Record: Roundtable on Sterling Risk-Free Reference Rates

Thursday 6 July 2017

NatWest Markets' offices – 250 Bishopsgate

Opening remarks – Mark Carney, Governor, Bank of England

1 The Governor opened the meeting by setting out the broader context for interest rate benchmark reform work.

2 A decade on from the onset of the global financial crisis, G20 reforms had delivered a financial system that was now safer, simpler and fairer. It was safer because the largest global banks had raised $1.5tn of capital to meet requirements ten times higher than before the crisis. It was simpler because toxic forms of shadow banking had been eliminated and derivatives markets made more robust and transparent. And it was made fairer because standards had been agreed to ensure large banks could fail safely, such that the 'too big to fail' subsidy had fallen by 90% in the UK.

3 The system was also fairer because the causes of misconduct were being addressed. Good progress had since been made in making individuals more accountable and responsible for their actions and in building fairer and more effective markets. Interest rate benchmark reform, which was coordinated by the Financial Stability Board (FSB), formed part of this agenda.

4 The Governor then explained the FSB's priorities for benchmark reform, including a need to improve the regulation, governance, and administration of Libor and similar benchmarks. In the UK, Libor had been put on a firmer footing, and Libor reform work continued under the supervision of the FCA – and is fully supported by the Bank. The FSB had also called for the development of near risk-free rates (RFRs) for use as alternatives to Libor. The Governor noted the RFR Working Group's effort to address this aspect of the FSB's recommendations and the Group's conclusion that SONIA was its preferred RFR for sterling markets.

5 The Governor noted two motivations for the development of RFRs: it improved choice and market effectiveness, since in many cases risk-free rates could be more appropriate for users; and the recognition that a lack of unsecured term deposit transactions – and therefore a continued reliance on judgement – represented a structural weakness in Libor. Although controls around Libor submissions had become much tighter since 2012, a situation in which a judgement-based benchmark underpinned an estimated US $350 trillion-worth of contracts was not desirable.

6 The Governor finished by noting that a shift towards robust, fully transaction-based reference rates was necessary and, over time, would happen. But widespread adoption of SONIA could only proceed with broad support from benchmark users. The purpose of the Roundtable was therefore to explore the arguments underlying the choice of SONIA as the sterling risk free rate; and to begin the conversation on how to broaden adoption of SONIA.

'The Bank and Benchmark Reform' – Chris Salmon, Executive Director for Markets, Bank of England

Full speech text available here.[1]

7 Chris Salmon began by describing the financial system's Libor dependency. This was manifested in the widespread use and dominance of Libor as a reference rate across asset classes.

8 He argued that this dependency was not a reflection of an overwhelming need for Libor-linked financial contracts – rather it was a product of so-called network effects. In many cases Libor was not the most appropriate reference rate. Its use was instead a reflection of the concentration of liquidity in Libor instruments, a situation that was self-reinforcing.

9 Chris echoed the Governor in arguing that this Libor dependency mattered for two reasons. First, in many applications users would be better served by a near risk-free rate: the bank credit component of Libor is in these cases neither necessary nor appropriate. Derivatives markets in particular could be more effective if there were liquidity in alternative reference rates.

10 Second, term deposit markets which underpin Libor fixings were no longer a liquid source of bank funding. Even a reformed Libor would rely on expert judgement to supplement transactional data. That was not a desirable state of affairs. The system-wide dependence on term Libor fixings was an unnecessary vulnerability. A situation in which robust transactions-based benchmarks were more widely used would improve the resilience of the financial system.

11 In light of these arguments Chris explained that the Bank was committed to supporting the adoption of near risk-free rates as alternatives to Libor. It had taken two important steps in this regard.

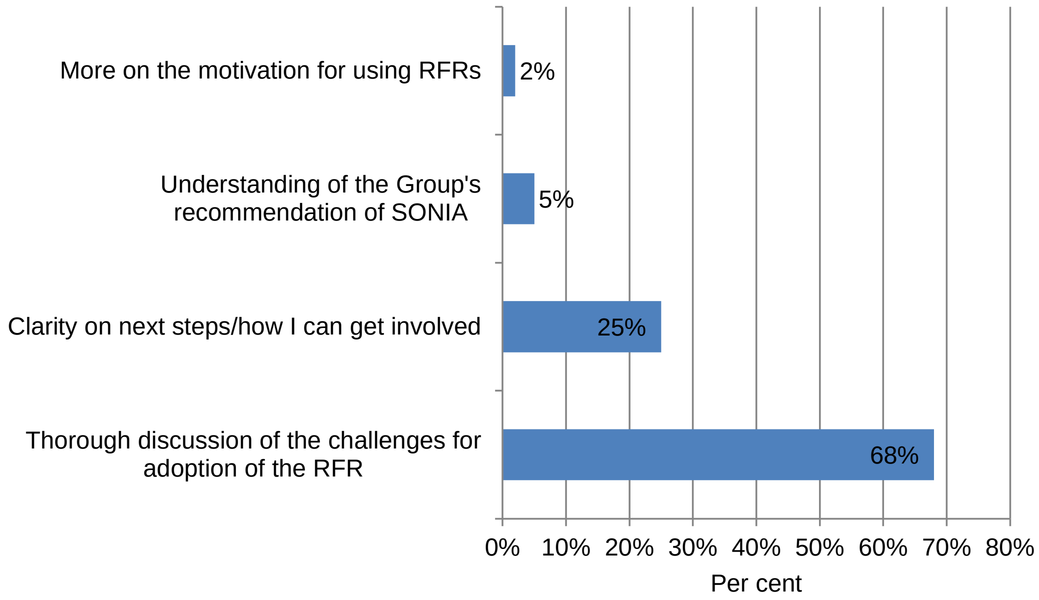
12 First, the Bank had taken on the administration of SONIA and begun a process of reform, which would be complete by April 2018. Second, it had established the Working Group on Sterling RFRs to forge a market consensus on RFRs and drive their adoption.

13 Reducing the system's dependence on Libor would be challenging and would require coordination across the market. The Bank would continue to support this process. But the engagement, help and support of the wider community of users of sterling interest rate benchmarks – issuers, investors, banks, as well as dealers – would be essential. The Roundtable was the first step in capturing the views of this broader set of users. Participation was actively encouraged.

14 Chris ended his speech by asking attendees what they would most like to get out of the Roundtable – see **Survey 1**. The majority of attendees (68%) hoped for a thorough discussion of the challenges for adoption of the RFR and a quarter wanted to understand how to get involved in the next steps.

[1] Available here: www.bankofengland.co.uk/publications/Pages/speeches/2017/991.aspx

Survey 1 – What is the main thing you'd like to get out of today's panel discussions?



'Recommendations from the Working Group' – François Jourdain, Working Group Chair, Barclays

Full speech text available here.[2]

15 François reiterated the imperative of the adoption of RFRs as alternatives to Libor, which would improve financial stability. He noted that it was important that the objectives of the Working Group are well understood and that its recommendations were well explained and understood. In recommending SONIA, the Group had set selection criteria, based on end-user outreach, and evaluated possible candidate RFRs against those criteria.

16 While the Group had anticipated that reformed SONIA would be a viable RFR candidate, the Group had published design criteria to encourage the creation of new secured overnight RFRs. This helped to catalyse the production of £ Repo Index Rate (RIR) by Nex Data and £ SONET by FTSE-Russell – both considered viable RFR candidates. While ultimately not recommended by the Group, François stated that these rates were welcome additions to the infrastructure of sterling markets.

17 François felt that the Group's debate on the preferred RFR was vibrant and considered. But that ultimately, a key deciding factor for many members was speed of implementation, since no transition of the Overnight Indexed Swap (OIS) market would have been required if SONIA was chosen. SONIA was voted the preferred RFR with a three-quarters supermajority.

18 The Group's work is now turning towards adoption of SONIA as an alternative to Libor. It has published a white paper,[3] explaining its choice, but importantly seeking feedback on approaches to adoption and to better understand the views of a broad set of stakeholders.

19 François emphasised that adoption of SONIA will happen. The purpose of the Roundtable was to begin a discussion on how it should happen. There would be two panels: the first to shed light on the choice of SONIA; the second to begin the discussion on approaches to adoption.

[2] Available here: http://www.bankofengland.co.uk/publications/Documents/speeches/2017/rfr_workinggroupspeech.pdf

[3] For the White Paper, see: www.bankofengland.co.uk/markets/Documents/sterlingoperations/rfr/rfrwgwhitepaper0617.pdf

Panel Session I – the choice of RFR for sterling markets

Panellists	Tim Taylor, Senior Advisor, Bank of England (**moderator**)
David Cobbald, LDI Portfolio Manager, Pension Protection Fund	Christophe Coutte, Head of Traded Products, Lloyds
David Horner, Head of Risk – Rates and FX, LCH SwapClear	Joanna Perkins, Chief Executive Officer, Financial Markets Law Committee

<u>Key considerations in choosing the RFR</u>

20 The panel provided a high-level view of the key considerations and trade-offs in choosing between SONIA and the secured rate alternatives as the RFR.

21 The governance of the benchmarks was an important consideration. All three candidate RFRs were considered to meet the standards set by the IOSCO principles for financial benchmarks. While this implied little to distinguish between the candidates, the Bank was considered less likely to be affected by conflicts of interest that might arise for commercial administrators.

22 A second consideration was the robustness of daily transaction volumes for the candidate RFRs – see **Chart 1**. Volumes for all three rates were high over the period under consideration. Despite this, there remained a degree of uncertainty regarding how daily volumes for each rate might change in future as the relevant market structure evolves.

23 The panel noted that the different characteristics of the rates would appeal to different users. Reformed SONIA tended to be more stable and closely correlated with Bank Rate, while the secured candidate rates were more volatile, and subject to influence by technical factors in the repo market – see **Chart 2**. This was a topic the panel would later return to in more detail.

Chart 1 – Comparison of underlying volumes for the candidate RFRs, since July 2016

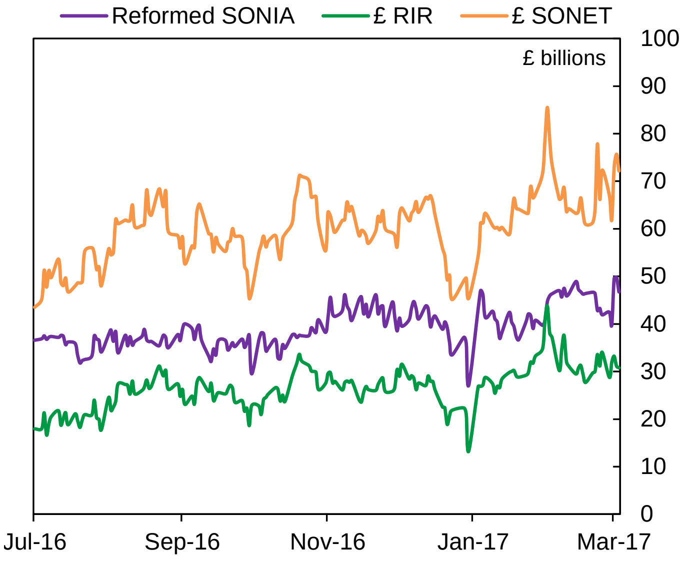
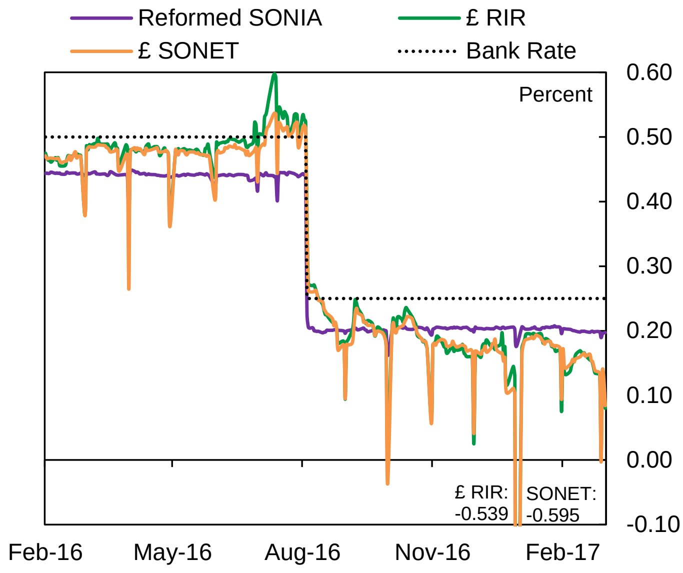


Chart 2 – Comparison of candidate RFR interest rates, since February 2016



24 The ease with which users could begin to adopt the RFR as an alternative to sterling Libor was considered to be a very important factor in the RFR choice. This was to the benefit of SONIA, as a well-established reference rate in the sterling OIS market. In contrast, the choice of a secured RFR would have necessitated the transition of existing SONIA-referenced OIS onto the new RFR, which would have been difficult to achieve.

<u>The preferences of different types of user</u>

25 The panel discussed how different users' preferences were relevant to the choice of the RFR. Taking the perspective of pension fund users as an example: a secured rate may have been preferred because the natural funding rate for pension funds, which typically invest in gilts, would be a secured gilt repo rate. While downward movements present in secured rates at quarter-ends might provide a better hedge for pension funds than an unsecured rate, it was recognised that such movements could present basis risks for the broader array of users, who may not have any exposure to secured financing costs. In response to an audience question, it was noted that pension fund risk management practices would be able to adapt to use of SONIA, despite the preference for a secured rate.

26 Bank treasury activity was provided as another example. Significant components of banks' loan and deposit books were linked to Bank Rate (e.g. retail mortgages, SME loans, retail deposits) and so overall interest rate exposures for bank treasuries are therefore likely to be correlated with Bank Rate, meaning that SONIA was preferred given its close correlation with Bank Rate.

27 The panel agreed that simplicity was likely to be an important characteristic for less sophisticated users of the RFR – favouring SONIA as the relatively more simple RFR – and could therefore be an important factor in ensuring broad adoption.

28 Panel members agreed that many users were likely to be simply seeking to hedge the general level of interest rates. For this, the RFR's proximity to, and correlation with, Bank Rate was the most desirable characteristic: SONIA tended to be more stable and well-correlated with Bank Rate over the available sample of data.

<u>Ease of adoption as an alternative to sterling Libor</u>

29 As had been highlighted earlier, the ease of adoption of the RFR was considered very important by the Working Group. SONIA was already well-established as the primary reference rate in the sterling OIS market, and the OIS curve was widely used for discounting and valuation of portfolios; in addition, SONIA was used as the remuneration rate for cash collateral balances at central counterparties (CCP) and in bilateral derivatives. The choice of a secured RFR would have required the transition of existing SONIA-referenced OIS onto the new RFR.

30 The panel discussed the process that would have been required to replace SONIA with a secured benchmark in the sterling OIS market. To clear a product referencing a new benchmark, a central counterparty would need to develop new risk models – requiring historical transaction and pricing data for the benchmark and associated derivatives – which would in turn need regulatory approval. In addition, agreement to change the rate paid on cash collateral would require clearing members' approval.

31 It was highlighted that the simplest transition would be a 'seamless' transition, where the identity, characteristics and behaviour of the benchmark are sufficiently close to the existing benchmark that contracts continue unaffected. This approach was being followed by the Bank in implementing its reforms to SONIA. However, to transition the sterling OIS market to a secured rate, a 'hard cut-over' would likely have been required, which could have presented considerable risk to users.

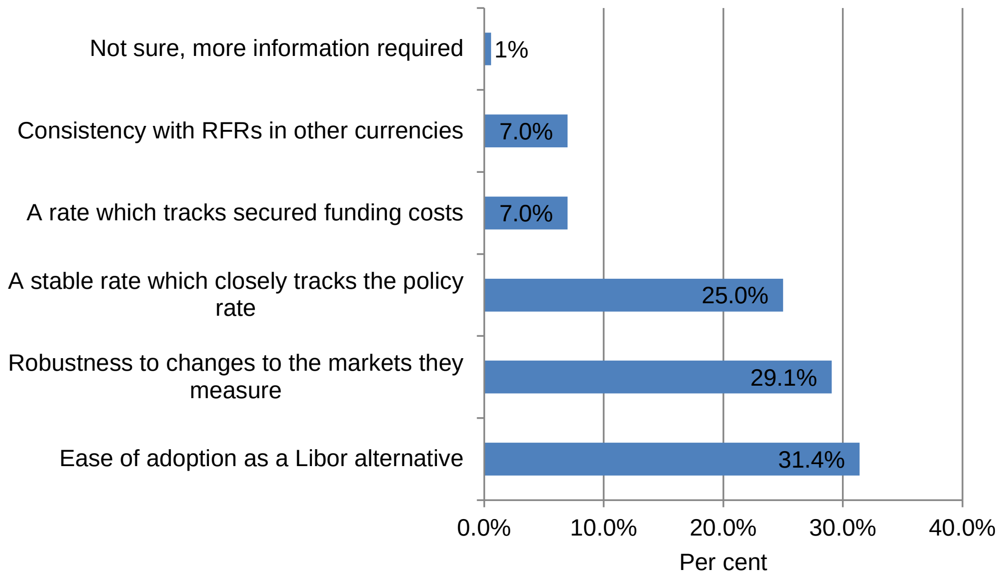
Design of the benchmark

32 The Bank's SONIA reforms separated the definition of SONIA into two parts: the first part described the economic reality that the benchmark intends to measure; the second part detailed the input data and calculation methodology. The Bank had introduced a process by which the input data and calculation methodology could evolve – for example in response to changes in market structure – while the overall description of SONIA remained constant. It was noted that this would ensure that the benchmark could continue to be robust in a broad range of possible futures states of the market.

Interactive survey

33 The audience were asked their views on which of characteristics were felt to be most relevant in selecting the sterling RFR – see Survey 2. Consistent with the conclusions of the Working Group, the majority of respondents (31%) placed a high weight on the ease of adoption of the RFR. A slightly smaller proportion (29%) also sought a rate which was robust to changes in market structure; and a quarter of respondents preferred a rate which was stable and closely tracked Bank Rate.

Survey 2 – Which of these characteristics do you think are most relevant in selecting the sterling RFR?



Publication of SONIA on the following day

34 Panellists briefly discussed the fact that the Bank's reforms to SONIA would see the rate published the following day, rather than same day as currently. It was noted that LCH, alongside ISDA and other

market participants were currently working through operational issues, to ensure that the change in publication time had negligible impact.

Consistency of the RFR choice with other markets

35 The US Alternative Reference Rates Committee had recently chosen the broad Treasuries funding Rate, a secured rate, as its preferred alternative to US dollar Libor; the Swiss National Working Group had chosen SARON, a secured rate, as their preferred RFR; and the Japanese Study Group on Risk-Free Rates had chosen the uncollateralised call rate, an unsecured rate. Therefore, it was not possible for the Group’s choice of RFR to be consistent with all other markets.

36 In response to an audience question – ‘Why has there not been greater coordination in choosing RFRs in different currencies?’ – the panel emphasised that each jurisdiction was working to choose the right rate for their respective markets; and that the different conclusions reached for each market reflected genuine differences in market structure. While this may have some implications for cross-currency basis swap users, the panel felt that these issues were surmountable.

Other audience questions

37 One audience member commented that reformed SONIA looked ‘artificial’, given its stability. Panellists noted in response that, with nearly £40 billion of actual transactions underpinning the rate each day, its stability should be interpreted as a reflection of comparatively stable conditions in the unsecured overnight money market.

38 Another audience member asked whether SONIA would be robust to future technological change. It was noted that the Bank’s outlined process for the evolution of SONIA would allow the input data and calculation of the rate to evolve in response to changes in market structure, including technological change.

Panel Session II – the adoption of SONIA: opportunities and challenges

Panellists

Edward Ocampo, Senior Advisor, Bank of England (**moderator**)

Mark Deniston, Managing Director, Head of GBP Rates Trading, NatWest Markets

Jonathan Hall, Portfolio Manager, Eisler Capital

Frances Hinden, Vice President, Treasury Operations, Shell

Stephen O'Connor, Chairman, Quantile Technologies

Nicholas Saggers, Managing Director, Rates Trading, BAML

<u>Aligning the reference rate with the discount rate</u>

39 The panel discussed the merits of aligning the swap reference rate with the discount curve used for valuation. Currently, Libor measured bank funding costs at short-term maturities and as such, it incorporated bank credit risk and term premia.

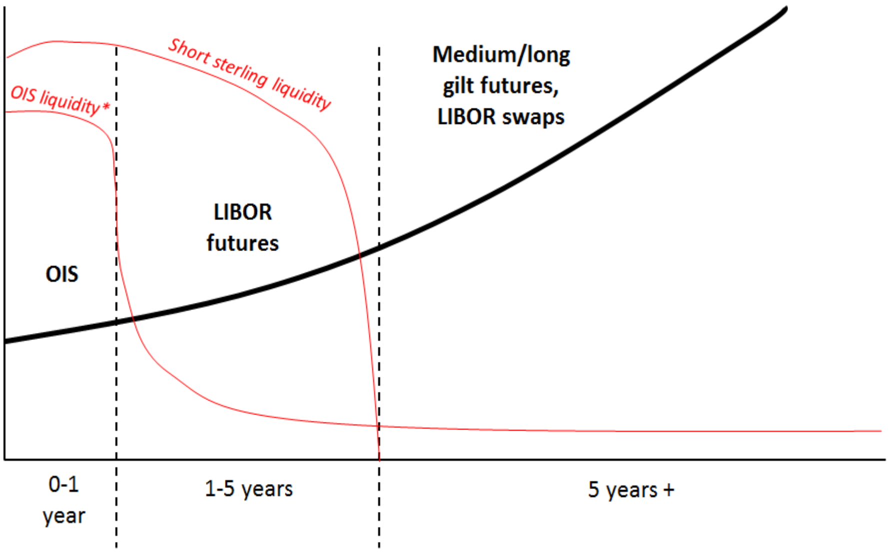
40 Typically swap portfolios, which directly referenced Libor, were discounted using the SONIA-referencing OIS market. This created "cross-gamma" exposure for those trading Libor swaps – the change in the PV01 sensitivity of a Libor swap was dependent on both the Libor curve and the SONIA OIS curve. The cost of managing this exposure was incorporated into pricing by dealers, creating an additional inefficiency for those transacting Libor swaps. This effect could be particularly acute when pricing certain transactions, such as zero-coupon swaps. Therefore, the panel agreed that it would in principle be beneficial to align the discount and projection curves by referencing the RFR.

<u>Facilitating trading and price discovery along a continuous risk-free yield curve</u>

41 Liquidity in sterling interest rate markets was currently segmented across different product types – SONIA-referencing OIS, Libor futures, and Libor interest rate swaps – see Figure 1. OIS were primarily actively traded in short-dated maturities. In order to manufacture longer-dated risk-free exposures it was necessary to use a combination of outright and basis trades – which could lead to inefficiencies in pricing and interest rate modelling. The panel agreed that consistency of the reference rate across the full yield curve, including liquidity in relevant instruments, would be desirable.

42 Panellists agreed that a liquid futures contract would be an essential element of the SONIA adoption plan. Listed SONIA contracts were not currently available – liquidity was concentrated in the Three-Month Sterling (Short Sterling) contracts which referenced Libor. Whilst there were trade-offs in alternative technical specifications for new contracts, panellists opined that dealers and active traders could accommodate whatever format was likely to attract broad-based interest.

Figure 1 – Interest rate speculation and hedging instruments and illustrative liquidity



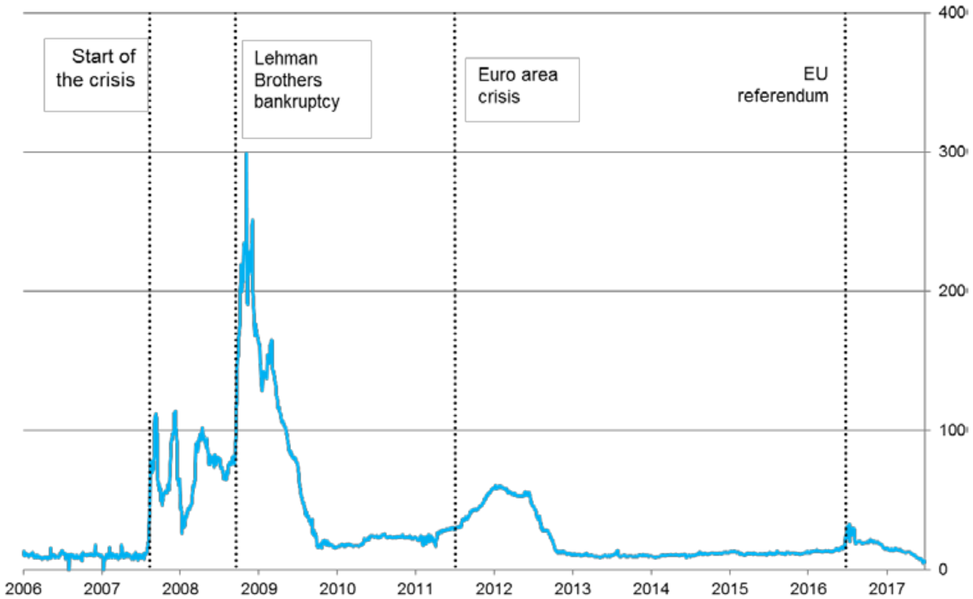
*There are pockets of liquidity in OIS beyond one year

<u>Facilitates duration risk transfer without residual bank credit risk exposure</u>

43 It was noted that end-users take on residual bank credit risk exposure when using Libor swaps for duration risk management purposes. This residual exposure could be measured via the Libor-OIS spread curve, which had experienced volatility during periods of financial stress – see **Chart 3**. Panellists agreed that SONIA referencing swaps and financing instruments could helpfully eliminate this exposure.

44 However, it was noted that some users, including corporate treasurers, would likely base their choice of reference rate on the 'all-in' cost of the product, including liquidity: where a product was cheaper, it would be preferred even if credit risk was incorporated.

Chart 3 – Historical 3-month GBP Libor-OIS Spread



Risk-free rates underpin robust fall-backs for contracts

45 ISDA had established working groups to agree fall-backs in the event that Libor was unavailable. The basis for these fall-backs is likely to be the relevant risk-free OIS rate for each currency, with the addition of a spread to incorporate residual term bank credit premia. Panel members agreed that a liquid and transparent market for SONIA OIS could provide more robust fallbacks for sterling Libor swaps.

The need for forward-looking term rates as substitutes for Libor

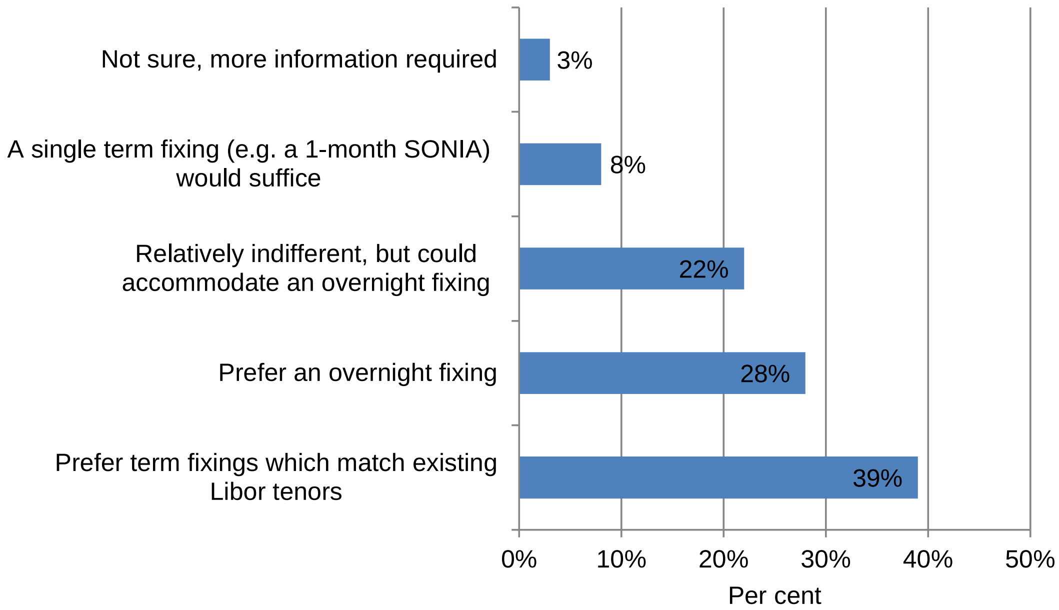
46 The panel discussed the relative merits of using an overnight rate as the primary reference. In many use cases, it may be feasible to use the overnight rate, compounded over the relevant payment period, instead of a term fixing, such as 6-month Libor. However, in practical terms, some market participants would prefer to be sure of interest payments in advance; use of compounded overnight rates means that interest payments would only be known in arrears. While market participants could adapt to such a system, many would likely prefer a forward-looking term RFR; this was particularly true for smaller and less sophisticated counterparties.

47 It was noted that a term RFR could be generated from executable prices for tradable SONIA-referencing instruments, such as sterling OIS, traded on regulated markets, using a similar methodology to that currently used for the ICE Swap Rate.

Interactive survey

48 Attendees were asked their views on the necessity for term RFRs – see **Survey 3**. The majority of respondents (39%) preferred term RFRs which matched existing Libor tenors. Collectively, half of respondents either preferred an overnight rate (28%) or believed they could accommodate an overnight rate (22%).

Survey 3 – Which statement best describes your view on overnight vs term fixings?



Adoption of the RFR across broader cash markets

49 The RFR Working Group had focussed primarily on derivative markets. But derivatives often hedged Libor-linked bonds and loans. The panel debated the merit of expanding transition efforts to include a broader set of instruments, including cash loans and bonds.

50 As noted previously, corporate treasurers cared primarily about their all-in cost of funding as well as the effectiveness of existing hedges. A change in the reference rate in funding or hedging instruments would need to minimise any economic impact, or broader adoption would not be encouraged.

51 It was noted by one panel member that the banks that currently participate in Libor submission panels would prefer not to do so due to regulatory risk and the associated cost of compliance. Moreover, the EU Benchmarks Regulation (BMR) restricts the use of regulatory powers to compel banks to submit to the benchmark to two years from the point of use of those powers. Therefore, it was conceivable that Libor could be at risk of discontinuation at some point thereafter. To minimise the impact of this, the broadest possible adoption of the RFR should be encouraged.

The role of incentives and overcoming inertia

52 The panel debated how to overcome inertia in the transition to SONIA. It was observed that change in market practice typically stemmed from either the desire of market participants (e.g. creation of SwapClear, proliferation of OIS discounting) or through official sector intervention, through the use of convening powers or regulation. The panel agreed that both influences were relevant for transitioning to the RFR.

Transitioning legacy portfolios

53 The panel were asked to consider the costs and benefits of transitioning the existing stock of Libor-referencing products. Panellists noted that the existing Libor-OIS basis swap market could facilitate risk management of these positions. Aggregating liquidity at specific times, for example, through regular auction programmes might encourage active trading. For the interdealer market, many Libor derivatives transactions were cleared and compressed. Compression cycles could be combined with index transition at market clearing prices. This could facilitate bulk conversion of legacy portfolios in a cost effective manner. However, dealers would only be willing to transition their hedge portfolios if dealer-to-client transactions also transitioned to SONIA.

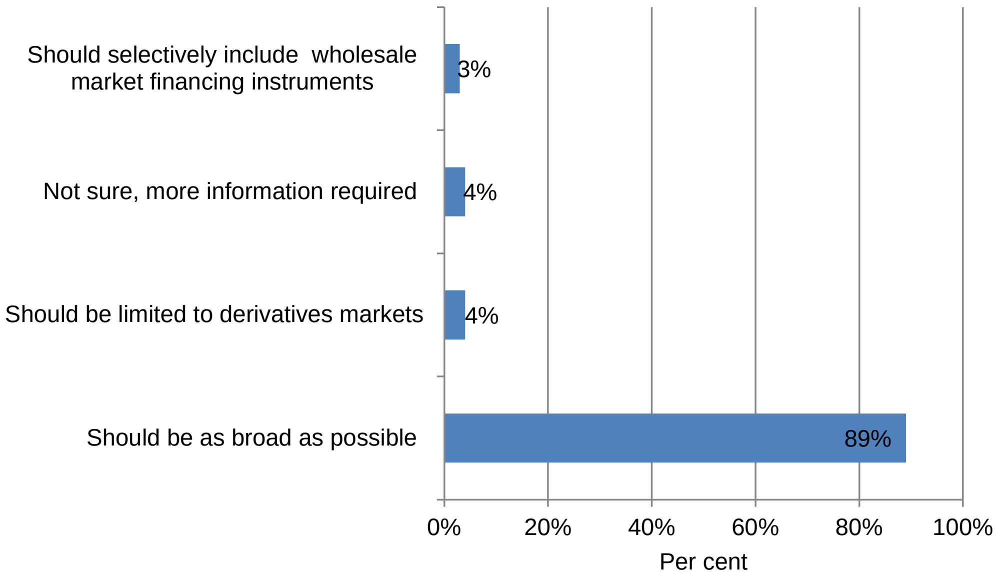
54 A potential impediment to the transition of legacy portfolios could arise if amended trades could not be grandfathered under EMIR margining rules for uncleared derivatives. This would necessitate posting of initial margin for those trades, which would be very costly for market participants.

55 Some panel members felt that the need for Libor exposures might continue to exist after a large proportion of transition had completed. But for these purposes Libor swap exposures could be manufactured using liquid OIS in combination with Libor-OIS basis swaps – although it was unclear whether the basis swap market would continue for long enough to facilitate the needs of all legacy portfolios.

Interactive survey

Attendees were asked for their views on the appropriate scope for adoption of SONIA as an alternative to sterling Libor – see **Survey 4**. The vast majority of respondents (89%) felt that adoption should be as broad as possible.

Survey 4 – What do you think is the appropriate scope for adoption of SONIA as an alternative to sterling Libor?



<u>Other audience questions</u>

56 One audience member queried whether market participants would be prepared to pay more temporarily in order to achieve cheaper, more liquid and more suitable hedging in the long term? The panel agreed that there were likely to be short-term costs to transition, but recognised the longer-term benefits. The dealer community had openly committed to supporting this transition. The hedge fund community would likely be willing to transition with some additional education and potentially some regulatory incentives. While corporates were unlikely to be willing to bear much additional cost to facilitate transition, they were open to engaging in discussions on how to achieve transition.

57 Finally, in response to a question from the audience, the panellists cited three priorities which needed to be addressed by the Working Group: i) expanding participation in transition discussions beyond the dealer community; ii) improving liquidity in SONIA-referencing derivatives, including futures; and iii) greater consideration about how to transition legacy contracts.

Closing remarks – François Jourdain

58 François thanked the panel members for their insightful contributions to the debate.

59 He emphasised that adoption of SONIA will happen. SONIA was a near risk-free rate, which had very robust volumes, the highest standards of administration and was well established as a reference rate in sterling markets. This made it the right choice for many interest rate benchmark users. Adoption of SONIA would reduce the financial system's dependency on Libor, which was better for users and better for the administrator and submitters to Libor.

60 In order to break network effects and remove coordination problems, engagement from all types of market participants would be required. François acknowledged that it would be difficult for firms to take decisions which might incur short-term costs, but highlighted that efforts to promote adoption should not. He also emphasised the longer-term benefits to using SONIA.

61 He invited attendees – and other relevant stakeholders – to respond to the questions posed in the white paper.[4] And for those who were interested in assisting with adoption efforts to get in touch with the Working Group.[5]

62 François thanked all attendees for their thorough engagement through the morning.

[4] For the White Paper, see: www.bankofengland.co.uk/markets/Documents/sterlingoperations/rfr/rfrwgwhitepaper0617.pdf
[5] By contacting RFRsecretariat@bankofengland.co.uk

Annex 2 – Institutions represented

Invited guests

Allianz
Association British Ports
Association of Corporate Treasurers
Aviva
AXA
Bank of Montreal
Bank of Tokyo Mitsubishi UFJ
BGC
BHP Plc
Blackrock
BP Pension Scheme
Brevan Howard
BT Pension Scheme Management Ltd
C Hoare & Co
Cardano
Clarus FT
CME Group
Credit Agricole Corporate and Investment Bank
CurveGlobal
Debt Management Office
DRW
European Bank for Reconstruction and Development
European Investment Bank
Eisler Capital
Evercore
Fidelity
Financial Markets Law Committee
FTSE Russell
GFI
GlaxoSmithKfine
Goldman Sachs Asset Management
Henderson
Hutchin Hill
ICAP
ICE Benchmark Administration
ICE Futures
ICMA
Insight
Investec
Investment Association
JPM Asset Management
Just
Kames Capital
KFW
King and Shaxson
Leeds Building Society
Legal & General
London Money Markets Association
LSE Group
Millenium Capital Management
Moore
Nationwide BS
NatWest Markets
Nektar
Nex Data
Nomura
NordLB
Oliver Wyman
Pension Corporation
Pension Protection Fund
Prudential
P-Solve
Quantile
Rabobank
RLAM
Rothesay Life
Schroders
Shell
SNB
Standard Chartered Bank
Standard Life
State Street Global Advisors
The Co-operative Bank
Towers and Watson
Tradition
TriOptima
TSB
Virgin Money
Vodafone
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Working Group members

Bank of America – Merrill Lynch
Barclays
BNP Paribas
Citigroup
Credit Suisse
Deutsche Bank
Goldman Sachs
HSBC
LCH ltd (Observer)
JP Morgan
Lloyds
Morgan Stanley
Nomura
RBS
Santander
Société Générale
UBS
ISDA (Observer)

Official sector attendees

Bank of England
Financial Conduct Authority
Bank of Japan
HM Treasury
European Central Bank
Swiss National Bank