FMS

LIBOR Transition

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LIBOR Transition Background

Libor Discontinuance?

- July 27, 2017 Financial Conduct Authority's Chief Executive Andrew Bailey:

- *"**I and my colleagues have therefore spoken to all the current panel banks about agreeing voluntarily to sustain LIBOR for a four to five year period, i.e. until end-2021.** This date is far enough away significantly to reduce the risks and costs of a more sudden change. By having a date by which transition will need to be complete, however, we give market participants a schedule to plan to, and make it easier for them to engage as many counterparties and LIBOR users as is practicably possible in that planning. **Market participants must take responsibility for their individual transition plans, but we and other authorities will be ready to assist and support efforts to co-ordinate that work."***

- *"**In our view it is not only potentially unsustainable, but also undesirable, for market participants to rely indefinitely on reference rates that do not have active underlying markets to support them**. As well as an inherently greater vulnerability to manipulation when rates are based on judgements rather than the real price of term funding, there are a host of questions about whether and how such reference rates can respond to stressed market conditions. Again, I am not suggesting there are problems today, but we should act to deal with identified vulnerabilities."*

(1) https://www.fca.org.uk/news/speeches/the-future-of-libor

Libor Discontinuance?

- July 27, 2017 Financial Conduct Authority's Chief Executive Andrew Bailey:

- *"**An obvious question is what happens to LIBOR after end-2021. And what happens to legacy contracts that still reference LIBOR at that point? The answer to the first question would be up to the benchmark's administrator – IBA – and the panel banks.** They could of course continue to produce LIBOR on its current basis if they wanted to, and were able to do so. But, under this plan, the benchmark would no longer be sustained through the mechanism of the FCA persuading or obliging panel banks to stay. The survival of LIBOR on the current basis, as a dynamic benchmark based on daily submissions and updates, could not and would not be guaranteed.*

- ***The answer to the second question – what happens to legacy contracts, i.e. those still existing at end-2021, and still referencing LIBOR – depends of course on the answer to the first. It also depends on the preparations that users of LIBOR make in either switching contracts from the current basis for LIBOR or in ensuring that their contracts have robust fallbacks in place that allow for a smooth transition if current LIBOR did cease publication."***

(1) https://www.fca.org.uk/news/speeches/the-future-of-libor

“The Future of LIBOR”

- ICE Benchmark Administration (IBA):

- *“On 4 December 2018, IBA launched a survey on the use of LIBOR. The survey is open to all users of LIBOR and is designed to identify the LIBOR settings that are most widely used. The results of the survey will be used to inform IBA’s work in seeking the support of globally active banks for the publication of certain LIBOR settings after year-end 2021, when the FCA intends that it would no longer be necessary for it to sustain LIBOR through its influence or legal powers.*

- *The primary goal of IBA’s work would be to provide those LIBOR settings to users with outstanding LIBOR-linked contracts that are impossible or impractical to modify. Any such settings would need to be compliant with relevant regulations and in particular those regarding representativeness.*

(1) https://www.theice.com/iba/libor#survey

“The Future of LIBOR”

- ICE Benchmark Administration (IBA):

- ***IBA’s work in seeking the support of banks for the publication of certain LIBOR settings after year-end 2021 is also designed to facilitate the industry’s work towards an orderly adoption of alternative ‘risk-free‘ reference rates (RFRs) into the financial system, as called for by the FCA and the central banks****. ICE supports this work and IBA has launched the ICE Term RFR Portal and published a paper showing how IBA can support the development of term structures for alternative RFRs.*

- ***Work on the possible continued publication of certain LIBOR settings is not intended as an alternative to the transition to RFRs for new business. Regardless of the results of the survey, there is no guarantee that any LIBOR settings will continue to be published after year-end 2021. Users of LIBOR should not rely on the continued publication of any LIBOR settings when developing transition or fall back plans.****”*

(1) https://www.theice.com/iba/libor#survey

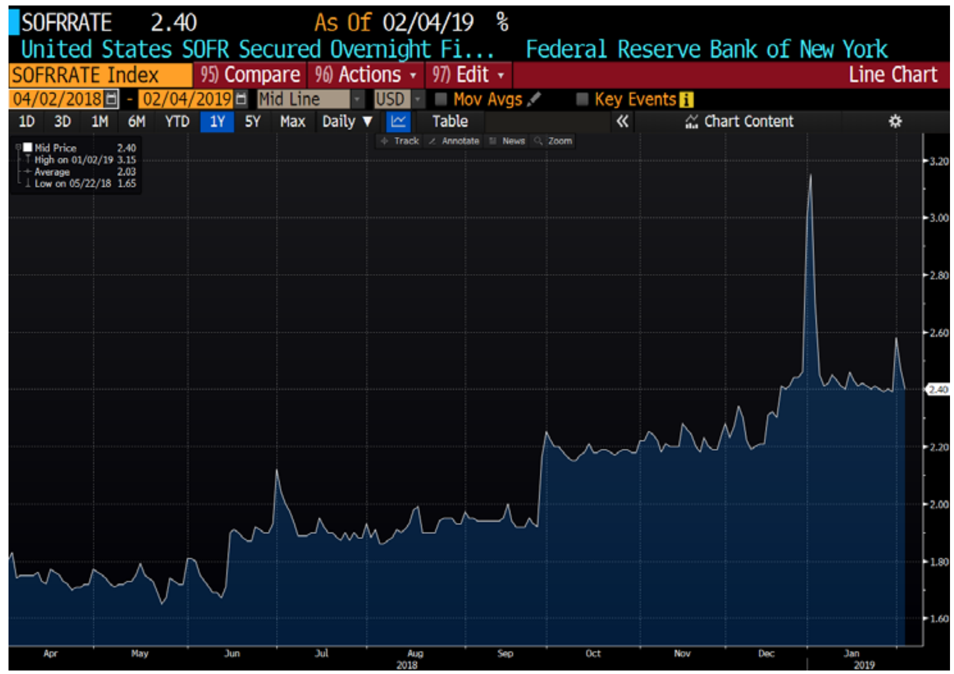
Fallback Provisions…Where to?

- In 2014, Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York convene the Alternative Reference Rates Committee (ARRC)
  - Identify an alternative reference rate for USD LIBOR
  - In 2017, ARRC suggests a broad Treasury repo rate known as the Secured Overnight Funding Rate (SOFR)
- Differences between SOFR and LIBOR create challenges
  - LIBOR
    - Multiple term contracts
    - Active futures market
    - Unsecured rate
  - SOFR
    - Overnight only
    - No term structure
    - Limited futures market currently
    - Secured rate
- International Swaps and Derivatives Association (ISDA) performed a range of surveys to determine fallback provisions for IBOR participants.

(1) https://www.isda.org/2018/12/20/isda-publishes-final-results-of-benchmark-fallback-consultation/

Fallback Provisions…Where to?

- ISDA suggested fallback provisions:
  - Daily rate compounded and set in arrears, to help in alignment to forward looking 1 month or 3 month LIBOR terms
    - o This will assist with any singular day volatile periods
    - o "US Federal Reserve May Need to Backstop the Repo Market, *BAML*"



- *"On Dec. 31, the Secured Overnight Financing Rate (SOFR), a gauge on overnight repo rates, jumped to 3.15 percent, which was 75 basis points above the interest on excess reserves (IOER), or what the Fed pays banks on the excess reserves they leave at the central bank. Prior to the year-end spike, SOFR was running one basis point to six basis points above IOER."*
- *""We believe the Fed will ultimately need to be the repo backstop of last resort after the banking system exhausts it willingness to swap reserves for (Treasury) repo," Cabana and Lima said."*

(1) https://www.isda.org/2018/12/20/isda-publishes-final-results-of-benchmark-fallback-consultation/
(2) https://www.reuters.com/article/us-usa-repos/u-s-federal-reserve-may-need-to-backstop-repo-market-baml-idUSKCN1P5273?utm_source=applenews
(3) Bloomberg L.P.

Continued SOFR Challenges

- Liquidity Issues – 9/17/19 – 9/19/19

- *“A second rate the Fed watches, the secured overnight financing rate, or SOFR, shot up to 5.25% on Tuesday from 2.43%. That is the median rate for $1.2 trillion in short-term funding transactions that occurred Tuesday. SOFR affects floating rates on about $285 billion outstanding in corporate and other loans.”[1]*

- *"If we experience another episode of pressures and money markets, we have the tools to address those pressures. We will not hesitate to use them," he said. Mr. Powell also added that growing the balance sheet purely for technical reasons may happen earlier than was once thought. Notably, a New York Fed report recently said that could start happening this year.”[2]*

(1) https://www.cnbc.com/2019/09/18/fed-loses-control-of-its-own-interest-rate-on-day-of-big-decision-this-just-doesnt-look-good.html
(2) https://www.wsj.com/livecoverage/federal-reserve-september-meeting-2019/card/1568833326

CME Futures Markets – Eurodollar (LIBOR) and SOFR

- Eurodollar Futures Quotes[1]
  - March 2020
    - Contracts 203,648

Month	Options	Charts	Last	Change	Prior Settle	Open	High	Low	Volume	Updated
OCT 2019	OPT		97.87	UNCH	97.87	97.855	97.885	97.85	52,275	13:14:35 CT 19 Sep 2019
NOV 2019	OPT		97.95	+0.01	97.94	97.92	97.955	97.91	28,970	12:56:30 CT 19 Sep 2019
DEC 2019	OPT		97.98	+0.015	97.965	97.95	97.99	97.94	358,203	13:14:58 CT 19 Sep 2019
JAN 2020	OPT		98.115	+0.015	98.10	98.10	98.115	98.095	2,954	12:56:43 CT 19 Sep 2019
FEB 2020	OPT		-	-	98.20	-	-	-	0	08:19:21 CT 19 Sep 2019
MAR 2020	OPT		98.265	+0.005	98.26	98.25	98.275	98.23	203,648	13:14:58 CT 19 Sep 2019
APR 2020	OPT		-	-	-	-	-	-	0	-
JUN 2020	OPT		98.38	+0.005	98.375	98.365	98.39	98.345	215,064	13:14:58 CT 19 Sep 2019
SEP 2020	OPT		98.465	+0.01	98.455	98.445	98.48	98.43	173,320	13:14:58 CT 19 Sep 2019
DEC 2020	OPT		98.47	+0.015	98.455	98.455	98.485	98.435	196,535	13:14:58 CT 19 Sep 2019
MAR 2021	OPT		98.56	+0.02	98.54	98.535	98.57	98.52	145,473	13:14:58 CT 19 Sep 2019

Month	Charts	Last	Change	Prior Settle	Open	High	Low	Volume	Updated
SEP 2019		98.0175	-0.0225	98.04	98.0575	98.0825	98.01	1,484	11:43:33 CT 19 Sep 2019
DEC 2019		98.32	UNCH	98.32	98.315	98.33	98.295	1,046	11:43:33 CT 19 Sep 2019
MAR 2020		98.48	-0.005	98.485	98.47	98.485	98.45	1,034	11:43:33 CT 19 Sep 2019
JUN 2020		98.565	+0.01	98.555	98.545	98.565	98.53	1,492	11:41:48 CT 19 Sep 2019
SEP 2020		98.645	+0.015	98.63	98.625	98.645	98.615	937	11:41:48 CT 19 Sep 2019
DEC 2020		98.695	+0.02	98.675	98.67	98.695	98.67	24	11:31:09 CT 19 Sep 2019
MAR 2021		98.73	+0.015	98.715	98.74	98.74	98.73	52	11:31:09 CT 19 Sep 2019

- CME Three-Month SOFR Futures Quotes[2]
  - March 2020
    - Contracts 1,034

(1) https://www.cmegroup.com/trading/interest-rates/stir/eurodollar.html
(2) https://www.cmegroup.com/trading/interest-rates/stir/three-month-sofr_quotes_globex.html

Fallback Provisions…Where to?

- ISDA suggested fallback provisions (cont'd):
  - Daily rate compounded and set in arrears, to help in alignment to forward looking 1 month or 3 month LIBOR terms
  - Spread adjustment to capture difference between secured and unsecured rate to be a historical mean of the spread between indices at adoption.
  - Definition of a LIBOR discontinuance trigger event:
    - a public statement or publication of information by or on behalf of the administrator of LIBOR announcing that such administrator has ceased or will cease to provide LIBOR, permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide LIBOR;
    - a public statement or publication of information by the regulatory supervisor for the administrator of LIBOR, the U.S. Federal Reserve System, an insolvency official with jurisdiction over the administrator for LIBOR, a resolution authority with jurisdiction over the administrator for LIBOR or a court or an entity with similar insolvency or resolution authority over the administrator for LIBOR, which states that the administrator of LIBOR has ceased or will cease to provide LIBOR permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide LIBOR;

(1) https://www.isda.org/2018/12/20/isda-publishes-final-results-of-benchmark-fallback-consultation/

Possible Fallback Language

Fallback Provisions…Bilateral Loans

- On December 7, 2018, ARRC issued consultation pointed towards bilateral loan contracts and implementation of robust fallback provisions. Two methods suggested (first method):
  - Amendment approach
    - Broader language set to the task
    - Trigger event for replacing LIBOR provides more discretion to the lender
    - Replacement index for LIBOR is more flexible in the event SOFR isn't useful at the time of the change
    - Spread to replacement rate is more negotiable in nature, as opposed to a direct reference
    - Risk of disruption upon trigger event as each client would have to have unique amendment

(1) https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2018/ARRC-Bilateral-Business-Loans-Consultation.pdf

Fallback Provisions…Bilateral Loans

- On December 7, 2018, ARRC issued consultation pointed towards bilateral loan contracts and implementation of robust fallback provisions. Two methods suggested (second method):
  - Hardwired approach
    - More clearly defined trigger event
    - Replacement index is a waterfall effect, looking towards various forms of SOFR before finally proceeding to mutually agreed upon alternate rate
    - Spread adjustment is a direct reference to that endorsed or selected by the appropriate governmental body, if that isn't available then by ISDA
    - Less customization and flexibility for unique client needs/desires

(1) https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2018/ARRC-Bilateral-Business-Loans-Consultation.pdf

Fallback Provisions…Bilateral Loans

	Trigger	Replacement Reference Rate	Replacement Benchmark Spread (adjustment)	Mechanism to Amend Credit Agreement
Amendment Approach	A) Benchmark Discontinuance Event or B) Determination by Lender that new or amended bilateral loans are incorporating a new benchmark interest rate to replace LIBOR.	1) Alternate benchmark rate [set forth in applicable amendment] [agreed between Borrower and Lender] (which may include Term SOFR, to the extent publicly available quotes of Term SOFR exist at relevant time), giving due consideration to [i) market convention or ii)] selection, endorsement or recommendation by Relevant Governmental Body	A spread adjustment or method of calculating a spread adjustment set forth in applicable amendment, giving due consideration to [i) market convention or ii)] selection, endorsement or recommendation by Relevant Governmental Body	For Trigger A and B, amendment delivered by Lender to Borrower[, subject to negative consent by Borrower.]
Hardwired Approach	A) Benchmark Discontinuance Event or B) at least [two] outstanding publicly filed syndicated loans are priced over Term SOFR subject, in the case of Trigger (B), to negative consent by Borrower	A waterfall approach: 1) First, term SOFR or, if not available for the appropriate tenor, interpolated SOFR. If not available, then: 2) Compounded SOFR. If not available, then 3) Lender selects an alternate rate [giving due consideration to market convention or selection, endorsement or recommendation by Relevant Governmental Body].	A spread adjustment or method of calculating a spread adjustment that has been selected, endorsed or recommended by the Relevant Governmental Body. If not available, the spread adjustment or method for calculating the spread adjustment selected by ISDA. If Replacement Benchmark determined in accordance with clause 3 thereof, a spread adjustment selected by the Lender.	No consent of Borrower [unless Replacement Benchmark is determined in accordance with clause 3 thereof (Lender selects rate and spread)] in which case amendment will be subject to negative consent by Borrower.]

- Be mindful of the difference between these fallback provisions (for bilateral loans) and those suggested by ISDA (for derivatives). This can create both economic and accounting ineffectiveness in hedging structures.

(1) https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2018/ARRC-Bilateral-Business-Loans-Consultation.pdf

FASB Exposure Draft – LIBOR Transition

"Reference Rate Reform (Topic 848)" – FASB Exposure Draft

- On September 5, 2019 FASB released Exposure Draft providing potential guidance for treatment of LIBOR reference index rates in existing contracts
  - Scope

848-10-15-3

The guidance in this Topic, if elected by an entity, shall apply to contracts or other transactions that reference the London Interbank Offered Rate (LIBOR) or a reference rate that is expected to be discontinued as a result of reference rate reform.

  - Contract modifications with related term adjustments will be treated as a modification that does not result in the de-recognition (or extinguishment) of a contract and initial recognition of a new contract
  - Related Terms
    - Changes to the referenced interest rate index
    - Changes for a spread adjustment for the difference between an existing reference rate and the replacement reference rate
    - Changes to the reset period, reset dates, day-count conventions, business-day conventions, payment dates and repricing calculations.
    - Changes to the strike price of an existing embedded derivative option.

(1) https://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1176173289025&acceptedDisclaimer=true

"Reference Rate Reform (Topic 848)" – FASB Exposure Draft

- Hedge Accounting
  - Cash Flow Hedges – Qualitative Analysis

848-50-35-10

An entity may qualitatively assess existing cash flow hedges and new cash flow hedges on an ongoing basis in accordance with paragraphs 848-50-35-11 through 35-14 if the entity performs an initial test of hedge effectiveness using either of the following:

a. A method in accordance with Subtopics 815-20 and 815-30
b. An optional expedient method in accordance with paragraphs 848-50-25-6 through 25-14

848-50-35-11

The following criteria must be met so that an entity may continue to assert qualitatively that it may continue to apply hedge accounting for a hedging relationship under this Subtopic:

a. The hedged forecasted transaction or the hedging instrument references a rate that meets the scope of paragraph 848-10-15-3
b. There have been no changes to the terms of the hedging instrument other than those specified in paragraphs 848-20-15-2 through 15-3.
c. An entity shall consider the likelihood of the counterparty's compliance with the contractual terms of the hedging derivative that require the counterparty to make payments to the entity.

- While there are several quantitative expedients provided for cash flow hedge relationships, this clearly appears to be the simplest means to continue an existing cash flow hedge upon LIBOR transition.

(1) https://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1176173289025&acceptedDisclaimer=true

"Reference Rate Reform (Topic 848)" – FASB Exposure Draft

- Hedge Accounting
  - Fair Value Hedges – Quantitative Analysis
    - Change the designated benchmark interest rate to new benchmark rate (I.e., SOFR)

848-40-25-4
If an entity elects the optional expedient in paragraphs 848-40-25-2 through 25-3 to change the designated benchmark interest rate, it shall, at a minimum, revise the rate used to discount the cash flows associated with the hedged item reflecting the change in the designated benchmark interest rate in accordance with paragraph 848-40-25-2. In addition, an entity may adjust either of the following:

a. The remaining designated cash flows
b. The revised rate used to discount the cash flows associated with the hedged item.

848-40-25-5
To apply the guidance in paragraphs 848-40-25-4, an entity may either:
a. Apply an approach that adjusts the hedged item's cumulative fair value hedge basis adjustment attributable to the changing from the originally designated benchmark interest rate to the replacement designated benchmark interest rate.
b. *Apply an approach that results in no adjustment to the hedged item's cumulative basis adjustment (that is, maintain the hedged item's cumulative basis adjustment immediately before the date of the change).*

- The key – if the hedged item was LIBOR discounted at LIBOR, it is now SOFR discounted at SOFR
  - Are these results different?

(1) https://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1176173289025&acceptedDisclaimer=true

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