

APF 2022-\_\_\_: SWAP SPREADS AND LIBOR TRANSITION TO SOFR –  
UPDATED VM-20 PRESCRIBED SWAP SPREADS GUIDANCE IN LIGHT OF  
THE LONDON INTER-BANK OFFERED RATE (LIBOR) TRANSITION TO THE SECURED  
OVERNIGHT FINANCING RATE (SOFR)



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# Executive Summary (1 of 2)

- Background
  - Swap spreads are used for VM modeled reserve asset and derivative calculations under VM-20, VM-21 and VM-22
  - Bank regulators and a group of private market participants called Alternative Reference Rates Committee (ARRC) have agreed that for interbank USD interest rate swaps executed after 2021, the floating rate needs to be based on an index other than the London Interbank Offered Rate (LIBOR), with similar changes for swaps in other currencies
  - During 2021 the swap market evolved such that the definition of a standard n-year interest rate swap changed in January 2022 to be a SOFR swap (for which the floating rate is based on SOFR) from the historical LIBOR swap (for which the floating rate is LIBOR)
  - As a result, VM-20 instructions for how the NAIC will calculate and publish swap spreads needs to be updated for Current Benchmark Swap Spreads (published monthly) and Long-Term Benchmark Swap Spreads (published quarterly)
- The Academy is recommending that LATF consider exposing this APF for 30-45 days and adopting shortly thereafter, so the NAIC can start publishing updated spread tables that could be used for 2022 valuations
- The attached APF is proposing updates to these three VM-20 sections:
  - Section 9.F.8.d Procedure for Setting Prescribed Gross Asset Spreads
  - Appendix 2.F Current Benchmark Swap Spreads
  - Appendix 2.G Long-Term Benchmark Swap Spreads



# Executive Summary (2 of 2)

- The APF proposes that
  - 3-month LIBOR be replaced with 3-month SOFR swap rate
  - 6-month LIBOR be replaced with 6-month SOFR swap rate
  - 1-year LIBOR swap rate be replaced with 1-year SOFR swap rate
  - ...
  - 30-year LIBOR swap rate be replaced with 30-year SOFR swap rate
- Because there aren't 15 years of historical SOFR Swap data for the NAIC to use to calculate Long-Term Benchmark Swap Spreads, the APF proposes an estimation formula
  - Estimated historical current SOFR swap rate = corresponding LIBOR swap rate – Spread Adjustment
- Question 1 on slides 21-22 discusses: Should the NAIC should start publishing SOFR swap spreads in 2022 (and if so, how should the APF address this)?
- Questions 2 & 3 on slides 23-27 discuss: Should the APF should be refined to increase calculation accuracy at the cost of increased complexity?



# Where are Swap Spreads applicable?

- Examples of assets and derivative instruments for which the updated swap spread guidance would be applicable include
  - Floating rate corporate bonds and floating rate asset backed securities
  - Interest rate swaps (e.g., insurer receives a fixed rate and pays a floating rate)
  - Interest rate caps (e.g., insurer receives the excess if any of a floating rate over a specified fixed rate)
  - Interest rate floors (e.g., insurer receives the excess if any of a specified fixed rate over a floating rate)
  - Swap options (e.g., insurer has the right to enter an interest rate swap)
- Also, some companies use swap spreads to define swap curves used to calculate derivative portfolio and liability benchmark market values at each node in cash flow projection models



# Highlights of NAIC Staff's 8/12/21 deck (1 of 2)

- Companies with LIBOR in one or more contracts will need to take action, which varies by contract type
- Future LATF Actions Needed
  - Identify the replacement for LIBOR.
  - Adopt the replacement for LIBOR when the NAIC determines that LIBOR is no longer effective. This will enable the NAIC to begin publishing the 3-month and 6-month rates.
  - Amend the Valuation Manual to specifically identify the replacement for 3-month and 6-month USD LIBOR.
  - Determine whether the process for calculating Long Term Benchmark Swap Spreads needs to be changed, given that there is no 15-year history for LIBOR's replacement.



# Highlights of NAIC Staff's 8/12/21 deck (2 of 2)

## □ Key Dates

Date	Date Event
7/26/21	Interdealer trading conventions changed to trade SOFR linear swaps in place of USD LIBOR.
7/29/21	The Alternative Reference Rates Committee (ARRC) formally recommended CME Group's forward looking SOFR Term Rates. CME Term SOFR rates are now published daily in 1-month, 3-month and 6-month tenors.
1/1/22	1-week and 2-month USD LIBOR will no longer be published (the Valuation Manual does not reference these).
7/1/23	All other USD LIBOR tenors (i.e., overnight, 1 , 3 , 6 , and 12 month) will no longer be published.





# Academy Additions to NAIC Staff's 8/12/21 Key Dates (1 of 2)

Date	Author	Title	Academy Description	Link
7/15/19	Federal Reserve Bank (FRB)	Historical Proxies for the Secured Overnight Financing Rate	Proposes a formula using Federal Reserve Board (FRB) historical Repo data as a reasonable proxy for SOFR going back to 1998	<a href="https://www.federalreserve.gov/econres/notes/feds-notes/historical-proxies-for-the-secured-overnight-financing-rate-20190715.htm">https://www.federalreserve.gov/econres/notes/feds-notes/historical-proxies-for-the-secured-overnight-financing-rate-20190715.htm</a>
10/8/20	Bloomberg as vendor for ISDA	IBOR Fallback Rate Adjustments Rule Book	Sets out the formulae and definitions to calculate Spread Adjustments	<a href="https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf">https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf</a>
3/5/21	Bloomberg as vendor for ISDA	IBOR Fallbacks Technical Notice – Spread Fixing Event for LIBOR	Publishes Spread Adjustments to be used on and after 3/5/2021	<a href="https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation-Announcement-20210305.pdf">https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation-Announcement-20210305.pdf</a>
10/15/21	CFTC's MRAC	CFTC's MRAC Subcommittee on Interest Rate Benchmark Reform Responses to Frequently Asked Questions (FAQs) on "SOFR First" for Non-Linear Derivatives	Q&A to facilitate trading of SOFR swaptions, caps and floors. Clarifies that ICE will commence publishing of the USD SOFR ICE Swap Rate when available	<a href="https://www.cftc.gov/media/6636/MRAC-SOFRFirstTransitionFAQs-NonLinear101521/download">https://www.cftc.gov/media/6636/MRAC-SOFRFirstTransitionFAQs-NonLinear101521/download</a>

# Academy Additions to NAIC Staff's 8/12/21 Key Dates (2 of 2)

Date	Author	Title	Academy Description	Link
11/08/21	ICE Benchmark Administration	ICE Benchmark Administration Launches U.S. Dollar SOFR ICE Swap Rate® for Use as a Benchmark	Announcement, with links (Solutions -> Benchmark Administration -> ICE Swap Rate) that specify conventions for the USD SOFR ICE Swap Rate	<a href="https://ir.theice.com/press/news-details/2021/ICE-Benchmark-Administration-Launches-U.S.-Dollar-SOFR-ICE-Swap-Rate-for-Use-as-a-Benchmark/default.aspx">https://ir.theice.com/press/news-details/2021/ICE-Benchmark-Administration-Launches-U.S.-Dollar-SOFR-ICE-Swap-Rate-for-Use-as-a-Benchmark/default.aspx</a>
12/13/21	Bloomberg a vendor for ISDA	Fact Sheet - IBOR Fallbacks	Describes Spread Adjustment calculations, including a Sample Calculation in Appendix 1	<a href="https://assets.bbhub.io/professional/sites/10/Factsheet-IBOR-Fallbacks_V4_Dec2021.pdf">https://assets.bbhub.io/professional/sites/10/Factsheet-IBOR-Fallbacks_V4_Dec2021.pdf</a>
12/14/21	CME Group	CME Term SOFR Reference Rates Benchmark Methodology	A potential source that Bank of America or JP Morgan might use to determine 3-month and 6-month SOFR swap rates	<a href="https://www.cmegroup.com/market-data/files/cme-term-sofr-reference-rates-benchmark-methodology.pdf">https://www.cmegroup.com/market-data/files/cme-term-sofr-reference-rates-benchmark-methodology.pdf</a>
1/24/22	FRBNY	Additional Information about Reference Rates Administered by the New York Fed	Describes the calculation methodology for SOFR Averages and SOFR Index	<a href="https://www.newyorkfed.org/markets/reference-rates/additional-information-about-reference-rates#sofr_ai_calculation_methodology">https://www.newyorkfed.org/markets/reference-rates/additional-information-about-reference-rates#sofr_ai_calculation_methodology</a>

# Detailed Summary of APF's enhancements to NAIC Staff recommendations

- Continue to calculate NAIC prescribed swap spreads as the average of those calculated by JP Morgan and Bank of America, based on methodologies specified in the APF
- Identify the replacements for 3m & 6m LIBOR as 3m & 6m SOFR swap rates
- Identify the replacements for 1y to 30y LIBOR swap spreads as 1y to 30y SOFR swap spreads
- In order to prescribe Long-Term Benchmark Swap Spreads, estimate historical current SOFR swap spreads over 15 years using Spread Adjustments published by Bloomberg (rather than estimate historical SOFR based on the 7/15/19 FRB “Historical Proxies” publication – discussed on slides 16-19)
- Define for each maturity “m” and historical business day “u” before 2022:
  - historical current SOFR swap spread(m,u) = historical current LIBOR swap spread(m,u) – Spread Adjustment(m,u)
- Define Spread Adjustment(m,u) either as (discussed in detail on slides 14-15):
  - Two parameters published by Bloomberg on 3/5/2021 (6-month Spread Adjustment for m = 6 months, and 3-month Spread Adjustment for all other values of m); or
  - Official values or estimates of about 7,500 parameters published by Bloomberg (6-month and 3-month parameters for each of about 250 business days per year, over 15 years)
- Facilitate appointed actuary use of NAIC prescribed SOFR swap spreads also for 2022 valuation dates



# Appendix 1 – A deep dive on the Academy's rationale for this APF

- 1a - Why does the APF add over 4 pages to VM-20?
- 1b - Why is the 3-month Spread Adjustment being proposed for estimating 1-year to 30-year SOFR swap spreads?
- 1c - How were Spread Adjustments defined in Bloomberg calculations?
- 1d - What alternative ways to estimate historical SOFR swap spreads were considered & why were they not used?



# Appendix 1a - Why does the APF add over 4 pages to VM-20?

- This APF addresses technical issues with the LIBOR transition to SOFR
  - Because the timing for how SOFR is determined & published is different than for LIBOR, 3-month and 6-month LIBOR cannot be replaced with 3-month and 6-month SOFR, but instead:
    - 3-month LIBOR needs to be replaced in VM-20 with the 3-month SOFR swap rate, and
    - 6-month LIBOR needs to be replaced in VM-20 with the 6-month SOFR swap rate
  - Because SOFR swaps are replacing LIBOR swaps, VM-20 needs to specify how estimated historical current SOFR swap spreads are determined, so there is 15 years of historical data to calculate Long Term Benchmark Swap Spreads
- This APF provides two alternative definitions of Spread Adjustment, and when one of them is chosen by LATF, the other will be deleted and the revised APF should be about ½ page shorter
- This APF provides transition year guidance for valuation dates during 2022 (see slides 21-22) to facilitate appointed actuary use of NAIC prescribed SOFR swap spreads also for 2022 valuation dates, and the guidance includes about 1.25 pages of drafting



# Appendix 1b - Why is the 3-month Spread Adjustment being proposed for estimating 1-year to 30-year SOFR swap spreads?

- The historical market convention for LIBOR swaps was for floating rate payments to be 3-month LIBOR paid on a quarterly basis
- Bank regulators and the ARRC agreed to define Spread Adjustment (in <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf> ) to equate
  - A stream of n-month LIBOR payments; to
  - A stream of n-month SOFR payments + Spread Adjustment(n-month)
- Thus, by subtracting a 3-month Spread Adjustment from 1-year to 30-year historical LIBOR swap spreads over a period of time, we estimate using swap industry definitions the 1-year to 30-year historical SOFR swap spreads that would have been applicable over such time period



# Appendix 1c - How were Spread Adjustments defined in Bloomberg calculations?

- The definition in the IBOR Fallback Rate Adjustments Rule Book specifies that (for USD n-month Spread Adjustments)
  - For dates after 3/5/2021, Spread Adjustments equal those as of 3/5/2021
  - On or prior to 3/5/2021, Spread Adjustment = the 5-year median (over a “median period”) of the difference between n-month LIBOR and estimated n-month SOFR determined on a compounded in-arrears basis
  - The “median period” for business day “u” ends n months and two business days before “u” and starts 5 years earlier
- The example in Appendix 1 of this 12/14/21 Bloomberg document illustrates the calculation:  
[https://assets.bbhub.io/professional/sites/10/Factsheet-IBOR-Fallbacks\\_V4\\_Dec2021.pdf](https://assets.bbhub.io/professional/sites/10/Factsheet-IBOR-Fallbacks_V4_Dec2021.pdf)



## Ap. 1d - What alternative ways to estimate historical SOFR swap spreads were considered & why were they not used? (1 of 4)

- We contemplated that perhaps, rather than use the IBOR Fallback Rate Adjustments Rule Book 5-year mean approach, instead either
  - We use a 15-year median, mean or conditional mean might be more consistent with the 15-year prescribed observation period used for calculating Long Term Benchmark Swap Spreads; or
  - We estimate historical SOFR using the approach in FRB's 7/15/19 "Historical Proxies" paper, and then calculate estimated 3-month and 6-month SOFR swap rates and SOFR swap spreads
- Such calculations required a basic principles approach starting with raw data, and involved several steps including attempts to match results published by the FRB and Bloomberg





# Ap. 1d - What alternative ways to estimate historical SOFR swap spreads were considered & why were they not used? (2 of 4)

□ As a 1<sup>st</sup> step, we obtained actual SOFR data starting with April 2018, and then estimated older historical SOFR using:

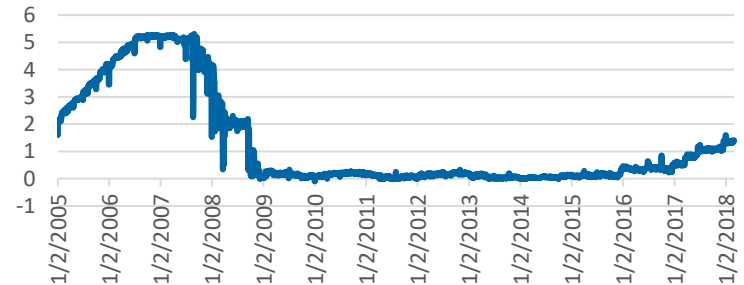
□ This regression formula {  $\text{SOFR} = \text{Survey Rate} + .38 * (\text{GCF} - \text{Survey Rate} - .05)$  } from a 7/15/19 FRB paper found at <https://www.federalreserve.gov/econres/notes/feds-notes/historical-proxies-for-the-secured-overnight-financing-rate-20190715.htm>; and

□ Data from these websites:

- FRBNY Repo “Survey Rate” from [https://www.newyorkfed.org/markets/opolicy/operating\\_policy\\_180309](https://www.newyorkfed.org/markets/opolicy/operating_policy_180309)
- “GCF” (General Collateral Financing) Repo Index rate from <https://www.dtcc.com/charts/dtcc-gcf-repo-index>

□ As a 2<sup>nd</sup> step, we then prepared the estimated SOFR graph below (replicating Figure 4 in the 7/15/19 FRB paper) and exactly matched FRB’s calculation of SOFR Index as of 12/31/21, giving us confidence in our SOFR calculations

Daily (Fitted) Estimated SOFR for Jan 2005 - Feb 2018 (replication of Figure 4 Fitted SOFR in 7/15/19 FEDS Notes)



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# Ap. 1d - What alternative ways to estimate historical SOFR swap spreads were considered & why were they not used? (3 of 4)

- As a 3<sup>rd</sup> step, we extracted data to let us directly estimate historical LIBOR spreads and SOFR spreads:
  - LIBOR data from <http://iborate.com/usd-libor/> ; and
  - T-Bill data from [https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily\\_treasury\\_bill\\_rates&field\\_tdr\\_date\\_value=2022](https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily_treasury_bill_rates&field_tdr_date_value=2022)
- As a 4<sup>th</sup> step, we tried to replicate Bloomberg's 3-month and 6-month Spread Adjustment calculations as of 3/5/21, and came sufficiently close as follows:

	3m	6m
AAA Approx	0.25713%	0.42408%
Bloomberg	0.26161%	0.42826%
Difference	-0.00448%	-0.00418%

- As a 5<sup>th</sup> step, we extracted 7 to 10y Treasury and Investment Grade Corporate yield data from these websites to estimate which dates were included as of yearend 2021 in the NAIC's conditional mean calculations
  - Treasury: [https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily\\_treasury\\_yield\\_curve&field\\_tdr\\_date\\_value=all](https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily_treasury_yield_curve&field_tdr_date_value=all)
  - Corporate: <https://fred.stlouisfed.org/series/BAMLC4AOC710YEY>

# Ap. 1d - What alternative ways to estimate historical SOFR swap spreads were considered & why were they not used? (4 of 4)

- As a 6<sup>th</sup> step, we calculated 15-year means, medians and conditional means as of 12/31/21 of daily Spread Adjustments that were estimated based on the IBOR Fallback Rate Adjustments Rule Book, with results relative to the 3/5/21 Bloomberg factors within 4 bps for 3-month and within 6 bps for 6-month, and we concluded that was not a big enough difference to warrant a departure from the Bloomberg 3/5/21 Spread Adjustments. Below are summary statistics.

Spread Adjustment Summary Stats		
	3-month	6-month
15y Mean	0.23274%	0.37077%
15y Median	0.22091%	0.37183%
Cond'l Mean	0.23535%	0.38538%

□

- As a 7<sup>th</sup> step, we also estimated historical 3m and 6m SOFR swap spreads and rates using our estimated historical SOFR Index calculated based on [https://www.newyorkfed.org/markets/reference-rates/additional-information-about-reference-rates#sofr\\_ai\\_calculation\\_methodology](https://www.newyorkfed.org/markets/reference-rates/additional-information-about-reference-rates#sofr_ai_calculation_methodology). We concluded that in a vacuum such approach had some merits (e.g. fewer 2021 negative rates and spreads) vs. the Spread Adjustment approach in the IBOR Fallback Rate Adjustments Rule Book, but was undesirable because it was much more complicated and its estimated historical SOFR Index approach would be inconsistent with the Rule Book, which has been adopted and likely reflected in numerous insurers' swap agreements



# Questions for discussion

- Q1: Should the NAIC start publishing SOFR swap spreads in 2022 (and if so, how should the APF address this)?
- Q2: What is the practical number of Spread Adjustment parameters to use?
- Q3: Should we consider Payment Frequency and Day Count enhancements to improve accuracy?



# Q1: Should the NAIC start publishing SOFR swap spreads in 2022 (and if so, how should the APF address this)? (1 of 2)

- The Issue:
  - The 2022 VM was finalized in July 2021, and requires the NAIC to publish
    - Current Benchmark Swap Spreads (monthly)
    - Long-Term Benchmark Swap Spreads (quarterly)
  - The market evolved dramatically since then, where:
    - In 2021 Q4 SOFR swaps trading volume overtook LIBOR swaps trading volume
    - In 2022 all (or almost all) swaps trading is SOFR swaps
  - For valuations during 2022 for insurers with assets or derivatives affected by the LIBOR transition to SOFR
    - Some insurers will have already transitioned models to use SOFR swap spreads
    - Some insurers will need more time, with models still based on LIBOR swap spreads
    - A LATF declaration that 3m & 6m LIBOR are replaced with 3m & 6m SOFR swap rates will alone not provide sufficient clarity
    - The 2022 VM did not contemplate that 1y to 30y swap spreads also need to transition from LIBOR to SOFR swaps
    - At some point the NAIC might no longer have enough data to publish benchmark LIBOR swap spreads
    - The VM doesn't specify how the NAIC might calculate prescribed Long-Term Benchmark Swap Spreads based on SOFR swaps
    - Appointed actuaries will need to utilize more judgment than for 2023 valuation dates (when this APF becomes effective)
  - It would help companies and regulators if in 2022 both LIBOR and SOFR swap spreads are published



# Q1: Should the NAIC start publishing SOFR swap spreads in 2022 (and if so, how should the APF address this)? (2 of 2)

1. The Academy's proposed APF provides clarity for 2022 valuation dates
    - A. Require the NAIC to publish
      - i. Benchmark LIBOR swap spreads to the extent the data is still available
      - ii. Benchmark SOFR swap spreads once the data becomes available
    - B. Specify how the NAIC will calculate Long Term Benchmark SOFR Swap Spreads
  2. Potential alternatives that LATF might consider
    - A. A revised APF could be silent on 2022 and let actuaries use judgment: Delete the "during 2022" guidance, change "on or before Dec 31, 2021" guidance to be "before 2023" guidance, and don't specify what the NAIC should publish for 2022 (NAIC would publish LIBOR and SOFR swap spreads as suggested by "1" above, without a VM-20 requirement to do so)
    - B. Same as "2.A", but with a different parenthetical: (as implied by 2022 VM drafting, NAIC would switch, on a transition date it determines and announces, from publishing LIBOR swap spreads to publishing SOFR swap spreads as required for 2023)
    - C. Same as "2.A" or "2.B", but provide some guidance in an Actuarial Guideline, the VM-20 Practice Note and/or some other form of guidance provided by LATF
- What approach does LATF prefer?



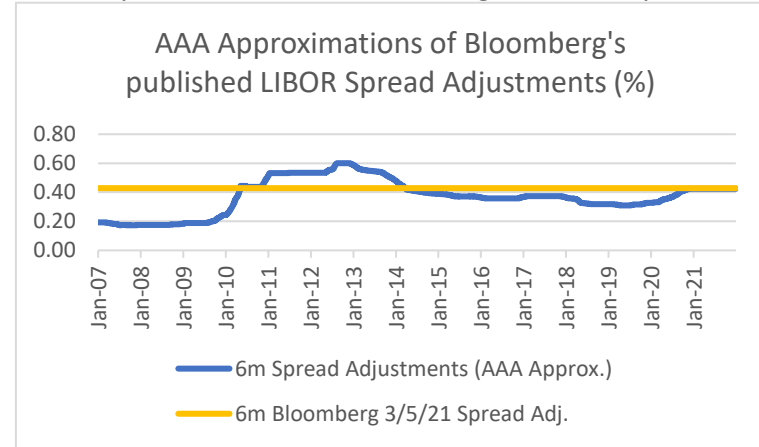
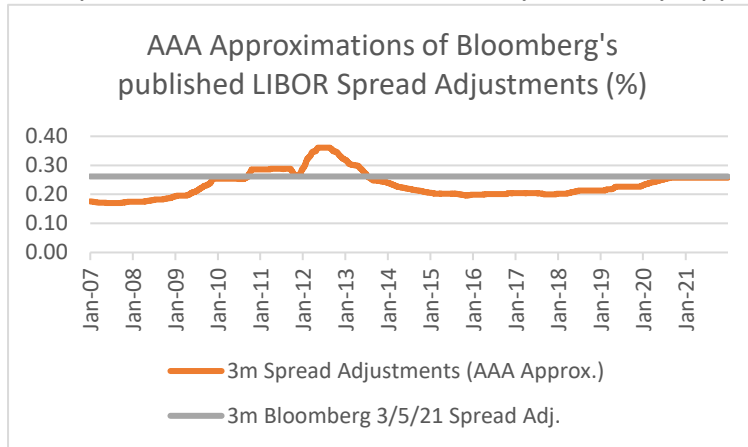
## Q2: What is the practical number of Spread Adjustment parameters to use? (1 of 3)

- Alternatives currently drafted within the APF are
  - 2 parameters: 0.26161% (3-month USD LIBOR Spread Adjustment) and 0.42826% (6-month USD LIBOR Spread Adjustment) published on 3/5/21 by Bloomberg in <https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation-Announcement-20210305.pdf> as the applicable on and after 3/5/21
    - 0.26161% would apply for 3-month SOFR swap spreads, and for 1y to 30y SOFR swap spreads
    - 0.42826% would apply for 6-month SOFR swap spreads
  - About 7,500 parameters: official or estimated 3-month and 6-month Spread Adjustments, as defined in <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf> (the “Rule Book”), for each business day (there are about 250 each year) over the 15-year prescribed observation period, noting that the parameters on 3/5/21 apply for the subsequent business days in 2021, where for each business day “u”
    - 3-month Spread Adjustment(“u”) would apply on “u” for 3-month SOFR swap spreads, and for 1y to 30y SOFR swap spreads
    - 6-month Spread Adjustment(“u”) would apply on “u” for 6-month SOFR swap spreads
- Note the APF states “have JP Morgan and Bank of America calculate SOFR swap spreads (or provide the components so that the NAIC can calculate the bank’s SOFR swap spreads) on each business day over the prescribed observation period”
- The next page has data to help discuss whether the additional accuracy warrants the additional complexity



# Q2: What is the practical number of Spread Adjustment parameters to use? (2 of 3)

- Graphic illustrations of business day Academy Approx. (7,500 parameters) vs Bloomberg 3/5/21 (2 parameters)



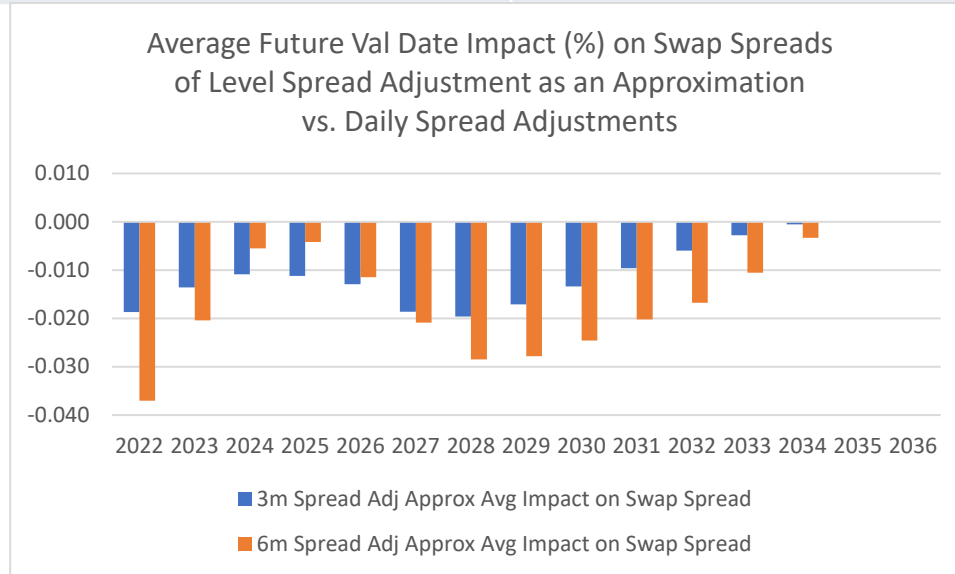
- Summary statistics:

	3-month	6-month
Bloomberg	0.26161%	0.42826%
5y Median	0.25713%	0.42408%
15y Max	0.36115%	0.59923%
15y Mean	0.23274%	0.37077%
15y Median	0.22091%	0.37183%
15y Min	0.16984%	0.17151%



## Q2: What is the practical number of Spread Adjustment parameters to use? (3 of 3)

Approach	Pros	Cons
2 parameters	Easier implementation for NAIC staff	Underestimates most Long Term Benchmark SOFR Swap Spreads by 1 to 3 basis points through 2033 (see graph)
7,500 parameters	More precise	Harder implementation for NAIC staff



# Q3 for discussion: Should we consider Payment Frequency and Day Count enhancements to improve accuracy? (1 of 2)

- Historically for prescribed benchmark swap spreads (for LIBOR swaps)
  - VM-20 has been silent on payment frequency and day count basis
  - The NAIC has been subtracting Treasury Yields from Swap Rates
  - For 1-year to 30-year maturities, “Semiannual, 30/360” (which is basically the same as bond-equivalent) has presumably been applicable
  - For 3-month and 6-month maturities, presumably the NAIC’s LIBOR data was quoted on an Actual/360 basis, though it is not clear whether the NAIC’s T-Bill data was quoted on a Bank Discount basis or on a Coupon Equivalent basis
- Prospectively for prescribed benchmark swap spreads (for SOFR swaps)
  - Accuracy would be improved if additional guidance were provided within the APF to ...
    - Specify the payment frequency and day count basis for prescribed SOFR swap spreads; and
    - Include additional steps, to be applied by the NAIC, to convert extracted data to the prescribed basis for SOFR swap spreads
  - However, this would make the APF more complex, increase the amount of work for NAIC staff, warrant a longer LATF exposure period, and lengthen the time until LATF adopts the APF



# Q3 for discussion: Should we consider Payment Frequency and Day Count enhancements to improve accuracy? (2 of 2)

- To expedite APF adoption, the Academy recommends that for benchmark SOFR swap spreads
  - This APF should be not specify a payment frequency or day count basis
  - After adopting this APF, LATF should ask the Academy to research and recommend whether the APF should be refined
- Relevant historical background for LIBOR swap spreads
  - Quarterly, Actual/360 applies for 3-month LIBOR
  - Semiannual, Actual/360 applies for 6-month LIBOR
  - 3-month and 6-month T-Bills are often quoted on a Bank Discount basis or on a Coupon Equivalent basis
  - Quarterly, Actual/360 has historically applied for the floating rate payments on 1y to 30y LIBOR swaps
  - Semiannual, 30/360 has historically applied for the fixed rate payments on 1y to 30y LIBOR swaps
- Relevant background for SOFR swap spreads
  - Quarterly, Actual/360 applies for 3-month SOFR
  - Semiannual, Actual/360 applies for 6-month SOFR
  - Annual, Actual/360 is the new market convention for the floating rate on 1y to 30y SOFR swaps
  - Annual, Actual/360 is the new market convention for the fixed rate on 1y to 30y SOFR swaps



# Questions?

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