This paper sets out CurveGlobal Markets' proposals in connection with the transition of GBP Libor. It contains statements of opinion and intent, which remain subject to ongoing analysis and governance and the contents of this paper should not be treated as final or definitive. CurveGlobal Markets does not accept any liability in connection with the contents of this paper. Readers should seek their own legal, financial or other advice, as appropriate.

To: CurveGlobal Markets Member Firms

Subject: Proposals for anticipated amendments to and/or cessation of GBP Libor publication

11 December 2019

Dear CurveGlobal Markets Member Firm,

In recent years we have seen increasing regulatory focus in the area of interest rate benchmarks. There has been a significant push to develop standards and markets in Risk Free Rates ("RFRs") and to move the market away from indices that rely on expert judgement.

The London interbank offered rate ("Libor") in particular has come under close scrutiny and has been the subject of many public comments from regulators globally. The UK's Financial Conduct Authority ("FCA") has stated that it will not compel banks currently making Libor submissions to do so beyond the end of 2021, and in April 2017 the Working Group on Sterling Risk-Free Reference Rates recommended the Sterling Overnight Index Average ("SONIA") benchmark as their preferred RFR. Momentum is now building to transition away from Libor to SONIA across sterling markets.

Any change in the calculation and availability of Libor could have a direct impact on certain contracts on CurveGlobal Markets (the derivatives segment of London Stock Exchange, also "the Exchange"), and in particular open futures positions which settle on GBP 3 Month Libor – the CurveGlobal Three month Sterling Futures contract ("Libor Futures"). In this context, like many other market participants, CurveGlobal Markets is considering contingency arrangements to enable an orderly transition away from Libor as a benchmark index, if required.

The purpose of this document is to set out potential impacts of these developments on the **Libor Futures contract** and to solicit feedback from CurveGlobal Markets Member Firms ("Members") on our proposed plans to mitigate them ('Libor contingency plans'). We have worked collaboratively with LCH Limited ("LCH", also "the CCP") in the development of these plans and the contents of this document.

1. Impact of permanent GBP Libor cessation on the Libor Futures contracts[1]

With the voluntary agreement that Libor panel banks have with the FCA to continue Libor submissions due to expire at the end of 2021 it is possible that Libor publication could permanently cease at any time from early 2022 onwards. If this was to occur, it is clear that some form of remedial action would be needed to manage open positions in 2022 expiries and beyond in the Libor Futures contract as the underlying reference rate on which the futures settle will have been discontinued.

[1] There is a distinction to be made between a temporary failure to publish the daily Libor rate and the permanent discontinuation of Libor. In the former case, CurveGlobal Markets (and LCH) has established procedures in place to manage any such short-term disruption. However, in the latter case, new measures would be required.

In the event of a permanent cessation of GBP Libor, we would expect an announcement to be made by ICE Benchmark Administration (IBA), the benchmark administrator for Libor, specifying the date from which the publication of GBP Libor would cease (the 'cessation date'). Should this occur, our proposed Libor contingency plans would be implemented, as set out below. We would expect to implement these plans at some point between the IBA announcement on Libor cessation being published and the cessation date specified in the announcement. Members would be notified by Market Notice that Libor contingency plans have been triggered.

i. Suspend Libor Futures contracts with no open interest

We are proposing that a decision to implement Libor contingency plans would mean that the Exchange suspends and delists Libor Futures contracts without open interest beyond the last contract with open interest remaining. For example, should there be open interest in the March 2024 contract, but nothing beyond, then all contracts from June 2024 inclusive would be suspended and immediately delisted. No further Libor Futures Contract would be then listed after June 2024. Note that in this example, even if no open interest existed in other maturities prior to the March 2024 contract, such as the December 2023 contract or even the December 2021 contract, these would be retained on CurveGlobal Markets and cleared through LCH. This would minimise the impact on Members, as well as the Exchange and CCP, as contracts with zero open interest would by definition not be at risk of a valuation impact.

Question 1: Do you agree with the proposal to delist the Libor Futures Contracts beyond the last contract with open interest remaining?

Question 2: Do you agree that all Libor Futures Contracts before the last contract with open interest remaining should be retained?

ii. Managing Libor Futures contracts with open interest

For Libor Futures contracts with open interest in maturities beyond the cessation date, our Libor contingency plans will include a clearly defined fallback mechanism. We have considered a number of possible solutions:

a. Allow the contracts to run to expiry but amend the underlying reference rate so that the contract settles on a defined fallback rate (such as a SONIA compounded in arrears rate with appropriate credit spread)[2];

b. Allow the contracts to run to expiry but amend the contract terms such that at expiry the contract physically settles into a corresponding SONIA contract using an appropriate credit spread [3]; or

c. Immediately convert the contracts into corresponding SONIA contracts using an appropriate credit spread to make cash adjustments as required.

In all cases, the underlying risk in the revised Libor Futures contract would be anchored to SONIA as the successor fallback rate to Libor. However, in the first case the contracts would not be fungible with the CurveGlobal® Three month SONIA Futures contracts ("**SONIA Futures**"), whereas in the second and third cases they would be fungible at the point of conversion.

The clear advantage of the third case over the second case is that by converting the Libor Futures contracts to SONIA Futures immediately upon the Libor contingency plans being implemented, these contracts would then be

[2] In order to ensure an appropriate SONIA price was used, the Exchange Delivery Settlement Price ("EDSP") of the Libor Futures contract would be amended to reference the last Daily Settlement Price ("DSP") before the Accrual Period in the corresponding CurveGlobal® Three month SONIA Futures contract. The Last Trading Day of the Libor Futures contracts would be updated accordingly.

[3] In this scenario, upon conversion the SONIA Futures would be in the Accrual Period ("Aqua").

immediately fungible with the existing liquidity pool of other SONIA contracts, making them easier to close out and risk manage.

Our preferred fallback mechanism to manage Libor Futures contracts with open interest in the event Libor contingency plans are implemented is to immediately convert Libor Futures contracts into the corresponding SONIA Futures contracts, using an appropriate credit spread upon conversion.

The conversion from the Libor-based contract to the SONIA-based contract could be achieved through a mandatory process. The conversion would be on a one-for-one basis in the same contract maturities as the Libor positions.

For example, a long 10,000 December 2023 position in Libor Futures would be converted into a long 10,000 December 2023 position in SONIA Futures. In operational terms the conversion would result in the closing of the 10,000 Libor Futures and opening of 10,000 SONIA Futures on the Member's account, netting off the position in Libor Futures to zero. This process would be managed by the Exchange in collaboration with LCH. It would be a post-trade lifecycle event; Members would not be required to trade in the open market in order to achieve the conversion.

Question 3: Subject to an appropriate credit spread adjustment (detailed below), do you support the immediate mandatory conversion of Libor Futures contract to SONIA Futures should our Libor contingency plans need to be implemented?

2. Calculation of credit spread

Converting Libor Futures contracts into SONIA Futures contracts would require a credit spread cash adjustment to compensate any open position holders for the resulting value transfer. There are two possible approaches, set out below.

i. Credit-spread published according to the ISDA fallback methodology

Starting in July 2018, ISDA organised an industry-wide consultation on rate reform, which put forward a number of options for the Replacement Benchmark and the required Credit Spread component, including for GBP Libor. The published results of the ISDA consultation showed a preference for a compounded in arrears rate with a credit spread computed using a historical average. Under these selected provisions, Libor will be replaced in new – and, subject to voluntary adoption by participants, legacy – OTC derivative contracts governed by ISDA Master Agreements with a backward looking compounded RFR plus a credit spread, represented as follows:

$$Revised\ Libor = Compound\ RFR + Credit\ Spread$$

ISDA has announced that Bloomberg Index Services Limited has been selected for the calculation and publication of fallback related adjustments, i.e. the credit spread component in the above calculation.

Using the ISDA calculation for determining the credit spread adjustment for Libor Futures would have the advantages of ensuring consistency with the swaps market and of using historical benchmark data to drive the calculation.

ii. Observe the closing prices for Inter-Commodity Spread contracts on CurveGlobal Markets

An alternative approach would be to take the closing prices in the CurveGlobal Markets Inter-Commodity Spreads as a reference. The mid-price for the spread contract represents the midpoint at which market participants are willing to convert from GBP Libor to SONIA, or vice versa, and hence provides the best estimate of 'fair value' for the conversion at a point in time.

Using this approach would have the advantage of minimising value transfer at the point of conversion. However, the spread would introduce basis risk against swaps portfolios. It could also be susceptible to short-term price moves and, although this could be mitigated by applying some form of averaging over a representative lookback period, this would increase value transfer and wouldn't necessarily align with the credit spread applied to swaps portfolios.

A key principle in our approach is to ensure consistency with other markets to the greatest extent possible, in particular the OTC swaps market, so as to avoid introducing any unnecessary basis risk between futures and other markets, and therefore avoid undermining the usefulness of futures as a trading and/or hedging tool.

Our preferred approach is to use the credit-spread methodology proposed by ISDA for the 3M GBP Libor index.

Question 4: Do you agree with the use of the ISDA credit spread formula to price the conversion of Libor Futures into SONIA Futures?

3. Alternative scenarios for Libor discontinuation

Aside from a permanent cessation of Libor announced by the benchmark administrator, there are other scenarios in which CurveGlobal Markets may need to react to a change in status of GBP Libor, set out below.

i. GBP Libor continues to be published using the existing assessment methodology but is declared to be no longer "representative" by the FCA

Edwin Schooling Latter, Director of Markets and Wholesale Policy at the FCA, noted in a speech earlier this year[4] that the FCA is required to make an assessment of the representativeness of Libor each time a panel bank announces it intends to stop submitting data, and that if a significant number of banks took this action then a plausible outcome could be that the FCA will no longer consider GBP Libor to be "representative" from a defined date (the 'pre-cessation date'). He further stated that the FCA would "announce such a view if and when it is reached".

CurveGlobal Markets would need to retain discretion to determine whether to implement Libor contingency plans on the pre-cessation date specified by the FCA. Any such decision would depend on the circumstances at the time but in principle our aim would be to ensure consistency with the treatment of cleared swaps to the extent possible. If a decision was taken to implement Libor contingency plans on the pre-cessation date, we propose to follow the same process as for a permanent discontinuation to convert the open interest and, again, Members would be notified by Market Notice.

For clarity, we would not anticipate implementing any Libor contingency plans if the FCA was to merely indicate that a decision or announcement around Libor's representativeness was imminent; we are considering framing our approach in a way that meant Libor contingency plans would only be invoked on a pre-cessation date following a definitive public statement by the FCA that GBP Libor was no longer representative.

ii. The GBP Libor assessment methodology is revised in such a way that ensures it remains "representative" and fit for long-term use

This type of transition would not require any change to the Libor Futures contract specification, even if the amendments resulted in materially different Libor values from the old Libor, provided the transition was organised

[4] https://www.fca.org.uk/news/speeches/libor-transition-and-contractual-fallbacks

in such a way as to seamlessly take over from the old Libor computation and the existing reference to Libor in the Libor Futures contract specification had the effect of referencing to the revised Libor upon implementation[5].

In the event of a further nuanced scenario where GBP Libor was revised and consequently took on another naming convention, the Libor Futures contract would need to be updated. Although amending the contract specification to reference a revised Libor rate would be at the sole discretion of CurveGlobal Markets, assuming the revised Libor rate was deemed compliant with all relevant regulations, it is likely that the amendment would be made.

Question 5: Do you agree with the proposed approach for these alternative scenarios?

Question 6: Are there any other scenarios or further aspects which we should consider?

4. Conclusions

CurveGlobal Markets will continue to actively monitor the ongoing rate reform initiatives in the market in continued collaboration with LCH and will seek to ensure an orderly and effective transition away from GBP Libor to SONIA should that ultimately be needed. The proposals set out in this consultation are a crucial first step in ensuring that we are fully prepared to meet the needs of our respective Members and the market more widely.

This consultation closes on 28 February 2020 and we actively welcome your feedback.

If you have any comments or would like to discuss any aspect of these proposals, Members should contact products@curveglobalmarkets.com. CurveGlobal Markets intends to share responses with LCH unless Members indicate otherwise.

All responses to this consultation process will be carefully considered. Once this process has been concluded, CurveGlobal Markets will confirm the final approach to Members in a Market Notice which will be binding upon all Members.

Yours faithfully,

Andy Ross,

Head of CurveGlobal Markets

[5] This would also apply in the scenario where GBP Libor is confirmed by the FCA as compliant with the EU Benchmark Regulation and therefore representative without any meaningful methodology revision.