ICE Futures Europe
LIBOR Transition Fallback

Introduction

ICE LIBOR® ("LIBOR") is a widely used benchmark for short-term interest rates (STIRs). Used globally, LIBOR is often referenced in derivative, bond and loan documentation, and in a range of consumer lending instruments such as mortgages and student loans.

In July 2017, the UK Financial Conduct Authority ("FCA") announced its intention to no longer compel panel banks to submit to LIBOR after 31 December 2021 (the "Cessation Date"). The FCA, in coordination with financial regulators in other impacted jurisdictions, as well as Risk Free Rate ("RFR") Working Groups and other competent authorities, has since been working towards removing the reliance of regulated firms on LIBOR ahead of the Cessation Date.

For the purposes of this document, unless otherwise specified, the term "LIBOR" will be used to mean the GBP and CHF LIBOR rates referenced by ICE Futures Europe (the "Exchange") in its listed futures and options contracts (the "Transitioning LIBOR Contracts"). All Transitioning LIBOR Contracts are cleared at ICE Clear Europe Limited (the "Clearing House" and, together with the Exchange, "ICE"). The cessation of LIBOR impacts the Transitioning LIBOR Contracts and the users of Transitioning LIBOR Contracts. This document sets out the conversion mechanism that the Exchange proposes to adopt for the treatment of open Contracts, also referred to as outstanding Open Interest ("OI"), in the Transitioning LIBOR Contracts.

The purpose of this transition plan is to notify members of the Exchange's plans to transition LIBOR Contracts on to Contracts referring replacement rates. Related rules changes giving effect to this plan, described below, will be subject to public consultation in the usual way in due course.

Background

On 4 December 2020, ICE Benchmark Administration ("IBA"), the administrator of LIBOR, published a consultation on its intention to cease the publication of the following LIBOR settings, immediately following the LIBOR publication on the Cessation Date:

- GBP LIBOR - all settings (overnight, 1 week, 1, 2, 3, 6 and 12 months):
- EUR LIBOR - all settings (overnight, 1 week, 1, 2, 3, 6 and 12 months);
- CHF LIBOR - all settings (spot next, 1 week, 1, 2, 3, 6 and 12 months); and
- JPY LIBOR - all settings (spot next, 1 week, 1, 2, 3, 6 and 12 months);

The consultation closed on 25 January 2021. On 5 March 2021, IBA published a feedback statement to the consultation on its intention to cease the publication of LIBOR settings.

On 5 March 2021 the FCA announced the end dates for all LIBOR panels (the "FCA Cessation Announcement"). In the view of the International Swaps and Derivatives Association ("ISDA"), the FCA Cessation Announcement constituted an index cessation event, or loss of representativeness, under the IBOR Fallbacks Supplement and the ISDA 2020 IBOR Fallbacks Protocol for all 35 LIBOR settings. The FCA Cessation Announcement also resulted in ISDA announcing that the ISDA fallback spread adjustment fixing date (ISDA spread adjustment) would be determined as at 5 March 2021 for purposes of calculating a spread between LIBOR and replacement rates. Further information can be found here: FCA cessation announcement and Bloomberg IBOR Fallbacks Technical Notice**.**

ICE Futures Europe and LIBOR Transition

Since the benchmark reform process began, participants in global and domestic financial markets have been working to develop and adopt alternative RFR products as a replacement to LIBOR. Consistent with the recommendations of the Working Group on Sterling Risk-Free Reference Rates ("RFRWG"), the Alternative Reference Rates Committee ("ARRC") and the National Working Group on Swiss Franc Reference Rates ("NWG"), the Exchange has launched contracts referencing SONIA, SOFR and SARON (together the "RFR Futures Contracts") as the preferred alternative RFRs for pound Sterling, US Dollar and Swiss Franc, respectively. The Exchange's product development efforts continue to be focused on RFRs and it is fully committed to creating the broadest multi-currency product suite to service its users and support them through the transition process.

Table 1: LIBOR replacement Rate choices.

Currency	Regulatory Body	Working Group Name	RFR
Sterling (GBP)	Bank of England (BOE)	Working Group on Sterling Risk-Free Reference Rates	SONIA (Sterling Over Night Index Average)
US Dollar (USD)	Federal Reserve (Fed)	The Alternative Reference Rate Committee (ARRC)	SOFR (Secured Overnight Financing Rate)
Swiss Franc (CHF)	Swiss National Bank (SNB)	The National Working Group	SARON (Swiss Average Rate Overnight)

The Exchange has developed functionality to enable Members and their clients wishing to transition existing positions in LIBOR Contracts to RFR Futures Contracts on a voluntary and consensual basis. Users are also now able to benefit from deep liquidity available in the markets for RFR Futures Contracts on the Exchange.

In the Three-Month SONIA suite, the Exchange has fully replicated the trading functionality available in GBP LIBOR futures and options, known as Short Sterling; this includes packs and bundles, spreads, vanilla and mid-curve options as well as inter-contract spreads ("ICS"). The ICS functionality allows users to execute Short Sterling and Three-Month SONIA Futures as a single transaction, eliminating legging risk. Asset Allocations for the products are also supported, allowing for this type of trade to be executed via the Block Trading Facility (Trading Procedures Section 16). SONIA Futures markets are gaining momentum. Since launch, cumulative volume in notional terms is approximately £20 trillion. 22% of Three-Month Sterling risk was traded in SONIA in February 2021 with the contracts setting OI records on an almost daily basis.

SARON Futures were relaunched on 1 March 2021. SARON Futures are available to trade in the Central Limit Order Book ("CLOB") with a contract size equivalent and functionality mirroring that which is available in the Three Month Euro Swiss Franc (EuroSwiss) Futures complex. Please see here for the SARON Contract Specs.

LIBOR Transition Approach

ISDA conducted an industry-wide consultation, outlining several options for the conversion of LIBOR rates to alternative RFRs. The industry recommendation was that new contracts replacing LIBOR contracts would be based instead upon the alternative RFR. However, a fallback rate then needs to be added, representing the deemed difference in value between the relevant LIBOR and replacement RFR rates. [Since LIBOR is a future-looking rate, whilst RFRs are daily rates based on recent historic data, a timing issue arises as to how they should be compared.] For purposes of calculating the fallback rate, RFRs are compounded in arrears.

ISDA LIBOR Fallback Rate = RFR compounded in arrears + ISDA Fallback Spread*

The spread adjustment is based on a historical median approach, the historical differences between the LIBOR rate for the tenor versus the compounded RFR over a 5-year period. ISDA announced that the effect of the FCA Cessation Announcement confirming the cessation of LIBOR at year end 2021 triggered the calculation. On 25 January 2021 the ISDA 2020 IBOR Fallback Protocol and Supplement came into effect, allowing firms to incorporate the new IBOR fallbacks into existing (legacy) derivatives agreements.

ICE intends to transition OI in existing listed LIBOR contracts into positions on equivalent contracts referencing their replacement RFR, e.g. Short Sterling to SONIA, as detailed in the following sections.

* For Three Month Sterling (Short Sterling) Futures and Options this rate has been set at 11.93 bps.

Timing

ICE plans to convert OI held in Three Month Sterling (Short Sterling) Futures and Options and Three Month Euro Swiss Franc (EuroSwiss) Futures into Three Month SONIA Index Futures and Options and Three Month SARON Index Futures respectively following the close of business on **Friday 17 December 2021** ("Transition Date"). The conversion will be applicable to all contract delivery months.

Futures

The Exchange published a consultation on 21 October 2020, set out in Circular 20/150, inviting feedback on its proposals for the conversion of LIBOR based futures to RFRs.

Taking into account the feedback received, ICE's proposals are outlined below:

- Following the close of business on Friday 17 December 2021, ICE will convert outstanding contracts in Transitioning LIBOR Contracts into the notional equivalent number of contracts in the RFR Futures Contract of the same currency. For example, two Three Month Sterling (Short Sterling) Futures will be converted into one Three Month SONIA Index Futures contract with the same delivery month.
- The conversion will involve a value adjustment using the ISDA Fallback Spread.
- Once the conversion is concluded, the legacy product codes will be removed from admission to trading.
- There will be no one-off payments between Clearing Members and the Clearing House related to any valuation changes – it being assumed that the ISDA methodology is fair and sufficiently disclosed and understood in the market.
- Provision will be made for the cash settlement of any odd lots arising from the differing Contract sizes as between the Transitioning LIBOR Contracts and the Contracts into which those Contracts are being converted.
- The amendment to open interest Contracts will be achieved pursuant to a Rules Change under Rule 109 of the ICE Clear Europe rules, pursuant to which a new Part 24 of the ICE Clear Europe rules will be inserted giving effect to the amendments to Contract Terms described in this plan. The rules changes in question will be consulted upon in due course once they are finalised, in accordance with Rule 109 and applicable laws.

Short Sterling Futures Conversion Approach

Open Contracts in Three Month Sterling (Short Sterling) Futures will be directly converted to open Contracts in Three Month SONIA Index Futures on a 2:1 basis. The conversion formula will be:

$$3M\ GBP\ LIBOR\ Fallback\ Rate = 3M\ Compounded\ in\ Arrears\ SONIA + ISDA\ Fallback\ Spread \tag{1}$$

expressed as futures contracts prices, the conversion formula would be:

$$Short\ Sterling\ Future = Three\ Month\ SONIA\ Index\ Future - ISDA\ Fallback\ Spread\ (11.93bps) \tag{2}$$

The daily settlement price for Three Month Sterling (Short Sterling) Futures on Friday 17 December 2021, will be calculated on the basis of Equation (2) above. Following the completion of end of day processes, the Clearing House will convert positions in Short Sterling Futures to respective positions in Three-Month SONIA Futures (with consideration given to the 2:1 ratio). The Three-Month SONIA Index Futures contract naming convention is such that the Short Sterling Mar 22 delivery month aligns with the Three-Month SONIA Index Futures Mar 22 delivery month.

Example:

The following table illustrates how an Open Contract Position in Three Month Sterling (Short Sterling) Futures would be converted into an Open Contract Position in the equivalent Three-Month SONIA Index Futures on the Transition Date. The fallback spread as set on the 5 March 2021 is 11.93 bps. The settlement prices used in this example are for illustrative purposes only.

In the simplest case of a 2-lot position in the Three Month Sterling (Short Sterling) Futures Mar 22 contract on 16 December 2021 and assuming the settlement prices on this date for this expiry are: 99.995 for Short Sterling Futures and 100.115 for the Three-Month SONIA Future. The spread between them is 12 bps, slightly different from the fallback spread.

On 17 December 2021, the settlement prices of the same two contracts are: 100.0157 for Three Month Sterling (Short Sterling) Futures and 100.135 for the Three-Month SONIA Index Futures. The spread of 11.93bps is imposed by setting the price of the Three Month Sterling (Short Sterling) Futures using equation (2) above. This results in a variation margin ("VM") payment of £51.75. At this stage on the conversion day, the Clearing House will convert the 2-lot position in Three Month Sterling (Short Sterling) Futures into a 1 lot position in Three Month SONIA Futures. There is no transfer of value in this conversion. All Three Month Sterling (Short Sterling) Futures contracts with delivery months post December 2021 will cease to be available for trading.

Conversion settlement prices will be derived from the value of the equivalent Three-Month SONIA Future less the fallback spread of 11.93 bps, as in Equation (2). For this reason, the final settlement prices of the Three Month Sterling (Short Sterling) Futures is in red in the table below, to highlight that this is a derived final settlement for Three Month Sterling (Short Sterling) Futures. A position will then be opened in the equivalent delivery month of the Three Month SONIA Index Futures at that days Daily Settlement Price ("DSP")

Date	Product	Type	Expiry	# of Lots	CVF	Sterling (L) DSP	SONIA (SO3) DSP	SO3 - L basis	ISDA Fallback Spread	Price Change on Day	VM per Position	Comment
16/12/2021	L	F	Mar-22	2	1,250	99.9950	100.1150	0.1200	0.1193			Pre-conversion
17/12/2021	L	F	Mar-22	2	1,250	100.0157	100.1350	0.1193	0.1193	0.0207	51.75	Pre-conversion
17/12/2021	SO3	F	Mar-22	1	2,500	-	100.1350	-	0.1193			Post-conversion
20/12/2021	SO3	F	Mar-22	1	2,500	-	100.1100	-	0.1193	-0.0250	-62.50	Post-conversion

The Dec 21 Short Sterling Futures Contract Last Trading day is the December IMM date (15 December 2021) and Exchange Delivery Settlement Price ("EDSP") will be based on the ICE Benchmark Administration Limited London Interbank Offered Rate (ICE LIBOR) for three month sterling deposits at 11:00 on the Last Trading Day.

Three Month Euro Swiss Franc (EuroSwiss) Futures Conversion Approach

Open Contract Positions in Three Month Euro Swiss Franc (EuroSwiss) Futures will be converted to Open Contract Positions in Three Month SARON Index Futures. The conversion formula will be:

$$3M\ CHF\ LIBOR\ Fallback\ Rate = 3M\ Compounded\ in\ Arrears\ SARON + ISDA\ Fallback\ Spread \qquad (3)$$

expressed as futures contracts prices, the conversion formula would be:

$$Euroswiss\ Future = Three\ Month\ SARON\ Index\ Future - ISDA\ Fallback\ Spread(00.31bps) \quad (4)$$

Following the recent restructuring of the Three Month SARON Futures as announced in Exchange Circulars (21/002 and 21/020), the Three Month Euro Swiss Franc (EuroSwiss) Futures conversion will be 1:1 into equivalent Three Month SARON positions.
Options on Three Month Euro Swiss Franc (EuroSwiss) Futures will be suspended in advance and delisted upon the conversion date. ** For Three Month Euro Swiss Franc (EuroSwiss) Futures this rate has been set at 00.31 bps

Three Month Sterling (Short Sterling) Futures & Options Odd Lot Treatment

For both Three Month Sterling (Short Sterling) Futures and Options, the lot size conversion mechanics will be the same. Since two Three Month Sterling (Short Sterling) Futures and Options lots shall become one SONIA lot, a two-step process will be used:

1. Positions that are uneven will have 1 lot cash settled
2. Remaining even lots are balanced to match longs and shorts. Remainders from this process are also cash settled through the standard pro-rata assignment process used in early option exercise for American-style interest rate options

These cash settlements that result from the two-step process will be at the DSP of that contract as at the conversion date.

Options on Three Month Sterling (Short Sterling) Futures Conversion Approach

From the close of business on 17 December 2021 all Options and Mid-curve Options on Short Sterling will convert into Flex Strike Options on Three Month SONIA Index Futures. Flex Strike Options will be listed for all converted positions and will continue to be listed until they expire. For converting positions, ICE has defined an effective strike as:

$$K' = K + S \quad (5)$$

With S being the ISDA 3M GBP LIBOR Fallback Spread (11.93bps), K the Short Sterling Strike Price and K' the SONIA Flex Strike Price. The following table shows some examples of new flex strikes on equivalent Options and Mid-curve Options on Three Month SONIA Index Futures.

Short Sterling - Strikes	Short Sterling Conversion Flex Strikes on 3M SONIA	Options on 3M SONIA - Strikes	Mid-Curve Options on 3M SONIA - Strikes
		99.0000	99.0000
		99.0500	
		99.1000	99.1000
99.0000	99.1193		
		99.1500	
		99.2000	99.2000
99.1250	99.2443		
		99.2500	
		99.3000	99.3000
		99.3500	
99.2500	99.3693		
		99.4000	99.4000
		99.4500	
99.3750	99.4943		
		99.5000	99.5000
		99.5500	
		99.6000	99.6000
99.5000	99.6193		
		99.6500	
		99.7000	99.7000
99.6250	99.7443		
		99.7500	
		99.8000	99.8000
		99.8500	
99.7500	99.8693		
		99.9000	99.9000
		99.9500	
99.8750	99.9943		
		100.0000	100.0000
		100.0500	
		100.1000	100.1000
100.0000	100.1193		

Options on Short Sterling Futures have 8 quarters and 4 serial months, Mid-curve Options on Short Sterling have 4 quarters and 4 serial months. Based on the conversion date the following table outlines those Options' expiry months that will convert:

As at 17/12/2021	**Converting Expiry Months**						
Sterling Options - Expiry Quarters	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23
Sterling Options - Expiry Serials	Jan-22	Feb-22	Apr-22	May-22			
Sterling Mid-Curve Options - Expiry Quarters	Mar-22	Jun-22	Sep-22	Dec-22			
Sterling Mid-Curves Options - Expiry Serials	Jan-22	Feb-22	Apr-22	May-22			

The conversion of all Short Sterling Options and Mid-curve Options will also require an adjustment of Open Contract Positions due to the differing contract sizes again on a 2:1 basis (Short Sterling CVF £1250; Three Month SONIA Index Futures CVF £2,500).

Options on Three Month Sterling Futures Time Value Adjustment

Quarterly options on Short Sterling expire on the IMM date, the third Wednesday of the expiry month, as does the underlying futures contract. In conversion, the expiry date will be adjusted to the Friday prior to the third Wednesday of the expiry month, to align with the expiry date of the quarterly Options on Three-Month SONIA Index Futures. The expiry adjustment of the options will be 5 calendar days shorter (from Wednesday to the prior Friday). There will be a one-off irreversible payment (ad-hoc cash posting), which the Clearing House will give effect to pursuant to Rule 109(k), during the end of day process on the business day following the Transition Date, to compensate for the change in time to expiry (theta) on all affected Options positions (both cash settled odd lot options positions and converted options positions). As with the Short Sterling Futures conversion, which will anchor to the SONIA curve, the Short Sterling Options conversions and settlements will be anchored to the SONIA Options Surface.

This cash adjustment methodology is consistent with precedent set for similar changes to expiry dates at the exchange, notably the transition of Brent to a new expiry calendar, details of which can be found here.

Note that Serial Options on Short Sterling, and Mid-curve Options on Short Sterling expire on the Friday prior to the relevant IMM date and require no expiry date adjustment and no one-off irreversible payment will take place for these Options contracts.

Example:

The following steps illustrate how OI in quarterly Options on Short Sterling Futures would be converted into OI in options on the equivalent Three-Month SONIA Index Futures following End of Day clearing processes on Friday 17 December 2021,.The below tables provide examples of that process:

1. Exchange adds SONIA Option Flex Strikes corresponding to Short Sterling Option strikes plus the LIBOR fallback spread
2. Three Month SONIA Index Futures and Options settled (including both standard strikes and flex strikes)
3. Short Sterling Futures settled to Three-Month SONIA Index Futures Contract less the LIBOR fallback spread (outlined in equation (2) above).
4. Short Sterling Options will settle to the same prices as the corresponding flex strike Options on Three Month SONIA Index Futures.
5. The Exchange will compute the Bachelier (normal) implied volatility for the flex strike SONIA Options, given the underlying Three Month SONIA Index Futures settlement

price, flex strike price, the option settlement price and Three Month SONIA option time-to-expiry.

6. Exchange will compute Bachelier (normal) prices for the Short Sterling options, given the Short Sterling underlying (equal to Three Month SONIA Index Futures minus Spread), strike price, normal implied volatility from step 5, and Short Sterling option time-to-expiry.
7. The uneven position holders will have their odd 1 lot position cash settled via offsetting transactions priced as at step (4).
8. Remaining even lots are balanced per contract to match longs and shorts. Remainders from this process are also cash settled (as at step [4]) through the standard pro-rata assignment process used in early option exercise. The balanced long and short options positions will be converted into new positions in SONIA Flex Options, at prices from step 2, with an adjusted number of lots considering the ratio conversion.
9. A one-off irreversible payment for the difference between prices in Steps 6 and 4 would be processed on the next day for all quarterly Short Sterling options positions by the Clearing House.

The following table is the numerical example of the theta adjustment calculation of an out of the money call Option on Short Sterling 100.1250 strike:

Description	Value	Comment
Valuation Date	17/12/2021	
Three Month SONIA Futures DSP	100.1350	
GBP LIBOR 3M Fallback Spread	0.1193	
Short Sterling Futures DSP	100.0157	= 100.135 - 0.1193
Short Sterling Strike	100.1250	
SONIA Flex strike	100.2443	= 100.125 + 0.1193
SONIA Option DSP	0.0475	
Short Sterling Option Settlement Price	0.0475	= SONIA Option DSP
SONIA Option expiry	11/3/2022	
SONIA Option Time-to-expiry	0.2301370	= (11/3/2022 - 17/12/2021) / 365
Normal Implied Volatility	0.4807454	= Bachelier implied volatility
Re-price SONIA Option	0.0475000	= Bachelier option price
Short Sterling Expiry	16/3/2022	
Short Sterling Time-to-expiry	0.2438356	= (16/3/2022 - 17/12/2021) / 365
Short Sterling Model Price	0.0499198	= Bachelier option price
Theta Adjustment	0.0024198	= 0.0499198 - 0.0475

The following table is the numerical example of the theta adjustment calculation of an in the money call Option on Short Sterling 99.5000 strike:

Description	Value	Comment
Valuation Date	17/12/2021	
Three Month SONIA Futures DSP	100.1350	
GBP LIBOR 3M Fallback Spread	0.1193	
Short Sterling Futures DSP	100.0157	= 100.1350 - 0.1193
Short Sterling Strike	99.5000	
SONIA Flex strike	99.6193	= 99.5000 + 0.1193
SONIA Option DSP	0.5300	
Short Sterling Option Settlement Price	0.5300	= SONIA Option DSP
SONIA Option expiry	11/3/2022	
SONIA Option Time-to-expiry	0.2301370	= (11/3/2022 - 17/12/2021) / 365
Normal Implied Volatility	0.7787395	= Bachelier implied volatility
Re-price SONIA Option	0.5300000	= Bachelier option price
Short Sterling Expiry	16/3/2022	
Short Sterling Time-to-expiry	0.2438356	= (16/3/2022 - 17/12/2021) / 365
Short Sterling Model Price	0.5317326	= Bachelier option price
Theta Adjustment	0.0017326	= 0.5317326 - 0.5300000

The Clearing House will make a one-off irreversible payment for the time to expiry adjustment, effectively transferring cash from short position holders to long position holders, via the end of day collection and payments process on the business day following the Transition Date. This ad-hoc adjustment applies to both cash-settled positions and to converted positions of the quarterly expiry months of the Options on Short Sterling Futures.

Exchange Recommendation on Conversion

The Exchange recommends that Members holding OI in Transitioning LIBOR Contracts expiring beyond 2021 identify and carefully monitor their positions. Exchange Participants are encouraged to actively convert LIBOR positions into equivalent RFR positions ahead of the transition, where viable, using the Exchange's existing trading functionality of Inter-Contract Spreads and Asset Allocation Trading Facilities.