



BANK OF ENGLAND

Supporting Risk-Free Rate transition through the provision of compounded SONIA

Responses to the February 2020 Discussion Paper

These are the responses to the questions posed in the February 2020 [Discussion Paper: Supporting Risk-Free Rate transition through the provision of compounded SONIA](#).

The summary of this feedback and the Bank of England's response is set out in: www.bankofengland.co.uk/-/media/boe/files/paper/2020/supporting-rfr-transition-through-the-provision-of-compounded-sonia-summary-and-response.

Edits have only been made to responses to remove identifying details.

Question 1.

Do you support the Bank producing a SONIA Compounded Index?

Yes. We support the Bank producing a SONIA Compounded Index to provide greater clarity in simplifying the calculation of a compounded rate over a given period which will provide independent transparency and confidence to our customers.

Yes. [The respondent] believes that that the publication of SONIA averages and index by BofE would be useful across products and for different types of market participants. [The respondent] anticipates that this publication would be particularly beneficial to smaller market participants, who may not have the resources to build and maintain their own compounding and indexing tools.

Yes. The Bank should play pivotal role for widespread implementation and use of SONIA and this index is the right way to showcase its commitment to SONIA and the economy.

Yes. We fully support the proposed SONIA Compounded Index. This will help expedite the transition to Compounded SONIA. Our overall view is that the proposed SONIA Compounded Index is a great step towards helping the market transition to Compounded SONIA. It increases the transparency regarding the calculation of compounded SONIA.

Yes. This would be a very helpful way to impose harmonization between new cash loans and will make it easier for all to calculate rates, without possible debate on the methodology and result (as of today, there could be as much methodologies as calculation agents resulting in market fragmentation). To us, this is really a solution to many open issues. Last but not least, we also support any initiative trying to harmonize the development of any new Benchmark among jurisdictions. In this case, this one is consistent with the approach taken by the Federal Reserve Bank of New York regarding the publication of SOFR Averages and Index Data, which already started on March 2, 2020.

Yes. We do support the publication of a SONIA Compounding Index. While its use has yet to be endorsed by clients, we feel it could be helpful in certain market/client segments. We can envision products making use of the index but have not yet noted significant demand.

Yes. [The respondent] supports the Bank of England producing a SONIA Compounded Index.

Yes. It will enable compounding calculations to be simplified to thousands of people in financial markets

No. Commercial lending contracts allow the borrower to prepay principal at any time. This includes during what will be the compounding period for RFR contracts. While the intent of the index is to simplify the calculation of interest over a billing period, the prerequisite is that principal remains constant throughout the lending period. Or that if principal is prepaid, the exact interest associated with that prepayment amount is paid concurrently. While that may be common practice for some lenders in the SONIA market, it is certainly not standard in most other markets, such as the SOFR market. If principal does change within the period up or down (without adjusting the interest balance), the index calculation is quite inaccurate. The introduction of an index has the significant potential to further confuse and frustrate borrowers as to when it is and is not applicable.

Yes. It is noted in the paper that Compounded index provides a reasonably accurate calculation and that it aligns to the interest period of the underlying loan tenor. As Trade Finance tenors are linked to individual trade transactions and may not have set periods, Compounded Index looks to be more suitable. Further, if the wider lending and derivatives market adopts compounded index methodology, it makes sense to align trade finance. Note that trade finance solutions will generally require a forward looking term rate. However, some sophisticated customers may selectively choose daily overnight rates and manage their interest rate risk using hedging products and derivatives markets, hence requiring market alignment.

Yes. We strongly support the Bank producing a SONIA Compounded Index.

Yes. The Firm is supportive of the Bank producing a SONIA Compounded Index.

Yes. We support Bank of England initiative on this topic. Creation of SONIA compounded index will further assist the industry in GBP LIBOR transition and also our wider customer base. We are of the view Bank of England should consider the development and publication of an additional index rate with “floor” for negative interest rates. We believe there are a significant number of loans which contain a “floor” in their documentation which states that the underlying rate will not drop below zero.

Yes. We support the introduction of a daily SONIA Compounded Index by the end of July 2020. From a loan market perspective, we believe this would be a very positive development in helping establish common conventions for compounded in arrears loan transactions and hence promoting more widespread SONIA adoption. The benefits of a Compounded Index as a single, trusted 'golden' source are well-articulated in the Discussion Paper and, as noted, there is a global consistency benefit in having a common calculation methodology with other daily Compounded Indices (e.g. SOFR and SARON). Whilst there are challenges for the loan market in operationalising the Compounded Index and for system providers to incorporate the Index in their build requirements, the provision of the Compounded Index should help accelerate this work.

Yes, [the respondent] supports the Bank producing a SONIA Compounded Index, both for use as a relatively simple “golden source” and for the consistency in application of SONIA in arrears compounding that will hopefully follow its publication. We agree that an index would benefit many individuals for whom SONIA is relevant but who do not have sufficient expertise in financial markets to easily calculate SONIA compounded in arrears themselves.

Yes. We support the publication of SONIA Compound Index, which would facilitate the adoption of the SONIA, in particular, by smaller market participants to consumer products.

Yes, [the respondent] believes that a SONIA Compounded Index, published by an administrator such as the Bank of England, is a positive step forward to accelerate the adoption of SONIA as the primary reference rate in sterling markets. A SONIA Compounded Index may provide simplicity for participants wishing to calculate compounded SONIA rates using a golden source of data and also flexibility for participants wishing to calculate compounded SONIA rates over broken date periods. Additionally, a SONIA Index published by the Bank of England will be consistent in approach with the Federal Reserve Bank of New York, who began publishing a compounded SOFR Index at the start of March 2020. We think that global consistency with regards to the tools that may encourage adoption of new benchmarks is a positive development.

Yes. [The respondent] notes that there is a risk that the publication of an index and period averages may undermine existing FRN and Derivative conventions. This could detract, rather than enhance the development of liquidity if not carefully managed.

Yes. We are pleased that the Bank has decided to produce a SONIA Compounded Index as this is something we previously called on the Bank to do. The many smaller institutions within our membership, many with LIBOR linked loans, have no treasury department and often no finance director. The ability to independently verify the interest that a bank is charging your organisation is a significant step in ensuring that this transition is not discriminatory, The Compounded Index should enable this process to exist.

Yes. A Sonia compounded index provided by BOE using a common methodology will be deemed trusted source that can be adopted and applied across the industry. To be able to refer to BOE will give credibility when communicating with customers.

Yes. We agree that it would make it easier to calculate rates and ensure consistency.

Yes. We support the proposal for the Bank of England (the “Bank”) to produce a SONIA Compounded Index. There is a strong market demand for a “golden source” of information for a compounded SONIA rate, and for the Bank to be that “golden source.” The production of such an index would simplify processes and standardise market conventions which would help with the transition from Sterling LIBOR to SONIA. A transparent, public source of information of a compounded SONIA rate would also increase trust in and use of compounded SONIA products. Smaller firms and individuals who cannot easily calculate a compounded rate themselves can simply refer to the published SONIA rate for information. We do not expect the SONIA Compounded Index to drive liquidity away from existing SONIA-linked bonds. We see this as the evolution of the SONIA market, leading to increased overall volumes and liquidity. Further, this would align with recommendations from the US Alternative Reference Rate Committee.

Yes, as it would be a helpful standard convention.

Yes. I am a keen supporter of the index method, having publicly advocated for its use since May 2019. The use of an index would make the new benchmark rate approachable even to people who do not have a financial background. Most people are familiar with the use of indices to measure price inflation in general as well as for specific items. The stock exchange uses indices from which performance is derived and sometimes annualised. This familiarity of the general public with indices leads me to believe that it should be easy for most to understand and to use an index to measure the time value of money. Other benefits include saving computing power by reducing the number of calculations and necessary inputs for a single coupon period; reducing the potential for computing mistakes and resulting disputes; offering full flexibility to compute coupons for non-standard coupon periods which is often the case for multiple drawings on a loan. Another major benefit from the use of an index is the ease of calculating accrued interests for accounting and reporting purposes. Lastly, multinational companies often swap debt across multiple currencies or borrow on a multi-currency basis. These companies will often request that multiple business day calendars are combined when setting the start and end of both coupon periods and payments. These multiple calendars would often include the location of their head office (to avoid bothering employees on a non-business day) and some of the financial centres in which they also borrow, such as New York and TARGET2, in order to harmonise payment dates across their various borrowings. The index method once again provides enough flexibility to adapt to such non-standard request.

Yes. This would be a practical and helpful step, and would support LIBOR Transition.

Yes. Compounded Index will be a very useful tool, mainly for non-expert activities as retail bank. Moreover having a third party calculating index will avoid calculation discrepancies and make easier the operational appropriateness of SONIA.

Yes. We fully support the Bank producing a SONIA Compounded Index. This is a helpful step towards the availability of a standard SONIA index, published by a trusted source and aligns with SOFR development.

Yes. This will support wider adoption of SONIA in the corporate lending space.

Yes. [The respondent] welcomes the Bank's production of a SONIA Compounded Index as it would support transparency and ease of use in certain markets that do not generally conform to strict product conventions.

Yes. We support the production and publication of a daily SONIA Compounded index. This will enable market participants to figure out interest due on their products and help them to monitor the approximate level of any final interest payment in the days before a payment is due. We would also propose the Administrator providing an independent calculator with variable parameters to allow market participants to use a standard calculation method and tool.

Yes. Our members are very supportive of the Bank's decision to produce a SONIA compounded index and would like to thank the Bank's continued efforts on LIBOR transition. SONIA compounding currently tends to produce varied results from different calculation approaches. As a result there would be considerable benefits to the Bank publishing data and calculations using a common methodology. The benefits would include supporting financial institutions in the design and updating of products and systems, and providing end-users with a trusted golden source to reference. We anticipate the index will also be helpful in facilitating communications with customers, providing a single reference point to explain the calculation of interest payments, based on the same data set across the industry. The index would also support a smoother transition by reducing some of the operational challenges that could have arisen from the use of different calculation methodologies. We note that the Bank plans to publish this index by the end of July. If feasible, we would welcome the publication at an earlier date to facilitate the market moving to a single reference point. In addition to the SONIA compounded index, [the respondent] recommends the Bank of England considers the development and publication of an additional index rate which will provide calculations that are compatible with negative interest rates. We believe there are a significant number of loans which contain a "floor" in their documentation which states that the underlying rate will not drop below zero. In order to enable these borrowers to validate their interest calculations in such circumstances, it would be very beneficial for the Bank of England to produce an additional index that addresses these scenarios. Ideally, this additional index would perform a daily test that would provide a calculation which, when the rate is below zero, supports adding a zero to the current compounded rate and rolling it on to the next day. We note there may be a small number of cases where neither index produces the right calculation

(for example, in mid-term payments and mid-term corporate actions), but we believe these instances can be resolved through ongoing education. If the Bank of England approves of this concept, [the respondent] would be very happy to provide support in the development of the index.

Yes. It would provide a respected, single source of the truth for all Banks to use, potentially helping to increase consumer confidence in rates being used. It helps to remove some complexity from the process, reducing the risk of compounding calculation error.

Yes. There is too much operational risk associated with each market participant calculating their own compounded rate to calculate an amount of accrued interest between two dates. We absolutely need a single reference of the compounded index available to all and published by Bank of England.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Question 2.**Do you have any comments on the Bank's proposed design of the SONIA Compounded Index?**

[The respondent] is supportive that the design of the index should exactly match that of the SOFR index so there is consistency across Risk-Free-Rate indices

Bank should implement data of SONIA Compounded Index in such a way that fintech companies and other open banking companies are able to use the API for consumer benefit in their Apps and web based sites. Various tools needs to be designed for making compounded SONIA adoption successful in short time.

Zero Floor SONIA Compounded Index proposal - A large number of loan contracts have a zero Floor; we therefore recommend the Bank to publish a second Index representing zero floored SONIA Compounded Index. Without the zero floor SONIA Compounded Index it is not possible for market participants, especially for borrowers to use an Index if SONIA was negative. Also if there is a global consistency across 3 major currencies (GBP, USD & EUR), it would help the market to transition from LIBOR, especially for multiple currency contracts.

We note the need for the industry to converge on a minimal lag period ("observation shift") for products that would adopt SONIA compounded in arrears.

No - we agree

We support an 'observational shift'.

We will note the disadvantage of the mismatch with the products where observation-lag as chosen as the standard method for calculation, but the index may still offer a valuable simplification for certain product areas. We also note that it would be useful to consider negative rates in the product design (i.e. the production of an index that allows the incorporation of daily zero floors, possibly present in certain loan agreements).

No. The proposed design is considered non-controversial.

May need care over how many significant figures or decimal places to use. Some uses will have very large numbers.

We note that the Bank of England proposes a design for the SONIA Compounded Index very similar to the one used by the Fed to produce the SOFR Compounded Index; and we would highly appreciate consistency across currency zones. That being said, we would like to make three comments: (1) We observe that the Bank of England proposes to use higher precision – i.e. 10 decimals – for the published index than the precision used by the Fed. We do not see the difference highly consequential, though we see the 10 digits precision marginally more helpful. If, as it may become the standard over time, the SONIA-linked interest payment and accrued interest calculations were to be based exclusively on the Index (instead of using, in any way, the series of daily SONIA fixings), what seems perfectly feasible and, in our view, desirable, then "the Index is what it is", and thus both 8 and 10 digits precision could work smoothly, without generating reconciliation issues between methods using the Index versus using directly the underlying daily fixings. (2) We have noted that the Bank of England proposes calculating the level of the daily Index with higher precision than what will be actually published, and the proposal is to compound the additional daily SONIA fixings on the top of that "precise" internal, externally not observable representation of the Index; while published will be the rounded version of that internally more precise figure. As a consequence, it will be more difficult to precisely reproduce externally the published index series, unless the external observer builds the entire time series, starting from 1.0000000000 on 23/04/2018 and using all the daily SONIA fixings thereafter. We note that the proposed approach to rounding may marginally reduce the transparency of the Bank of England's calculus. An alternative could be to consider the Index, for the calculation of the next day's Index, being equal to the figure actually published; thus compounding the new SONIA observation on the top of the actually published, 10 digits precise Index (rather than on the top of a more precise, but externally not observable figure). This issue impacts, from time to time, the last digit of the produced Index, and it is therefore not very consequential from a financial perspective; though it may require a conscious methodological choice to leave it this way. (3) We understand that, mirroring the Fed's methodology, the Bank of England is planning to publish a SONIA Compounded Index for every London business day. As an internationally active institution, we find this approach sub-optimal; and we would propose for the Bank of

England to consider the alternative of publishing the Index for every calendar day. The key rationale behind is that, in particular in an international context, accrued needs to be calculated for days which may not be business days in the UK (or, for that matter, in the US etc.), even if on those days no payment may need to be made (in GBP, USD etc.). In other words, we suggest the Bank of England to COMPLEMENT the proposed Index series with (linearly) interpolated Index realizations imputed for all those calendar days that are not London business days, while keeping the Index realizations as under the proposal for all the days that are London business days. While this interpolation could as well be done by the users of the Index, it would unhelpfully complicate the calculus, its documentation and IT implementation, and may risk to undermine the advantages of the unique golden source approach, which have been the motivation for the project, in the first place. On the other hand, an extended SONIA Index defined for every calendar day would allow for all existing calculation approaches resulting in the exact same coupon and accrued on any UK business day, while it would allow for calculating accrued also on any other day. Ideal would be international harmonization for using such complete-calendar Index series, which can be used around the Globe without crucial dependence on local business calendars of particular jurisdictions. Thus, ideally, this completion of the Index series for all non-business days should extend also to the SOFR Index, to the prospective €STR Index, as well as to all the major similar compounded daily rate indices. Our understanding is that this issue is being discussed e.g. in the context of the ECB potentially considering production of a similar index.

I do not agree with the paper's premise that the index would be beneficial.

Compounded Index solution can only apply to trade finance products with an interest in arrear calculation. Additionally using a backward looking calculation closer to the maturity of a loan may not be enough. A key requirement is the ability to accrue interest on a daily basis. We understand that the industry has developed a methodology on the back of compounded index to enable daily accrual of interest for a loan. We need regulator endorsement of the calculation and an evaluation that the same can be deployed in a less disruptive and more cost effective way for the trade finance industry when compared to the daily compounding of RFR.

We support the proposed design. We strongly support the Bank's proposed 10 decimal places and would request the Bank to encourage the SOFR Index to also move to a 10 decimal place Index. The Index has a lot of advantages. It provides an independent 3rd party source which means it is transparent. It is simple to calculate; it helps with daily accruals and calculations of portions of interest which are important both for accounting and also mid period events such as prepayments and transfers. It does not matter what the interest period is or whether the observation period is of different length to the interest period. We would be in favour of the Bank also publishing a secondary Index reflecting a zero SONIA floor to support loan transactions with a zero benchmark floor.

Compounded Index solution can only apply to trade finance products with an interest in arrear calculation. Additionally using a backward looking calculation closer to the maturity of a loan may not be enough. A key requirement is the ability to accrue interest on a daily basis. We understand that the industry has developed a methodology on the back of compounded index to enable daily accrual of interest for a loan. We need regulator endorsement of the calculation and an evaluation that the same can be deployed in a less disruptive and more cost effective way for the trade finance industry when compared to the daily compounding of RFR.

The proposed design in the Firm's view provides a reasonable framework for calculating the index. We are satisfied with index design principles i.e. simplicity and wide utility.

We are supportive of the Bank's proposed design for the SONIA Compounded Index. One specific element of operationalising the daily Compounded Index for the loan market that would need to be addressed though is the need to accommodate loan facilities that may have a daily SONIA zero floor (i.e. if the daily SONIA rate is negative, the rate is floored at zero for the loan). Many current loan facilities operate with an equivalent LIBOR zero floor. Daily SONIA zero floors in loans would need to be accommodated with a separate 'Zero Floor' Compounded Index whereby the daily SONIA rate is floored at zero on any day the SONIA rate is negative. Such a 'Zero Floor' SONIA Compounded Index could greatly assist the loan market. It is noted that the structure of a 'Zero Floor' Compounded Index may depend on decisions around the choice of any observation shift supporting compounding conventions in the loan market.

[The respondent] supports the Bank's proposed design of the SONIA Index. We have one minor suggestion, which is that it should be clear to users which dates they should be using to calculate interest relevant to

them for interest periods (i.e., should they use the index on day T or T-1 when their contract stipulates interest is calculated “up to but not including DD/MM/YY”).

Yes. Some financial transactions use non-business days as the start or end dates of their interest rate periods. We therefore suggest the Bank of England consider to publish the “SONIA Compounded Index Start” and “SONIA Compounded Index End” (as defined in a PDF file we will send separately), which enables the calculation of a compounded SONIA over a period from any calendar date (including non-business days) to another. The “SONIA Compounded Index Start” and “SONIA Compounded Index End” would be useful for a certain segment of the market which might opt to use non-business days as the start or end dates of interest rate period with the “Delayed Payment” convention. We do acknowledge that these might not meet the Bank of England’s “simplicity” design principle.

[The respondent] notes that the design of the Index will make it compatible with products that use a ‘shift’ mechanism for their interest reference and interest payment structure, and not compatible in products that use a ‘lag’ mechanism. While cash products such as FRNs and securitisations that reference SONIA have so far used a ‘lag’ mechanism, per the consultation, we understand that these markets may move to the ‘shift’ mechanism. In which case, designing the Index with a ‘shift’ mechanism provides alignment across products and with the U.S., who also use this approach.

[The respondent] supports a consistent approach with other global indices that help build trust and liquidity in risk free rate product usage. We are supportive of the proposed index including rounding to 10 decimal places.

[The respondent] supports the Banks proposed design of the SONIA Compounded Index.

We support the Bank’s proposed design of the SONIA Compounded Index. It appears that the design of SONIA Compounded Index is drawn heavily from the methodologies underlying the SOFR and ISDA standards of composite indices. We support consistency in conventions across rates and jurisdictions.

The rounding levels at each level are undefined which gives rise to uncertainty. We would welcome more explicit information on when we round, and to what amount of decimal places. We would also urge the Bank of England to publish the SONIA Compounded Index sooner than July so that system testing can take place as soon as possible.

The Bank is trying to minimise differences between the results produced by compounding each individual SONIA rate published in the period and by those calculated from SONIA Compounded Index values. In order to do so, we should also take into account the possibility of high rates. When using 10 decimal places, the number of differences rises significantly from the current 0.1% of cases to approximately 1.0% of cases when SONIA reaches above 20%. Using 11 decimal places would reduce those differences ten-fold, and 12 decimal places would make the occurrence of differences virtually nonexistent. Since users of the index are likely to copy and paste the data electronically, I would assume that publishing the index to the 12th decimal place should make things more difficult for many.

We agree with the proposed design, and note that the “Observation Shift” convention is similar to that used in other markets. The alignment of this shift to the planned SOFR index is positive. It is also in line with the way the SONIA market has been heading, and will assist in convergence of SONIA market conventions.

Used in conjunction with a shift methodology in the loans market could result in challenges with hedging arrangements, with the derivative market not using the shift approach

Yes, we are supportive of the proposed methodology, including: • Actual/365 (which is in line with the Sterling LIBOR today) • 10 decimals on the rounding • Observation 'shift' convention (which is in line with that of SOFR and SARON Compounded Indices)

Is the intention that for club and syndicated lending, the index should would be the go-to solution for agreeing rates, rather than using the daily compound methodology which is widely adopted in the wholesale market today?

It is important to have harmonisation with other major currencies’/Countries’ approach to their overnight rate LIBOR alternative. This avoids confusion, inconsistency, and would encourage adoption and

developments of solutions, as participants are less likely to “wait and see” what happens.

We agree with the approach and appreciate that it is the same method adopted by the Fed in production of the SOFR Compounded Index. The provision of compounded indices and consistency in approach is required across RFRs.

Question 3

Do you think that the Bank should produce SONIA Period Averages? If no, please explain why. If yes, which of the three options for determining the start date of the reference period do you prefer, and why?

Suggested calculation methodologies are:

Option 1 – Reference periods of exactly 30, 90 and 180 days

Option 2 – Reference periods of exactly 1, 3 and 6 months

Option 3 – Reference periods of 1,3 and 6 months, adjusted to start on a business day

Yes. Although [the respondent] will not use period averages, they may be useful for the industry.

Yes. Option 1 in line with NY will be viewed impartial especially in post brexit London where it will have to compete globally but also with EU.

No.

- No, we do not believe this will be useful as (1) few end dates may have multiple start dates (2) given the Compounded Index simplifies the compounding calculation and is flexible with regards to the start and end date (3) cannot be used if the interest period is other than 1, 3 and 6 months.
- Certain market participants who are less sophisticated might find this beneficial if the Bank can publish SONIA Period Averages for each applicable start date. We understand that this will be challenging.
- If majority of the participants believe this is useful, we recommend Option 3 – Reference period of 1, 3 and 6 months, adjusted to start on a business day. This is consistent with the conventions for majority of the contracts.

Yes. This will also help as an alternative to the daily index, in a less important way though.

No. We do not currently see a robust reason for the publication of period averages. The primary reason is that calculation periods are often uniquely defined across transactions and as such a single method chosen may have limited applicability

Yes. Potentially useful for the retail market, with the publication of 1,3, and 6 month averages making it a lot simpler for less sophisticated market participants to look up a simple interest rate instead of performing a calculation.

Yes. I'm much less bothered about period averages. They will rarely be used for any instrument, but they will be very useful as reference touch points - if we want to chart data on how rates have moved over time etc. We do need some basic tools like this.

No. We are not aware of any critical need by any major group of wholesale market participants for such Period Average series; though we cannot categorically exclude the potential existence of such needs by stakeholders. Our understanding is that the discussions of loan-side stakeholders are gravitating towards expressing a preference for and actually confirming the practicability of loan products using directly the SONIA Compounded Index. In view of these developments, our opinion is that unless there is a very strong reason, i.e. a critical need for such further time series (in addition to the SONIA Compounded Index), it may be preferable NOT to produce the Period Averages, in order to avoid methodological bifurcation and the resulting unhelpful increase of complexity, without any material advantage expected from such competition between financial standards serving the same purposes.

Yes. For banks that desire to continue with a simple interest calculation albeit with rates that are a bit stale, a compounded in advance rate would be meaningful.

No. SONIA Period Averages will not work for trade finance solutions as the transaction tenors are linked to the underlying trade transaction / trade cycle and may not be aligned to set periods. Extrapolation will result in inaccurate calculations and will not be in the interest of the customers. Some products where the tenors align to set periods may adopt this methodology. However, the question of daily accrual of interest will still need to be addressed. Backward looking period averages cannot be used as a replacement of forward looking term rates as they will simply introduce basis risk if deployed for interest in advance (discounting) products. Additionally we would still require term premium adjustment whether we use a period average or a simple RFR for such products. We believe availability a term RFR is critical for trade finance industry.

No. We are not particularly in favour of SONIA Period Averages at this time. Whilst conceptually helpful, in

particular for compounded in advance methodology (which has a number of problems), we do not think at this stage they will help with the good progress that has happened so far in development of SONIA cash products which have been developing to focus on observation shift (whereas publication of an Index will help here). Publication of averages could therefore cause fragmentation and confusion in the market. In addition, publication of averages create issues for calculation of daily accruals, due to the mismatch in period duration - this is very important both for accrual accounting and also for calculations of portions of interest where there are mid period events such as prepayments and transfers. Period averages will not match the swaps market (or FRN market) which will create confusion / inefficiency. In summary, in our view, period averages add complexity i.e. additional functionality, drafting, reconciliation without adding any obvious simplification or benefit versus the index which is helpful in all cases. We note that Period Averages may be helpful to non-financial counterparties who may use LIBOR as reference rates in commercial contracts and whilst we envisage counterparties could move directly to SONIA, if non-financial counterparties feel unable to move directly to SONIA, then Period Averages may be of use.

No. SONIA Period Averages will not work for trade finance solutions as the transaction tenors are linked to the underlying trade transaction / trade cycle and may not be aligned to set periods. Extrapolation will result in inaccurate calculations and will not be in the interest of the customers. Some products where the tenors align to set periods may adopt this methodology. However, the question of daily accrual of interest will still need to be addressed. Backward looking period averages cannot be used as a replacement of forward looking term rates as they will simply introduce basis risk if deployed for interest in advance (discounting) products. Additionally we would still require term premium adjustment whether we use a period average or a simple RFR for such products. We believe availability a term RFR is critical for trade finance industry.

No. We can see merit in these being published however because of the variety of conventions etc. this may lead to confusion.

No. We do not have a strong view on the proposed set of SONIA Period Averages but believe these are unlikely to be of much use to the loan market. Indeed, their existence may be unhelpful in introducing elements of confusion to the clarity of the Compounded Index which has much more intrinsic value. As such, we would at the least urge a clean separation in how the SONIA Compounded Index is introduced relative to any SONIA Period Averages that are likely to have a much more limited use case.

Yes. [The respondent] considers that none of the suggested options for publication of SONIA Index Averages are preferable. However we outlined a proposal in a separate response which would be helpful.

No. With respect to the conventions for calculating the compounded rate, we support the "Delayed Payment" or the "Observation Shift" convention so that the underlying economics of the overnight indices can be reflected better. We do not support the publication of SONIA Period Average because it could impede the adoption of "Delayed Payment" or the "Observation Shift" convention. We are not necessarily against the publication of an indicative SONIA Period Average, which could be published not for the purpose of being referenced in financial transactions

Yes. [The respondent] supports the publishing of daily SONIA Period Averages, which may provide accessibility for participants who are looking for a golden source of data for compounded SONIA rates calculated over standardised tenors. While we do not have a pressing commercial need to use these rates, they may be useful for participants who want to build familiarity with the behaviour of term SONIA rates over time, which in turn may lead to increased adoption of compounded SONIA in arrears in commercial contracts. Therefore, we would be happy to support their use in the market as and when they are adopted commercially.

No. At the margin – no. We understand that at a theoretical level the period average approach adds a level of transparency. However, we believe that use of an index as described in the consultation covers all possible uses and reduces additional complexity that may be created with the development of a period average. In addition, the publication of an index in isolation would further enhance index usage on a consistent basis across the industry. In the event that a period average were to be published, [the respondent] makes the following comments:

- A. Departure from other jurisdiction methodologies further complicates system design and risk mitigation. This could lead to confusion for customers with multiple currency exposure using this index.
- B. That said [the respondent] believes there are flaws in the Fed Model which we highlighted in the response to their consultation, particularly related to performing interest accrual calculations prior to the

reference period starting; and, an inability to replicate the period average rate using the published index when the start date falls on a weekend.

No. [The respondent] does not, at the present time, have a firm view on whether SONIA Period Averages should be calculated. It is possible that this information may be of benefit to our smaller members. However, with more information to deal with, it may add to further confusion, in an already complicated area for some organisations. Due to these unprecedented times, we have not had an opportunity to discuss this with our smaller members. We would therefore like to request that the Bank ensures it engages with smaller organisations to establish if there is a need for SONIA Period Averages.

No. We consider a single common approach through the compounded index to be preferable to introducing choices and complexity.

No. We do not oppose the production of the SONIA Period Averages. However, we question the utility of the SONIA Period Averages and do not expect them to have material use in financial instruments. At most, we can see it being used for informational purposes on how the rate has trended over a period of time.

No. It is our view that SONIA Period Averages would be problematic for the following reasons: • SONIA Period Averages will not cover every single permutation of start and end date required by clients and converting a SONIA Period Average into a meaningful metric suitable for a specific start and end date would be a highly complex and manual process; • SONIA compounded averages will be produced in different ways through different systems (eg, Bloomberg will also be producing SONIA compounded averages) which will make their application confusing; • There are potentially a number of ways of calculating SONIA Period Averages in terms of how the compound is executed over bad business days and/or start/end dates; and • SONIA Period Averages would not be amended in contracts as the SONIA Compounded Index offers more flexibility. As a result, we believe that clients will prefer SONIA Compounded Index which will ultimately make SONIA Period Averages redundant. Conversely, the SONIA Compounded Index would provide clarity and conformity in the market and thereby a solution to the above-mentioned problems associated with SONIA Period Averages.

No. I would strongly discourage the Bank from publishing SONIA Period Averages. SONIA Period Averages are likely to create confusion to non-experts as to which set of data should be used, and then how it should be applied. In addition to the numerous complexities already listed by the Bank in its Discussion Paper, I would add that SONIA Period Averages would not be of use to the vast number of borrowers who need to include more than one business day calendar for the calculation of their coupon periods. Assuming that SONIA Period Averages were to become the norm, they could lead to unintended consequences, such as the impossibility for some borrowers to use multiple business day calendars thereby creating additional complexities in their own cash management, payment and reporting systems. Moreover, assuming Term-SONIA rates were to be published at some point, there would be further confusion between the backward-looking and the forward-looking sets of rates, being published simultaneously although not obviously in the same database. Once again, I believe publishing SONIA Period Averages would be counterproductive to the widespread adoption and use of the new benchmark. It could even make life more difficult for the companies we are trying to support.

Yes. The production of SONIA Period Averages would be helpful, in particular for reducing operational risk from any internal manual calculations and for consistency with the Federal Reserve Bank of New York's publication of 30-, 90-, and 180-day SOFR Averages. Indeed, this may help support convergence towards inter-product and geographical consistency. The Discussion Paper states that "Were the Bank to publish a set of period averages we would require sufficient market consensus on how to define the reference period ... in the absence of a clear market consensus it is likely the Bank would choose not to publish period averages at this time" (paragraph 55). Market consensus around the specifics of the application of compounded SONIA in arrears is still evolving in a number of areas, and the extent to which this process will be impacted by the global coronavirus pandemic is not yet fully understood. Should the Bank consider that there is not currently 'sufficient market consensus' in all areas, it may nevertheless be prudent to keep questions about the publication and composition of SONIA Period Averages open to periodic review, should sufficient market consensus develop, and in order to further support LIBOR transition.

Yes. We support the Bank producing SONIA period averages. This is likely to be helpful to borrowers that may be less able or have less resources to fully understand and operationalize their interest payments.

Yes. This could support wider adoption of SONIA in the corporate loans market however the set tenors may limit wider adoption across the market

Yes. [The respondent] thinks that the Bank should move forward with the production of SONIA Period Averages.

No. Although a very small minority of our members believed there would be value in the Bank producing SONIA period averages, the vast majority did not believe period averages would provide any real practical benefit. We also note there are diverging views regarding which periods should be selected to produce such averages, and market conventions are likely to differ, adding further complication to their potential use. We therefore do not believe the Bank needs to produce SONIA period averages

Yes. Producing SONIA Period Averages should help support a smoother transition from LIBOR, where we have customers that SONIA is the appropriate choice.

Yes. While we would expect that the majority of market participants would use the compounded index, the provision of compounded SONIA over certain periods may be helpful to some less sophisticated market participants and clients.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Option 1. Recommended fixed 30, 60, 90. This option is consistent with the methodology adopted by the Federal Reserve Bank of New York for calculating SOFR averages.

Option 1. Standardise and used by FED and also most consumer friendly to understand.

Option 3 is consistent with the conventions for majority of the contracts.

Option 3. We note that in the interest periods are unlikely to be exactly 30, 90 or 180 days. Option 1 may be useful in fixed rate loans and bonds but option 3 is the most appropriate for the loan market.

Option 1. Reference periods of exactly compounded 30/90/180days – consistent with the SOFR index
 Option 3. We prefer option 3, reference periods of 1, 3 and 6 months, adjusted to start on a business day. We believe fixings should be London Business Days.

Option 3. To us, [option 3] is the closest option to what we have today.

Option 3 would be the preference as least divergent with other markets i.e. the period does not start on a non-business day. This would be followed by option 1, noting that this is SOFR convention, and may be

useful to provide approximation for less sophisticated market participants.

Option 2. These will be reference rates - the business days doesn't matter, interest accrues at weekends anyway. I think '3 months' not '90 days'. But I am not v concerned between any of these.

Option 3. This flexibility [within option 3] would create the most benefit for contracts that can begin on any business day in a period.

No option selected. Yes, we think the Bank should produce SONIA Period Averages but would not recommend using any of the three options. Our view is it would be preferable to use 1m/3m/6m periods starting on a specific date, rather than ending on a specific date. This would ensure that there is a SONIA average published for every start date / end date combination that rely on Modified Following. Of the three options, it would be preferable to use option 2 or 3. With option 1 a 30-day average would not necessarily capture every day of a given month (i.e. it could miss the 31st day of the month) and may overlap with two calendar months (e.g. the 30-day average for February). In addition, it is fairly uncommon for financial instruments to define periods based on a number of calendar days. Having said this, the fourth option defined above is ultimately our preference.

Option 1. The Firm supports the 30-day, 90-day, 180-day convention which is consistent with the convention used by the Federal Reserve Bank's approach for its publication of the SOFR index.

No option selected. We do not have a strong preference.

Option 1. Regarding which start date we prefer, our choice is Option 1, which is the calendar day approach. This approach aligns with the U.S. Period Averages, which may prove beneficial for users comparing SONIA & SOFR period averages over time. Calendar days may also provide the simplest form of period calculation and provide an ease of understanding for a wide range of users. We think that 30, 90 and 180 day tenors are the right ones to use as these are popular durations for contract terms and align to the 30, 90 and 180 day SOFR Period Averages used in the U.S. Adding shorter tenors may detract users attention from the pertinent tenors most relevant for transition away from LIBOR; adding longer tenors may also detract attention from the focus tenors but moreover, due to the backward nature of these averages we find that longer tenors may not provide as much of a use case.

Option 3. Therefore, [the respondent's] preference would be option 3 with the following caveats:

- i. Calculation of the start date should be performed on a modified preceding basis. This would more closely replicate the interest period that starts on this day and looks for an end date on a modified following basis.
- ii. For end dates, where multiple start dates are possible the earliest start date should be used in all instances. This will eliminate any issues performing system accruals where the interest period has started but the reference period has not. We note it is not possible to be 100% accurate in all instances but feel this is the best way of managing these outcomes.

Option 1. We have a slight preference for option one with regard to determining reference periods.

Option 3. It is our view that Option 1 and Option 2 have no application in our contracts. As a result, we prefer Option 3 but we believe it to be too complex especially as our own internal calculator applies a more simplified version of Option 3.

Option 3 is the most sensible to reflect a 1, 3 or 6 months coupon period. This is because 1- an adjusted coupon period will start on a business day and end on a business day; and 2- it would be difficult to replicate borrowing at SONIA on a non-business day with a cash instrument

Option 1. The production of SONIA Period Averages would be helpful, in particular for reducing operational risk from any internal manual calculations and for consistency with the Federal Reserve Bank of New York's publication of 30-, 90-, and 180-day SOFR Averages. Indeed, this may help support convergence towards inter-product and geographical consistency. The Discussion Paper states that "Were the Bank to publish a set of period averages we would require sufficient market consensus on how to define the reference period ... in the absence of a clear market consensus it is likely the Bank would choose not to publish period averages at this time" (paragraph 55). Market consensus around the specifics of the application of compounded SONIA in arrears is still evolving in a number of areas, and the extent to which this process will be impacted by the global coronavirus pandemic is not yet fully understood. Should the Bank consider that

there is not currently 'sufficient market consensus' in all areas, it may nevertheless be prudent to keep questions about the publication and composition of SONIA Period Averages open to periodic review, should sufficient market consensus develop, and in order to further support LIBOR transition.

Option 3. This option is closer to current treasury and derivatives products convention and will facilitate the hedge of the contracts referencing directly the compounded average period SONIA.

Option 1. We have a preference for Option 1 (reference periods of exactly 30, 90 and 180 days), as this aligns with the plans for calculating and publishing SOFR period averages. We do note that Option 1 will likely not provide an exact fit for legacy contracts when they are transitioned to SONIA, but are of the view that this doesn't present a material challenge as such legacy contracts will need to be amended anyway. Related to this, we request that the Working Group on Sterling Risk Free Reference Rate, working closely with the UK authorities, provides guidance on alignment of the length of observation period and interest period, so that these become industry conventions and be standardized as the market transitions to SONIA. For example, if the index provides for a 90-day observation period, the interest period should also be a similar 90-day period, instead of the using the current market practice of referring to a 3-month period.

Option 3. Simplicity of adoption for corporate lending

Option 3. Our preferred option for determining the start date of the reference period is "Option 3 – Reference periods of 1, 3, and 6 months, adjusted to start on a business day". A significant consideration of this selection is the default use of the 'Modified Following' calendar convention in swap transactions governed by the ISDA Definitions. These swaps may be used to hedge certain risks associated with cash product issuance; a divergence in conventions would introduce additional basis risk between related products.

Option 1. We do not have a strong preference on how the start date should be determined though there may be some merit in aligning to what currently happens in the bond market and SOFR (USA) – Option 1. The critical point, as called in the paper is that a market consensus is reached on one of the options.

Option 3 is least ambiguous with a clear set of rules that has been proven to work in the Swiss model.

Option 1. Given the backward vs. forward nature of that rate, the first option, providing compounded SONIA over exactly 30, 90, 180 days with the start date allowed to be a non-business day, is the preferred method for [the respondent]. This is for the following reasons – simplicity of method, easier to explain to a client for a smoother customer experience along with consistency with method applied by Fed to SOFR averages. It should be noted that the use of compounded averages would be most appropriate in situations where an 'in-advance' convention is to be utilized along with validation of accruals across stakeholders. Similar to commentary provided to the ARRC/Fed, it is anticipated that a global golden source for a 7 day, 60 day and 360 day average would also be appropriate. [The respondent] also anticipates that the market may evolve towards the use of a 1-month, 3-month vs. actual calendar averaging methodology which would more closely align with existing payment and interest period definitions. This was acknowledged by the ARRC and will be a subject for continued monitoring and possible evolution.

Option 2. SONIA accrues even on weekends and public holidays.

Option 3.

Question 4.

Do you agree with the suggested rounding of SONIA period averages to 4 decimal places (when in percentage points)?

No, as it should be consistent with SOFR index which uses five decimal places

Yes. I agree with use of 4 decimal places for SONIA period averages.

No. We recommend the Bank to publish the rate with 8 decimal places. Market participants can then round it to the required decimal places as per the contract. This allows some flexibility.

No. We are technologically capable of using 4 or 5 decimal places, however, 5 decimal places provides additional accuracy which is helpful for FAS 133 hedge effectiveness and accuracy in pricing required by clients. We also note that the SOFR index is published to 5 decimal place so consistency across currencies would be welcomed.

No. We would propose 8 decimal places to have as much overlap as possible with the SOFR index

No. Regarding question 4, we note that the SOFR Index is rounded at 8 decimal places and question whether it should be the same. We recognise that the BoE had previously noted that cited options for rounding in FRN bonds were 4 or 5 decimal places, the former aligning with the definition of the SONIA benchmark and existing OIS market conventions.

Yes, it will be enough for needed calculations and avoid issues with older IT systems, that might not be able to handle more than five digits.

Yes. 4 dp for the compounded rate calculation, with the SONIA Compounded Index to be published using 10 dp.

Yes. For period averages this is fine.

Yes. The Firm agrees with the suggested rounding to 4 decimal places.

Yes, [the respondent] agrees with the suggested rounding. This is sufficient for accuracy and useful for standardisation.

Yes. Rounding 4 decimal places in percentage points is consistent with the approach in 2006 ISDA Definitions.

Yes. Calculating SONIA Period Averages to the 4th decimal place and the SONIA Compound Index to the 10th decimal place may create some small differences between a Period Average and a manually calculated rate using the Compound Index over the same duration. However, the size of these differences will be small in nature and should not impact decision making when using either the Period Averages or the Compounded Index. A benefit of using 4 decimal places for the Period Averages is that the current SONIA market convention also uses 4 decimal places, which creates uniformity and consistency across sterling benchmark indices and may encourage adoption and use in commercial contracts.

Yes. We support the Compounded Sonia index being 4 decimal places. It reduces the risk of error if manually keyed into systems.

Yes. We support the rounding of SONIA Period Averages to 4 decimal places when in percentage points. This would be consistent with current SONIA compounded conventions.

Yes. Yes, on the basis that ISDA rounds SONIA Period Averages to 4 decimal places.

Yes. To match the standard convention.

Yes. This would be consistent with the current convention for SONIA.

Yes. We agree with the suggested rounding of SONIA Period Averages to 4 decimal places. This will be a useful step towards standardization of market conventions.

Yes. This is consistent with the publication of SONIA and the approach taken for derivatives and bonds

Yes. [The respondent] is in agreement with the Bank's suggested rounding convention and level of precision.

No. We would propose using 5 decimal places to align to the rounding of SOFR Period Averages for consistency.

Yes, this would align to the approach taken for SONIA currently in the wholesale market and can be supported by our internal systems today

Yes, in line with OIS market

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Yes.

Question 5.

Are there other changes that would make SONIA Period Averages more useful and, if so, please describe these in detail?

Although [the respondent] will not use period averages, the addition of a 180 day tenor, would be consistent with SOFR period averages

The credit spread is an open question that will be an issue for new trades and transition of old trades.

SONIA period averages, and the SONIA compounded Index, should be free to use for all market participants from the point they are published.

We would request if Period Averages are to be published that a suitable name is used to reflect that they are compounding for particular standard periods with particular date conventions. E.g. Enhanced Modified Following Compounded SONIA Standard Period Rates.

In addition to compounded averages, the Firm is of the view that it will be beneficial to have forward looking term rates. The Firm's view is that a forward looking SONIA term rate could ease the transition for many market participants who operationally and otherwise want a rate that mechanically behaves the way LIBOR does today. The Firm highlights that the index will not cater strongly to the demands of the loans market. The Firm would also bring into consideration the publishing of period averages for 2m and 12m tenors. Furthermore, as the approach taken is consistent with that by the Federal Reserve Bank for its publication of the SOFR index, the Firm notes that there are likely to be issues with the principal changes during the period and the ability to floor the rate.

Bank should consider providing calculator to compute SONIA period Averages and also broken dates. Eg, 90, 187 days. This type of calculator will benefit the users to advance the understanding of SONIA compounding in different scenarios.

[The respondent] would suggest that 1,3,6 month rates (Period Averages) are published and also start dates for the rate are provided. On some days there will be multiple start dates for a particular term and it will be for the user to work out which is applicable to them. This is a modified option 3 where all the possible rates are published with their start dates. The goal would be to allow market participants who wish to use the published average 1, 3, or 6-month rates to quickly determine the rate on their instrument on a modified following basis knowing only the start-date for their relevant reference period and reset frequency.

[The respondent] does not have further suggestions to make to the SONIA Period Averages. Should the Bank of England move forward with publishing, we think that the decision to use existing licensing arrangements and publish at the same time as SONIA and the SONIA Index is the right approach and may draw attention to the Period Averages by users of overnight SONIA rates and the SONIA Index.

We suggest that the Bank change the name of the SONIA Period Average. The name is misleading as they are not the average rates over the period. The name should also clearly indicate that it is a backwards-looking rate and not give the market the impression that it is a forward-looking rate akin to LIBOR. The Bank should also make data on and underpinning the SONIA Period Averages easily accessible for use by market participants.

No. It is our view that SONIA Period Averages would need to be significantly simplified in order to make them useful but we struggle to see how this can be achieved.

As noted above, given that market conventions are still evolving in a number of areas, and should the Bank consider that there is not currently 'sufficient market consensus', it may nevertheless be prudent to keep questions about the publication and composition of SONIA Period Averages open to periodic review, particularly in the lead-up to and in the period immediately after LIBOR cessation.

We do not have further comments on the discussion paper. However, we request that the UK authorities and the Working Group on Sterling Risk-Free Reference Rates continue their efforts on the development on robust term rate alternatives. This will be an important element of GBP LIBOR transition, as there remain certain products – non-linear derivatives, development finance, Islamic finance – and client segments where such term rates would be useful.

A change that would make the SONIA rate, SONIA Compounded Index, and SONIA Period Averages more

useful would be to make the same-day publication of the rates freely available. Moreover, if the intention of these publications is to simplify the transition efforts of non-financial, or less-sophisticated, end users, then forgoing licensing requirements would greatly support this goal. We would cite similar actions taken by several central banks, in support of this proposal.

No changes as such. It would be beneficial to produce SONIA Period Averages at the same time as the SONIA Index becomes available. This would help with programme planning on, new product design, build and launch, including simplifying the communication to front line staff and customers. It would be helpful if you could confirm the intended customer sophistication thresholds / target market for SONIA Period Averages. A BoE Working Group paper published previously: Next steps for LIBOR transition in 2020: the time to act is now, included a decision Tree to aid Alternate Rate choice. The flow diagram indicated that SONIA Term rates would only be an option where it was a Mid Corporate Customers with less than £25m turnover. Will the same threshold apply for SONIA Period Averages?

- (a) For each date, not only the actual 1/3/6 month period averages, but also the 12 month period average.
- (b) For each date, alongside the actual 1/3/6/12 month period average as at that date, also provide what the period averages would be on that date under a 5 day observation lag. It removes further calculations that users would need to perform, reduces uncertainty when looking back 5 days lands on a non-working day for the start and/or end date. It gives easy reference for non-financial users and a trusted source should different conventions develop.