts of interest, promote internal controls, and improve governance and oversight
  - Principle 6 indicates that Benchmark design should consider the "relative size of the underlying market in relation to the volume of trading in the market that references the Benchmark"
  - Principle 7 recommends that a Benchmark be "based on prices, rates, indices or values that have been formed by the competitive forces of supply and demand" and "anchored by observable transactions entered into at arm's length between buyers and sellers in the market"
  - Principle 8 provides a hierarchy for data inputs, ranking a submitter's own concluded arms-length transactions first, and expert judgement last
- Policymakers and industry participants in various countries, including the US, have been working towards the development of new Benchmarks that follow the IOSCO principles

## What Mr. Bailey Said

- The UK FCA is the regulator that has the power to direct panel banks to continue to submit rates to IBA to help generate LIBOR, inasmuch as the rate submission activity takes place in London
- In July 2017, head of the FCA Andrew Bailey indicated in a speech that panel banks would no longer be compelled or encouraged by the FCA to submit rates in support of LIBOR, effective at the end of 2021
- Notwithstanding recognized improvements in the production of LIBOR, this policy is based on the absence of an active substantial underlying market, inter-bank unsecured lending (see IOSCO Principle 6)
- This announcement did not mean that LIBOR will definitely cease to be produced at the end of 2021; however, continued LIBOR after 2021 would be dependent on the willingness of a sufficient number of panel banks to voluntarily continue to submit bids



## A Visualization of Financial Stability & LIBOR




**Priced off $500 million or less of underlying daily transactions**

USD LIBOR is estimated to be referenced in $200 trillion worth of financial contracts (equivalent to 10 times US GDP).*

Most of this exposure (95 percent) is in derivatives, but USD LIBOR is also referenced in an estimated:

- $3.4 trillion business loans
- $1.8 trillion in floating rate debt
- **$1.8 trillion in securitizations**
- $1.3 trillion retail mortgages & other consumer loans

Data source: Alternative Reference Rates Committee, Second Report, March 2018. Data as of year-end 2016

* There is more than $370 trillion in exposure to IBORs generally

## SOFR

- In the US, the leading alternative reference rate is the secured overnight financing rate ("SOFR"), which is produced by the Federal Reserve Bank of New York
- SOFR is a rate, calculated and published daily, based on an average of reported overnight repurchase transactions in US Treasury securities, captured from several sources that report actual transaction data to the NY Fed. The sources capture the vast majority of actual transactions of this type
- SOFR is published on each "US Government Securities Business Day" which means any day except for a Saturday, Sunday or a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in US government securities
- The NY Fed commenced publication of SOFR in April 2018. The NY Fed also publishes compounded average SOFR over rolling 30, 90 and 180 day periods, referred to as "SOFR Average". For example, 30-Day Average SOFR is generally calculated as the compounded average of SOFR over the preceding 30 calendar days



## SOFR (Continued)

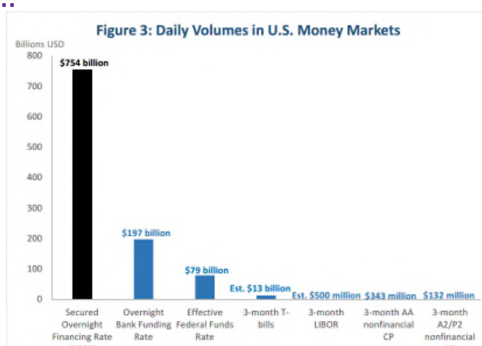
- SOFR meets the IOSCO criteria in that the underlying market (US Treasury repos) is extremely broad and robust, and there is very substantial actual reported transaction data available based on market transactions

## SOFR Attributes

- SOFR underlying data is not limited to bank-to-bank lending, but rather is based on transactions among participants in the broad US Treasury repo market who may be banks, broker dealers, insurance companies, pension funds, private equity funds, corporations, etc.
- SOFR is an overnight rate only; the data submitted to the NY Fed is nearly all based on overnight transactions, and does not contain data from which term rates could be derived
- To apply SOFR over an interest accrual period, either a daily rate, average rate or forward term rate must be used
- SOFR is essentially a risk free rate, because the underlying transactions are fully secured by high quality liquid collateral
- In contrast, LIBOR is an unsecured borrowing rate, and includes a component that reflects the borrowing bank's creditworthiness, especially as to longer tenors
- Unlike LIBOR (a forward term rate), SOFR is a backward looking rate
- Because of these differences, SOFR can be expected to perform differently from LIBOR



## Money Talks…




Source: Alternative Reference Rates Committee, Second Report, March 2018.

## ARRC Implementation Plan

- In November 2014, the Alternative Reference Rates Committee (ARRC) was convened to consider new US dollar risk free reference rates
- ARRC members include a number of major banks and industry groups, and ARRC obtains input and participation from a broad range of market participants as well as US regulators
- In June 2017, ARRC announced that it had selected SOFR as the preferred alternative US dollar risk free reference rate, and as its preferred alternative to USD LIBOR
- In March 2018, ARRC published its "Second Report", a comprehensive report regarding the transition away from LIBOR, and outlining its “Paced Transition Plan,” which would transition from LIBOR to SOFR in stages, possibly culminating in forward term SOFR



## Term SOFR: Early Thinking

- Structured Finance Association (SFA) and other thought leaders from early on have advocated that for the cash markets (including floating rate loans), there should be a true forward looking term SOFR derived from overnight SOFR.
- Forward looking term SOFR would predict SOFR over a future accrual period, based on market transaction inputs, and would be available at the beginning of the accrual period. It would be comparable to forward term LIBOR, but without a credit component.
- However, the vast majority of LIBOR based transactions that might convert to SOFR are derivatives, which reference an overnight index and do not require a forward looking term index. The ISDA consultation did not propose considering a forward term SOFR.
- Until recently, policy makers have been concerned that the creation of the forward term SOFR could be at cross purposes with the transition of derivatives to SOFR. Policymakers initially did not encourage the creation of a forward Term SOFR for use in the cash markets, pending the adopting of SOFR in the derivatives markets. Prior to 2021, ARRC leadership was of the view that there could be no assurance that a forward looking term SOFR will actually develop.

## In Advance or in Arrears SOFR

- While SOFR itself is an overnight rate, SOFR can be averaged over a given accrual period (e.g., 30 or 90 days) through a number of approaches.
- “in advance” means SOFR for a given accrual period is calculated at the start of the period, but based on overnight SOFR over the period ending on or about the start of the period. In other words the observation period is the period prior to the accrual period.
- For example, if the accrual period is 2Q 2019, the rate is determined at the start of the accrual period but based on actual overnight SOFR over 1Q 2019. Thus the in advance approach is based on backward-looking or “stale” information, but has the benefit of being known at the start of the accrual period.



## In Advance or in Arrears SOFR (continued)

- “in arrears” means SOFR for a given accrual period is calculated at the end of the period, based on overnight SOFR over the accrual period. In other words the observation period is nearly the same as the accrual period.
- For example, if the accrual period is 2Q 2019, the rate is determined at the end of the accrual period based on actual overnight SOFR during 2Q 2019. The in arrears approach is based on actual rate information during the accrual period, but has the disadvantage of not being known at the start of the accrual period.
- When using the in arrears approach, the observation period may be pushed back by a few days, so that the rate can be calculated a few days prior to the end of the accrual period.
- The in arrears approach is favored by ISDA, and may be suitable for corporate debt, but is viewed as not appropriate for consumer debt.

## Compounded or Average SOFR

- "compounded" means the daily overnight SOFR rate is compounded on a daily basis over the observation period. This results in a slightly higher rate for the observation period due to the effects of compounding, and is thought to at least to some extent convert SOFR from an overnight rate to a term rate.
  - ISDA favors the compounded in arrears approach, which fits in well for overnight indexed swaps over a fixed contractual time period.
  - However market participants in the cash markets may find the calculations for compounding to be burdensome.
- "simple average" means to average overnight SOFR over the relevant observation period, without compounding.
- In either case, a margin is added after the average rate is derived.



## Spread Adjustment

- Because overnight SOFR is a risk free rate, whereas all tenors of LIBOR include a bank credit component, when using SOFR as a replacement for LIBOR a spread adjustment is added in order to minimize any value transfer.
- Minimization of value transfer at time of conversion is deemed desirable in order to avoid gains and losses.
- The spread adjustment would add on a factor to account for bank credit risk over the relevant accrual period.
- The spread adjustment also would take into account the difference in tenor between the tenor of LIBOR being replaced and the form of SOFR being applied. This difference is greatest with overnight SOFR, and least with forward looking term SOFR.
- Spread adjustment typically is not dynamic. It is a fixed amount that minimizes value transfer at the point of benchmark replacement.

## ISDA adoption of SOFR

- ISDA has taken a variety of steps to ensure a smooth transition away from LIBOR and other IBORs for swaps, to various forms of new risk free rates in different jurisdictions (in the US, SOFR).
- In December 2018, following a consultation process, ISDA announced that its preferred approach is:
  - Compounded Setting in Arrears: as ultimately implemented, daily compounding in arrears over the relevant period, with a 2 business day backward shift.
  - A spread adjustment based on a Historic Mean/Median Approach: a single number based on the historic mean or median spot spread between the relevant IBOR and the replacement reference rate, over a 5 year lookback period from the time of IBOR cessation.
- In 2020, ISDA published amendments to the 2006 ISDA Definitions, in the form of a Supplement, to incorporate the LIBOR replacements for new trades. These new definitions include SOFR, as well as revised LIBOR definitions that fallback to SOFR when LIBOR becomes unavailable.



## ISDA adoption of SOFR (Continued)

- ISDA also published a voluntary Protocol to facilitate the update of rate options in legacy derivative contracts. By adhering to the Protocol, market participants are agreeing that their legacy derivative contracts *with other adherents* will include the amended rate option for the relevant IBOR (or equivalent terms).
- In June 2021, ISDA published the new 2021 Interest Rate Derivatives Definitions, which supersede the 2006 Definitions, and incorporate the provisions of the Supplement and Protocol and also add an additional fallback trigger if the parties to a swap or the Calculation Agent is not permitted under applicable law to use a particular benchmark. This trigger was adopted from a 2018 ISDA publication that addressed benchmark reform in the EU.
- Daily compounded in arrears is highly suited for swaps, which generally reference an overnight index as applied to a notional amount over successive observation periods.

## ARRC Consultations

- ARRC working groups in late 2018 published separate consultations for fallback contract language, for new cash products including: Bilateral Business Loans, Syndicated Business Loans, Floating Rate Notes (notes offered and sold to investors), and Securitizations.
- The fallbacks were designed for new contracts prior to LIBOR cessation, to ensure a smooth transition when LIBOR ceases
- The ARRC consultations are informed by the ISDA Consultation which preceded them, but seek to develop alternative approaches where warranted that reflect the needs of market participants in cash products.
- These consultations did not address transitioning away from LIBOR for legacy assets
- Under the consultations, “Relevant Governmental Body” means the Federal Reserve Board, the Federal Reserve Bank of New York (“FRBNY”) or a committee established by the Federal Reserve or FRBNY such as the ARRC.



## ARRC Consultation - Syndicated Business Loans

- This consultation was published September 2018 with final recommendations published April 2019, and amended in June 2020.
- The 2019 recommendations included an amendment approach option, which established protocols for amending loan documents to transition from LIBOR, but did not specify the replacement rate.
- The revised 2020 recommendations eliminated the amendment option, and included only a hardwired option (and a swaps option).
  - Hardwired approach: sets a prescribed waterfall for the replacement rate. May be preferred for administrative ease with portfolios with large numbers of loans. Also, both the ISDA Consultation, and the ARRC Floating Rate Note and Securitization Consultation, use only the hardwired approach.
- Triggers: transition to a replacement rate would be triggered by
  - Cessation triggers: as under the ISDA consultation, authoritative public statements that LIBOR publication will cease. Triggers are effective upon actual cessation.

## ARRC Consultation - Syndicated Business Loans (continued)

- Pre-cessation triggers: a public statement by the regulatory supervisor for the administrator of LIBOR announcing that LIBOR is no longer representative. Can be effective prior to the actual cessation of LIBOR
- Additional “early opt-in” trigger events are provided separately for each of the amendment approach (loans in the market are replacing LIBOR) and the hardwired approach (other syndicated loans are priced over any SOFR based rate)



## ARRC Consultation - Syndicated Business Loans (continued)

- Hardwired approach:
  - Replacement benchmark determined under a waterfall (whichever is first available):
    - 1. Term SOFR (corresponding tenor of LIBOR tenor being replaced)
    - 2. Daily Simple SOFR, in arrears with a lookback period, based on conventions:
      - Recommended by Relevant Government Body, or
      - Determined by Administrative Agent in its reasonable discretion
    - 3. As agreed between Borrower and Administrative Agent, giving due consideration to recommendation by Relevant Governmental Body or market convention
  - Spread adjustment determined under a waterfall (whichever is first available):
    - As recommended by Relevant Governmental Body
    - As selected by ISDA
    - If no form of SOFR as listed above is available, then as agreed between Borrower and Administrative Agent, giving due consideration to recommendation by Relevant Governmental Body or market convention
  - Approval mechanism: no amendment is needed unless
    - If none of the SOFR waterfall steps are available, then negative consent by majority Lenders

## ARRC Recommendations - Securitizations

- This consultation was published September 2018 with final recommendations published May 2019.
- These recommendations provide only a hardwired approach, which sets a prescribed waterfall for the replacement rate. Recommendations include language authorizing conforming changes.
- Like the other ARRC consultations/recommendations, the recommendations for securitizations are "futureproofed" in that they address not only cessation of LIBOR, but also a future cessation of SOFR or any other benchmark. This results in more steps than are needed just to convert to SOFR.
- The recommendations impose certain duties on a Designated Transaction Representative, a transaction party or representative willing to take on these duties.



## ARRC Recommendations - Securitizations (continued)

- Triggers: transition to a replacement rate (Benchmark Replacement) would be triggered by
  - Cessation triggers: 1) a public statement by the IBOR administrator that it will cease publication of the benchmark, or 2) a public statement by the regulatory supervisor of the administrator, or other authorities with jurisdiction over the administrator, that the benchmark will cease to be provided. These are the same trigger events as under the ISDA consultation. Triggers are effective upon actual cessation.
  - Pre-cessation trigger: a public statement by the regulatory supervisor for the administrator of LIBOR announcing that LIBOR is no longer representative. Can be effective prior to the actual cessation of LIBOR
  - Additional optional pre-cessation trigger: when the "Asset Replacement Percentage" exceeds a specified level, which represents the percentage of the pooled assets that have converted to the new benchmark

## ARRC Recommendations - Securitizations (continued)

- Benchmark Replacement determined under a waterfall (whichever is first available at each step) after first determining if an interpolated benchmark using longer and shorter tenors of the existing benchmark. For each step in the waterfall a Benchmark Replacement Adjustment is added:
  1. Term SOFR with corresponding tenor of the benchmark being replaced
  2. Compounded SOFR with corresponding tenor (can instead use Simple Average SOFR), which may be in arrears with a lookback or suspension period, based on conventions:
     a. Recommended by Relevant Government Body, or
     b. Selected by Designated Transaction Representative giving due consideration to industry accepted practices
  3. Relevant Governmental Body selected rate with corresponding tenor
  4. ISDA specified fallback rate with corresponding tenor
  5. Rate selected by Designated Transaction Representative giving due consideration to industry accepted practices



## ARRC Recommendations - Securitizations (continued)

- Term SOFR retest: optional provision where if rate is chosen under 2 above, waterfall will be retested on a quarterly basis, and if Term SOFR is then available, Benchmark Replacement will be reset under 1 above
- Spread adjustment (Benchmark Replacement Adjustment) determined under a waterfall (whichever is first available):
  - Spread adjustment or method of determining spread adjustment as recommended by Relevant Governmental Body
  - If the ISDA specified fallback applies, then the spread adjustment that would apply for swaps referencing ISDA definitions
  - If neither of the above is available, then as designated by the Designated Transaction Representative giving due consideration to industry accepted practices

## ARRC Spread Adjustment

- ARRC engaged in a consultation process regarding its recommended spread adjustments for cash products referencing USD LIBOR, and announced the final results in June 2020.
- In the final results, ARRC's recommended spread adjustment for cash products other than consumer products will match the value of ISDA's spread adjustments to U.S. dollar LIBOR.  For consumer products, given that the ARRC will include a 1-year transition period, the ARRC will further consider the most appropriate approach to the issue of methodology versus value for these specific products.



## ARRC Spread Adjustment (continued)

- For all cash products, in the event that a pre-cessation event is operative, the ARRC's recommended 5-year historical median spread adjustments will be determined at the same time as the ISDA's spread adjustments, which will be at the time of any announcement that LIBOR will or has ceased or will or has become no longer representative.
- In March 2021, shortly after the announcements by FCA and IBA indicating a specific end date for USD LIBOR, ISDA published fixed spread adjustments for each of the 7 tenors of USD LIBOR, to be applied when replacing them with SOFR as determined for the corresponding tenor.
- ARRC published a statement recommending the same fixed spread adjustments for non-consumer cash products, when converting from LIBOR to SOFR.  The spread adjustments include:

| | |
|---|---|
| 1 month: | 0.11448% |
| 3 month: | 0.26161% |
| 6 month: | 0.42826% |

## Tax Risks

- Replacing LIBOR in any asset with a new benchmark may be a modification resulting in a tax recognition event and other tax risks including cancellation of debt income and loss of grandfathered FATCA status
  - Such modifications could also affect a securitization entity by impairing grantor trust or REMIC status, and could cause a debt instrument to be recharacterized as something other than debt (e.g., equity)
- In October 2019 the Treasury and IRS issued proposed regulations to address these issues.
  - The proposed regulations generally provide that, if the terms of a debt instrument or a derivative are modified to replace, or to provide a fallback to, an IBOR-referencing rate with a “qualified rate”, the modification (and any subsequent conversion pursuant to the fallback) does not result in the realization of income, deduction, gain, or loss for tax purposes.



## Tax Risks (continued)

- For a replacement rate to be a “qualified rate”, the rate must be included in a broad list of replacement rates; provided that the rate must satisfy the fair market value and be in the same currency. This list includes SOFR and other rates recommended by central banks or similar institutions. This list also includes rates that are determined by reference to such rates.
- A rate is a “qualified rate” if the fair market value of the “new” instrument is *substantially equivalent* to the fair market value of the “old” instrument. The proposed regulations provide for two safe harbors which result in the fair market value equivalence test being satisfied.
- The first safe harbor provides that if the historical averages of the relevant IBOR rate and the replacement rate do not differ by greater than 25 basis points (after taking into account any spread, or one-time adjustments made in connection with the alteration), then the fair market value equivalence test is deemed to be satisfied.

## Tax Risks (continued)

- The second safe harbor provides that if (i) parties to an instrument are unrelated and (ii) the parties determine that the fair market value of the instrument before and after the alteration are substantially equivalent (taking into account the value of any one-time payments made in connection with such alteration), then the fair market value equivalence test is deemed to be satisfied
- In October 2020, the IRS issued Revenue Procedure 2020-44 to facilitate the market's transition from LIBOR to alternative reference rates through adoption of fallback language recommended by the ARRC and by ISDA. Rev. Proc. 2020-44 provides that modifications made to adopt ARRC and ISDA fallbacks will not result in a deemed taxable exchange and other adverse consequences. In order to benefit from the protections provided under Rev. Proc. 2020-44 in respect of ARRC fallback language, the language must be based on contractual language included in one of a number of listed recommendations published by ARRC.



## ARRC SOFR Indexed ARM Proposal

- In July 2019, ARRC published a white paper on Options for Using SOFR in Adjustable Rate Mortgages. The white paper is indicative of how SOFR might be introduced to ARM loans. The approach in the white paper was later adopted by Fannie and Freddie in developing their forms for an ARM linked to SOFR.
- ARMs referencing LIBOR typically reference 1-year LIBOR and adjust annually, or 6-month LIBOR with a semi-annual adjustment.
- The white paper makes these key points:
  - Unlike corporate cash products and derivatives where a SOFR in arrears is favored, for consumers, a SOFR average in advance is more appropriate for consumers, because they will know the rate that will be in effect for the upcoming period prior to the adjustment date.

## ARRC SOFR Indexed ARM Proposal (continued)

- Use of 30- or 90-day average SOFR is recommended. Because the observation period is backward looking prior to the adjustment date, it is preferable to not average SOFR over a longer period.
- SOFR could be either a simple average or compounded. In either case the average should be published by a trusted reliable source.
- Given that the reference rate is SOFR in advance, semi-annual rate adjustments are recommended, rather than annual.



## ARRC SOFR Indexed ARM Proposal (continued)

- The following chart from the ARRC white paper summarizes how a SOFR ARM might work, as compared to a LIBOR ARM.

**Summary of the Proposed Models of SOFR ARMs**

| | Current LIBOR ARM Model | Proposed Model of SOFR ARMs |
|---|---|---|
| Fixed-Rate Period | 3, 5, 7, or 10 Years | No Change to Current Structure |
| Floating Rate Index | 1-Year LIBOR | 30-Day or 90-Day Average of SOFR |
| Floating-Rate Adjustment Period | 1 Year | 6 Months |
| Rate/Payment Determination | New Rate Determined 45 days in Advance of Interest Rate Change Date | No Change to Current Structure |
| Initial Caps | 2 Percent for 3/1 and 5/1 ARMs<br>5 percent for 7/1 and 10/1 ARMs | No Change to Current Structure |
| Subsequent Caps | 2 Percent | 1 Percent |
| Lifetime Cap | 5 Percent | No Change to Current Structure |
| Margin | 2.25 Percent | Likely in Range of 2.75 to 3 Percent |

**Source: Alternative Reference Rates Committee, July 2019 White Paper, Options for Using SOFR in Adjustable Rate Mortgages**

## Fannie/Freddie Transition from LIBOR

- Both Fannie Mae and Freddie Mac indicated support for the ARRC's recommendation to replace the LIBOR index in newly originated products with a new index based on SOFR.
- In February 2020, Fannie and Freddie both indicated that they will stop accepting LIBOR indexed ARM loans by the end of 2020.
- They also issued new forms of LIBOR indexed ARM notes for originations prior to the end of 2020, with new fallback language based on ARRC. Under these forms LIBOR will be replaced after publication has permanently or indefinitely stopped; or IBA or its regulator publicly states that LIBOR is no longer reliable or representative.
- In April 2020, Fannie announced that it would begin accepting single-family ARMs linked to SOFR in August 2020. Similarly, in April 2020, Freddie announced that it would accept ARMs linked to SOFR beginning in the fourth quarter of 2020.
- Fannie and Freddie now purchase newly originated ARMs linked to 30-day SOFR Average, with a semi-annual reset after the initial fixed period.



## CFPB Action on Transition from Libor

- In June 2020, the Consumer Financial Protection Bureau (CFPB) took steps to facilitate the transition away from LIBOR for consumers and regulated entities. The action included release of a Notice of Proposed Rulemaking (NPRM) concerning the anticipated discontinuation of LIBOR, including proposing examples of replacement indices that meet Regulation Z standards.
- For open-end products including home equity lines of credit (HELOCs) and credit cards, the NPRM proposes examples of replacement indices for LIBOR for that meet Regulation Z standards. The examples include the prime rate, and SOFR-based spread adjusted indices recommended by ARRC. The CFPB proposes to permit creditors to replace a LIBOR index with a replacement index on or after March 15, 2021, even if LIBOR is still available at that date. The replacement index for HELOCs must have historical fluctuations that are substantially similar, and the new rate selected for credit cards must be substantially similar, with the comparison being made as of December 31, 2020.

## CFPB Action on Transition from Libor (continued)

- For closed-end credit provisions, the NPRM proposes to identify specific indices as an example of a “comparable index” for the LIBOR index that will be replaced, such that the replacement will not be deemed a refinancing. In the NPRM, the SOFR-based spread adjusted indices recommended by the ARRC are proposed as an example of a comparable index.
- The CFPB has stated that it expects to issue a final rule in January 2022.
- In addition to the NPRM, the CFPB issued a set of Frequently Asked Questions (FAQs) to address other LIBOR transition topics and regulatory questions under the existing rule. The FAQs deal with issues related to general implementation considerations, and restate requirements for, among other topics, adjustable-rate mortgage servicing notices, and adjustable-rate mortgage and HELOC origination disclosures.



## November 2020 Developments

- In late November 2020, IBA as administrator of LIBOR, announced a consultation on ceasing the publication of the 1-week and 2-month USD LIBOR settings immediately following the LIBOR publication on December 31, 2021, and the remaining USD LIBOR settings, including overnight, and 1-, 3-, 6- and 12-Month LIBOR, immediately following the LIBOR publication on June 30, 2023.
- Concurrently, the Federal Reserve Board, the OCC and the FDIC released important regulatory guidance that in effect compels US banks to cease entering into USD LIBOR contracts no later than December 31, 2021
- Specifically, the guidance

  (i) encouraged banks to cease entering into new contracts that use USD LIBOR as a reference rate as soon as practicable and in any event by December 31, 2021,

  (ii) indicated that new contracts entered into before December 31, 2021 should either utilize a reference rate other than USD LIBOR or have robust fallback language that includes a clearly defined alternative reference rate after USD LIBOR’s discontinuation and (

  (iii) explained that extending the publication of certain USD LIBOR tenors until June 30, 2023 would allow most legacy USD LIBOR contracts to mature before LIBOR experiences disruptions.

## Hardwired Fallbacks

- The November 2020 regulatory guidance strongly influenced US financial institutions to change their LIBOR fallback language in loan agreements as well as securitizations, away from an amendment-style approach, to language that specified LIBOR replacement events as well as a specific waterfall of forms of SOFR or other benchmarks that would be used.
- During late 2020 and early 2021, many banks began to use their own customized form of fallback language, generally based on ARRC recommendation for syndicated loans, falling back first to Term SOFR if available, and then to Daily Simple SOFR.
- To a large extent, fallbacks as used in practice had the appearance of being "ARRC-like." However a number of variations were added by certain banks, such as
  - Term SOFR "second chance": if at cessation of LIBOR the rate goes to a form of SOFR other than Term SOFR, and Term SOFR later becomes available, then the benchmark switches a second time to Term SOFR
  - Use of alternate forms of SOFR, such as Daily Compounded in Arrears, or SOFR Average



## March 2021 Developments

- On March 5, 2021, IBA published feedback statement on the consultation, in which IBA stated that:
  - it will cease publication of the 1-week and 2-month USD LIBOR settings, as well as all non-USD LIBOR settings, immediately following the LIBOR publication on December 31, 2021,
  - it will cease publication of the overnight and 1-, 3-, 6- and 12-month USD LIBOR settings, immediately following the LIBOR publication on June 30, 2023, unless the FCA exercises its new powers to require IBA to continue to publish certain settings on a synthetic basis.
- On the same day, the FCA published a statement indicating that:
  - it will not exercise such powers as to overnight, 1-week, 2-month and 12-month USD LIBOR settings, therefore those settings will permanently cease following the LIBOR publication on June 30, 2023
  - it will consider the case for using its powers to require publication of the 1-, 3- and 6-month USD LIBOR settings after June 30, 2023, on a synthetic basis, but the FCA further noted that any such publication of LIBOR will no longer be representative and representativeness will not be restored.

## March 2021 Developments (Continued)

- Accordingly, as to all settings of USD LIBOR, either publication will permanently cease, or representativeness will be permanently lost, in accordance with the schedule set out by IBA.
- IBA stated that the FCA has confirmed, based on undertakings from the panel banks, that it does not expect any LIBOR settings to become unrepresentative prior to the cessation dates set out by IBA.
- LIBOR on a synthetic basis would likely be derived from forward transactions in a risk-free rate with a spread adjustment, and would likely be fundamentally different from LIBOR as known today. Loss of representativeness means such LIBOR settings would be considered to be no longer representative of the underlying market or the economic reality that the setting is intended to measure.



## Launch of Term SOFR

- In 2018, CME Group began listing monthly and quarterly SOFR futures contracts. The quarterly contract references daily compound SOFR over future 3 month reference periods, up to 10 years out. Over time, the trading volume of SOFR futures gradually increased.
- In April 2021, CME began to publish CME Term SOFR Rates. These forward looking term rates are derived from current observations of overnight SOFR as well as expectations of future SOFR values implied by observed trading in SOFR futures contracts. CME states that their Term SOFR Rates are aligned to IOSCO principles. CME currently publishes 1-, 3-, 6- and 12-month CME Term SOFR Rates.
- In July 2021, ARRC published a statement announcing that it "formally recommends" the CME Term SOFR Rates. This represents the culmination of the ARRC's Paced Transition Plan. However, ARRC also released a "best practices" for the use of Term SOFR, which indicated that the use of Term SOFR is preferred only in limited circumstances.

## Launch of Term SOFR (Continued)

- The ARRC announcement in many cases may mean that in applying various forms of LIBOR fallback provisions where Term SOFR is the first step in the waterfall, or that include a "second chance" at Term SOFR, the provisions may result in falling back to the CME Term SOFR Rate for the corresponding tenor.
- Term SOFR is not excepted to have a hedge market until 2023.



## Forms of SOFR in Use Today

- The following forms of SOFR are in use today:
- Compounded in Arrears: compound average, 2 business day observation shift, determined near end of accrual period. Most similar to how most SOFR swaps work. Proposed by ARRC for securitization fallbacks. Not widely used in loans and securitizations.
- Daily Simple SOFR: determined on a daily basis, without compounding. Became the ARRC preferred form for business loans, because there is a daily rate determined in the accrual period that can accommodate draws and repayments. Likely to be used in business loans, and in CLOs (securitizations backed by business loans)
- Daily Compounded SOFR: determined on a daily basis over the course of the accrual period, much like Daily Simple SOFR, except that interest is compounded on business days. May be preferred for hedged loans.

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## Forms of SOFR in Use Today (Continued)

- 30 day SOFR Average: represents daily SOFR, observed and compounded over the preceding 30 calendar days. Published by the NY Fed, highly objective. As applied to a loan or securitization accrual period, is determined prior to the start of the accrual period, thus functions like compounded in advance. Favored in mortgage loans and possibly other consumer products, because the borrower knows the interest rate prior to the start of the accrual period. Widely used in Fannie and Freddie securitizations. Also is used in private label RMBS floating rate classes.
- Term SOFR: Widespread usage has not yet begun. The current lack of a hedge market may be a concern. However, Term SOFR may be favored because it involves minimal system changes, as compared to most other forms of SOFR.

## Credit Sensitive Rates

- While policymakers continue to advocate strongly for the adoption of a risk free rate such as SOFR, and major money center banks have for the most part moved towards SOFR adoption, other market participants are considering alternative benchmarks that include a credit sensitive component, that better reflect a bank's actual cost of borrowing on an unsecured basis ("credit sensitive rates") as compared to a risk free rate.
- In 2021, two alternative credit sensitive forward term benchmarks have emerged: BSBY and AMERIBOR. Some banks have moved towards using these benchmarks in lending transactions. These alternatives are "on the shelf" and available for use today.
- Another approach would be to use a credit sensitive rate to derive a dynamic spread adjustment, that could then be combined with a form of SOFR to produce a credit adjusted risk free rate.
- While risk free rates are extraordinarily robust in terms of volume of underlying transactions, they do not necessarily correlate to a bank's actual cost of borrowing on an unsecured basis, which is the source of most funding used for lending operations.



## Credit Sensitive Rates (Continued)

- Credit spreads (for example, the difference between yields on US Treasuries vs. rated corporate debt of the same tenor) vary over time. In times of reduced liquidity, such as a credit crisis, if a bank is lending at a risk free rate while the bank's cost of funds goes up, profitability could be impacted negatively.
- In contrast, the business model implicit in the use of a credit sensitive benchmark such as LIBOR is that when a bank's cost of funding goes up due to credit spread widening, the increased cost is passed along to the borrower.
- Moving from LIBOR to SOFR could be viewed as moving from a pro-cyclical rate to a counter-cyclical rate.
- A borrower may also have reason to prefer a credit sensitive rate. A bank lending based on SOFR may need to charge a premium for credit uncertainty, which a credit sensitive rate would avoid. Further, to the extent that credit sensitive rates have a "look and feel" more like LIBOR, and to the extent they historically correlate better to LIBOR than do risk free rates, borrowers may feel that a credit sensitive rate is more familiar.

## BSBY

- BSBY is the Bloomberg Short-Term Bank Yield Index benchmark interest rate, which may be overnight, 1-month, 3-months, 6-months or 12-months, as provided by Bloomberg Index Services Limited (BISL) as administrator.
- BSBY aims to measure the average yields at which investors are willing to invest USD funds on a senior, unsecured basis in a list of global systemically important banks at various tenors.
- BSBY is based on 1) consolidated anonymized transaction-related data and firm executable quotes of Commercial Paper, Certificates of Deposits and Deposits as reported on Bloomberg electronic trading solutions, together with 2) trades of senior unsecured bank Corporate Bonds as reported in TRACE.
- The banks whose transactions are included are limited to Global Systemically Important Banks (G-SIBs) as published by the Financial Stability Board, plus certain other systemically relevant banks (as determined by BISL) but excluding, in all cases, any state-owned banks.



## BSBY (Continued)

- BSBY is constructed using a 3 day rolling window of data and uses a “localized, trimmed curve-fitting methodology” to calculate overnight, 1-month, 3-month, 6-month and 12-month yields. For each BSBY tenor, transactions are only included if they fall within a specified days-to-maturity range.
- In the event that the minimum volume threshold for a tenor is not met, the BSBY construction algorithm relies on a fallback process which uses a longer lookback window.

## AMERIBOR

- AMERIBOR is the AMERIBOR® forward term benchmark interest rate, which may be AMERIBOR® Term-30, AMERIBOR® Term-90, or (if available) AMERIBOR® Term-180, as provided by the American Financial Exchange, LLC as administrator of such benchmark, and published by Bloomberg Finance, LP.
- AMERIBOR® is a new interest rate benchmark created by the American Financial Exchange (AFX). AMERIBOR® reflects the actual borrowing costs of numerous small, medium and regional banks across America, and is based on overnight unsecured lending transactions on the AFX. The following describes AMERIBOR® Term-30 index as an example.
- The AMERIBOR® Term-30 index is calculated using real-world transactions data, combining AMERIBOR® unsecured lending data from AFX's overnight and thirty-day markets alongside primary market wholesale, unsecured USD-denominated commercial paper and commercial deposit issuances from US-based financial institutions.
- Commercial paper and commercial deposit issuances are collected into a database by the Depository Trust & Clearing Corporation, and AFX may exclude transactions that are not investment grade.



## AMERIBOR (Continued)

- AMERIBOR® Term-30 is derived using a robust data set with a minimum volume threshold of $25 billion, over a 5 business day period. If the volume requirement is not met, the lookback window is extended.

## NYS Legislation

- In March 2020, ARRC proposed that New York State adopt legislation that would:

  (i) prohibit a party from refusing to perform its contractual obligations or declaring a breach of contract as a result of the discontinuance of LIBOR or the use of the proposed legislation's recommended benchmark replacement rate,

  (ii) establish that the recommended benchmark replacement rate is a commercially reasonable substitute for and is a commercially substantial equivalent to LIBOR, and

  (iii) provide a safe harbor from litigation for the use of the recommended benchmark replacement rate.



## NYS Legislation (continued)

- The recommended benchmark replacement rate is defined as the benchmark and spread adjustment recommended by ARRC.
- The proposed legislation would

  (i) override existing fallback language in a contract that falls back to a LIBOR-based rate and instead require the use of the legislation's recommended benchmark replacement rate,

  (ii) nullify existing fallback language if that language requires polling for LIBOR or other interbank funding rates, and

  (iii) include the recommended benchmark replacement rate as the LIBOR fallback in financial contracts that do not have any existing fallback language.

## NYS Legislation (continued)

- The proposed legislation would afford the parties the right to exercise discretion regarding the fallback rate and to avail themselves of the litigation safe harbor if they select the recommended benchmark replacement as the fallback rate. In addition, the parties may mutually opt out of the application of the proposed statute, in writing, at any time before or after the occurrence of the various events signaling the discontinuance of LIBOR. The proposed legislation would not override existing contract language that specifies a non-LIBOR-based rate (such as the Prime rate) as a fallback to LIBOR.
- The legislation was passed and then signed into law in April 2021.
- Similar legislation is being developed for passage by the U.S. Congress, which would address these issues at the federal level.



## The Way Forward

- Market participants in the US must be planning to transition away from LIBOR in new contracts no later than December 31, 2021, and must be planning to transition all legacy contracts no later than June 30, 2023.
- Key questions that market participants face include:
  - What form of SOFR is most desirable for use in various sectors of the cash markets? Term SOFR, Daily Compounded SOFR, SOFR Compounded in Arrears, SOFR Average?
  - Are credit-sensitive alternative benchmarks desirable? In what circumstances?

## The Way Forward (continued)

- Will a dynamic credit spread adjustment be developed for use with SOFR?
- What can be done to mitigate transition risk on legacy assets and securitizations?
- Will New York State and (if passed) federal legislation resolve the transition risks, for legacy assets and securitizations that do not have workable fallbacks from LIBOR?



## Contact Us

大成 DENTONS

**Stephen S. Kudenholdt**
Partner, New York
1221 Avenue of the Americas
New York, NY 10020
D +1 212 768 6847
steve.kudenholdt@dentons.com

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