

Statement from the Working
Group
and
Summary of Responses to
Discussion Paper on
Conventions for referencing
SONIA in new contracts

The Working Group on Sterling Risk-Free Reference Rates

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Statement on behalf of the Working Group on Sterling Risk-Free Reference Rates – Conventions for referencing SONIA in new contracts

The Working Group on Sterling Risk-Free Reference Rates (the 'Working Group') published a discussion paper addressed to market participants considering how to reference SONIA in new contracts in March 2019.¹ The discussion paper also invited market participants to provide feedback to support the specific transition work programmes. The Working Group gives thanks to the 27 contributing respondents. The aggregated summary of responses is in the appendix to this statement, and will be discussed in the Working Group's forthcoming meetings.

The discussion paper captured the most significant conventions identified at the time by the Working Group and provided information intended to support market participants in their preparations for adoption of SONIA, as well as infrastructure providers and calculation agents in their system development. Since publication, market participants are continuing to engage in SONIA-referencing transactions, using the compounded in arrears with a lag approach in new SONIA floating rate notes as well as in new SONIA-referencing securitisations.

The Working Group would like to take this opportunity to consolidate the responses to the discussion paper and provide further information for market participants' consideration on SONIA referencing conventions across bonds, loans and derivatives. In doing so it aims to further support template documentation and liquidity in SONIA referencing products.

Summary

Many respondents cited a desire for close alignment of conventions between the derivatives and cash market, with some responses noting that this was the most important consideration. The Working Group considers it sensible to align with existing OIS market conventions where possible:

Convention	OIS	Bonds	Loans
Day count	Interest accrual is ACT/365 (fixed)	Interest accrual is ACT/365 (fixed)	Usually ACT/365 (fixed)
Business day convention for payments	Modified Following	Modified Following	Usually 'Modified Following'
Rounding of SONIA rate	4 decimal places at the end of the compounding period ²	New SONIA-linked bonds may be rounded to 4 decimal places at the end of the compounding period	4 decimal places at the end of the compounding period may be used
Lag	No lag in payment	5 day period seen as sensible for most	Variable lag approach, coalescing to 5 day period where achievable
Margin treatment	N/A	Margin should be added after rate compounding	Margin should be added after rate compounding

¹ [Discussion Paper: Conventions for referencing SONIA in new contracts](#).

² As per [Supplement number 55 to the 2006 ISDA Definitions, section 7.1 \(vii\)](#).

The existing interest convention in the OIS market³ is compounded average settled in arrears, as has been used in all SONIA bond and securitisation transactions to date, and has more recently been seen in some SOFR-referencing bond transactions. The formula for compounding interest using SONIA is:

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{\text{SONIA}_i \times n_i}{365} \right) - 1 \right] \times \frac{365}{d}$$

Where

- d_0 = the number of London Banking Days, in the relevant Calculation Period/interest period.
- i = a series of whole numbers from one to d_0 , each representing the relevant London Banking Days in chronological order from, and including, the first London Banking Day in the relevant Calculation Period
- SONIA_i = for any day " i " in the relevant Calculation Period, is a reference rate equal to the daily Sterling Overnight Index Average (SONIA) rate as provided by the administrator of SONIA to, and published by, authorised distributors of the rate as of 9:00 a.m., London time, on the London Banking Day immediately following that day " i "
- n_i = the number of calendar days the daily rate of SONIA_i is held in the relevant Calculation Period. On most days this will be 1. But on a Friday it will generally be 3 to hold this rate constant over the weekend. Over public holidays, the last business day of SONIA will be held constant, until the next working day (i.e. n_i will be 4 over the August Summer Bank Holiday weekend in 2019 to hold the Friday 23 August SONIA rate until business resumes on Tuesday 27 August).⁴
- d = the number of calendar days in the relevant Calculation Period

Bond market conventions

The SONIA bond market has been using compounded in arrears with a lag convention. When compared to the alternatives of simple averaging and lock-out, respondents to the discussion paper recognised that compounding in arrears with a lag is better aligned with operational processes of the floating rate note market and is easier to implement in electronic systems.

On the basis of the responses received, the 5-day period used for the lag in the SONIA bond market is viewed as sensible by the Working Group. Respondents stated that it balances the need to capture realised movements in SONIA with a suitable period to complete operational processes, i.e. it incorporates 3 days to calculate interest accruals and has minimal convexity impact.

Respondents highlighted that a consensus must be reached on the number of decimal places to which compounded SONIA for new SONIA-linked bonds should be rounded at the end of the compounding period. Cited options included rounding to 4 or 5 decimal places. Consistent with the suggested alignment with existing OIS market conventions, the Working Group considers that it would be reasonable for compounded in arrears SONIA in new SONIA-linked bonds to be rounded to 4 decimal places at the end of the compounding period. This would also align with the definition of the SONIA benchmark.⁵ Respondents mentioned that adding the margin after the compounding of the rate is preferred. Compounding the margin by comparison is considered as introducing

³ As per [Supplement number 55 to the 2006 ISDA Definitions, section 7.1 \(vii\)](#).

⁴ Consistent with the explanation provided in the [Financial Stability Board's user guide on overnight risk-free rates](#).

⁵ As described in the [SONIA Key features and policies, the](#) statement of methodology explains that the benchmark is rounded to 4 decimal places.

complexity in systems and process for limited added value. The Working Group considers that this is a reasonable view.

Loan market conventions

The majority of loans are designed to be non-tradable products and have relatively less standardisation when compared to FRNs. As a consequence, there is a pre-existing diversity in lending approaches and operational processes. Respondents recognised that a compounded in arrears approach can be used for most loan products, given SONIA is comparatively predictable to perform cash flow forecasting with relative precision. The Working Group agrees with this position and highlights that the first SONIA-referenced loan used a compounded in arrears with a lag approach.⁶ In respect of the lag, it considers that a 5 day lag would have benefits in the loan market similar to that in the floating rate note market, but there will also be situations where the lag may need to be different.

When balancing needs for cash flow forecasting and capturing realised movements in rate, flexibility on the period of the lag is necessary to optimise for non-uniformity in terms of drawings, interest periods, and prepayments. It is also necessary to allocate sufficient time to calculate the payment, notify parties, and collect the payment. Based on respondents' views, the length of the variable lag should be viewed as a range starting from 1 day through to the full interest period. The Working Group calls on infrastructure providers to now engage with market participants and to have regard to these views, as they accommodate the aforementioned diversity already existing in the loan market.

For those market participants seeking to hedge a loan compounded in arrears with a lag, derivative solutions such as a SONIA swap with a lag may be used. SONIA swaps with lags can be used for effective hedging and risk management by increasing the period of the lag to match. As mentioned in the discussion paper, central clearing houses have indicated their willingness to clear such swaps if there was sufficient demand in the market. The responses to the discussion paper indicate that such demand exists. The Working Group therefore encourages central clearing houses to make the clearing of SONIA swaps with lag features available at the earliest available opportunity.

The Working Group also recognises that respondents did not seek variability on conventions such as day count, business day, decimals, and margin treatment. Therefore, it would seem appropriate to have consistency with existing OIS. The Working Group also notes the consensus observed in floating rate notes to add the margin after the compounding of the rate.

⁶ [The first SONIA-referenced loan](#) was offered by NatWest to National Express and announced on 1 July.

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High-level summary of common responses provided to the Conventions discussion paper

- Conventions that are consistent across products and currencies would be desirable, and developing standardised agreements and contracts may facilitate this.
- Due to the system upgrades required to calculate compounding in arrears, and possible expense this may incur, some market participants would benefit from a flexible publicly available calculator.
- Although consistency across conventions in the loan market may be desired, it may not be critical to have all conventions across all loan products be consistent in the transition from LIBOR to SONIA. For example, the length of lags may differ.
- Respondents highlighted the need for further outreach and education to the broader market, notably to:
 - demonstrate practical worked examples for compounding and lag mechanisms; and
 - provide educational content for more technical points.

Question 1: Does there need to be further explanation of the considerations for conventions for referencing SONIA set out in this discussion paper?

1. In respect of the SONIA-referencing bond market, the majority of respondents agreed a consensus was developing towards the conventions of compounding in arrears with a lag mechanism. It was recognised that this approach has alignment with the existing operational processes in the floating rate note market and with conventions in the SONIA swap market, which uses compounded in arrears. The alternatives of simple averaging and lock out are considered less aligned (and would therefore make hedging more difficult), as well as being more difficult to implement in systems.
2. Where respondents opined on margin treatment, they agreed with applying it after performing the compounded calculation. Including the margin in the compounding calculation is thought to introduce complexity for minimal added value.
3. Feedback also highlighted that a consensus must be reached on the number of decimal places for rounding SONIA. Cited options included either 4 or 5 decimal places and referenced consistency with either Treasury Gilt conventions, 2006 ISDA Definitions or the OIS market.
4. Respondents were of the view that more detailed content for market participants should be produced to promote international standardisation in floating rate notes. Feedback noted:

- a. Further explanation around the differences in approach taken for interest rate calculation between lag mechanism and lock out mechanism may be beneficial.
- b. Further clarity on choosing between the mechanisms of lag and lock out might be aided by referencing the operational life-cycle in the floating rate bond market to demonstrate how processes are impacted by the modifications in timing. For the lag mechanism, the tasks between Agent Banks and the International Central Securities Depositories in particular may highlight relevant factors to further aid standardisation of the period of the lag.

Question 2: Given the considerations outlined in Section 2 of this discussion paper, are the conventions being used in the SONIA-referencing bond market (as outlined in paragraph 12 of this discussion paper) suitable for the loan market? Please explain your answer.

5. Recognising that for some segments of the loan market a forward-looking term rate may be necessary, for the broader loan market, respondents stated that a backward-looking approach could also be used. Cash flow forecasting could be performed with relative precision given the comparative predictability of SONIA.
6. Respondents stated a preference for the loan market to be consistent with the derivative market and the floating rate note market by having compounded in arrears with a lag, instead of simple averaging and lock out. It was confirmed that end users are also showing signs of demand for a loan compounded in arrears with a lag, and draft documentation is being prepared on this basis.
7. A number of considerations were provided in respect of the period of the lag:
 - a. A short lag, for example 3 days, may be preferable for hedging purposes to reduce the gap with SONIA OIS and lower the risk of mismatches. Arbitrage risk would also be lowered, particularly in loans with rollover periods of less than a month.
 - b. A lag longer than 5 days may be more appropriate for some borrowers to accommodate interest calculation and associated practical preparations like approvals and sign offs, and operational cash management for potential shortfalls.
 - c. The length of the interest period may be indicative of the lag length to apply. For example, quarterly interest periods may be able to use 5 days but may be excessive for monthly interest periods.
 - d. Flexibility on the period of the lag may be suitable to reflect the various types of lending arrangements in terms of drawings, variable interest periods, and prepayments. However, in the absence of guidance this may create ambiguity that gives rise to basis risk and operational issues.
 - e. Having the option for a lag equal to the length of the entire interest period (i.e. a compounded in advance approach) would allow for the interest calculation at the start of the period.
8. The following feedback was also given on how to support transition in the loan market:
 - a. Further work to develop clear best practices would ease adoption.

- b. Further explanations and worked examples on the lag mechanism and how it applies when considering hedging, early termination and mid-period breaks.
- c. Cross-currency alignment to facilitate loan administration departments handling loans across different currencies.

Question 3: Are there any infrastructure considerations to the conventions outlined in this discussion paper that need to be particularly highlighted? Please explain your answer.

- 9. Most respondents highlighted a desirability for consistent conventions across products and jurisdictions insofar as possible to encourage simplicities in approach that, in turn, would promote more supportive conditions for effective system development.⁷ The alignment of conventions between the derivative market and the cash market is considered necessary to have more effective pricing and hedging models. But respondents noted the importance of retaining flexibility and variability in systems too. For example, loan systems that can support some variability in lag for end users who need either a longer or shorter period than 5 days.
- 10. A widely available calculator to construct SONIA compounded in arrears is viewed as an important tool to facilitate transition. It would enable those with less sophisticated system capabilities to be able to accurately calculate a compounded rate. There was demand from respondents for such a calculator to have easy functionality allowing users to set start and end dates, and to have the flexibility to support variable lag periods.
- 11. The following feedback was also provided on system development:
 - a. The ability to calculate daily accruals under the compounding in arrears approach is a common infrastructure consideration across products.
 - b. End-users may need to increase their data storage capacity when upgrading systems in order to use the compounding approach.
 - c. The lag mechanism is comparatively easier to implement in systems than a lock out mechanism.
 - d. Further consideration and clarity is desired with regard to SONIA conventions and the long-term contingency for SONIA to align and support SONIA fallback arrangements, and allow developers to minimise the need to implement adaptive infrastructure.
 - e. Any dependent systems would also need to be updated. For example, in the loans market any updates to loan processing systems would also need to be fed into reliant systems such as general ledger software and finance systems.
- 12. It was suggested that timelines to implement system changes could be supported by end-users ensuring that their current systems are up-to-date in order to more easily facilitate the necessary risk-free rate amendments/upgrades. In particular, it was noted that introducing risk-free-rate calculations into Treasury Management Systems may be predicated on having the latest technology.

⁷ For example the calculation methodologies, business day counts and decimal places.

13. Some feedback noted that limited availability of risk-free rate based systems has meant some end users are unable to participate in SONIA trading, despite increasing demand. For example, one end user was cited as being in testing phase of referencing SONIA in their derivatives, after having spent two months upgrading their systems.

Question 4: What more could be done to further encourage market adoption and awareness of the SONIA conventions outlined in this discussion paper?

14. To encourage the adoption of SONIA in markets which have seen limited transition, respondents recognised there were a number of barriers faced by market participants in order to transition away from LIBOR. Feedback acknowledged that reducing some of these barriers to transitioning and aiding adoption may be within the market's ability, notably these included:
 - a. The central clearing of SONIA swaps with lag features should be offered at the earliest available opportunity to facilitate transition in the swaps market.
 - b. Template documentation for SONIA loan issuances to facilitate transition in the loan market and to promote confidence in the robustness of SONIA loan products.
 - c. The publication of fallback language for SONIA referencing products.
15. Corporates could be encouraged to adopt overnight SONIA rates if they were made more aware of developments in SONIA products, and suitable products for use by corporates were more regularly offered. This would need to extend beyond individual products, as corporates require coordinated offerings i.e. a loan product as well as an effective hedging product.
16. Respondents suggested that further work evaluating the benefits and drawbacks of conventions across currencies could be undertaken by international risk-free-rate working groups. This could provide a number of conclusions, for SONIA and other RFR currencies, such as clarity on preferred/agreed conventions across markets and agreed use cases for differing conventions, which could encourage consistency across jurisdictions and avoid unnecessary system fragmentation.
17. The publication of a SONIA compounded screen rate across maturities, was viewed as a useful tool which could further aid the adoption of overnight SONIA. Feedback suggested that a widely accessible single observable rate may provide market participants the confidence to use compounded rates, particularly as it would provide a verifiable source. Although it would prevent users from having to undertake complex manual calculations, it was noted that screen rates should not replace the availability of compounding SONIA calculator, which gives a better understanding of how rates should be constructed.
18. To increase awareness of SONIA developments and encourage the broadest degree of transition from market participants, feedback noted a more targeted communications approach and appropriate education material was required to reach retail customers and smaller commercial entities. It was suggested that both the Working Group and official sectors could play a role here.

Question 5: Are there any additional considerations or conventions that this discussion paper has not identified which might be relevant to SONIA adoption?

19. Feedback suggested that consistency of conventions across jurisdictions as well as across products would help the broader transition to risk-free rates, so more work may be needed to support this. In particular, further work to align conventions for cross currency swaps was viewed as necessary to aid the migration of cross currency derivatives to risk-free-rates.⁸
20. Respondents noted that standardised conventions across products could further support liquidity in SONIA-linked securitisations, as the alignment in terms would reduce basis risk and promote higher credit ratings.
21. Some feedback also noted that the use of a compounded in arrears rate may give rise to challenges in Islamic finance transactions, and we would look to understand this further.

⁸ Noting that, since the deadline for feedback on the SONIA conventions discussion paper closed, the ARRC has published a [report](#) detailing preliminary considerations for interdealer cross-currency swap market conventions when using RFRs. This report was developed in cooperation with several other national working groups, including the Sterling RFRWG.