

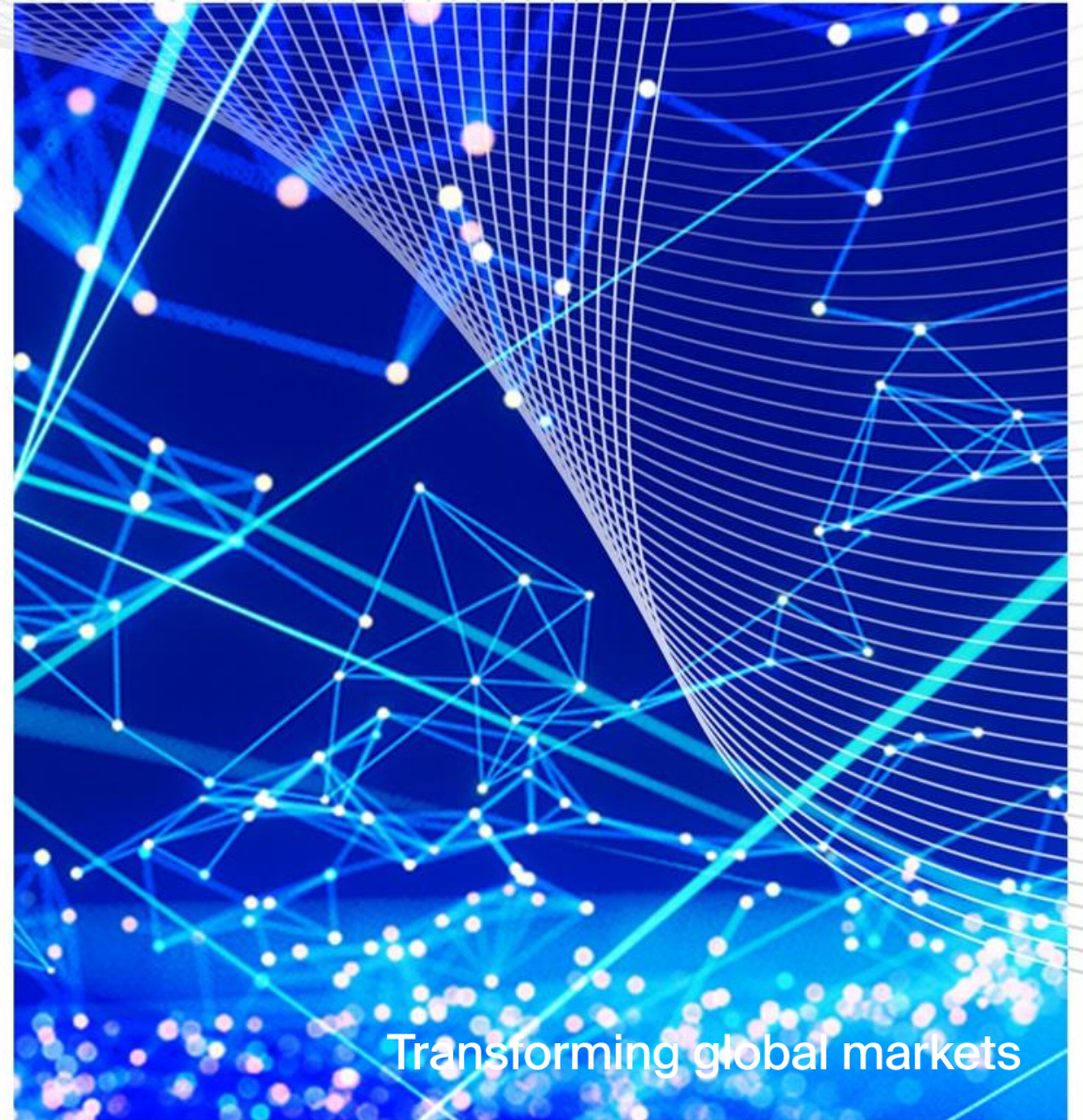


Building Term SONIA Rates

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Transforming global markets

Overview of ICE Benchmark Administration

- ICE Benchmark Administration (IBA) was established in 2013 as an independent entity in order to provide important, widely-used benchmarks and key market services that help facilitate transparent and well functioning markets.
- IBA has been authorised under the EU Benchmarks Regulation (BMR) since April 2018.
- Benchmark administration is at the core of what IBA does. We do not operate any other businesses that could potentially conflict us.

Benchmark / Service	ICE LIBOR	ICE Swap Rate	LBMA Gold Price	ISDA SIMM	LBMA Silver Price
Awarded by	 HM Treasury	ISDA	 LBMA	ISDA	 LBMA

Term Risk Free Rates – Two Approaches

- Realised risk free rates (RFRs) sourced from published data over certain set time periods (i.e. one month, three months, etc.):
 - Simple average; and
 - Compounded.
- Forward-looking RFRs based upon contracts traded in financial markets that reference the new alternative rates that predict where the RFRs will average over certain set time periods.

Why Develop Forward-Looking Term Rates?

- Many market participants value having forward-looking term rates in their financial contracts for budgeting, cash flow and risk management purposes:
 - Large and small businesses generally value certainty in calculating their interest expense and other contractual payments; and
 - Retail borrowers also value knowing what their obligations will cost in advance, particularly those with mortgages or long-dated student loans.
- Not all market participants will have access to the derivatives market to hedge their exposures.

Term Risk Free Rates: Forward-Looking

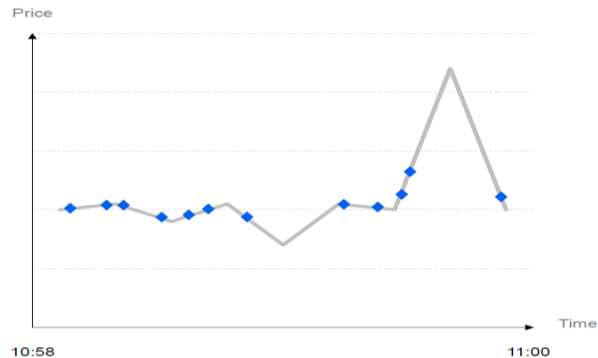
Forward-Looking Term SONIA Rates

- IBA is committed to the development of a Forward-Looking SONIA Reference Rate in accordance with:
 - Principles laid out by the FSB / OSSG;
 - Goals put forth by the Sterling Risk Free Rates Working Group; and
 - The BMR (the European Union benchmarks regulation).
- IBA is following and will follow the guidance of the Sterling Risk Free Rates Working Group and the relevant Sub-groups.
- IBA will leverage existing infrastructure (e.g. ICE Term RFR Portal) and available benchmark methodologies (e.g. ICE Swap Rate) to be able to produce term settings that are robust and have sufficient redundancies to ensure daily publication.

Potential Calculation Methodologies Explored By IBA

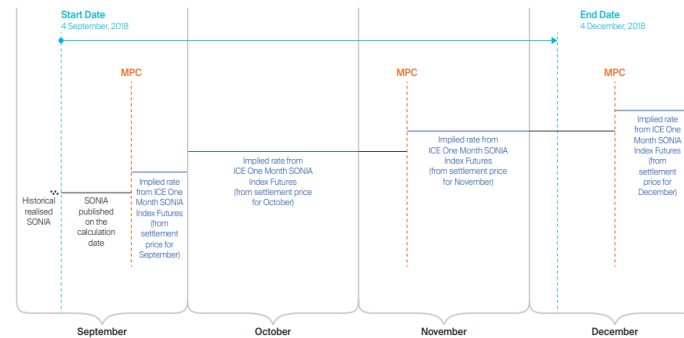
OIS Based

ICE Swap Rate type model

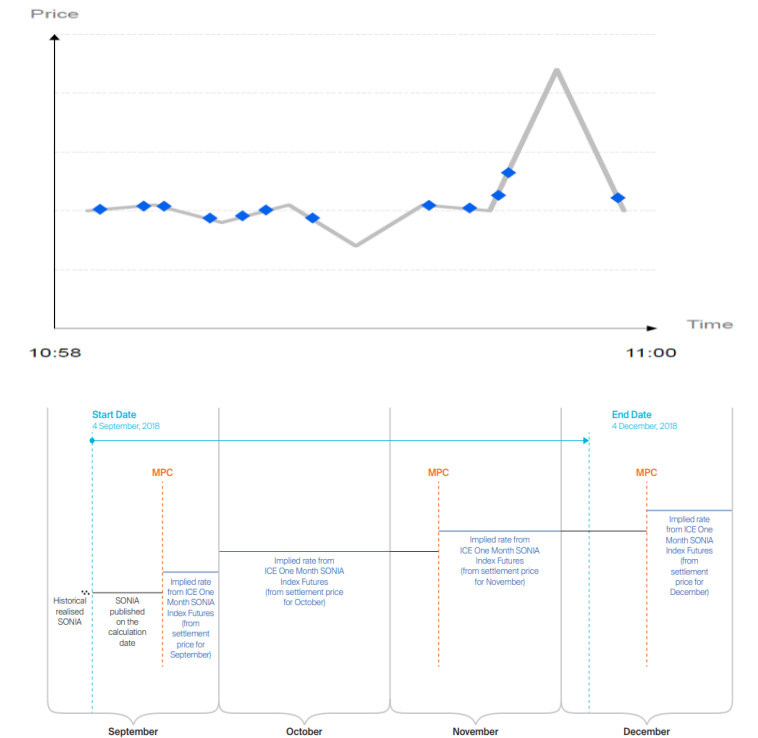


Futures Based

Step Function type model



Hybrid



IBA's Risk Free Rates Portal

Preliminary framework to help raise market awareness

Report Date
04-Mar-2019

Submit

ICE Term Risk Free Rates (RFR) Portal

Export to Excel Show Methodology

04-Mar-2019

Currency	RFR Benchmark	Last Setting (%)	Publication Date	Publication Time (London Time)
GBP	SONIA	0.7057	04-MAR-19	09:00
USD	SOFR	2.3800	04-MAR-19	13:00
JPY	TONA	-0.0490	04-MAR-19	01:00
EUR	ESTER	-	-	-

GBP

	ICE RFR - Forward Looking		ICE RFR - Realised	
	Futures Derived (%)	Swaps Derived (%)	Average (%)	Compounded in Arrears (%)
1 Month	0.7106	-	0.7063	0.7065
3 Months	0.7145	-	0.7048	0.7054
6 Months	0.7328	-	0.7030	0.7042
Last Published (London Time)	04-MAR-19 11:56	-	04-MAR-19 11:56	04-MAR-19 11:56

ICE Term RFR Portal

- Launched: October 10th, 2018
- Published daily
- 3.800+ unique views to date
- www.theice.com/marketdata/reports/244
- www.theice.com/publicdocs/IBA_ICE_Term_Risk_Free_Rates_October_2018.pdf

IBA's Proposed Approach – Waterfall Methodology

Longer term sustainable solution to produce IOSCO / BMR compliant term SONIA settings

Three level process to ensure daily publication

1. Use 1M, 3M and 6M SONIA OIS Swaps transactions and/or tradable quotes to derive term SONIA settings¹ using the ICE Swap Rate Methodology:
 - Set window from which to take SONIA data to build the benchmark²
 - Incorporate random data “snap shots” in order to enhance integrity
 - Use quality control checks to help ensure a representative benchmark
2. If there is **insufficient** liquidity in the SONIA OIS market, use SONIA Futures transactions or tradable quotes from regulated Exchanges to derive the TSRR
 - Apply “step-function”³ model to futures data to produce the forward looking SONIA rates
3. If there is **insufficient** liquidity in both SONIA OIS and SONIA futures markets, we will use the SONIA Futures settlement prices

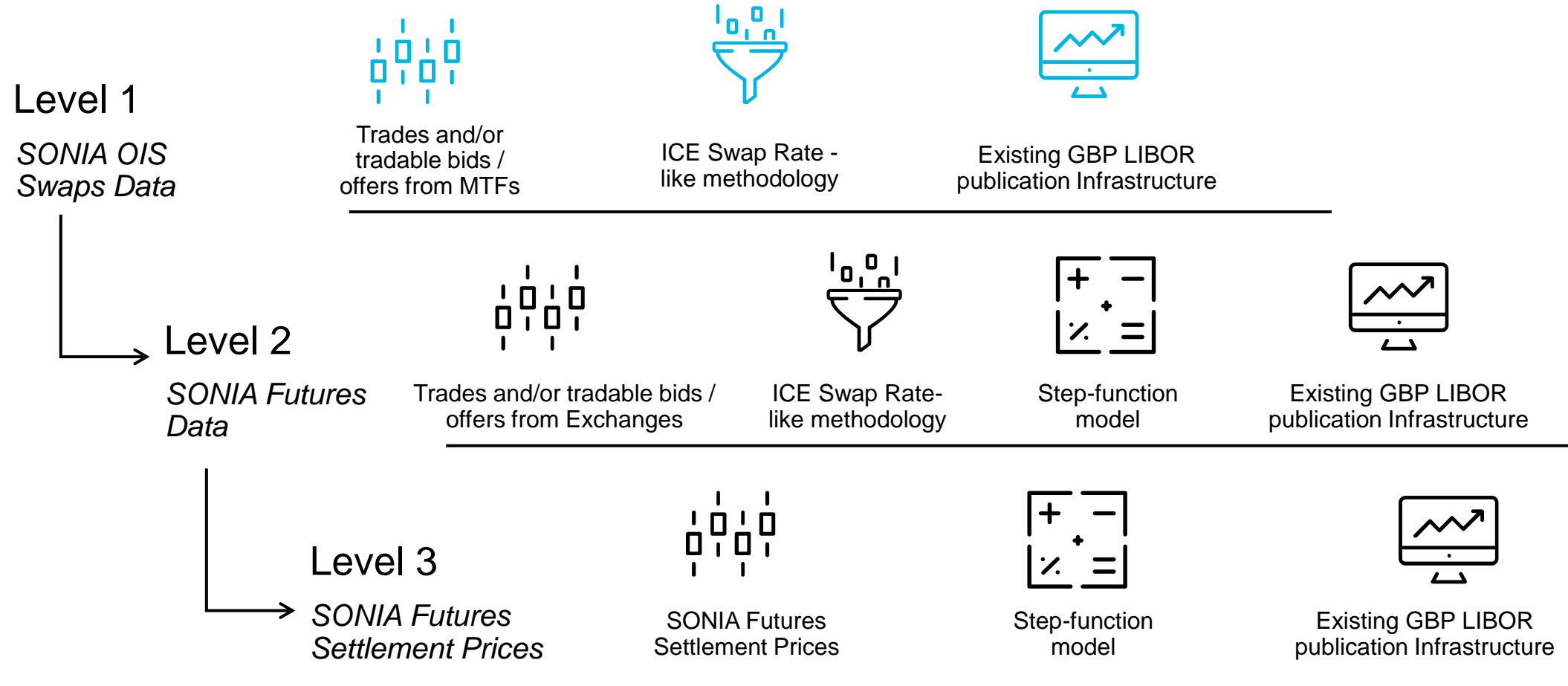
¹The ICE Swap rate methodology, from which the proposed steps above are derived, has been cited by the official sector: <https://www.fca.org.uk/insight/power-benchmark-ice-swap-rate>

²The duration of the window should be determined and periodically reviewed by the Oversight Committee, based on evolution of the liquidity in the underlying markets

³Step-function methodology: <https://www.theice.com/marketdata/reports/244> under ‘Show Methodology’

IBA's Proposed Approach – Waterfall Methodology

Longer term sustainable solution to produce an IOSCO / BMR compliant term SONIA settings



If the above does not produce a rate, IBA will republish the previous day's rate(s)

Key Market and Process Considerations

Development needs and open questions



Liquidity of underlying market

Robust term rates would benefit from:

- Enhanced liquidity in spot starting SONIA swaps
- Increased transparency in SONIA swap prices and/ or firm bid – ask levels
- Larger volumes in futures contracts that have maturities greater than the front months



Trading window

IBA is seeking feedback from market participants on the length of the window to be used to determine the settings:

- Data over the course of a full trading day?
- Data over the course of an extended window (e.g. 9 00 – 11 00)?
- Point in time data (e.g. 11 00 +/- a few minutes)?



Publication process

IBA is seeking feedback on when the rate should be published (contingent on trading window decisions)?

Governance and Evolution

IBA's commitment to stakeholders if selected to produce benchmark term SONIA rates



An Independent Benchmark Administrator

Experienced in financial services, regulation and systemically important benchmarks



A Term SONIA Oversight Committee

To review the methodology, scope and definition of the rate, including the underlying market and usage



Defined Policies and Procedures

Applicable to all parties associated with the production of the benchmark

Any Benchmark Administrator and Oversight Committee associated with a term RFR will need to have the ability to assess and evolve the benchmark as the underlying market develops

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