LIBOR Task Force Green Paper

A Set of Recommended Best Practices for LIBOR Benchmark Transition

First Edition

December 14, 2018

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SFIG LIBOR Task Force Green Paper: Introduction

SFIG Engagement

SFIG's LIBOR Task Force was formed to identify potential membership actions that could be taken in response to the anticipated phase-out of LIBOR. Given that the impact of this change will be felt across the securitization industry, a Steering Committee representing key sectors of the industry helps guide the Task Force. The Task Force is developing an industry-recommended best practice to help ensure an as-seamless-as-possible transition away from the LIBOR benchmark to successor benchmarks.

In addition to the work SFIG membership is undertaking within the LIBOR Task Force, SFIG is also involved in the Alternative Reference Rates Committee ("ARRC") that was convened by the Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York ("NY Fed"). SFIG is a co-chair with CRE Finance Council of the ARRC's Securitizations Working Group ("SWG"), and in that capacity has been working with the SWG and across ARRC working groups to align, where possible, the recommendations of the SWG with those of other industry participants.

It is important to note that the SWG published its own consultation for public comment on December 7, 2018. That consultation was informed by the collective views of members of the ARRC as well as the SWG, and as such may differ from the recommendations that SFIG membership will develop under the leadership of the LIBOR Task Force. For this reason, SFIG is publishing this First Edition Green Paper which sets forth SFIG members' initial views on how structured finance market participants may navigate this significant transition, including recommended trigger events, a fallback benchmark rate waterfall, and calculation methodologies for replacement reference rates.

Premise and Goal

The LIBOR Task Force seeks to establish industry consensus and provide recommendations around one or multiple accepted approaches.

It is important to stress that a "one-size-fits-all" set of recommendations may not be appropriate for many reasons. Structural frameworks may vary, reflecting different market practices that arise from individual goals, strategies, and structures of different types of institutions and asset classes. The recommendations set forth in this First Edition Green Paper will continue to evolve with the industry and the changing market environment.

Project Governance

SFIG established a project governance framework in order to work effectively through the LIBOR Task Force's ambitious agenda. The work product of the LIBOR Task Force is governed by a Steering Committee that represents SFIG's broad membership base.

Methodology

Participants in the creation of these best practices are addressing in significant and intricate detail a complex set of topics related to benchmark replacement. To address fully each topic, the LIBOR Task Force employs the following methodology:

1. Evaluating key topics that industry participants have identified as requiring standardization in order to foster a sustainable market;
2. Considering different approaches to these topics that involves, for each approach, engaging in an analysis and, where possible, developing a solution for legal, regulatory, contractual and operational issues; and
3. Explaining the relative merits of each approach, particularly highlighting potential risk implications for issuers, investors and other transaction parties.

Work Product

The best practices contained in this Green Paper aim to create a recommended standard where achievable, clarify differences in alternative standards in a transparent manner, and develop industry best practices developed by market participants.

Interim "Green Papers"

The development of a series of Green Papers on the topic of LIBOR transition is by necessity an iterative process. Achieving consensus will be a dynamic exercise, and as new topics are considered, participants may revisit previously discussed items. All final benchmark proposals identified by the project must be discussed and vetted within the SFIG LIBOR Task Force, and will also be subject to input, comment, and approval by SFIG's relevant participant committees, including the Trustee Committee, Investor Committee, Issuer Committee, and Servicer Committee.

To reach consensus among participants to the greatest extent possible, SFIG will, prior to finalizing any Best Practices White Paper (see below – *"White Papers and Market Standards"*), release and socialize preliminary proposed best practices periodically through an interim series of "Green Papers."

As the project approaches its end and addresses all topics that the LIBOR Task Force has identified, the Green Paper will become a final White Paper recommendation. While SFIG encourages early adoption of "Green Paper" standards, the task force may issue updates or revisions to preliminary recommendations on an incremental basis as the project addresses each issue on the agenda. In this regard, SFIG anticipates that the Green Papers will evolve

over time as project participants, comprised of thought leaders from each segment of the industry, continue to evaluate the substantive issues at hand. To the extent those participants present new approaches or analyses, the Green Papers are designed to consider and incorporate this information and thereby remain a relevant set of best practices for benchmark rate considerations in securitizations.

White Papers and Market Standards

The evolution of the project, which is driven by ongoing engagement with market and project participants, may result in a White Paper version that differs substantially from early Green Paper releases. Similarly, even those White Papers may be subject to further revision as benchmark rates and securitization market practices develop. This is a routine expectation for any transition process, and underscores the importance that the White Papers and market standards maintain the flexibility of being industry-driven and do not become embedded into hard-coded guidance.

Limitation of Scope

It is important to note that the scope of these best practices represents only the initial recommendations developed by the LIBOR Task Force, and certain topics have not yet been addressed in detail. As the project progresses, the scope may expand to include additional areas of market concern, or efforts may be reorganized to cover additional topics.

Future versions of this Green Paper will likely include more detailed recommendations covering topics such as: providing noteholder notices, noteholder voting processes (if applicable), determination date adjustment, and other footnoted discussion points. Additionally, please note that this Green Paper only addresses issues related to new transactions. Separate publications may also consider specific issues relating to legacy transactions that reference LIBOR. Additionally, prior to inclusion in any transaction, parties should consider the impact of the fallback language upon various other aspects of the transaction, including the underlying economics of the transaction (for example, the impact on any securities that are either fixed rate or based on a reference rate other than LIBOR), structural and operational aspects of the transaction, and the nature of the underlying assets including any LIBOR fallback provisions (if applicable) related to such assets. Further, while this Green Paper attempts to present a framework that will designate a replacement benchmark in a variety of situations, this approach does not contemplate every possible scenario. As a result, parties should consider how the fallback language may need to be adjusted to account for certain deal-specific factors as well as future developments pertaining to the adoption of new benchmark interest rates.

As detailed further under the "Disclaimer" section below, transaction parties should consult with counsel regarding comprehensive disclosure requirements to ensure their disclosure satisfies all securities laws and regulations given the specific transaction, the specific business and the specific underlying collateral.

Disclaimer

It is important to note that:

- The conclusions set forth herein do not necessarily reflect how courts and regulators may view the transition away from the LIBOR benchmark to successor benchmarks, presently or in the future. This Green Paper is not intended to be legal or regulatory advice, is not intended to establish legal standards, is strictly for general informational purposes and may not be relied on by any person as legal advice. This information is not intended to create, and receipt does not constitute, a lawyer-client relationship. Readers should not act upon this without seeking advice from professional advisers. For example, a final determination as to benchmark determination is within the sole purview of each individual party, and transaction parties should consult with counsel regarding comprehensive disclosure requirements to ensure their disclosure satisfies all securities laws and regulations given the specific transaction.

- The principles, considerations and rationales driving this recommended best practices are based upon many factors including laws, rules and regulations, current market practice, and the recommendations published by ARRC or any working group thereof. Consequently, there may be shifts in the requirements should there be future changes in law, rulemakings, formal guidance, changes in market practices, or any other relevant changes or developments. We would note that the recommendations in this Green Paper are preliminary and are subject to revision in future SFIG publications.

- The recommendations set forth herein may not always be suitable for a particular issuer, originator, asset pool, or transaction.

The publication of this LIBOR Task Force Green Paper by SFIG does not mean that any or all of the opinions or recommendations herein have been adopted or endorsed by any specific SFIG member; **does not create any legal obligation of any specific SFIG member; does not create any legal rights of any person; does not constitute any statement as to materiality of any matter for any purpose; does not constitute legal advice; and is not intended to express any opinion or interpretation as to any past transaction**. This is intended solely to propose, analyze and recommend standards for future securitization transactions. SFIG members are neither required to subscribe to, nor obligated to adopt, any of the standards, analyses, recommendations or practices contained herein. As stated above under "Work Product," the recommendations in this Green Paper are preliminary and are subject to revision in future SFIG publications.

New Securitization Transactions (Non-Legacy):
Recommended Best Practices for LIBOR Replacement & Fallbacks

Scope and Overview

This First Edition Green Paper presents a set of industry-proposed recommendations for how to transition LIBOR-based securities to a replacement benchmark when the securities are issued under **new** securitization transactions, setting forth: (i) the effects of a benchmark discontinuance event, and (ii) the definitions of the various potential benchmark discontinuance events. These industry-proposed recommendations are designed for new securitization transactions only and are not intended as guidance for transitions from the LIBOR benchmark in connection with legacy or otherwise previously existing securitizations.

Specifically, the definition "Benchmark Discontinuance Event" lists events that would trigger LIBOR-based securities to transition away from LIBOR. These events include a permanent cessation of the production of LIBOR as announced by the administrator of LIBOR or its regulatory supervisor, or as evidenced by the actual cessation of publication of LIBOR for a set number of days. The term also includes triggers which would allow the transitioning away from LIBOR in advance of the actual cessation in certain circumstances.

SFIG currently supports the use of a forward-looking term Secured Overnight Financing Rate ("SOFR") in the event of a transition away from LIBOR, as modified to reflect the difference between the SOFR risk-free rate and the credit and liquidity components included in LIBOR. This new benchmark is produced by the NY Fed, and has been recommended by the ARRC. SOFR differs from LIBOR in that it is purely an overnight, secured, and risk-free rate.

The section "Effect of Benchmark Discontinuance Event" provides a flexible fallback approach for identifying a Replacement Base Rate. The fallback gives first preference to a forward-looking term SOFR, provided that the same is being produced and is selected, endorsed or recommended by the NY Fed or ARRC. A forward-looking term SOFR would be based on market expectations of SOFR over an upcoming accrual period, and would be available at the beginning of the accrual period. For cash markets generally, such a rate is superior to a daily compounded SOFR either set in advance (which would reflect actual funding costs over the preceding accrual period on a lookback basis), or in arrears (which would not be known until the end of the future accrual period). Although forward-looking term SOFR rates do not exist today, it is anticipated that such rates will be available ahead of LIBOR cessation, and that these rates will be based on market transactions in derivatives contracts and futures trading that will reference SOFR. If forward-looking term SOFR rates are not available, then the fallback would next go to either a compounded daily SOFR rate or an average daily SOFR Rate as the Replacement Base Rate, and next to the overnight SOFR rate. Further fallbacks are provided that would apply in the event of a discontinuance of SOFR, ultimately including a Substitute Replacement Rate subject to an investor vote.

Because of the differences between LIBOR and SOFR, once the Replacement Base Rate is selected, the currently proposed provision applies a modifier or "Replacement Floating-Rate

Spread" which will be added to risk-free SOFR in an effort to make the two rates more comparable. This "Replacement Floating-Rate Spread" definition also follows a tiered approach. For situations where the Replacement Base Rate is the rate that has been selected, endorsed or recommended NY Fed or ARRC, the Replacement Floating-Rate Spread would be the spread, or method for calculating or determining the spread, as similarly selected, endorsed or recommended by the NY Fed or ARRC to make the fallback rate comparable to LIBOR of the tenor being replaced. In the event that the Replacement Base Rate that has been selected is the rate that has been selected, endorsed or recommended by the International Swaps and Derivatives Association, Inc. ("ISDA"), the Replacement Floating-Rate Spread would be the spread, or method for calculating or determining the spread, as similarly selected, endorsed or recommended by ISDA.

Additionally, in each instance, regardless of whether a Replacement Floating-Rate Spread has been selected as described in the preceding paragraph, the transaction sponsor has the option to propose an amendment to designate a Replacement Floating-Rate Spread subject to an investor vote. In the event that the Replacement Base Rate is changed to a Substitute Replacement Rate as described in the preceding paragraph, such rate may include both a replacement base rate component and a replacement floating-rate spread component. Furthermore, in the event that the relevant governmental entity or ISDA, as applicable, has not identified a Replacement Floating-Rate Spread and no sponsor-proposed amendment to select a Replacement Floating-Rate Spread has been executed, the replacement benchmark would not include a Replacement Floating-Rate Spread adjustment. In all cases following a benchmark replacement, investors would receive interest payments based on the Replacement Base Rate, plus the Replacement Floating Rate Spread (if any), plus the margin applicable to their security.

It is important to note that this Green Paper is primarily concerned with outlining provisions to be included in new securitization transactions with floating rate tranches to determine a successor reference rate for the securities upon LIBOR becoming unavailable, and that these provisions favor a form of SOFR as a successor benchmark. For transactions that include assets pegged to LIBOR, it should be noted that in many cases it is not yet known what successor rate(s) will apply to these assets. For each specific transaction that includes LIBOR-based assets, parties should consider the fallback provisions that apply to such assets and what successor benchmarks may be utilized. Depending on such fallback provisions relating to the assets, parties may wish to consider whether any changes will need to be made to the provisions set forth in this Green Paper to avoid or minimize any possible mismatch between the reference rates used for the assets and for the securities following the unavailability of LIBOR.

Relatedly, one of the pre-cessation triggers identified in this Green Paper is based on the percentage of assets that were tied to LIBOR that subsequently are transitioned to a benchmark other than LIBOR. The details are described below in the definition of "Asset Replacement Percentage." This trigger is intended for use in transactions where it is anticipated that the assets are currently LIBOR-based and may transition to a SOFR benchmark. In transactions with floating rate assets that are either (i) initially pegged to a reference rate other than LIBOR or (ii) anticipated to transition to a reference rate other than SOFR, parties should consider the appropriateness of including the Asset Replacement Percentage trigger.

Additionally, parties should consider the effect of performing certain averaging or compounding calculations either in arrears or in advance. As described below, step 2 of the fallback waterfall sets the reference rate to either a compounded or average of daily SOFR. This Green Paper leaves the question of whether such calculations should be done in advance or in arrears as an open item. Current transactions based on LIBOR typically have the reference rate for each interest period set prospectively at the beginning of the interest period, because the forward-looking LIBOR rate is available at that time. In order to continue such an approach, it is essential that forward-looking term SOFR rates be developed. For this reason, our fallback waterfall favors, at step 1, forward-looking term SOFR rates selected, endorsed or recommended as the replacement for LIBOR by the Federal Reserve Board and/or the NY Fed or by the ARRC. If the forward-looking term SOFR rates are not available at step 1, then the fallback waterfall goes to either a compounded or average of daily SOFR at step 2, and step 2 must specify whether the calculation will be performed in advance or in arrears, both of which have drawbacks.

The setting in advance approach uses an observation period equal to the length of the upcoming interest period, ending immediately prior to the beginning of the upcoming interest period for which the rate will be applied. The major drawback with this approach is that it is based on backward-looking, stale information. The setting in arrears approach uses an observation period which is coterminous with the interest period for which the rate is to be applied (subject to a short lock-out period before the end of the interest period so that the calculation can be performed). In terms of accurately reflecting the benchmark during the interest period, some market participants might prefer this approach. The major drawback with this approach is that the rate at which interest accrues in an interest period will not be known until the end of the interest period. This approach may require substantial operational changes and neither issuers nor any other transaction parties would know the exact interest payment amount due until the end of the interest period. For a more fulsome discussion of the tradeoffs related to determining rates in arrears versus in advance, please see SFIG's response to the ISDA Consultation on Certain Aspects of Fallbacks for Derivatives Referencing GBP LIBOR, CHF LIBOR, JPY LIBOR, TIBOR, Euroyen TIBOR, and BBSW ("SFIG Response to ISDA Consultation") which is enclosed in this document as Exhibit A.

[*Draft fallback language follows*]

Draft LIBOR Fallback Language for US Securitization Transactions

Note: Please read this document's footnotes carefully as they include significant discussion points, disclaimers, considerations, etc.

Effect of Benchmark Discontinuance Event[1]

If a Benchmark Discontinuance Event with respect to the Benchmark occurs, then with respect to each Determination Date on or after the Benchmark Discontinuance Event Date with respect thereto, all references to the Benchmark shall be replaced with the Replacement Rate; where the Replacement Rate equals:[2] [3]

(1) the sum of: (a) the Replacement Base Rate, which shall equal the Relevant Tenor SOFR rate (or, if there is no Relevant Tenor SOFR Rate, such rate for the Interpolated Term Period, if available) that shall have been selected, endorsed or recommended as the replacement for Relevant Tenor Benchmark by the Relevant Governmental Sponsor, as of Determination Time on the Determination Date[4] for such interest reset date, and (b) a Replacement Floating-Rate Spread, if any; provided that:

(2) if a Replacement Base Rate cannot be determined in accordance with clause (1), then the Replacement Rate shall be the sum of: [OPTION 1:(a) the Replacement Base Rate which shall equal Compounded SOFR,[5]][OPTION 2: (a) the Replacement Base Rate which shall equal Average SOFR,] as of Determination Time on the Determination Date for such interest reset date, and (b) a Replacement Floating-Rate Spread, if any; provided, further, that: [6]

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[1] Please note that the footnotes and related discussion points contained in this Green Paper refer to the provisions set forth under this "Effect of Benchmark Discontinuance Event" heading as the "fallback waterfall."

[2] Note that the fallback waterfall provisions apply to a "Benchmark" generally rather than solely to LIBOR. As a result, if, for example, a deal switches from LIBOR to SOFR and then SOFR is no longer available, the same triggers and fallback waterfall would apply in determining a replacement for SOFR.

[3] Note that the party responsible for determining which Replacement Rate is to be selected by application of the fallback waterfall, including any calculations required thereby, will need to be identified in each transaction pursuant to the agreement of the transaction parties.

[4] The Determination Date for USD LIBOR is typically defined in the transaction documents and is usually two London business days before the interest reset date. Given that holders of LIBOR denominated notes would expect the interest rate to be calculated as of that date, it would seem prudent to leave the defined term as is (though not necessarily for new SOFR products). Additionally, note that the proviso in the definition of "Determination Date" provides that following the occurrence of a Benchmark Discontinuance Event references to London business days shall be replaced with references to New York business days.

[5] Trustee and Calculation Agents in the group have raised concerns regarding the calculation of interpolation and compounding. They have expressed that they are uncomfortable performing such interpolation or compounding calculations and would instead prefer a party with an economic interest in the transaction be the party to perform such calculations.

[6] Clause (2) in the fallback waterfall allows for the use of either an average of overnight SOFR or Compounded SOFR. Some parties have noted that the average of overnight SOFR may be a calculation that is simpler to perform.

(3) [if a Replacement Base Rate cannot be determined in accordance with clause (1) or (2) above, then the Replacement Rate shall be the sum of: (a) the Replacement Base Rate which shall equal SOFR, as of Determination Time on the Determination Date for such interest reset date, and (b) a Replacement Floating-Rate Spread, if any; provided, further, that:][7][8]

(4) if a Replacement Base Rate cannot be determined in accordance with clause (1), (2), or (3) above, then the Replacement Rate shall be the sum of: (a) the Replacement Base Rate which shall equal such other alternate, substitute or successor rate as shall have been selected, endorsed or recommended by the Relevant Governmental Sponsor as the replacement for the Benchmark, and (b) the applicable Replacement Floating-Rate Spread, if any, with respect thereto; provided, further, that:

(5) if a Replacement Base Rate cannot be determined in accordance with clause (1), (2), (3) or (4) above, then the Replacement Rate shall be the rate that shall have been selected, endorsed or recommended by ISDA as the sum of (i) the replacement for Relevant Tenor Benchmark or (ii) alternatively, the replacement for the Benchmark, in each case as of Determination Time on the Determination Date for such interest reset date ("***ISDA Replacement Base Rate***"), and (b) a Replacement Floating-Rate Spread, if any, with respect thereto; provided, further, that:

(6) If a Replacement Base Rate is determined pursuant to clause (5), then [within X days after][following] the determination of such Replacement Rate, the sponsor may propose an amendment[9] to replace such Replacement Rate with a replacement rate (which, for the avoidance of doubt, may be comprised of a replacement base rate and a replacement floating-rate spread) (the "***Substitute Replacement Rate***"). Such Substitute Replacement Rate shall become the Replacement Rate upon the execution of such amendment [SEE THREE ALTERNATIVE OPTIONS BELOW REGARDING NOTEHOLDER CONSENT].[10] For the avoidance of doubt, prior to any Substitute Replacement Rate becoming effective as described in the preceding sentence, [FOR USE WITH OPTION 1 DESCRIBED BELOW: including, prior to the receipt of the consent of the requisite noteholders or in the event that the requisite noteholders have voted to reject such proposed amendment][FOR USE WITH OPTION 2 DESCRIBED BELOW: including, if a [majority] of noteholders have objected to the terms of such amendment], the Replacement Rate shall continue to be the rate determined pursuant to the immediately preceding clause (5).

[7] Appropriate disclosure will be required to highlight that the fallback will be to an overnight rate where previously there was a term structure.

[8] See open discussion point below regarding the possibility of step 3 of the fallback waterfall being duplicative of step 2.

[9] This provision will need to be adjusted depending on the specifics of the transaction to tie to the relevant amendment procedures and requirements (e.g., certain notice periods, opinion requirements, requisite directions to the trustee regarding solicitation of consents, etc.).

[10] Generally, changes to this amendment provision may need to be considered on a transaction specific basis. There are certain asset classes, e.g., mortgage loans in a REMIC securitization, for which this language may not be appropriate.

OPTION 1 - CONSENT OF HOLDERS: on the Determination Date following the date on which a [majority of noteholders][a majority of noteholders that have responded to such consent solicitation] have provided their consent to such amendment [; provided, that the requisite noteholder quorum has been satisfied with respect to such consent solicitation].

OPTION 2 - HOLDER OBJECTION RIGHTS: on the Determination Date following the date that is X days after notice of the proposed Substitute Replacement Rate has been provided to noteholders unless a [majority] of noteholders have objected to such amendment prior to such date.

OPTION 3 - NO HOLDER CONSENT/OBJECTION RIGHTS: on the Determination Date following the date that is X days after notice of the proposed Substitute Replacement Rate has been provided to noteholders. For the avoidance of doubt, no consent from any noteholder is required to execute such amendment to effect the selection of a Substitute Replacement Rate.[11]

For the avoidance of doubt and subject to the immediately succeeding paragraph, if, following the occurrence of a Benchmark Discontinuance Event, a Replacement Rate is selected by application of any of clauses (1) through (6) above, then all references to the Benchmark shall be replaced with the Replacement Rate for each Determination Date on and after the date of such selection.

If a Replacement Rate is selected pursuant to clause (2) or (3) above, then on the first day of each calendar quarter following such selection, if reapplication of clause (1) on such date would result in the selection of a Replacement Rate, then such Replacement Rate shall become the Benchmark on each Determination Date on or after such date. If the reapplication of clause (1) as described in the preceding sentence would not result in the selection of a Replacement Rate, then the Benchmark shall remain the Replacement Rate as previously determined pursuant to clause (2) or (3) above.

If, following the occurrence of a Benchmark Discontinuance Event, no Replacement Rate is able to be determined by application of clauses (1) through (6) above, the Benchmark shall remain the Benchmark as determined on the last interest reset date; provided, that in the event no Replacement Rate is able to be determined on any Determination Date, clauses (1) through (6) shall be applied on the successive Determination Date.

For the avoidance of doubt, if a subsequent Benchmark Discontinuance Event occurs with respect to any Replacement Rate that has become the Benchmark pursuant to the terms hereof, the terms of this section shall be reapplied upon such subsequent Benchmark Discontinuance Event.

[11] Note that the implementation of changes to the reference rate may also require certain additional administrative and/or ministerial amendments in order to properly effect such reference rate change. Depending on the specifics of the underlying transaction documents, clarification may need to be added to the relevant amendment provisions to clarify that such amendments may be done without requiring noteholder consent.

Defined Terms

"Asset Replacement Percentage" means, on any date of calculation, a percentage where the numerator is the outstanding principal balance of the assets included in the securitization that were indexed to [the Relevant Tenor Benchmark][any tenor of the Benchmark] but that are indexed to a reference rate other than the [Relevant Tenor Benchmark][any tenor of the Benchmark][12] as of such calculation date and the denominator is the outstanding principal balance of the assets, as of such calculation date, that are or were previously indexed to [the Relevant Tenor Benchmark][any tenor of the Benchmark].[13]

"***Average SOFR***" means, as of any Determination Date, the average of daily SOFR for each day in the [X] month period ending on the day prior to such Determination Date; provided, that if SOFR is not published on any day during such period, for the purposes of this definition, SOFR for such day shall be deemed to be SOFR as published on the most recent day preceding such date.[14]

"***Benchmark***" means, initially, LIBOR; provided that if a Benchmark Discontinuance Event shall have occurred with respect to any Benchmark (including, but not limited to, LIBOR), then the term "Benchmark" shall mean the applicable replacement rate as determined following such Benchmark Discontinuance Event in accordance with the provisions specified under "Effect of Benchmark Discontinuance Event."[15]

[12] This language is intended to account for a situation where the assets were initially pegged to LIBOR then transitioned to being based off a non-SOFR rate. For example, if the assets in a transaction were initially LIBOR-based but later transitioned to being based off of the treasury rate, this would result in the occurrence of a Benchmark Discontinuance Event.

[13] In certain transactions, there may be a mismatch between the tenor of the assets and liabilities at the time of issuance. For example, some CLOs include assets tied to 1MO LIBOR but have liabilities tied to 3MO LIBOR. In such a case, even though the Relevant Tenor Benchmark is 3MO LIBOR, we would want to trigger a Benchmark Discontinuance Event based on the assets switching to the 1MO tenor of a benchmark other than LIBOR. In transactions where such mismatch is contemplated, the bracketed language regarding any tenor of the Benchmark should be used instead

[14] The proviso is meant to cover any non-business days on which SOFR is not published, so that a rate is assigned for all calendar days within the period for the purposes of calculating Average SOFR.

[15] The transaction documents should include a provision specifically addressing how to handle a temporary discontinuance of a Benchmark (e.g., if [X] Month SOFR has not been published as of [*time*] on the Determination Date for such interest reset date and a Benchmark Discontinuance Event has not occurred, then [X] Month SOFR shall be [X] Month SOFR as published on the first preceding business day for which [X] Month SOFR was published).

"***Benchmark Discontinuance Event***" means the occurrence of one or more of the following events with respect to the Benchmark. The base rate of the securities will be re-indexed from the Benchmark to the Replacement Rate, on the next Determination Date (the "***Benchmark Discontinuance Event Date***"), following the earliest of:[16]

(1) the date set in a public statement or publication of information by or on behalf of the administrator of the Benchmark announcing that it has ceased or will cease to provide the Benchmark permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to provide the Benchmark;

(2) the date set in a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark, the central bank for the currency of the Benchmark, an insolvency official with jurisdiction over the administrator for the Benchmark, a resolution authority with jurisdiction over the administrator for the Benchmark or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark has ceased or will cease to provide the Benchmark permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to provide the Benchmark;

(3) the [fifth (5th)] consecutive business day on which a Benchmark is not published by the Benchmark administrator and such failure is not a result of a temporary moratorium, embargo or disruption declared by the Benchmark administrator or any regulator or relevant regulatory supervisor;

(4) the date on which the Asset Replacement Percentage is greater than [50]%, as reported in the most recent servicer report. For avoidance of doubt, once the securities are converted to the replacement rate, the securities will not be converted back to the previous Benchmark due to this clause (4).; or[17]

(5) the date which is [5] business days after the date of a published statement by the administrator of the Benchmark, or the regulatory supervisor for the administrator of the Benchmark that has the effect that such Benchmark is no longer representative or may no longer be used as a benchmark reference rate in new transactions;

[16] Note that the party responsible for monitoring whether a Benchmark Discontinuance Event has occurred will need to be identified in each transaction pursuant to the agreement of the transaction parties.

[17] This provision, if included in a transaction, should be tailored to the specifics of the transaction, including the structure of the deal and the nature of the underlying assets as well as the specific reporting mechanics (i.e., how it should be specifically calculated; who should calculate, notify and report the Asset Replacement Percentage; how often and on what date(s)). Additionally, if this trigger is to be included, it should only be included in transactions where both assets and liabilities were LIBOR-based at the time of the transaction. Please see the above discussion in Scope and Overview regarding the appropriateness of including this trigger. Further, parties should consider the applicability of such a trigger in the case of a transaction that where some, but not all, of the liabilities are tied to LIBOR.

provided, however, following the public statement or publication of information described in clause (1) or clause (2) above, the [Sponsor/Servicer/Independent Third Party][18] at its option may select any date within the [60] day period prior to the cessation date set by such public statement or publication and such date shall be deemed to be the Benchmark Discontinuance Event Date; provided, further, that (i) the [Sponsor/Servicer/Independent Third Party] shall be required to [represent/confirm] that such action is required to [ensure][facilitate] an orderly transition to the Replacement Rate, (ii) notice must be provided to the noteholders at least 30 days prior to such date selected by the [Sponsor/Servicer/Independent Third Party]; and (iii) at the time of notification to the noteholders provided in clause (ii) of this proviso, there is no successor administrator that will continue to provide the Benchmark.][19]

For the avoidance of doubt, to the extent the Benchmark in effect at any time is based on the Relevant Tenor SOFR pursuant to a prior application of clause (1) under "Effect of Benchmark Discontinuance Event", then the occurrence of any event as described in this definition with respect to the Relevant Tenor SOFR shall result in a Benchmark Discontinuance Event.[20]

NOTE: Implementation of triggers and replacement benchmark rates must be carefully considered and should occur in such a way that all changes are identical for all parts of a transaction. For example, if a deal includes a hedge, the triggers and replacement rates for the transaction should be identical to those included in the hedge so that there is not a mismatch between the two.

[18] In many instances, the Sponsor or Servicer (often one and the same) are best placed to make this determination (note: in certain deals the Sponsor might not exist for the duration of the transaction). In other deals, an independent third party may be best positioned to make this determination. In either scenario, one of the key mandates is to ensure value transfer is minimized.

[19] The proviso in this definition is not intended to serve as a standalone trigger but, instead, provides that the Benchmark Discontinuance Event Date for a Benchmark Discontinuance Event described in clause (1) or clause (2) may be triggered early upon the requisite representation/confirmation and notice. As this option provides for discretion as to when the trigger is hit, this should likely be limited to use by the party that has a need to switch on a certain date (e.g., out of certain operational concerns) rather than a third party service provider.

[20] The intent of this provision is to account for a situation where, for example, a transaction has switched from referencing 3MO LIBOR to 3MO SOFR and 3MO SOFR later becomes unavailable. This language clarifies that, for example, the failure to publish 3MO SOFR for five business days would result in a Benchmark Discontinuance Event. To the extent that term SOFR of bookending tenors are available at such time, the new Benchmark would be based on the interpolation of such tenors pursuant to step 1 of the fallback waterfall. If bookending tenors of SOFR are unavailable, the Benchmark would be determined pursuant to the later clauses of the fallback waterfall.

"***Compounded SOFR***" means, as of any Determination Date, the compounded average of daily SOFR, either (i) as published by the Relevant Governmental Sponsor for the Relevant Tenor or (ii) if not so published, then calculated according to the provisions describing the methodology for compounding as set forth in the definition of "USD-SOFR-COMPOUND" published by ISDA on May 16, 2018, using a Calculation Period that is the [X] month period ending on the day prior to such Determination Date.[21] [22] [23]

"Determination Date" means the second London banking day prior to the relevant interest reset date; provided that if a Benchmark Discontinuance Event has occurred, each following Determination Date shall be the second New York business day prior to the relevant interest reset date.

"Determination Time" means, with respect to any Replacement Base Rate or Replacement Floating-Rate Spread on any date, the time that such rate or spread is published on such date [or, if such rate or spread is not a published rate or spread, such time as is determined by the Calculation Agent.][24]

"Interpolated Term Period" with respect to SOFR means the rate per annum equal to the rate that results from interpolating on a linear basis between: (a) SOFR as determined for the longest period (for which such Benchmark is available) that is shorter than the Relevant Tenor and (b) SOFR for the shortest period (for which such Benchmark is available) that is longer than the Relevant Tenor, in each case as of the applicable Determination Time on the Determination Date. For the avoidance of doubt, Interpolated Term Period shall be inapplicable if the rates described in both clause (a) and (b) are not available.

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[21] The compound rate determined in accordance with the ISDA definitions involves looking back at prior rates. As such, there will be a lag in changes in the rates. As discussed above, consider whether calculating the rates in arrears would be a better option. Also, consider whether the benefit of eliminating the lag in the compound rate is offset by the rate not being known as of the Determination Date (as the compounding would be done throughout the period). Additionally, Trustee and Calculation Agents in the group have raised concerns regarding these calculations. They have expressed that they are uncomfortable performing such compounding calculations and would instead prefer a party with an economic interest in the transaction be the party to perform such calculations.

[22] The ISDA definition of USD-SOFR-COMPOUND may be found at: https://www.isda.org/a/kKHEE/Supplement-57-USD-SOFR-COMPOUND.pdf

[23] As indicated in the discussion points below some parties have noted that the average of overnight SOFR may be a calculation that is simpler for calculation agents to perform. Additionally, as indicated above, it will need to be agreed in each transaction which party will be responsible for performing any calculations in connection with a replacement benchmark. The Trustee Committee has also indicated that to the extent compounded SOFR is to remain in the fallback language, they would prefer that the calculations are explicitly described, rather than solely by reference to the ISDA definition. The Trustee Committee has observed that to the extent a Calculation Agent (in such capacity) is requested to agree to perform any of the calculations in connection with a Replacement Rate, such Calculation Agent may be reluctant to do so unless (i) such calculations are void of any discretion on the part of the Calculation Agent and (ii) such calculations are explicitly described in the transaction documents so that all market participants would be able to agree upon the required calculations.

[24] See open discussion point regarding calculation agents' desire to not have discretion in selecting the source of the Replacement Rate.

"***ISDA***" means the International Swaps and Derivatives Association, Inc. or any successor thereto.

"***LIBOR***" means, with respect to any given interest reset date, if a Benchmark Discontinuance Event has not occurred on or prior to the Determination Date for such interest reset period, shall be determined pursuant to the following provisions (in each case rounded to the nearest 0.00001%):

(i) On each Determination Date for such interest reset date, LIBOR shall equal the rate, as obtained by the Calculation Agent from Bloomberg Financial Markets Commodities News, for [X] month Eurodollar deposits that are compiled by the ICE Benchmark Administration or any successor thereto, as of 11:00 a.m. (London time) on such Determination Date.

(ii) If, on any Determination Date for such interest reset date, such rate is not reported by Bloomberg Financial Markets Commodities News or other information data vendors selected by the Calculation Agent, the Relevant Tenor LIBOR will be Relevant Tenor LIBOR in respect of the first preceding day for which the Relevant Tenor LIBOR was most recently published.[25] [26]

"***New York Fed's Website***" means the website of the Federal Reserve Bank of New York at http://www.newyorkfed.org, or any successor source.

"Relevant Body" means the administrator of the Benchmark, the regulatory supervisor for the administrator of the Benchmark, the central bank for the currency of the Benchmark, an insolvency official with jurisdiction over the administrator for the Benchmark, a resolution authority with jurisdiction over the administrator for the Benchmark or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark.

"***Relevant Governmental Sponsor***" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or by a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

"***Relevant Tenor***" means the maturity that corresponds to the relevant interest period.

"***Replacement Base Rate***" means the applicable base rate determined in accordance with "Effect of Benchmark Discontinuance Event" and which, for the avoidance of doubt, does not include the applicable Replacement Floating Rate Spread, if any.

[25] This definition is included as an example for illustrative purposes only. Industry participants should consider defining "LIBOR" consistent with market convention for their particular asset sector at the time of deal issuance. In this particular definition, we have removed the provision requiring the Calculation Agent to solicit bids from banks that is often seen in legacy deals. This was done because we understand that banks rarely, if ever, respond to such requests and as we are adding explicit provisions with respect to switching to an alternative reference rate. Additionally, we understand that ISDA is contemplating removing the requirement to solicit quotes from panel banks in their upcoming updates to the IBOR definitions.

[26] Note that trustees and calculation agents have indicated that they would prefer that they be provided direction for the sources of any rates (including LIBOR).

"***Replacement Floating-Rate Spread***" means, in respect of any interest reset date:

(1) if the Replacement Base Rate has been determined pursuant to clause (1), (2), (3) or (4) of the mechanics described under "Effect of Benchmark Discontinuance Event", then such spread shall be the base rate modifier that shall have been selected, endorsed or recommended by the Relevant Governmental Sponsor, as the spread, or method for calculating or determining the spread, which is necessary to be added to or subtracted from the applicable Replacement Base Rate to make it comparable to Relevant Tenor Benchmark, as of Determination Time on the Determination Date for such interest reset date, provided that:

(2) if the Replacement Base Rate has been determined pursuant to clause (5) of the mechanics described under "Effect of Benchmark Discontinuance Event", then such spread shall be, then the base rate modifier that shall have been selected, endorsed or recommended by ISDA as the spread, or method for calculating or determining the spread, which is necessary to be added to or subtracted from the applicable Replacement Rate to make it comparable to the Relevant Tenor Benchmark, as of Determination Time on the Determination Date for such interest reset date, provided, further, that:[27]

(3) in any event, [within X days after][following] (i) the determination of a base rate modifier pursuant to clause (1) or (2) or (ii) the date on which no base rate modifier has been able to be determined pursuant to clause (1) or (2), the sponsor may propose an amendment[28] to designate a base rate modifier or replace such base rate modifier (the "***Substitute Spread***"). Such Substitute Spread shall become the Replacement Floating-Rate Spread upon the execution of such amendment [SEE THREE ALTERNATIVE OPTIONS BELOW REGARDING WHETHER SUCH AMENDMENT SHOULD RELY ON AFFIRMATIVE CONSENT OF HOLDERS, WHETHER AMENDMENT WILL PROCEED UNLESS REQUISITE HOLDERS OBJECT TO SUCH AMENDMENT, OR WHETHER SUCH AMENDMENT MAY BE DONE WITHOUT ANY HOLDER CONSENT OR OBJECTION REQUIREMENTS]. [29] If a Replacement Floating-Rate Spread has been determined pursuant to clause (1) or (2) above, then [FOR USE WITH OPTION 1: prior to the execution of the amendment to effect the Substitute Spread][FOR USE WITH OPTION 2: (x) prior to the execution of the amendment to effect the Sponsor Selected Spread or (y) following rejection of the Substitute Spread by the requisite noteholders], the Replacement Floating-Rate Spread shall remain the spread as so determined pursuant to clause (1) or (2). If a Replacement Floating-Rate Spread was not able to be determined pursuant to clause (1) or (2) above, then [FOR USE WITH OPTION 1:

[27] Some parties have expressed concern that clause (2) in this definition refers to the method selected by ISDA and that such selection is not yet known. ISDA currently contemplates choosing between three different methods to determine the replacement spread: (1) forwards, (2) historical mean or (3) a spot-spread. In the absence of having such method known at the time of the transaction, some parties would prefer to leave out clause (2).Additionally, parties have raised concerns about the use of a spot-spread in determining the Replacement Floating-Rate Spread. Please see the SFIG Response to ISDA Consultation on this point generally.

[28] This provision will need to be adjusted depending on the specifics of the transaction to tie to the relevant amendment procedures and requirements (e.g., certain notice periods, opinion requirements, requisite directions to the trustee regarding solicitation of consents, etc.).

[29] Generally, changes to this amendment provision may need to be considered on a transaction specific basis. There are certain asset classes, e.g., mortgage loans in a REMIC securitization, for which this language may not be appropriate.

prior to the execution of the amendment to effect the Substitute Spread][FOR USE WITH OPTION 2: (x) prior to the execution of the amendment to effect the Substitute Spread or (y) following rejection of the Substitute Spread by the requisite noteholders] then there shall be deemed to be no Replacement Floating-Rate Spread.

OPTION 1 - CONSENT OF HOLDERS: on the Determination Date following the date on which a [majority of noteholders][a majority of noteholders that have responded to such consent solicitation] have provided their consent to such amendment [; provided, that the requisite noteholder quorum has been satisfied with respect to such consent solicitation].

OPTION 2 - HOLDER OBJECTION RIGHTS: on the Determination Date following the date that is X days after notice of the proposed Substitute Spread has been provided to noteholders unless a [majority] of noteholders have objected to such amendment prior to such date.

OPTION 3 - NO HOLDER CONSENT/OBJECTION RIGHTS: on the Determination Date following the date that is X days after notice of the proposed Substitute Sponsor-Selected Spread has been provided to noteholders. For the avoidance of doubt, no consent from any noteholder is required to execute such amendment to effect the selection of a Substitute Spread.

"Replacement Rate" means the Replacement Base Rate plus the Replacement Floating-Rate Spread, if any.

"***SOFR***" means the Secured Overnight Financing Rate as published by the Federal Reserve Bank of New York or any entity that assumes responsibility for publishing such rate; provided, that if, on any Determination Date for such interest reset date, such rate is not reported by the Federal Reserve Bank of New York or such successor entity, SOFR will be SOFR in respect of the first preceding day for which SOFR was most recently published.

Open Discussion Points

SFIG is currently considering other aspects of LIBOR transition and replacement, including evaluations of potential and proposed replacement rates and spread calculation methodologies. SFIG members' preliminary views on this topic are set forth in the recent SFIG Response to ISDA Consultation, which is enclosed in this document as Exhibit A.

As indicated in this Green Paper and the applicable accompanying footnotes, a number of items and proposals raised in connection with the development of this Green Paper remain under discussion. In particular, please note the below items, which have been discussed by the LIBOR Task Force but, as of the date of this publication, are currently unresolved. The below list is not an exhaustive list of open items, but is merely intended to highlight a number of important points for consideration. For a more detailed discussion of all open items, including but not limited to those listed below, please review the applicable footnotes in this Green Paper.

- Regarding the Substitute Replacement Rate:
    - Consider whether affirmative consent or objection rights should be included in determining whether such Substitute Replacement Rate shall become the Replacement Rate.
        - Would the required consents be from all noteholders (voting together), from certain classes of noteholders only (e.g., the controlling class or equity) or from a majority of each class of noteholders (voting separately)?
        - Would the votes be done on the basis of a majority of the relevant holders or on the basis of a majority of the relevant holders that have submitted votes, subject to a quorum?
    - Similarly, in the case of Option 2 (negative consent), consider which noteholders should have the right to object to such amendment.
        - Consider the enforceability and appropriateness of a negative consent provision in any given transaction.

- Regarding the Replacement Floating-Rate Spread definition:
    - Some parties have also noted that current market practice in CLOs and some other asset classes allows for the spread to be changed to be the spread used in a majority of similar new issue transactions. Consider whether such an approach should be included.
    - Related operational issues would need to be addressed in the transaction documents for each specific deal.

- Regarding step 2 of the fallback waterfall:
    - Consider whether Compounded SOFR or Average SOFR should be used. Step 2 currently contemplates using either approach. Many SFIG members have expressed concerns over the compounding calculation and indicated that an average would be simpler to calculate.

- Regarding step 3 of the fallback waterfall:
    - Consider whether this clause should be deleted. Presumably, if overnight SOFR is available, the Compounded SOFR would always be available. As such, this clause might be duplicative of step 2.

- How should this first version of the Green Paper address the question of which party should perform certain functions, including determining whether a trigger has been met, and determining which replacement rate is appropriate, and performing certain calculations? Should the Green Paper identify the responsible parties? Or should the Green Paper state that the party required to make the determinations and calculations, as well as related operational issues, be specified in the transaction documents for each specific deal.

- The **Trustee Committee** has expressed concerns that trustees (in such capacity) should not be responsible for (i) monitoring for or determining whether a Benchmark Discontinuance Event has occurred, (ii) selecting of a Replacement Rate, or (iii) performing the calculations required in connection with any Replacement Rate. Additionally, they have indicated that calculation agents should similarly not be responsible for (i) determining whether a Benchmark Discontinuance Event has occurred or (ii) selecting a Replacement Rate. Overall, the Trustee Committee indicated that as Trustees and Calculation Agents are merely acting as agents for the parties with economic interests in the transactions, material decisions or actions based on provisions that are discretionary or subject to multiple interpretations that could have an economic impact on the deal should instead be taken by one of the parties with economic interests in the deal.

- Regarding any reference rate or spreads generally, the Trustee Committee has indicated that the source(s) for such rates or spreads or the means for locating such sources should be specifically set forth in the applicable transaction documents. Currently, it is unclear as to where any such rates would be published. Additionally, the Trustee Committee has indicated that any such sources identified pursuant to the relevant transaction documents should be publicly available, objective and generally recognized in the market so that all transaction participants could agree on such rates and spreads.

EXHIBIT A

SFIG Response to ISDA Consultation

Attached on following pages

October 22, 2018

International Swaps and Derivatives Association, Inc.

Via online submission at: https://www.isda.org/2018/07/10/interbank-offered-rate-ibor-fallbacks-for-2006-isda-definitions

Re: Interbank Offered Rate (IBOR) Fallbacks for 2006 ISDA Definitions - *Consultation on Certain Aspects of Fallbacks for Derivatives Referencing GBP LIBOR, CHF LIBOR, JPY LIBOR, TIBOR, Euroyen TIBOR and BBSW*

The Structured Finance Industry Group ("SFIG")[1] appreciates the opportunity to respond to the International Swaps and Derivatives Association, Inc. ("ISDA") Consultation ("Consultation") on Certain Aspects of Fallbacks for Derivatives Referencing GBP LIBOR, CHF LIBOR, JPY LIBOR, TIBOR, Euroyen TIBOR, and BBSW.

SFIG is a member-based trade industry advocacy group focused on improving and strengthening the broader structured finance and securitization market. SFIG's core charge is to support a robust and liquid securitization market, recognizing that securitization is an essential source of funding for the real economy. While the comments expressed in this letter represent the consensus views of our broad membership, this letter does not necessarily represent the perspectives of all SFIG members. None of the recommendations expressed herein are binding on, or should be attributed to, any individual SFIG member, each of which will decide for itself whether and to what extent to submit individual comments in response to the Consultation.

SFIG views the Consultation as an important step in the overall process of transitioning globally from the various IBORs to new benchmarks representing market-based risk-free rates ("RFRs"). The Consultation seeks commentary on adjusted RFRs and related spread adjustments, which take into account key differences between the IBORs and the RFRs. The Consultation seeks commentary from all market participants, both users of derivatives and users of financial instruments that are hedged by derivatives. While the Consultation is limited to the IBORs listed

[1] SFIG is a member-based, trade industry advocacy group focused on improving and strengthening the broader structured finance and securitization market. SFIG's core charge is to support a robust and liquid securitization market, recognizing that securitization is an essential source of funding for the real economy. SFIG provides an inclusive network for securitization professionals to collaborate and, as industry leaders, to drive necessary changes, be advocates for the securitization community, share best practices and innovative ideas, and educate industry members through conferences and other programs. Members of SFIG represent all sectors of the securitization market, including issuers, investors, financial intermediaries, law firms, accounting firms, technology firms, rating agencies, servicers, and trustees. Further information can be found at www.sfindustry.org.

above, the Consultation requests preliminary views on the application of these concepts to other IBORs, including USD LIBOR.

Our response to the Consultation will be principles-based, as we anticipate making a more detailed and technically-robust response to the upcoming ISDA consultation addressing USD LIBOR. This letter focuses at a high level on the proposed adjusted RFRs and spread adjustments as they would replace various IBORs. Our perspective in these responses is not limited to the derivatives market, but rather takes into account the transition away from USD LIBOR in the cash markets as well, where USD LIBOR is currently used as a reference rate in approximately $1.8[2] trillion of securitizations. As importantly, USD LIBOR is used as the benchmark rate for approximately $4.7[3] trillion in business and consumer loans, such as mortgages, credit cards and student loans, many of which are the underlying financial assets backing those securitization transactions.

Given the very important role securitization plays in the U.S. economy, representing $2.4 trillion[4] or slightly over 33% of the nation's roughly $7.5 trillion of bond issuance in 2017 and approximately 55%[5] of household debt as of Q3 2017, it is imperative that the transition away from LIBOR for securitization transactions not cause a market dislocation, which could result in either a significant increase in the cost of credit and/or a reduction in credit availability for consumers or corporate borrowers. In addition, with more than $2 trillion[6] in small business loans, over $1 trillion[7] of home mortgages, and $100 billion[8] in other consumer loans based on LIBOR, many of which have a maturity beyond the 2021 deadline, it is important to ensure the transition away from LIBOR limits the impact to consumers.

1. Forward-Looking Term Market-Based Benchmark

Our comments in the following sections discuss the proposed adjusted RFRs and spread adjustments. However, none of those combined approaches provides a forward-looking term market-based rate, which is greatly preferred by SFIG members and elaborated on below.

LIBOR, as produced today, has several attractive attributes, including: (i) an indication of market participants' expectations about anticipated funding costs over a future accrual period; (ii) a rate

[2] Source: Federal Reserve Bank of NY, "Second Report of the Alternative Reference Rates Committee," March 2018.
[3] Source: Federal Reserve Bank of NY, "Second Report of the Alternative Reference Rates Committee," March 2018.
[4] Source: SIFMA
[5] Source: Moody's Investors Service, "Structured finance – US: Securitization remains major funding source for economy, while government still dominates housing and higher education", 15 Feb. 2018, p. 9, Sector In-Depth Structured finance – US.
[6] Source: Marketwatch, "How the End Of This Key Borrowing Rate Could Impact Mortgages and Other Loans", 28 June 2018, Robert Pozen-Adam Schneider
[7] Federal Reserve Bank of NY, "Second Report of the Alternative Reference Rates Committee," March 2018.
[8] Federal Reserve Bank of NY, "Second Report of the Alternative Reference Rates Committee," March 2018.

that is known at the beginning of the accrual period; and (iii) a rate that is produced using a substantially similar methodology across the various regions that produce IBOR. Ideally, we would like the replacement rate to have each of these features to the extent possible. Neither the compounded setting in advance nor the compounded setting in arrears provides a rate that is both forward-looking and known at the beginning of the accrual period; rather one reflects actual funding costs over a recent past time period on a lookback basis, and the other is not known until the end of the future accrual period.

The Alternative Reference Rates Committee ("ARRC") has a number of working groups that are developing LIBOR replacement fallback language for various types of cash products. These working groups are each independently moving towards a flexible LIBOR fallback "waterfall" with a forward-looking, term market-based RFR as the 'first choice'. See the following from a recent ARRC consultation:

> *The first priority for the Unadjusted Replacement Benchmark is a forward-looking term SOFR (e.g., 1-month SOFR, 3-month SOFR) that is selected, endorsed or recommended by the Relevant Governmental Body. While there is currently no commitment by a regulatory authority or third party to publish forward-looking term SOFR rates, the ARRC intends to endorse forward-looking term SOFR rates provided a consensus among its members can be reached that a robust, IOSCO-compliant term benchmark that meets appropriate criteria set by the ARRC can be produced.*[9]

Additionally, in SFIG's working draft of fallback language for new securitizations, the first fallback base rate to be used following a benchmark discontinuance event (including a cessation of LIBOR) would be the SOFR rate related to the tenor in question; i.e. **the forward-looking term SOFR over a period corresponding to the relevant interest accrual period.** This term SOFR would have been selected, endorsed or recommended by the Federal Reserve Board and/or the Federal Reserve Bank of New York ("NY Fed"), or by a committee officially endorsed or convened thereby (including the ARRC). Our expectation is that the NY Fed and/or the ARRC would not recommend a forward-looking term SOFR rate unless they were satisfied that such rate was sufficiently based on market transactions. If no such term rate is available then within our flexible fallback framework the next option would be some form of compounded SOFR, followed by a spot SOFR.

We also note that forward-looking term RFRs are contemplated in other markets as new benchmarks. As an example, the Working Group on Sterling Risk-Free Reference Rates' consultation on Term SONIA Rates recently closed, and the Working Group anticipates that term rates could be available in the second half of 2019. Edwin Schooling-Latter, head of markets policy at the UK's Financial Conduct Authority (FCA), recently stated at a conference organized by ISDA that he believes it will be possible to derive term rates without weakening the regulatory framework.[10]

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[9] ARRC Consultation regarding more robust LIBOR fallback contract language for new issuances of LIBOR floating rate notes, September 24, 2018

[10] See "Term versions of RFRs will work - FCA official", Risk.net, September 26, 2018.

We understand that the near-term development of derivatives contracts linked to some variant of term SOFR is needed to develop sufficient market data. Given that a true forward-looking term SOFR does not yet exist, the adoption now for derivatives of adjusted RFRs, such as compounded setting in advance and compounded setting in arrears, is a necessary step towards this ultimate goal. However, we believe that for derivatives contracts that reference LIBOR, the ISDA fallback language should not stop there.

We believe it could be very difficult to convert millions of floating rate consumer and business loans, worth trillions of dollars, from the current market convention of setting interest rates in advance based on forward-looking term rates to compounded overnight RFR either in advance or in arrears. Switching from LIBOR to either of these approaches would likely result in borrower confusion and frustration, for the reasons described in the following section.

SFIG thinks it would, therefore, make sense for the securities backed by these loans to also fall back to a forward-looking term RFR. Similarly, many market participants would then like derivatives to follow suit and allow for a fallback to a forward-looking term RFR. If not, basis risk would emerge in transactions that were appropriately hedged at deal execution, but following a trigger event have loans, bonds, and derivatives falling back to different reference rates.

We, therefore, recommend that ISDA implement a flexible fallback waterfall for USD LIBOR that prioritizes forward-looking term SOFR rates selected, endorsed or recommended as the replacement for LIBOR by the Federal Reserve Board and/or the NY Fed, or by the ARRC. Although these rates do not exist today, ARRC expects that such rates will be available ahead of LIBOR cessation.[11] A flexible fallback waterfall structure that allows the affected parties to replicate as closely as possible the pre-transition economics of a transaction and any related hedges would both support cash flow management and minimize market disruption.

Use of this flexible approach will avoid the market complexity and risks that are likely to be created if different fallback rates are employed for cash products and derivatives, and will promote consistency between cash products and derivatives, thus avoiding basis risk. It would also be in keeping with ISDA's long-standing practice of allowing the parties to a transaction to select specific terms (in this case, the fallbacks) in connection with disruption events that are tailored to that specific transaction.

2. Perspectives on ISDA's Proposed Approaches

In this section, we will provide general commentary on the proposed approaches for derivatives fallback language from a securitization perspective. As stated in the introduction to this letter,

[11] The ARRC's Paced Transition Plan calls for the development of derivatives contracts and futures trading that will reference SOFR. Trading in SOFR linked futures contracts on the CME began in May 2018. As these products become more and more widely traded, the Plan contemplates that by the end of 2021 (or sooner) there will be enough market data to be able to create forward-looking term SOFR rates based on market transactions.

however, we will keep our comments at a high level with an expectation of more fully addressing various approaches when ISDA issues a Consultation focused on USD LIBOR.

The ordering of the following discussion is not intended to convey a preferred ranking of the alternatives.

Adjusted Risk-Free Rates

- **Spot and Convexity-Adjusted Overnight Rates**

SFIG members, at this preliminary point, are leaning away from the spot and convexity-adjusted overnight rate approaches even though they offer operational simplicity, which could be an important consideration for some institutions. The spot overnight rate would reference the overnight SOFR rate on a specific day shortly before the start of an interest accrual period and apply that rate to the entire interest accrual period. Interest accrual periods on LIBOR-linked instruments generally are 1, 3, 6 or 12 months. On a day-to-day basis under normal circumstances, SOFR varies more than LIBOR does, and SOFR may also have a tendency to spike at or near the last days of a month or quarter. We are, therefore, concerned that spot overnight SOFR applied to an interest accrual period of 1 month or more would magnify these day-to-day changes and period end spikes over an extended period of time.

The convexity-adjusted overnight rate is derived from the overnight SOFR rate on a specific day shortly before the start of an interest accrual period, which is then applied as a single daily rate to the entire interest accrual period, with the difference being that the interest accruing each day in the accrual period is compounded. This compounding effect results in a higher rate than the overnight rate, and therefore moves closer to recognizing that term rates are typically higher than an overnight rate. But this approach is still derived from the SOFR overnight rate on a specific day, which when applied to an interest accrual period of one month or more would again magnify these day-to-day changes and period end spikes over an extended period of time. This magnification effect would be even greater due to the use of compounding.

- **Compounded Setting in Advance**

The compounded setting in advance approach uses an observation period equal to the tenor of the LIBOR being replaced, which ends immediately prior to the beginning of the interest rate accrual period for which the rate will be applied. This rate would smooth out the day-to-day fluctuations in the benchmark as well as period-end spikes. The major drawback with this approach is that it is based on backward-looking information. Unlike LIBOR, it would not take into account anticipated changes in market rates during the upcoming period. This approach could be viewed as acceptable over a shorter duration such as a one-month tenor, but might not be viewed as acceptable by market participants for longer interest accrual periods, such as 3, 6 or 12 months, because the rate would be based on stale information over an extended period. In a declining rate environment, borrowers would be disfavored; in a rising rate environment, investors would be disfavored. For borrowings with long tenors these effects may or may not offset each other over time, but, nevertheless, for any given accrual period the index would be based on stale information.

To the extent that this approach is not accepted in the cash markets, derivatives using this approach to hedge cash assets would be subject to basis risk.

- **Compounded Setting in Arrears**

The compounded setting in arrears approach uses an observation period equal to the tenor of the LIBOR being replaced, which is coterminous with the interest rate accrual period for which the rate will be applied. This rate also would smooth out the day-to-day fluctuations in the benchmark as well as period end spikes. Rather than prospectively taking into account anticipated changes in market rates during the interest accrual period, this rate would retroactively take into account actual changes in market rates during the interest accrual period by reason of its period-end calculation. In terms of accurately reflecting the RFR during the interest accrual period, some market participants might prefer this approach. However, for borrowers with floating rate debt linked to 3, 6 and 12-month tenors of LIBOR (and accustomed to knowing what their rates are in advance), we are concerned that this approach could result in confusion and frustration, and also could require substantial changes in servicing systems. For consumer adjustable-rate debt today, both the interest rate and the payment amount are established at the beginning of each accrual period. If a compounded setting in arrears approach were used, the rate could increase during the accrual period and any upward spikes in the rate during the accrual period would require either mid-period payment increases or a true-up at the end of the period. Either of these developments could be considered unacceptable features for consumer financial products. Corporate borrowers would likely also object to such features.

Again, to the extent that this approach is not accepted in the cash markets, derivatives using this approach to hedge cash assets would be subject to basis risk.

We also have the following technical comments on this approach:

- Instead of compounding, consideration could also be given to averaging over the interest accrual period and adding an additional component to account for the length of the accrual period.
- Inclusion of a lock-out period[12] might be needed to operationally support the "in arrears" methodology, otherwise Trust Administrators and Trustees will not be able to calculate the payment until the payment date.

[12] A lock-out period is a pre-defined number of days prior to the end of the interest period whereby the benchmark rate will be calculated over the relevant interest period up to that pre-defined number of days ("lock-out period") prior to the end of the interest period.

Credit Spread Adjustments

- **Spot-Spread Approach**

This approach observes the spread of the LIBOR being replaced over the adjusted RFR on a specific day or for a brief time period (up to one month) immediately prior to the conversion away from LIBOR. We believe that the spread between LIBOR and adjusted SOFR has and will vary considerably over time due to market condition and other factors. Historically, LIBOR has spiked considerably in times of financial stress. Therefore, we are concerned that the LIBOR-adjusted SOFR spread during the relatively brief observation time period prior to the announcement triggering the fallback will not necessarily be reflective of that spread over a longer view, and that any variances in the spread during that time period from historical norms would be magnified by applying that spread over the remaining term of the contract.

The greatest advantages of the spot-spread approach are its simplicity and its ability to maintain borrower interest expense at a steady level throughout the transition.

- **Historical Mean/Median Approach**

This approach could be a sound approach for a credit spread adjustment. We would offer the following considerations in developing this approach:

  - Using the historical mean, rather than historical median, may better take into account any spikes over the period.
  - The longest possible lookback period should be used, depending on the quality, comparability and availability of data. Ideally, at least 10 years would be used. The industry has access to a SOFR proxy going back several years. While SOFR's official publication only began in April 2018, in March 2018 the NY Fed released historical data based on its Overnight Treasury GC Repo Primary Dealer Survey Rate series that dates to 1998 as an approximate SOFR proxy (albeit with a number of technical differences[13])
  - From our perspective, further review of the quality and comparability of historical data is needed before we could recommend a specific lookback period.

- **Forward Approach**

While requiring more supporting infrastructure than the historic mean/median approach, we believe the forward approach could be feasible and achievable. The fact that the approach minimizes value transfer at the time of conversion is important. We would also note that if this approach is feasible, then the creation of forward-looking term SOFR rates based on market transactions should also be feasible. As to the specific questions posed:

[13] NY Fed, Statement Regarding the Publication of Historical Repo Rate Data, at https://www.newyorkfed.org/markets/opolicy/operating_policy_180309

- We would suggest that the forward approach be based on data from a brief period immediately prior to the trigger date so that the data be relatively current but avoid spike effects. We would suggest a one-month period.
- We would suggest that a 30-year forward curve would be sufficient for USD securitizations.
- We would suggest a flexible approach, so that if by the time of conversion it was determined that the term SOFR curve required for the forward approach was not available, the credit spread adjustment would then fall back to the historical mean/median approach.

3. General Questions Posed

Importance of the fallbacks being present value neutral at trigger:

We believe the transition to fallbacks should be approximately present value ("PV") neutral, with economic gains and/or losses minimized for all market participants. We believe this should be the case for tax purposes as well.

The assumption that PV neutrality can be achieved under the forward approach depends on whether deep and liquid term markets exist for IBORs and the corresponding RFRs (the IBOR curve and the corresponding RFR curve) at the time of trigger. If not, it would be difficult to build a robust forward spread path. In addition, the forward approach would require several assumptions and modeling decisions, for example, interpolation and extrapolation methods for the IBOR and related RFR curves, the difficulty of which should not be understated.

The historical mean/median approach to calculating the spread adjustment could also achieve PV neutrality. When and if ISDA recommends the historical mean/median approach, the actual spot LIBOR/SOFR basis would likely converge to the anticipated historical 10-year mean LIBOR/SOFR difference thus ensuring PV neutrality on the trigger date. The efficiency of the convergence would be dependent upon the amount of time in which the market could adjust to the target LIBOR/SOFR basis prior to the trigger and market consensus regarding the anticipated trigger date.

Importance of fallback rates being available in advance of accrual period:

As discussed above in this letter, for most cash products the fallback rate should be available at the start of the accrual period, at least for tenors longer than one month. While there have been a few debt issuances to date using SOFR on an in arrears basis, this approach might not be acceptable for tenors longer than one month for consumer assets generally as well as for the vast majority of corporate debt and floating rate notes. Accordingly, we recommend incorporating into the ISDA fallbacks, as the first priority, forward-looking term SOFR rates based on market transactions, if such term SOFR rates have been officially selected, endorsed or recommended.

4. Conclusion

While the dollar amount of securitizations and underlying consumer and business debt that is linked to LIBOR is relatively small compared to the size of the total LIBOR-linked derivatives market, the exposure still runs in the trillions of dollars. Currently, LIBOR is defined essentially the same in these cash instruments as in the derivatives market. We do believe that following a LIBOR termination, the cash markets will strongly favor a forward-looking term rate structure. As a replacement for LIBOR, we believe that a forward-looking term SOFR is a fundamentally different construct than the proposals contemplated in the Consultation, including compounded daily SOFR in advance or in arrears. We believe that alignment between the ISDA fallbacks and the cash market fallbacks is essential for the successful launch of SOFR, insofar as derivatives are used to hedge these cash market exposures. Accordingly, we strongly encourage ISDA to implement a flexible fallback waterfall for USD LIBOR that prioritizes forward-looking term SOFR rates selected, endorsed or recommended as the replacement for LIBOR by the Federal Reserve Board and/or the NY Fed, or by the ARRC.

SFIG appreciates your consideration of these comments and welcomes the opportunity to discuss further. If you have any questions about this matter, please contact Sairah Burki, Head of ABS Policy, at (202) 524-6302 or sairah.burki@sfindustry.org.

Very truly yours,

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