



IHS Markit™

Term SONIA Reference Rates

Presentation to the Working Group on Sterling Risk-Free Reference Rates

By IHS Markit
September 2019

About Us

IHS Markit is a world leader in critical information, analytics and expertise to forge solutions for the major industries and markets that drive economies worldwide.

We enable our clients to improve efficiency and make better decisions through next-generation information, analytics and solutions.



Why IHS Markit for Term Risk Free Rates?

Leveraging unique data, pricing, and infrastructure capabilities within established compliance framework

Valuation and Pricing

- Unique ability to provide asset valuations across the liquidity spectrum of Level 2 & 3 assets, with complementary services that help clients get the most from their data.
- More than 9mm valuations produced for OTC and cash positions per month, and more than 35,000 private asset valuations per year

Data

- Our FCA regulated trade confirmation platforms support the legally binding confirmation of derivative transactions across asset classes and regions, including all key trade economics.
- Capture trade flow 24/5 with more than 100 banks and 2,500 buy side users on the platform.

Indices

- Our tradable and benchmark indices allow investors to gain exposure to and track performance across multiple asset classes. Includes leading fixed income and credit indices across US, Europe, Asia and emerging markets
- More than USD135 billion+ in ETFs linked to iBoxx indices, and USD1.5 trillion+ OTC derivative notional traded monthly

Benchmark Administration

- FCA authorised Benchmark Administrator under the European Benchmark Regulation
- Established governance and oversight structure
- Significant experience and expertise in the administration of both proprietary and 3rd party benchmarks across all asset classes

IHS Markit Benchmark Administration

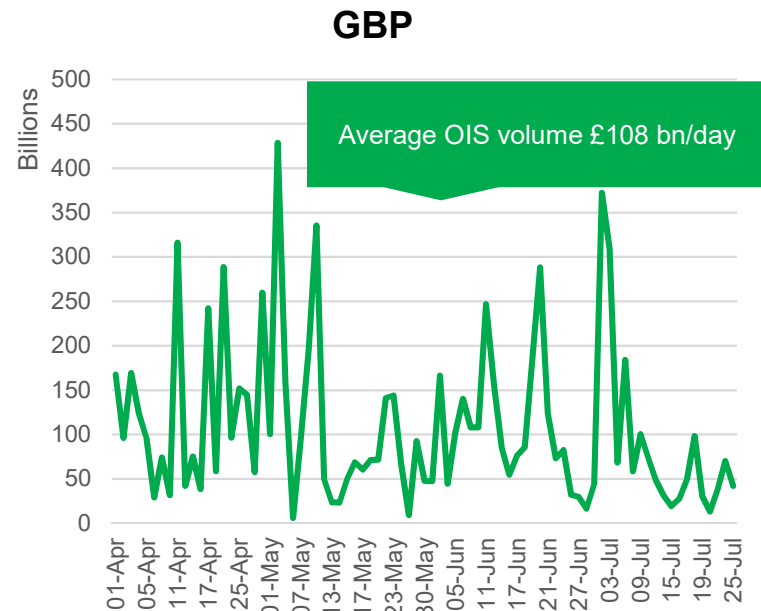
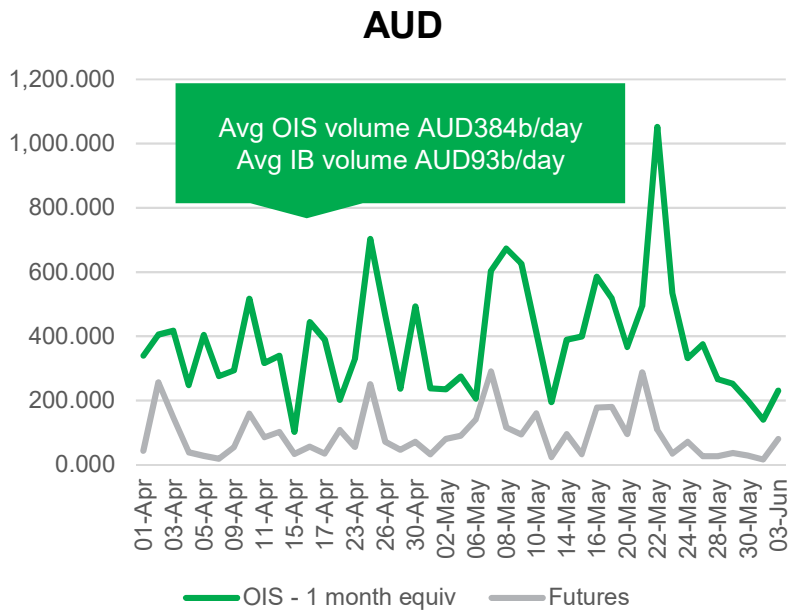
IHS Markit provides a full range of Benchmark Administration services in compliance with regulatory requirements

- IHS Markit Benchmark Administration Ltd. (“**IMBA**”) has been an FCA authorised Benchmark Administrator under the European Benchmark Regulation (“**EU BMR**”) since July 2018.
- IMBA currently administers more than 29,000 Benchmarks including both proprietary and third party indices, and across financial, economic and commodity markets.
- Established governance including Board, BOC, and relevant policies and procedures as required under EU BMR.
- All Benchmarks are administered as “Significant Benchmarks”. We do not make use of any opt outs permitted under the EU BMR’s proportionality principles.

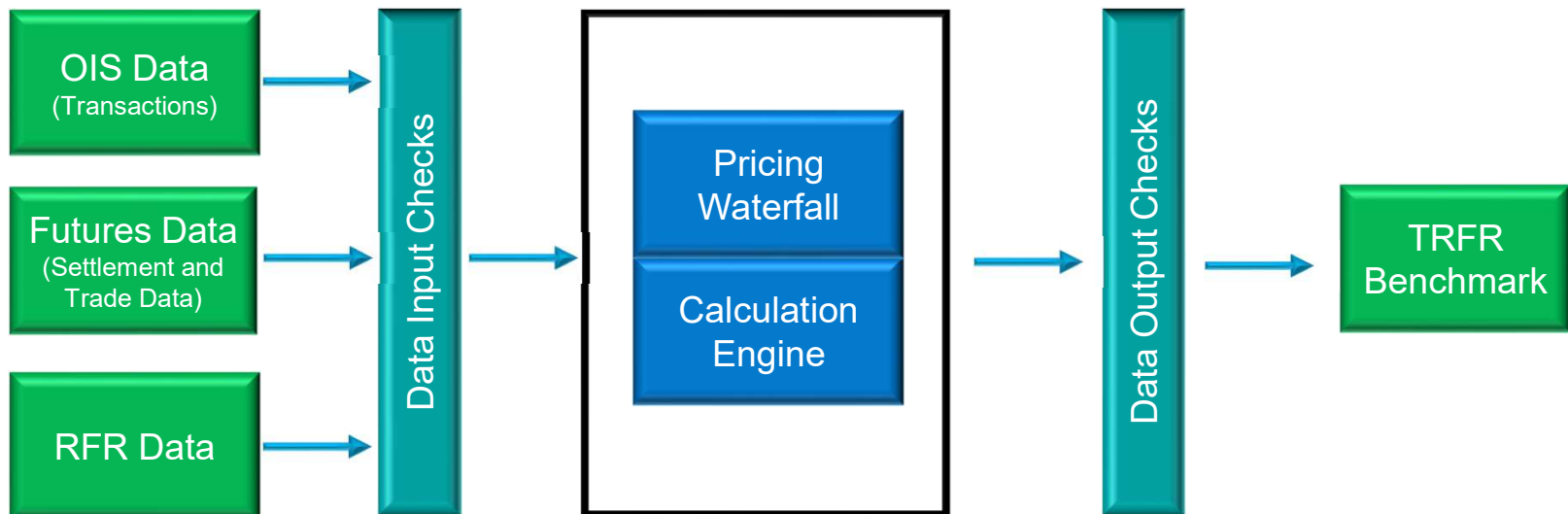
Term Risk Free Rates (TRFRs) – our approach

- Purely transaction based in the majority of market conditions
- Capture OIS transactions and futures prices over a 24 hour period
- Include both spot starting and forward starting OIS transactions
- Volume-weighted approach to calculation of the TRFRs
- Apply variety of input and output data checks to secure the validity and comparability of the data
- Established waterfall of calculation approaches to ensure robustness and continuity of TRFR provision

Transaction volumes across OIS and Futures markets



Methodology – Term Risk Free Rate Process



OIS Data Validation

OIS transactions included

- Overall data set:
 - Activity across various Trading Venues, OTC, and CCPs
- Qualifying transactions:
 - Cleared trades only
 - Counterparties: bank at least one side
 - Minimum notional amount (per trade)
 - Data validity checks

Priority 1 requirement (for each maturity per day)

- Minimum notional amount traded
- Minimum number of trades

GBP TRFR - Percentage of days when Calculation 1 is used (April to July 2019)

Notional Volume	1 month	2 month	3 month	4 month	5 month	6 month	12 month
> £200 mm	99%	100%	100%	100%	100%	100%	95%
> £500 mm	92%	97%	99%	100%	100%	100%	94%
> £1bn	87%	92%	96%	100%	100%	100%	94%

Calculation engine

- Actual calculation
 - > Creation of end-of-day base curve
 - > Price each OIS transaction relative to the base curve
 - > Allocate each OIS trade to each day it references the underlying rate
 - > Volume weight each tenor using observed transactions
 - > Calculate the TRFR using the trade-adjusted base curve
- Waterfall of calculation approaches
 - > Use of 6 step waterfall to ensure continuity of calculation even when liquidity is reduced or markets are distressed
 - > Hybrid approach using both OIS and futures data used in majority of cases, actual compounded RFR as ultimate fallback

Output

- End of day closing snap with publication next morning
- TRFRs produced for 1, 2, 3, 4, 5, 6 and 12 month tenors
- Clear identification of which tier of the calculation waterfall is used for each published day/tenor
- Monthly reporting statistics on OIS transaction volumes provided to market participants and regulators
- Prepare for administration as Critical Benchmark
- Dissemination / licensing

IHS Markit Customer Care

CustomerCare@IHS Markit.com

Americas: +1 800 IHS CARE (+1 800 447 2273)

Europe, Middle East, and Africa: +44 (0) 1344 328 300

Asia and the Pacific Rim: +604 291 3600

Disclaimer

The information contained in this presentation is confidential. Any unauthorized use, disclosure, reproduction, or dissemination, in full or in part, in any media or by any means, without the prior written permission of IHS IHS Markit Ltd. or any of its affiliates ("IHS IHS Markit") is strictly prohibited. IHS IHS Markit owns all IHS IHS Markit logos and trade names contained in this presentation that are subject to license. Opinions, statements, estimates, and projections in this presentation (including other media) are solely those of the individual author(s) at the time of writing and do not necessarily reflect the opinions of IHS IHS Markit. Neither IHS IHS Markit nor the author(s) has any obligation to update this presentation in the event that any content, opinion, statement, estimate, or projection (collectively, "information") changes or subsequently becomes inaccurate. IHS IHS Markit makes no warranty, expressed or implied, as to the accuracy, completeness, or timeliness of any information in this presentation, and shall not in any way be liable to any recipient for any inaccuracies or omissions. Without limiting the foregoing, IHS IHS Markit shall have no liability whatsoever to any recipient, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by any recipient as a result of or in connection with any information provided, or any course of action determined, by it or any third party, whether or not based on any information provided. The inclusion of a link to an external website by IHS IHS Markit should not be understood to be an endorsement of that website or the site's owners (or their products/services). IHS IHS Markit is not responsible for either the content or output of external websites. Copyright © 2017, IHS IHS Markit™. All rights reserved and all intellectual property rights are retained by IHS IHS Markit.

