Joint Event SIX Swiss Exchange and SFAA Swiss Bond Commission

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The Future of Libor and SARON as the Swiss franc Alternative

Draft outline of remarks by Darrell Duffie.

1. Thank you for the chance to be here. I am especially grateful to Martin Bardenhewer for hosting my visit. He set the stage well with his opening remarks. And I am delighted to have the chance once again to get the views of Dewet Moser. Dewet and I have had many useful conversations over the past few years on the subject of reference rate reform and transition.

2. Globally, the transition from LIBOR to new overnight benchmarks like SARON is crucial to the health of fixed income markets.

    a. Even if LIBOR is never manipulated again, it is a weak benchmark. There are just not enough underlying transactions to get an accurate fixing.

   b. The LIBOR panel banks are also subject to costs and risks, both reputational and legal, leading to the danger of an insufficiently large panel of reporting banks. This concern was the main trigger for the recent decision of the U.K. Financial Conduct Authority to discontinue its support for LIBOR at the end of 2021.

   c. It has been suggested by some that LIBOR-based loan contracts are an important source of hedging for banks, given their unsecured funding costs. This seems unlikely, given the very small amount of term unsecured funding done by banks at standard LIBOR maturities.

3. Phase 1, the selection of new benchmarks, is now mostly finished. The only exception among the major currencies is the Euro, where some key decisions remain. You have no doubt seen the notice yesterday by the ECB of its upcoming new overnight unsecured benchmark. The choice of a new euro benchmark is not yet clear. A good choice may be a new Euro overnight secured benchmark, given the preliminary design work done by a team lead by Professor Angelo Ranaldo of St. Gallen University.

4. In the currency zones that still rely on LIBOR (Yen, Dollar, Pound, and Swiss Franc), Phase 2 is beginning. This is the actual transition to the new benchmark. Switzerland is leading the way, first with the transition from TOIS to SARON. This step is needed before an

eventual transition from LIBOR to SARON. A similar two-step process will be taken in the United States, so the Swiss experience could be a guide.

5. In most currency zones, the operational details of the transition remain to be designed. The FCA decision announced by Andrew Bailey makes this transition design quite urgent. There are two important problems to solve.

6. First, we need standard terms for floating-rate contracts referencing the new overnight benchmarks. In particular, how will floating-rate interest payments at maturities beyond one day be settled? For instance, how will a 3-month floating rate loan or swap payment be settled?

    a. One option is to use the market rate for a 3-month overnight index swap, called OIS. However, there is currently only a small fundamental demand to trade 3-month OIS in the new overnight benchmarks, at least for some of the currencies. We could end up back where we started with LIBOR: a huge market for long-term instruments that reference the 3-month OIS term rate, but only a small underlying market for the underlying OIS contracts. When I last spoke here in Zurich about the transition, I used the metaphor of an elephant walking across a thin plank.

b. Another option is to settle three-month coupon payments by compounding the overnight rate over the preceding three months.

c. In this chart, I show alternative quarterly floating interest rates for a long-term bond or swap, over the past few years. The rate shown in blue is an estimate of the three-month OIS term rate. In black, we have the rate implied by compounding SARON over each successive day during the three months before settlement.

d. These black compounded rates are easy to fix and very robust. Any good high school mathematics student can correctly compute the compounded overnight rates. With the black rates, there is no risk of noise or manipulation in going from one day to three months. This benefit cannot be claimed for the blue three-month term OIS rate. If the term OIS rate is negotiated in a relatively thin market, there will be some extra noise and risk of manipulation.

e. Before each quarter begins, investors negotiating 3-month OIS contracts value the blue and black payments equally. That’s actually how the OIS rate is negotiated. The outcomes of the blue and black rates at the end of each quarter are not the same, as you can easily see during the recent period. But at the beginning of each quarter, a claim to blue is worth the same as a claim to black.

f. For the same reason, at the origination of a 5-year floating-rate loan or swap, investors should assign the same market value whether their future quarterly floating-rate payments promise the blue rates or the black rates, at least in an efficient market.

g. The difference between blue and black is mainly operational. Dealers in the OIS market are already comfortable with settlement based on the black compounded rates. Other market participants can also become comfortable with this, even though most others are not yet familiar with settlement based on daily compounding.

7. The other big design problem is how to convert legacy long term LIBOR contracts to the new benchmark. This chart shows quarterly payments on a floating rate loan or swap contract. In red is LIBOR. Going forward, contracts referencing LIBOR are probably going to be converted so that they reference SARON. For example, in blue once again, is the quarterly OIS SARON. Or the market might convert to black, the quarterly rate implied by compounding the daily SARON rate. The situation for the U.S., shown in this chart shows an even greater need for a good conversion methodology, given the even larger and

more volatile spreads between LIBOR and risk-free rates.

8. Here is a possible conversion process that I have been thinking about. I would love to get your reactions to this idea.

    a. First, on some future date, perhaps a year or so from now, there would be an auction among wholesale market participants, to convert their LIBOR contracts to new benchmark contracts, which in Switzerland would settle based on SARON.

    b. The bids and offers in this double auction would be the fixed rate of compensation given to investors that currently receive LIBOR in exchange for receiving instead the lower benchmark rate. At the auction stop-out rate, an equal volume of payers and receivers would get converted to the new benchmark.

    c. This auction would be conducted for each of a list of standard maturities. The choice of maturity buckets and settlement method for each bucket are important design features that would need to be carefully chosen.

    d. In advance of this auction, any pair of counterparties is free to sign a protocol that commits them to convert their LIBOR contracts based on the auction conversion rate, interpolated to their maturity. The counterparties would not need to actually participate in the auction to have their contracts converted by protocol.

e. Those whose contracts are converted by protocol would pay a small fee to the winning bidders in the auction. Otherwise, there are incentives for free riding on the auction, which weakens participation in the auction. If you are interested in hearing more about this free-riding problem, please ask me during the Q&A.

f. Many of those who plan to bid in the auction would also want to sign the protocol. In the event that their auction bids are not accepted, their contracts could still be converted this way.

g. Anyone that has not converted, whether by auction or protocol, would bear the risk associated with retaining a LIBOR contract in a world in which LIBOR may disappear or become very unreliable.

h. The first round of auctions should occur soon after the new benchmarks enter active use. Later rounds of auctions can be held, so as to clean up as much as possible of the legacy LIBOR contracts as soon as possible. The end of 2021, when the FCA will stop supporting LIBOR, is coming quickly. That date is not necessarily the end of LIBOR, but the smaller the stock of legacy LIBOR contracts that remain by that date, the better.

9. Another issue is how to convert contracts with embedded LIBOR options, like caps and floors, among many other optional instruments. I don't yet have a good proposal for this. Please let me know if you have an idea.

10. Thank you again for this chance to learn about the Swiss transition project. I hope to follow what you are doing here very carefully.