

MAYER | BROWN

SOFR Deals

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- Mechanics of Using SOFR
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SOFR as a Benchmark

Why SOFR as a Benchmark?

- The reason for the development of SOFR lies in the scandals with respect to LIBOR that arose out of the 2008 Financial Crisis
- LIBOR came into widespread use during the 1970s as an interest rate initially for offshore Eurodollar markets
 - LIBOR, the London Inter-Bank Offered Rate, is an interest rate average calculated from estimates provided by leading banks in London of the rate at which they would lend to other banks in London in a specified currency, USD LIBOR being the most common LIBOR index
 - LIBOR rates are now calculated for five currencies and seven borrowing periods ranging from overnight to one year
 - But the estimates are quotes, not rates from actual lending transactions

Why SOFR as a Benchmark? *(cont'd)*

- The LIBOR scandal
 - In 2008, the WSJ released a study suggesting that banks might have understated borrowing costs they reported for LIBOR during the crisis to give the impression that they could borrow at lower costs than was actually the case
 - An international investigation revealed attempts by banks whose quotes determined LIBOR to manipulate the benchmark dating back to 2003
 - This led to criminal convictions of individuals and large settlements by the banks

Why SOFR as a Benchmark? *(cont'd)*

- In 2012, the oversight of LIBOR was transferred from the British Bankers Association to the new U.K. Financial Conduct Authority (FCA)
- In 2014, the Federal Reserve Board and the Federal Reserve Bank of New York formed the Alternative Reference Rates Committee (ARRC) to assess viable alternatives to LIBOR
- What was sought was a robust rate not subject to manipulation

Risk Free Rates

- 'Risk free' benchmark rates (RFRs) have been identified as alternatives to LIBOR for use with various currencies:
 - For USD, the ARRC has identified SOFR, the Secured Overnight Funding Rate
 - For GBP, the Sterling Risk-Free Rates Working Group has identified SONIA, the Sterling Overnight Index Average
 - For EUR, the Working Group on Euro Risk-Free Rates has identified €STR
 - Other jurisdictions, including Japan, Switzerland, Singapore, Canada, and Australia, have also identified risk free rates

Cessation of LIBOR

- In March, the FCA announced the dates for the cessation of the publication of LIBOR:
 - December 31, 2021, for Sterling, Euro, Swiss Franc, and Japanese Yen LIBOR for all tenors and USD LIBOR 1-week and 2-month settings
 - June 30, 2023, for USD overnight, 1-month, 3-month, 6-month, and 12-month LIBOR settings
- ARRC and U.S. banking regulators recommend that no new obligations using LIBOR should be entered into after December 31, 2021. After December 31, 2021, LIBOR should only be used for legacy LIBOR obligations entered into prior to December 31, 2021. Even for legacy obligations, LIBOR will cease to be available after June 30, 2023.

Legacy Obligations

- After June 30, 2023, LIBOR will not be available even for legacy LIBOR contracts. The following possibilities exist for those LIBOR contracts that exist after June 30, 2023 upon cessation of the publication of LIBOR:
 - The fallback provisions in the contract become effective, or
 - Fallback provisions provided by New York or federal law become effective, or
 - The last effective LIBOR rate may become the fixed rate for the contract, or
 - The interest rate may be determined under the law applicable to the contract, or
 - It is uncertain what interest rate applies
- See the discussion below regarding legislation addressing legacy LIBOR contracts and the cessation of LIBOR.

SOFR

SOFR

- The New York Federal Reserve Bank is the administrator for SOFR and calculates and publishes SOFR.
- SOFR is a Treasury repo reference rate based on transaction-level data collected under the supervisory authority of the Federal Reserve and transaction-level data obtained from DTCC Solutions LLC, an affiliate of the Depository Trust & Clearing Corporation, under a commercial agreement.

SOFR *(cont'd)*

- The NY Fed says on its website that SOFR “provides a broad measure of the general cost of financing Treasury securities overnight”.
- The SOFR calculation includes all trades included in the [Broad General Collateral Rate] plus data on transactions cleared through the Fixed Income Clearing Corporation’s Delivery-versus-Payment (DVP) repo service.” Certain repo transactions trading “special” are removed from the data.
- Transaction volumes in the overnight Treasury repo market are usually about \$1 trillion. It is considered to be the deepest financial market in the world.

Publication of SOFR

- Each business day at approximately 8:00 a.m. ET, subject to revision at approximately 2:30 p.m. ET, the NY Fed publishes on its website the SOFR rate it has calculated for transactions on the previous U.S. Government Securities Business Day – essentially, a day on which Treasury securities are traded.
- SOFR Averages and SOFR Index are published at the same time.
- Rate revisions will only occur if the change in the rate exceeds one basis point and only on the same day as initial publication. Any time a rate is revised, a footnote would indicate the revision.
- Updated SOFR summary statistics are published on a lagged basis shortly after the end of each quarter.

Advantages of SOFR

- Advantages of SOFR
 - Based on a very deep underlying market of actual repo transactions
 - Not susceptible to manipulation
 - Compound SOFR approximates the cost of carrying deposit accounts
 - SOFR more accurately reflects the cost to carry risk free assets
 - SOFR is determined by a robust and transparent method of determining a common benchmark rate
 - It is based on observable transactions rather than estimated borrowing rates

Disadvantages of SOFR

- Disadvantages of SOFR
 - SOFR displays more volatility than LIBOR
 - SOFR is not credit sensitive like LIBOR
 - SOFR is not a forward-looking rate
 - SOFR may move inversely to LIBOR in a crisis
 - Rates in the Treasury repo market can be managed by the Federal Reserve as part of its monetary policy

ARRC

The ARRC: Who are they?

- The Federal Reserve Board and the New York Fed jointly convened the ARRC in 2014.
- The ARRC is a group of financial market participants convened to help ensure a successful transition from USD LIBOR to SOFR.
- The ARRC is comprised of a diverse set of private-sector entities, each with an important presence in markets affected by USD LIBOR, and a wide array of official-sector entities, including banking and financial sector regulators, as ex-officio members. ARRC members include banks, asset managers, insurers and industry trade organizations.

ARRC: Who are they? *(cont'd)*

- The ARRC's website includes many important statements, including suggested contractual language for loans, securitizations and floating rate notes, and frequently asked questions about the use of SOFR.
 - <http://www.newyorkfed.org/arrc>
- See, for example:
 - [An Updated User's Guide to SOFR](#)
 - [ARRC Recommended Best Practices for Completing the Transition from LIBOR](#)
 - [Frequently Asked Questions on Best Practice Recommendations Related to Scope of Use of the Term Rate](#)

ARRC: Who are they? *(cont'd)*

- The ARRC is an advisory body, not a regulatory body
 - The ARRC's statements are recommendations, not rules
- Through consultation and member discussion, the ARRC has developed guides on the use of SOFR in a variety of commercial and consumer contexts, some of which we discuss below
- The ARRC also developed for LIBOR contracts standard fallback alternative provisions that come into effect upon the cessation of LIBOR

The Legacy LIBOR Problem

Legacy LIBOR Contracts

- New LIBOR contracts can be created until December 31, hopefully with ARRC fallback language
- A large number of legacy LIBOR contracts in both commercial and consumer contexts were created before the development of SOFR and the fallback alternatives
- These include derivatives, residential mortgages and corporate debt
- These contracts were created under the laws of many jurisdictions, including foreign jurisdictions, not under the laws of a single state
- Accordingly, legislative solution were deemed essential

The NY Legislative Solution

Article 18-C of the New York General Obligations Law was signed into law on April 7, 2021.

- Primarily aimed at USD LIBOR contracts, securities or instruments (e.g., floating rate notes, loans, securitizations and mortgages) with the 2006 ISDA Definitions LIBOR fallbacks, or no fallback provisions at all, and which are governed by New York law.
- Article 18-C has no effect on USD LIBOR floating rate notes that have the ARRC recommended fallback provisions to SOFR, nor does it have any effect on non-USD LIBOR floating rate notes.

The NY Legislative Solution *(cont'd)*

- For USD LIBOR FRNs that have a discretionary replacement fallback to an industry-accepted replacement rate standard, Article 18-C confirms the choice of SOFR to replace USD LIBOR under the terms of the floating rate note.
- Provides a safe harbor against any liability for damages or requests for equitable relief for any person in connection with a benchmark replacement or the determination or implementation of benchmark replacement conforming changes under the provisions of Article 18-C. The selection or use of the recommended benchmark replacement or the determination or implementation of benchmark conforming changes shall not give rise to any claim or cause of action by any person in law or equity.

NY Legislative Solution Shortcomings

- Only applies to NY law governed contracts; doesn't help for most mortgages
- TIA problem: if the last USD LIBOR setting is higher than the replacement SOFR rate and the spread adjustment, a plaintiff could claim that Section 316(b) of the Trust Indenture Act was violated in that her right to interest was impaired or affected without her consent
- State law cannot pre-empt federal law

Federal LIBOR Legislation

Adjustable Interest Rate (LIBOR) Act of 2021 was reported to the full House of Representatives on July 29, 2021.

- Not limited to any state law
- Amends Section 316(b) of the Trust Indenture Act
- Similar to Article 18-C of the NY General Obligations Law
- Both statutes contain a safe harbor against lawsuits
- Will pre-empt Article 18-C of the NY General Obligations Law

Federal LIBOR Legislation *(cont'd)*

- There is a broad variety of groups with an interest in the legislation.
 - Issuers, trustees, lenders, consumer advocates, commercial borrowers, municipalities, etc.
- Currently, there is disagreement about the safe harbor provisions – consumer groups are uneasy with the broad protections afforded parties authorized to make adjustments to existing contract provisions that are necessary to make a SOFR rate best approximate the existing LIBOR rate

Mechanics of Using SOFR

Mechanics of Using SOFR

- There are a number of different ways of using SOFR and tools to simplify the calculations
 - Simple SOFR, average SOFR, SOFR Average, compound SOFR, SOFR Index, Term SOFR
- As for the backward-looking feature of SOFR, various techniques have been developed to manage this
 - Payment delay, lookback, observation shift
- The ARRC has developed term sheets to provide guidance for implementing SOFR

Mechanics for Using SOFR – The ARRC Termsheets

The problem these term sheets are addressing is inherent to SOFR being a backward looking daily rate, as opposed to a forward looking term rate.

- For USD LIBOR FRNs, issuers and note holders knew the interest rate at the beginning of the interest period;

More specifically, the problem is that on the morning that an interest payment is to be calculated, the latest available SOFR rate is the rate that was published in final at mid-afternoon on the preceding U.S. Government Securities Business Day. And that published rate is the rate for the USGSBD prior to the publication day – so two USGSBDs prior to the calculation of interest.

Mechanics for Using SOFR – The ARRC Termsheets *(cont'd)*

- And with SOFR compounded over a period, the final rate and therefore the payment amount will not be known until two USGSBDs after the end of the period;
- How to solve for that?

Mechanics for Using SOFR – The ARRC Termsheets *(cont'd)*

The ARRC published three model term sheets for Compounded SOFR FRNs, each dealing with the lack of notice of the interest amount at the end of an interest period in a different way:

- Lookback: The daily SOFR rate for each day in the interest period will be the daily SOFR rate for a certain number of U.S. government securities business days before the date of determination;
 - For example, if the interest payment date was Friday, with interest accruing through Thursday, and a five U.S. government securities business day lookback was in effect, the last daily SOFR rate used for the determination of the compounded SOFR rate for the interest period would have occurred on the Thursday the week prior. Consequently, on the Friday interest payment date, the issuer, paying agent and the holders would have had a week's advance notice of the payment to be made on the Friday interest payment date.

Mechanics for Using SOFR – The ARRC Termsheets *(cont'd)*

- Observation period shift: The observation period within the interest period is shifted back a certain number of U.S. government securities business days prior to the relevant interest payment date.
 - For example, if the interest payment date were to be on a Friday, the relevant observation period would be from and including the Wednesday prior to the previous interest payment date to but excluding the Wednesday prior to the relevant interest payment date. With this two U.S. government securities business day shift, this allows two business days' notice of the interest payment.

Mechanics for Using SOFR – The ARRC Termsheets *(cont'd)*

Payment delay: This approach simply delays payment for two business days after the interest payment date, except at maturity or early redemption.

- The interest periods run from and including an interest payment date to but excluding the following interest payment date. Consequently, if an interest period ends on a Friday, holders will be paid their interest on the following Tuesday. For the final interest period prior to maturity or early redemption, a “rate cut-off date” or “lockout” is used, so that the daily SOFR rate in effect a certain number of U.S. government securities business days prior to the maturity or redemption date applies to but excluding the maturity or redemption date, as applicable.

Mechanics for Using SOFR – The ARRC Termsheets *(cont'd)*

The ARRC published an additional model term sheet for SOFR FRNs, this time using the SOFR Index.

- The SOFR Index measures SOFR, compounded since April 2, 2018, the first date of publication of SOFR.
 - Compounding is built into the SOFR Index, no need to run a compounding formula
- The interest rate would be calculated by comparing the SOFR Index levels at the start and end dates of the interest period.
 - Floor the rate at zero

Mechanics for Using SOFR – The ARRC Termsheets *(cont'd)*

- The sample term sheet uses “observation period shift.”
- The SOFR Index is published on its value date.

SOFR Averages:

- The Federal Reserve Bank of New York publishes 30-, 90- and 180-day compounded average SOFR values. Each published average incorporates all the SOFR values starting exactly 30-, 90- and 180-calendar days before the publication date, regardless of whether or not that date is a weekend or holiday, and extends through the SOFR published that day.
- These averages are published on their value date.

Recent SOFR Offerings

Recent SOFR Offerings

- Compounded SOFR with **Lookback**
 - Bank of Montreal, Fixed to Floating Rate Medium-Term Notes due 2022
 - [Pricing Supplement dated October 6, 2020](#)
 - [Prospectus Supplement dated April 20, 2020](#)
 - Royal Bank of Canada
 - [Pricing Supplement dated May 4, 2020 for Fixed to Floating Rates Notes due 2022](#)
 - [Pricing Supplement dated February 24, 2020 for Fixed to Floating Rate Notes due 2023](#)

Recent SOFR Offerings

- Compounded SOFR with Lookback

The rate of return of a daily compound interest investment computed in accordance with the following formula (and the resulting percentage will be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005 being rounded upwards to 0.00001):

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{SOFR_{i-SUSBD} \times n_i}{360} \right) - 1 \right] \times \frac{360}{d}$$

where:

“**d**₀,” for any **Interest Period**, is the number of U.S. Government Securities Business Days in the relevant **Interest Period**;

“**i**” is a series of whole numbers from one to **d**₀, each representing the relevant U.S. Government Securities Business Days in chronological order from, and including, the first U.S. Government Securities Business Day in the relevant **Interest Period**;

“**SOFR**_{*i-SUSBD*},” for any U.S. Government Securities Business Day “**i**” in the relevant **Interest Period**, is a reference rate equal to SOFR in respect of the U.S. Government Securities Business Day falling five U.S. Government Securities Business Days prior to that day “**i**”;

“**n**_{*i*},” for any U.S. Government Securities Business Day “**i**” in the relevant **Interest Period**, is the number of calendar days from, and including, such U.S. Government Securities Business Day “**i**” to, but excluding, the following U.S. Government Securities Business Day (“**i** + 1”); and

“**d**” is the number of calendar days in the relevant **Interest Period**.

Source: ARRC, Appendix to SOFR FRN Conventions Matrix, Nov. 2019

Recent SOFR Offerings

- Compounded SOFR with **Observation Period Shift**
 - JPMorgan Chase, Floating Rate Notes due 2025
 - [Final Prospectus Supplement](#) and [Pricing Term Sheet](#), each dated June 21, 2021
 - HSBC Holdings plc, Fixed to Floating Rate Notes due 2025 and 2032
 - [Final Prospectus Supplement](#) dated May 17, 2021
 - Goldman Sachs, Fixed to Floating Rate Notes due 2032 and 2042
 - [Final Prospectus Supplement](#) dated April 15, 2021
 - Toronto Dominion, Floating Rate Medium-Term Notes due 2024
 - [Final Prospectus Supplement](#) and [Pricing Term Sheet](#), each dated March 1, 2021

Recent SOFR Offerings

- Compounded SOFR with Observation Period Shift

The rate of return of a daily compound interest investment computed in accordance with the following formula (and the resulting percentage will be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005 being rounded upwards to 0.00001):

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{SOFR_i \times n_i}{360} \right) - 1 \right] \times \frac{360}{d}$$

where:

“**d₀**,” for any **Observation Period**, is the number of U.S. Government Securities Business Days in the relevant **Observation Period**;

“**i**” is a series of whole numbers from one to **d₀**, each representing the relevant U.S. Government Securities Business Days in chronological order from, and including, the first U.S. Government Securities Business Day in the relevant **Observation Period**;

“**SOFR_i**,” for any U.S. Government Securities Business Day] “**i**” in the “**d**” is the number of calendar days relevant **Observation Period**, is a reference rate equal to SOFR in respect of **that day “i”**;

“**n_i**,” for any U.S. Government Securities Business Day “**i**” in the relevant **Observation Period**, is the number of calendar days from, and including, such U.S. Government Securities Business Day “**i**” to, but excluding, the following U.S. Government Securities Business Day (“**i + 1**”); and

Observation Period: In respect of each Interest Period, the period from, and including, the date [two] U.S. Government Securities Business Days preceding the first date in such Interest Period to, but excluding, the date [two] U.S. Government Securities Business Days preceding the Interest Payment Date for such Interest Period.

Source: ARRC, Appendix to SOFR FRN Conventions Matrix, Nov. 2019

Recent SOFR Offerings

- Compounded SOFR with **Payment Delay**
 - Bank of America Corporation
 - [Pricing Term Sheet dated April 16, 2021 for Floating Rate Medium-Term Notes due 2025](#)
 - [Pricing Term Sheet dated April 16, 2021 for Fixed to Floating Rate Medium-Term Notes due 2027](#)
 - [Pricing Supplement No. 155 dated March 8, 2021 for Fixed to Floating Rate Medium-Term Notes due 2027, 2032 and 2052](#)
 - [Pricing Term Sheet dated March 8, 2021 for Fixed to Floating Rate Medium-Term Notes due 2052](#)
 - [Base Rates Supplement No. 1 dated April 15, 2020](#)

Recent SOFR Offerings

- Compounded SOFR with Payment Delay

The rate of return of a daily compound interest investment computed in accordance with the following formula (and the resulting percentage will be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005 being rounded upwards to 0.00001):

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{SOFR_i \times n_i}{360} \right) - 1 \right] \times \frac{360}{d}$$

where:

“ d_0 ,” for any Interest Accrual Period, is the number of U.S. Government Securities Business Days in the relevant Interest Accrual Period;

“ i ” is a series of whole numbers from one to d_0 , each representing the relevant U.S. Government Securities Business Days in chronological order from, and including, the first U.S. Government Securities Business Day in the relevant Interest Accrual Period;

“SOFR $_i$,” for any U.S. Government Securities Business Day “ i ” in the relevant Interest Accrual Period, is a reference rate equal to SOFR in respect of that day “ i ”;

“ n_i ,” for any U.S. Government Securities Business Day “ i ” in the relevant Interest Accrual Period, is the number of calendar days from, and including, such U.S. Government Securities Business Day “ i ” to, but excluding, the following U.S. Government Securities Business Day (“ $i + 1$ ”); and

“ d ” is the number of calendar days in the relevant Interest Accrual Period.

Interest Payment Dates:

The [second] Business Day following each Interest Accrual Period End Date; provided that the Interest Payment Date with respect to the final Interest Period will be the Maturity Date or, if applicable, the redemption date.

Interest Period = Interest Accrual Period: From and including the prior Interest Accrual Period End Date (or Issue Date) to but excluding the applicable Interest Accrual Period End Date (which is two Business Days prior to the Interest Payment Date, except at Maturity or redemption, if applicable).

Source: ARRC, Appendix to SOFR FRN Conventions Matrix, Nov. 2019

Recent SOFR Offerings

- Compounded SOFR using **SOFR Index** (with Observation Period Shift)
 - AT&T, Floating Rate Notes due 2024
 - [Final Prospectus Supplement](#) and [Pricing Term Sheet](#), each dated March 19, 2021
 - Charles Schwab, Floating Rate Notes due 2024
 - [Final Prospectus Supplement](#) and [Pricing Term Sheet](#), each dated March 16, 2021
 - Verizon, Floating Rate Notes due 2024 and 2026
 - [Final Prospectus Supplement](#) and [Pricing Term Sheet](#), each dated March 11, 2021
 - Bank of New York Mellon, Floating Rate Medium-Term Notes due 2024
 - [Pricing Supplement dated April 19, 2021](#)

Recent SOFR Offerings

- Compounded SOFR with SOFR Index (with Observation Period Shift)

Compounded SOFR:¹⁸ With respect to any Interest Period, means the rate computed in accordance with the following formula (and the resulting percentage will be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point *e.g.*, 9.876541% (or .09876541) being rounded down to 9.87654% (or .0987654) and 9.876545% (or .09876545) being rounded up to 9.87655% (or .0987655)):

$$\left(\frac{SOFR\ Index_{End}}{SOFR\ Index_{Start}} - 1 \right) \times \left(\frac{360}{d_c} \right)$$

where:

“**SOFR Index_{Start}**” is the SOFR Index value for the day which is [two] U.S. Government Securities Business Days preceding the first date of the relevant Interest Period;

“**SOFR Index_{End}**” is the SOFR Index value for the day which is [two] U.S. Government Securities Business Days preceding the Interest Payment Date relating to such Interest Period; and

“**d_c**” is the number of calendar days from (and including) SOFR Index_{Start} to (but excluding) SOFR Index_{End} [(the number of calendar days in the applicable Observation Period)].¹⁹

Observation Period: In respect of each Interest Period, the period from, and including, the date [two] U.S. Government Securities Business Days preceding the first date in such Interest Period to, but excluding, the date [two] U.S. Government Securities Business Days preceding the Interest Payment Date for such Interest Period.

Source: ARRC FRN Working Group, Statement on Use of the SOFR Index, May 2020

Term SOFR

Term SOFR – Why?

- Term SOFR is the name for a forward-looking SOFR rate that functions similar to LIBOR
- It is developed based on actual SOFR future transactions
- The ARRC published requirements that needed to be met before it would recommend a term SOFR
 - [ARRC Identifies Market Indicators to Support a Recommendation of a Forward-Looking SOFR Term Rate](#)

Uses for Term SOFR

- The ARRC has published recommended best practices for use of Term SOFR
 - [Best Practices for Use of Forward-Looking SOFR Term Rate and Related FAQs](#)
- The ARRC supports the use of Term SOFR for the business loan market, particularly multi-lender facilities, middle market loans, trade finance loans and certain securitizations
- The ARRC does **not** support the use of Term SOFR for most derivative transactions. Term SOFR should be used only for end-user facing derivatives intended to hedge cash products that reference Term SOFR

Term SOFR for Floating Rate Notes?

On July 29, 2021, the ARRC formally recommended the use of the CME Group's forward-looking term SOFR rates. As noted, the ARRC published best practices for using the CME Group's forward-looking Term SOFR rates in syndicated and bilateral business loans.

What about floating rate notes?

- The ARRC supports Term SOFR in the replacement fallback waterfall in existing USD LIBOR floating rate notes, and as the first SOFR rate that would be recommended by the ARRC under Article 18-C of the New York General Obligations Law.
- For new floating rate notes, the ARRC recommends overnight SOFR and SOFR averages.

Term SOFR for Floating Rate Notes? *(cont'd)*

A forward-looking SOFR term rate would act like USD LIBOR and would avoid the complexity caused by compounding daily SOFR to come up with a rate in arrears at the end of an interest period.

Why the limitations on use of Term SOFR?

- The ARRC has said: “This limitation [on use] is intended to avoid use that is not in proportion to, or materially detracts from, the depth of the transactions in the underlying derivatives markets that are essential to the construction of [Term SOFR] over time.”

Alternatives to SOFR

Alternatives to SOFR

- There continues to be a desire for a 'credit sensitive' rate ala LIBOR
 - What is sought is a rate that reflects the unsecured cost of funding for banks, particularly a rate applied in inter-bank lending that reflects the credit risk of inter-bank loans
 - SOFR is a secured, risk-free rate, not an unsecured cost of funds rate
 - SOFR is derived from overnight U.S. Treasury repo transactions which are secured; LIBOR is derived from unsecured banking financings, which thus contain a credit risk component
 - SONIA is a rate based on overnight interbank lending; SOFR is not
 - Regional banks complained SOFR was not suitable because (1) as a secured overnight rate, it would behave differently than a term unsecured rate in distressed markets and (2) it was a poor proxy for their cost of funds since they do not have material Treasury portfolios and do not fund in overnight repo markets
 - What is sought is a replacement for LIBOR that has the advantages that LIBOR provides

Alternatives to SOFR

- Various groups have proposed alternative, credit sensitive rates
- American Financial Exchange
 - Ameribor – calculated as the transaction volume weighted average interest rate of the daily transactions in the Ameribor overnight unsecured loan market on the AFX. See <https://ameribor.net/>
- Bloomberg
 - BSBY – Bloomberg Short-term Bank Yield Index – calculated from consolidated, anonymized transaction data and executable quotes from primary markets in commercial paper, certificates of deposit, bank deposits, and short-term corporate bonds. See <https://www.bloomberg.com/professional/product/indices/bsby/>

Alternatives to SOFR

- ICE
 - ICE Bank Yield Index – Derived from (i) primary market whole, unsecured funding transactions sourced from large, internationally active banks, and (ii) secondary market transactions in wholesale, unsecured bonds issued by large, internationally active banks. See <https://www.theice.com/iba/bank-yield-index>
- IHS Markit
 - USD Credit Inclusive Term Rate (CRITR) and Spread (CRITS) – Designed to be broad-based measures of funding levels for banking institutions funding in USD in institutional markets, on a senior unsecured basis. Constituent bases tracking USD institutional certificates of deposit and commercial paper transactions. See <https://ihsmarkit.com/products/credit-inclusive-benchmarks.html>

Criticism of the SOFR Alternatives

- These various proposed rates are criticized on the following grounds:
 - U.S. regulators spoke out against the use of credit-sensitive benchmarks in derivatives contracts at a June 11 meeting of the Financial Stability Oversight Council (FSOC).
 - Securities and Exchange Commission chair Gary Gensler said pointedly that Bloomberg's Short Term Bank Yield index, or BSBY suffered from "many of the same flaws" as LIBOR and the same "inverted pyramid problem" as LIBOR.
 - There is a concern among regulators that the proposed rates are not supported by deep markets in actual transactions
 - There is a concern that extensive use of the proposed alternative rates will simply recreate many of the vulnerabilities of LIBOR

Criticism of the SOFR Alternatives

- SEC Chair Gensler's June 11, 2021 remarks before the FSOC:

"I believe BSBY has many of the same flaws as LIBOR. Both benchmarks are based upon unsecured, term, bank-to-bank lending. Term BSBY (1-, 3-, 6-, 12-month) is underpinned primarily by trades of commercial paper and certificates of deposit issued by 34 banks. For instance, the median trading volume behind three-month BSBY is single-digit billions of dollars per day. Median trading volumes for 6- and 12-month BSBY are even lower.

Thus, BSBY has the same inverted-pyramid problem as LIBOR. Like with LIBOR, we're seeing a modest market, shouldering the weight of hundreds of trillions of dollars in transactions. When a benchmark is mismatched like that, there's a heck of an economic incentive to manipulate it. That's why I believe the Secured Overnight Financing Rate (SOFR), which is based on a nearly trillion-dollar market, is a preferable alternative rate.

These markets underpinning BSBY not only are thin in good times; they virtually disappear in a crisis. Last spring, the primary commercial paper lending market evaporated for about five weeks during the initial stresses of the pandemic."

Criticism of the SOFR Alternatives

- U.S. Treasury Secretary Yellen's June 11, 2021 remarks before the FSOC:

"The decisions made now around the selection of alternative rates will determine whether some of LIBOR's shortcomings may be replicated through the use of alternative rates that lack sufficient underlying transaction volumes. I am concerned about recent use, and potential future growth in use, of these rates in derivatives, where the volume of derivatives contracts referencing these alternative rates could quickly outnumber the transaction volumes underlying the reference rate, leaving it vulnerable to manipulation and disruption – one of the primary issues with LIBOR.

Additionally, I understand the desire of some market participants for a forward-looking SOFR term rate, as it would provide a useful additional tool in the transition away from LIBOR. I encourage market participants to act promptly to support the switch in derivatives from LIBOR to SOFR this summer, as suggested by the CFTC's benchmark subcommittee on benchmark reform and the ARRC. It is important for term SOFR to be grounded in a deep SOFR derivatives market and to be used in a way that does not diminish that activity. Action by market participants now will allow the ARRC to recommend a term SOFR rate quite soon."

Criticism of the SOFR Alternatives

- Federal Housing Finance Agency, Supervisory Letter dated July 1, 2021:

"In recent months, several organizations in the marketplace have announced or introduced other potential alternative reference rates that may be inconsistent with established principles for an acceptable reference rate. Accordingly, FHLBank use or adoption of these alternative rates may significantly pose the same safety and soundness and reputational risks that befell LIBOR. To ensure continued safe and sound FHLBank operations, this Supervisory Letter provides Division of Bank Regulation (DBR) expectations regarding the use of alternative reference rates."

"The marketplace has announced or introduced certain reference rate alternatives to LIBOR that have a credit component based on the underlying cost of bank borrowing in wholesale term unsecured markets. Unfortunately, most if not all of these credit sensitive rates suffer from the same underlying shortcomings as LIBOR: namely, a relatively small number of actual unsecured lending transactions on which to base a rate and sensitivity to market stress that can destabilize a smooth functioning market and overall economic conditions. As recently as during the onset of the pandemic, markets for unsecured bank borrowing, which were already thin, dried up completely."

"To address insufficient transactions, sponsors of alternative reference rates look to proxies for actual transactions, including executable quotes. Those sponsors also resort to the use of various methods of looking back over periods of time to garner enough transactions to produce a rate or use regression models to predict a rate when there are too few transactions. These proxy mechanisms introduce a number of additional risks to the integrity of the rate production process, including operations and model risk. They also introduce doubts about exactly what the rate produced for a given day represents."

Criticism of the SOFR Alternatives

- IOSCO Statement on Credit Sensitive Rates issued September 8, 2021:

"In light of some alternatives being suggested, notably credit sensitive rates, IOSCO calls for greater attention to Principles 6 and 7. Principle 6 asks administrators to take into account the 'relative size of the underlying market in relation to the volume of trading'. Principle 7 emphasises 'data sufficiency in a benchmark's design to accurately and reliably represent the underlying market' measured by the benchmark. Therefore, in line with Principles 6 and 7, IOSCO calls on administrators to assess whether the systemic benchmarks that are used extensively are based on active markets with high volumes of transactions, representing the underlying interest they intend to measure and whether such benchmarks are resilient during times of stress."

"Widespread use of and transition to credit sensitive rates, instead of the US Alternative Reference Rates Committee's preferred Secured Overnight Financing Rate (SOFR), may therefore pose risks to financial stability. The IOSCO Board notes that SOFR provides a robust rate suitable for use in most products, with underlying transaction volumes that are unmatched by other alternatives."

The Road Ahead

The Road Ahead

- LIBOR is not to be used for new instruments after December 31, 2021
- December 31 is rapidly approaching
 - Lenders will be forced to choose soon what rate to use to replace LIBOR
 - Time and resources required to develop and implement systems, forms and training
 - The next couple of months will tell us a lot about the successor to LIBOR

Additional Reading

Additional Resources

Read more:

- [User's Guide to SOFR](#)
- [Best Practices for Use of Forward-Looking SOFR Term Rate and Related FAQs](#)
- [ARRC Releases Frequently Asked Questions on Best Practice Recommendations Related to Scope of Use of the Term Rate](#)
- [Frequently Asked Questions](#)
- [Guide to Published SOFR Averages](#)
- [SOFR Term Rates Factsheet](#)
- [SOFR Floating Rate Notes Conventions Matrix, Appendix, and Comparison Chart](#)
- [Statement on Use of the SOFR Index](#)
- [ARRC Formally Recommends Term SOFR](#)

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A compendium of global regulatory and market news, as well as insights on the complex issues confronting financial market participants as they plan to transition from LIBOR and its variants to replacement benchmark interest rates.



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