Alternative Reference Rates Committee

SOFR In-Arrears Securitization Conventions Matrix

Addendum to Options for Using SOFR in New ABS, MBS, and CMBS Products

November 2021

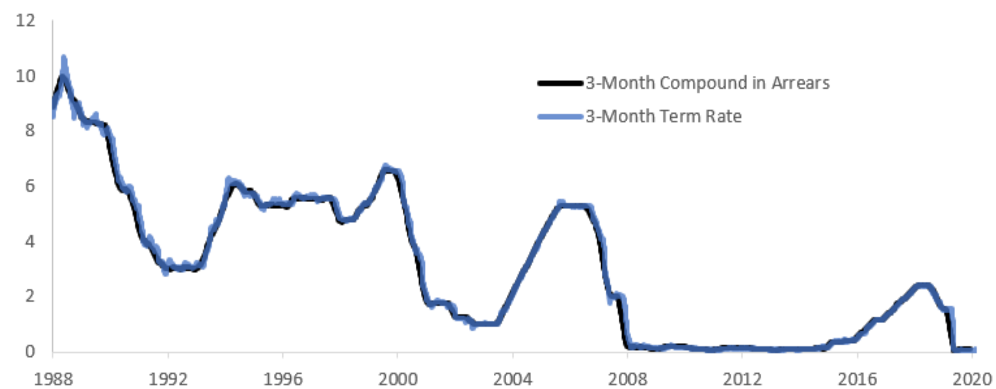
As described in the Options for Using SOFR in New ABS, MBS, and CMBS Products, the ARRC Securitization Working Group (SWG) extensively discussed how securitized products may be able to use SOFR. In March 2021, the SWG released a white paper describing one option for how new issuances of ABS products could use 30-day Average SOFR, with a monthly reset, set *in advance* of the interest accrual period. The SWG's development of an *in advance* option for market participants' consideration was driven primarily by aspects of the underlying collateral as well as operational complexities, identifying that traditional systems and processes may not be able to easily accommodate an *in arrears* approach. Observing that other cash products as well as foreign issuance of ABS have identified conventions for using *in arrears*, the SWG engaged in further discussion to determine how SOFR *in arrears* could be incorporated in U.S. issuance of ABS. Also of note, the ARRC supports the use of SOFR Term Rate for certain securitizations that hold underlying business loans or other assets that reference the SOFR Term Rate and where those assets cannot easily reference other forms of SOFR, as further explained in the ARRC Best Practice Recommendations Related to Scope of Use of the Term Rate.

This document is not intended in any way to mandate, prescribe, or limit the ways in which SOFR may be used in new securitized product issuances. Market participants, including those serving on the ARRC's Securitization Working Group, will determine for themselves whether and how SOFR can best be used in these new issuances. Accordingly, nothing herein is intended to be binding on any market participant or give rise to any legal rights or obligations of the ARRC.

Attributes	Explanation & Industry Participant Considerations
In Arrears Methodology	An *in arrears* payment structure references an average of the interest rate over the current accrual period. An average overnight rate set *in arrears* better hedges interest rate risk by reflecting what happens to interest rates over the period. The basis between *in arrears* and *in advance* conventions depends on whether interest rates happen to be trending up or down over a given period of time and how frequently payments are made. Rates can move more over a year than they would over a month. Therefore, when considering the difference between an *in*

	arrears and *in advance* rate, this will generally be small between months, but larger between years. **Considerations** • Industry hesitancy around the adoption of in arrears conventions for securitized products as discussed in the ARRC-released [Options for Using SOFR in New ABS, MBS, and CMBS Products](#). • Investors generally prefer returns based on rates over the full interest period while borrowers generally prefer to know their payments ahead of the payment obligation date. • According to Fed data, the Term SOFR rate should be economically equivalent to the compounded average of SOFR *in arrears* (see graph below)

Comparing Fed Funds Term Rate and Compound Arrears



Source: Federal Reserve Bank of New York; Refinitiv; Federal Reserve Board staff calculations

	• The below table shows a side-by-side comparison of compounded SOFR *in arrears* with a lookback, compounded SOFR *in advance*, and Term SOFR

	Next Payment Known at Start of Interest Period	Expected to Require Significant Systems and Operational Changes	Reflects Historical Realized Rate Fixings	Incorporates Forward Looking Market Expectations Over a Term	Payments Delayed Relative to Interest Period in which Rate Changes Occurred
Compounded SOFR In Arrears with Lookback	No	Yes	Yes	No	No
Compounded SOFR In Advance	Yes	No	Yes	No	Yes
Term SOFR	Yes	No	No	Yes	No

Adjustments for 'In Arrears' Framework

There are several adjustment options for *in arrears* frameworks including:

1. **Lockout** (the SOFR rates applied for the last days of the interest period are frozen at the rate observed *"x"* days before the period ends),
2. **Payment Delay** (the current SOFR rate for each given day in the interest period is used, with payment *"x"* days after the last day of the accrual period), and
3. **Lookback** (for each day in the interest period, the SOFR rate from "*x*" business days earlier is used).

Incorporating an *in arrears* framework will likely require one of these adjustment options. Considerations for each are summarized below:

- **Lockout:**
    - The rate used during the lockout period is not reflective of a rate based on current market activity and there may be a significant market event and/or volatility in SOFR during this period of time.
    - The calculation of the interest rate might be considered less transparent for borrowers and more

complex for issuers to implement.

- **Payment Delay:**
  - While a payment delay allows more time for payment while still reflecting the movements in interest rates over the full interest period, some investors may dislike any delay or potential for mismatches with other payments.
  - From an operational and credit risk perspective, a payment delay causes complex challenges unique to securitizations.
- **Lookback:**
  - When considering a lookback period, issuers will need to make their own risk assessments on whether they are comfortable with this period when taking into consideration required operational review, audits, and quality control. A longer lookback period provides additional time which is valuable from an operational standpoint and when reconciling and processing both asset and liability cash flows.
  - If the lookback period crosses over a month-end, ABS investor reports cannot be finalized until after corporate accounting close. Reprocessing and verification of these investor reports will be required on transactions with interest periods covering more than one month. Reprocessing the reports closer to the payment date adds additional complexity.

The deliberation over the length of time of the lookback was the most significant of all attributes discussed:

- Investors prefer the shortest lookback period possible to fully achieve the benefits of the *in arrears* approach. Many expressed dissatisfaction with a lookback period longer than 7 days. Some investors expressed the view that a lookback period beyond 7 days for a monthly-pay instrument would be less attractive than using an *in advance* approach.

  - Other cash products currently use shorter lookback periods. For example, in consideration of the ARRC SOFR FRN Conventions Matrix, floating-rate notes (FRN) market practitioners advise that FRNs tend to have a lookback period of 2-3 business days. In consideration of the ARRC SOFR "In Arrears" Conventions for Use in Bilateral Business Loans, business loan market practitioners advise that business loans might consider a 5-business day lookback period. Securitized products in the UK use

	SONIA in arrears with a lookback period of 5 business days. • Some issuers suggested that a 15-calendar day lookback period would allow for a reset to occur on the last business day of the prior month, with a payment distribution on the 15th, negating the ABS investor report concern. • At a certain point, longer lookback periods essentially act as, or get economically closer to, an *in advance* structure. For example, an *in arrears* with a prior month end lookback would be viewed and act the same as *in advance* set at the prior month's end.