SOFR is Coming!

The Replacement of LIBOR and What It Means to You

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SOFR is Coming: Overview

- What is LIBOR?
- Why is LIBOR terminating?
- What should I do about it?
- What is SOFR?
- How do LIBOR and SOFR differ?
- How does a change to SOFR affect me?

What is LIBOR?

- LIBOR: London InterBank Offered Rate
- Developed and launched in the mid-1980s by the British Bankers Association
- Based on submissions by panel banks stating the rate at which they could borrow from other banks
- Produced daily in 5 currencies: US dollar, Euro, British pound sterling, Japanese yen, and Swiss franc

What is good about LIBOR?

- If LIBOR is accurate, then a bank can reasonably price loans on a forward basis by adding a margin reflecting the bank's cost of operations, profit margin, and borrower risk.
- Forward-looking rate calculated in various tenors including overnight, 1 week, 1 month, 2 months, 3 months, 6 months, 12 months
- Predicts a bank's actual cost of funds over a given time period corresponding to the relevant tenor
- LIBOR provides certainty. The rate resets every LIBOR period and the borrower knows its exact cost for the upcoming period.

What is wrong with LIBOR?

- LIBOR has become more problematic in recent years:
  - Submissions are subject to manipulation, as evidenced by the rate rigging scandal in 2012

- Administration of LIBOR was shifted to the ICE Benchmark Administration (IBA) in 2014
  - IBA established oversight, surveillance, and validation procedures to reduce manipulation risk.
  - Panel banks are still reluctant to contribute rates to support LIBOR, given the risk of future liability based on claims of manipulation.
  - Actual use by banks of the interbank lending market for funding operations has declined substantially.
  - Submissions by panel banks are now largely based on “expert judgment” or estimates of the rates, rather than actual or comparable transactions.

Why and when is LIBOR terminating?

- In July 2013, the International Organization of Securities Commissions (“**IOSCO**”) issued its “Principles for Financial Benchmarks,” following on the LIBOR rate rigging scandal in 2012
- The Principles address conflicts of interest, promote internal controls, and aim to improve governance and oversight
  - Principle 6 - a Benchmark 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 - a Benchmark should 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 - Gives first preference to a submitter’s own concluded arms-length transactions, and expert judgment is the least preferred data source
- Policymakers and industry participants have been working towards the development of new Benchmarks that follow the IOSCO principles (like SOFR)
- UK Financial Conduct Authority: The regulator with power to direct panel banks
  - UK FCA is expected to phase out LIBOR by the end of 2021
  - This is not definite termination - LIBOR continuance depends on panel banks’ willingness to submit bids

What should I do?

- Assess your exposure in existing documents to LIBOR's no longer being reported or "no longer representing [lender's] cost of funds."
  - Determine what happens, in each case, if LIBOR goes away and the documents are not changed.
- Determine options to address LIBOR's no longer being reported.

What should I do? Assess Exposure

- Review "credit" documents: loans, derivatives (swaps, caps, etc.), leases [Examples are on the following slides]
- Review non-credit documents. It's not uncommon for a contract to say something like: "Amounts payable hereunder and not paid by the due date shall accrue interest at a per annum rate equal to the LIBOR rate plus ___%."

POSSIBILITIES: Everything automatically switches to another index:

4.2.2 Basis for Determining Interest Rate Inadequate or Unfair. If:

(a) Lender reasonably determines (which determination shall be binding and conclusive on Borrower) that by reason of circumstances affecting the interbank LIBOR market **adequate and reasonable means do not exist for ascertaining the applicable LIBOR Rate**; or

(b) the LIBOR Rate, as determined by Lender, **will not adequately and fairly reflect the cost to Lender of maintaining or funding LIBOR Loans** for such Interest Period or that the making or funding of LIBOR Loans **has become impracticable** as a result of an event occurring after the date of this Agreement which, in the opinion of Lender, materially affect such Loans;

<u>then</u> Lender shall promptly notify Borrower and, so long as such circumstances shall continue, **(i) Lender shall not be under any obligation to make or convert any Base Rate Loans into LIBOR Loans and (ii) on the last day of the current Interest Period for each LIBOR Loan, such Loan shall, unless then repaid in full, automatically convert to a Base Rate Loan.**

POSSIBILITIES: Lender Chooses

"LIBOR" shall mean with respect to any amount of the Loan and the Other Loan to which the LIBOR Option applies for the applicable LIBOR Interest Period, the interest rate per annum determined by Agent by dividing (i) the rate which appears on the Bloomberg Page BBRAM1 (or on such other substitute Bloomberg page that displays rates at which US dollar deposits are offered by leading banks in the London interbank deposit market), or the rate which is quoted by another source selected by Agent which has been approved by the British Bankers' Association as an authorized information vendor for the purpose of displaying rates at which US dollar deposits are offered by leading banks in the London interbank deposit market (an "Alternate Source), at approximately 11:00 a.m., London time, two (2) Business Days prior to the commencement of such LIBOR Interest Period as the London interbank offered rate for U.S. Dollars for an amount comparable to such amount and having a borrowing date and a maturity comparable to such LIBOR Interest Period (or if there shall at any time, for any reason, no longer exist a Bloomberg Page BBAM1 (or any substitute page) **or any alternate Source, a comparable replacement rate determined by Agent at such time (which determination shall be conclusive absent manifest error))**, by (ii) a number equal to 1.00 minus the LIBOR Reserve Percentage. LIBOR may also be expressed by the following formula:

$$\text{LIBOR} = \frac{\text{Average of London interbank offered rates quoted by Bloomberg or appropriate successor as show on Bloomberg Page BBAM1}}{\text{1.00 - LIBOR Reserve Percentage}}$$

POSSIBILITIES: Mutual Choice

- “LIBOR Rate” means, with respect to any Loan, the one month LIBOR rate as stated in the Money Rates section of The Wall Street Journal (“**Journal**”) as published on the date of determination, or if no Journal is published on the date of determination, then on the nearest prior publication date. The LIBOR Rate shall be set initially on the Effective Date and adjusted thereafter on the first (1st) day of each month (commencing January 1, 2019). **If the LIBOR Rate is no longer available by such means, Lender and Borrower will choose a new reference for such rate as mutually agreed by the parties.**

POSSIBILITIES: Equipment Lease Adjustments

- Adjustment of Base Monthly Rent:
  - Interest Rate Changes – The Base Monthly Rent may be subject to a one-time adjustment by Lessor as of the date of delivery (as defined in Article 3) (“Delivery Date”) of the initial car hereunder, such adjustment shall be made within a reasonable period of time after such Delivery Date for an increase of greater than 25 basis points in the yield to maturity of on-the-run ten year U.S. Treasury Notes (the “Notes”) yielding 2.09% as of July 15, 2019, versus the average yield to maturity of such Notes over the whole calendar month immediately preceding the scheduled month of delivery of the initial car covered under this Rider. To the extent that an increase in the Notes exceeds 25 basis points, the Base Monthly Rent shall be adjusted by the amount of $0.50 for each basis point increase in excess of 25 basis points (provided, however, any such rent increase will be rounded down to the nearest whole Dollar).

What should I do? Options

- Options to address LIBOR's no longer being reported or "no longer representing [lender's] cost of funds" in credit documents.
- These apply whether it is a new credit or an amendment to an existing credit.
- Consider system capabilities.

What should I do? Options

OPTIONS

- LSTA/ARRC Recommendation for Syndicated Loans
  - Very thorough
  - 2 approaches: (1) Hardwired: automatically replace LIBOR with SOFR of a comparable term or another index selected by Borrower and Lender or (2) Amendment: allow Borrower and Lender to effect an amendment to the calculation of interest rate or, failing that, defer to Base Rate.
  - June 2020 version is attached and follows only the "hardwired" approach
- Alternative indices (e.g., SOFR, Prime, Federal Funds Rate, etc.)
  - Consider adjustments to, or additional, margins
- Averaging Prior Month's (or more) LIBOR Rates
- Free Prepayment

What is SOFR?

- SOFR: Secured Overnight Financing Rate
- The leading alternative reference rate in the US
- Produced by the Federal Reserve Bank of New York
- Published daily since April 2018
- Based on an average of reported overnight repurchase transactions in US Treasury securities, pulled from actual reported transaction data

What is good about SOFR?

- SOFR meets the IOSCO criteria:
  - The underlying market (US Treasury repos) is extremely broad and robust, and there is substantial actual reported transaction data available based on market transactions
- Underlying data is not limited to bank-to-bank lending:
  - Based on transactions among participants in the US Treasury repo market who may be banks, broker dealers, insurance companies, pension funds, private equity funds, corporations, etc.
- SOFR is essentially a risk free rate:
  - The underlying transactions are fully secured by high quality liquid collateral

What are the problems with SOFR?

- SOFR is an overnight rate only
  - Data is based on overnight transactions and does not contain data from which term rates could be derived
  - For SOFR to be used as a lending rate to replace LIBOR, it will be essential for term rates to be derived from SOFR
  - No certainty that a term SOFR curve based on derivative trades will develop and will become market convention
  - Even if a term SOFR curve develops, under the ARRC timeline this will not be completed until the end of 2021, just when LIBOR would be phasing out, leaving no margin for error if there is a delay
- SOFR is a backward looking rate
- SOFR is a risk free rate
  - It is unknown whether a market convention will develop to add a spread to SOFR to reflect the bank credit risk embedded in LIBOR

Risk-free SOFR - Addressing a Spread Adjustment

- Overnight SOFR is "risk free," whereas LIBOR includes a bank credit component
  - when using SOFR to replace LIBOR it may prove desirable to add a spread adjustment in order to minimize any value transfer.
- A spread adjustment would add on a factor to account for bank credit risk over the relevant accrual period.
- A spread adjustment also would account for the difference in tenor between the tenor of LIBOR being replaced and the form of SOFR being applied. This difference is greater with overnight SOFR, and should be least with forward looking term SOFR (if it develops).

SOFR options: In Advance v. Arrears

- SOFR is an overnight rate, but it can be derived over a given accrual period (e.g., 30 or 90 days) through different 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. The observation period is the period prior to the accrual period. If the accrual period is 3Q 2020, the rate is determined at the start of 3Q 2020, but based on actual overnight SOFR over 2Q 2020. The "in advance" approach is based on backward-looking information, but provides certainty at the start of the accrual period.
  - "**in arrears**" means SOFR for a given accrual period is calculated at the end of the period, based on overnight SOFR over the same accrual period. The observation period is the same as the accrual period. If the accrual period is 3Q 2020, the rate is determined at the end of 3Q 2020 based on actual overnight SOFR during 3Q 2020. The "in arrears" approach is based on actual rate information during the accrual period, but cannot be 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.

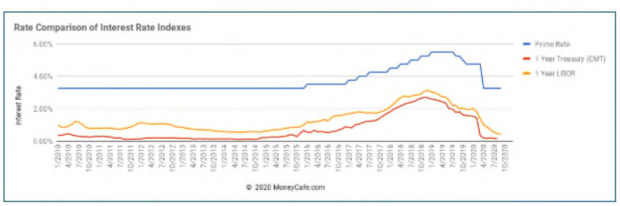
SOFR options: Compounded v. Average

- SOFR, whether in arrears or in advance over a given period, can also be either compounded or averaged:
  - "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.
  - "averaged" means to simply average overnight SOFR over the relevant observation period, and add a margin to adjust the average overnight rate to a term rate.
    - In the capital markets, a number of corporate debt issuances have been made that reference SOFR. Generally, these transactions use averaging (not compounding), in arrears.

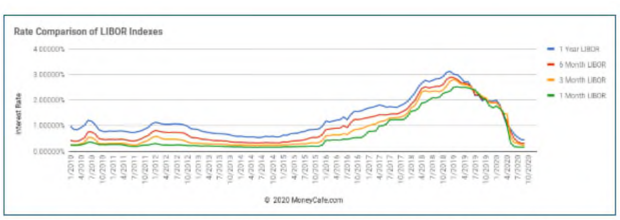
Why is SOFR the leading alternative to LIBOR?

- The Alternative Reference Rates Committee (ARRC) Prefers SOFR
  - November 2014, the ARRC was convened to consider new US dollar risk free reference rates
  - ARRC members include major banks and industry groups, and ARRC obtains input and participation from a broad range of market participants and US regulators
  - June 2017, ARRC announced SOFR as its preferred alternative to USD LIBOR
  - ARRC's goal by the end of 2021: creation of term SOFR reference rate based on SOFR derivatives market, provided the market has developed enough to provide a robust rate
- ISDA has already taken steps to amend its definitions to address LIBOR replacement
  - Published guidance on options for Spread Adjustment and requested comments on proposed fallbacks
  - Preferences in Responses: Compounded in Arrears w/ Historic Mean/Median Approach
    - Historic Mean/Median Approach: Spread adjustment would be a single number that would be the historic mean or median spot spread between the relevant IBOR and the replacement reference rate, over a 5 or 10 year lookback period from the time of IBOR cessation. There would be a 1-year phase in from the current spot spread to the historical spread.

Comparison of Popular Indices

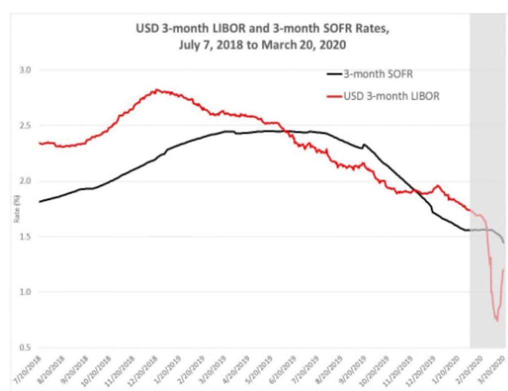


Comparison Chart for Libor Rate, Prime Rate, and Treasury Rate (CMT)



Comparison of LIBOR Rates – 1 Year LIBOR, 6 Month LIBOR, 3 Month LIBOR, 1 Month LIBOR

http://www.moneycafe.com/interest-rate-comparison-charts



https://www.law360.com/articles/1256813

Or, Put Another Way …

- On January 8, 2020 (per for Federal Reserve Bank of St. Louis: fred.stlouisfed.org):
  - SOFR was 1.550%
  - One-month LIBOR was 1.699%
  - Prime was 4.750%

Conclusion

Existing Credit

- Assess Exposure
- Assess Options/Fallback
- Consider Non-Credit Documents

New Credit - Start the Discussion Early

Educate Yourself

- SOFR
- LSTA Recommendations
- Alternative Indices

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Questions…?

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Thank you!

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