LIBOR, EURIBOR AND EONIA :
AN UNCERTAIN FUTURE

Regulatory context

Transition

Focus : Impact Assessment

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99 ADVISORY
A clever transformation

Regulatory context

Background : Understanding the change

In July 2017, the Financial Conduct Authority (FCA), the UK financial regulator, called on banks to replace LIBOR with other benchmarks and announced that the rate will be phased out by the end of 2021. A number of reasons lay behind the decision. Andrew Bailey, Chief Executive of the FCA, cited insufficient use of the benchmark rate as the primary reason. He also pointed to LIBOR's incapacity to respond to changes in financial markets. The way in which LIBOR is determined by expert judgement, rather than underlying transactions, has elicited criticism[1]. LIBOR has also been undermined by the rate manipulation scandal[2] that emerged in recent years. However, the main reason for the change is that LIBOR is no longer BMR-compliant. Clearly, as far as regulators are concerned, a change is necessary.

EURIBOR, LIBOR's continental European counterpart, will also see the same fate. EURIBOR has been hampered by the same weaknesses and was also the subject of manipulation scandals[3]. In the ECB's view, "the current quote-based methodology for EURIBOR is not BMR-compliant"[4].

With respect to EONIA, its replacement as an overnight benchmark rate has already been announced. It will be replaced by **ESTER** (**European Short Term Rate**), proposed by the euro risk-free working group following an ECB-led public consultation. The new rate uses data collected by the ECB from 52 euro area banks and will be published from **October 2019**.

1 Financial Conduct Authority - Interest rate benchmark reform: transition to a world without LIBOR, 12 July 2018.
2 Between 2014 and 2016, Barclays, Citigroup, JP Morgan, Royal Bank of Scotland, UBS, Bank of America, Rabobank, Deutsche Bank, Société Générale, RPMartin, HSBC, Credit Agricole and ICAP were fined following their involvement in manipulation of LIBOR and EURIBOR. A number of traders were also prosecuted. Andreas Hauschild, one of four former Deutsche Bank traders, will face trial in the UK in the coming days.
3 EMMI - EURIBOR Working group on euro risk free rate, 26 February 2018.
4 AGEFI - Sector unites behind the ECB to replace EONIA, Bastien Bouchaud, 16 February .

LIBOR

LIBOR is the most-commonly used benchmark interest rate for contracts in USD, GBP and CHF. The gross notional value of LIBOR-linked contracts on the global financial market is estimated at over \$240 trillion[5] (Figure 1). While most outstanding LIBOR-linked contracts mature before 2022, the value of positions with longer maturities remains significant. According to the Federal Reserve Bank of New York, the estimated outstanding notional value of USD LIBOR maturing after 2022 stands at \$36 trillion[6].

FIGURE 1[5] : Outstanding notional value of LIBOR-linked contracts (\$ trn.), December 2017

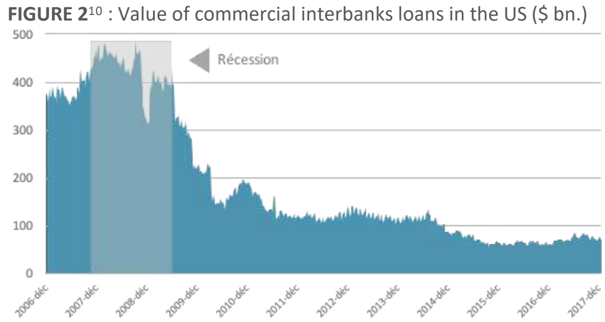
Data is based on a 2014 FSB (Financial Stability Report) report[7] and was updated in 2017 in the Oliver Wyman report.
* Gross

The emergence of the LIBOR manipulation scandal in 2012 is the primary reason for its effective abolition. For a number of years, panel banks had been reporting artificially low lending rates, manipulating the Libor to boost their financial position. A number of banks, including Barclays, Société Générale, RBS, UBS and Deutsche Bank[5], received fines totalling \$9 billion[8].

Besides the scandal, the main issue behind the phase-out of LIBOR has the lack of liquidity on the interbank market, particularly after the 2008 financial crisis[9] (Figure 2). For this reason, as FCA Chief Executive Andrew Bailey had announced, the regulator and panel banks have agreed to maintain LIBOR until the end of 2021, before adopting new rates that comply with IOSCO (International Organization of Securities Commissions) principles.

5 Oliver Wyman - Changing the World's most important number, Libor transition, Marsh & McLennan Companies, 2018
6 BlackRock, LIBOR: The Next Chapter, April 2018
7 Reforming Major Interest Rate Benchmarks, July; available at: http://www.fsb.org/wp-content/uploads/r_140722.pdf.
8 Migros Bank, The end of LIBOR, December 2017
9 Bloomberg, "Deutsche Bank to Pay \$220 Million to U.S. States Over Libor", October 2017

FIGURE 2[10] : Value of commercial interbanks loans in the US (\$ bn.)



Following the 2008 financial crisis, banks virtually ceased lending to each other, with the result that they could not give realistic valuations for transactions in order to establish the LIBOR rate[11]

Working groups have been set up to establish alternatives to LIBOR (Table 1) for each currency, with varying degrees of progress. The table below outlines the progress made by working groups to date.

TABLE 1[5] : Alternative reference rates and level of progress

LIBOR-currency	Administrator	Alternative reference rate	Description	Status
USD	Federal Reserve Bank of New York	SOFR	Overnight Secured	The NYFRB began publishing the SOFR in April 2018
GBP	Bank of England	SONIA	Overnight Unsecured	SONIA deemed IOSCO-compliant[12]
JPY	Bank of Japan	TONAR/MUTAN	Overnight Unsecured	No official commitment
CHF	Six Exchange	SARON	Overnight Secured	Transition to SARON in progress
EUR	European Central Bank	No position as yet		

Working groups for alternative reference rates are at different stages of progress. The alternative to EURIBOR is still under discussion.

10 Federal Reserve Bank of St. Louis - Commercial interbank loans, 25 June 2018
11 CNBC - Libor, Scandal-plagued interest rate, could disappear by 2021, Chad Bray, 27 July 2017
12 Bank of England - SONIA, Statement of compliance with the IOSCO principles for Financial Benchmarks, 14 May 2018

Regulatory context

EONIA and EURIBOR

On 1 January 2018, the European Commission introduced the BMR aimed at ensuring the integrity and accuracy of benchmark rates.

In August 2016, Commission Implementing Regulation (EU) 2016/1368 identified EURIBOR as a critical benchmark index in accordance with BMR criteria, in view of its critical importance for loans and mortgages in the European Union, with the value of EURIBOR-linked contracts and financial instruments far exceeding the €500 billion threshold set down by Regulation (EU) 2016/1011[13].

In June 2017, Commission Implementing Regulation 2017/1147 added EONIA to the list of critical indices[14].

The EMMI (European Money Markets Institute), administrator of EONIA and EURIBOR, determined that these benchmarks were not BMR-compliant. The BMR set out a transition period (up to 1 January 2020) after which time new contracts cannot be linked to these benchmarks, unless they are reformed[15].

13 Implementing regulation (EU) 2016/1368, recitals 4, 5 and 6
14 Implementing regulation (EU) 2017/1147, recital 9
15 Oliver Wyman, A tale of two benchmarks, June 2018

Benchmark Regulation (BMR)

Regulation (EU) 2016/1011 on benchmark indices, aimed at ensuring the integrity and accuracy of benchmarks. The regulation defines the role of benchmark index administrators and contributors and identifies three distinct categories of index: non-significant, significant or critical, according to their importance[9]. The regulation was approved by the European Parliament on 28 April 2016 and came into force on 1 January 2018.

Regulation (EU) 2016/1368

Commission Implementing Regulation (EU) 2016/1368 of 11 August 2016 establishing a list of critical benchmarks used in financial markets pursuant to Regulation (EU) 2016/1011 of the European Parliament and of the Council.

Regulation (EU) 2017/1147

Commission Implementing Regulation of 28 June 2017 amending Implementing Regulation (EU) 2016/1368 of 11 August 2016 establishing a list of critical benchmarks used in financial markets pursuant to Regulation (EU) 2016/1011 of the European Parliament and of the Council.

EURIBOR

EURIBOR is the most predominantly used benchmark for euro-denominated products with a gross outstanding notional value of contracts estimated at between $150-180 trillion The EMMI developed a hybrid calculation methodology introduced in summer 2017[17].

"Having robust and resilient benchmarks with strong governance frameworks is key to warrant a higher level of consumer and investor protection. Accordingly, we remain committed to reforming the Euribor methodology towards compliance with the BMR via the development of a hybrid methodology", said Guido Ravoet, EMMI Secretary General[18]. The methodology, currently being developed by the EMMI, would be based on real transactions[19].

The FSMA (Financial Services and Markets Authority), which regulates the EMMI, will assess the characteristics of the EURIBOR based on the hybrid methodology[20] and its compliance with the BMR.

The FSMA decision will therefore determine the future of EURIBOR.

16 Financial Stability Board - "Reforming Major Interest Rate Benchmarks", 22 July 2014.
17 EMMI/EURIBOR - "Pre-live Verification Program – Outcome and Way forward", 4 May 2017
18 EMMI - "EMMI remains committed towards Euribor compliance with BMR", January 2018
19 EMMI - Consultation paper on a hybrid methodology for EURIBOR, 26 March, 2018
20European Central Bank - Euribor and EONIA reforms, February 2018

EONIA

EONIA is an index based entirely on transactions data. In October 2017, the value of outstanding EONIA-linked contracts was estimated at over €22 trillion, of which around €5 trillion have a maturity beyond the end of 2019[21]

In late 2015, the EMMI carried out a review of EONIA (EONIA Review), aimed at improving governance, providing oversight for the index and improving its calculation methodology[22].

However, given the lack of data for use in calculation, the EMMI announced that reforming EONIA to ensure compliance with the BMR was no longer being considered. Instead, the ECB approved ESTER, an alternative euro risk-free rate, which will be introduced in Autumn 2019[23]. The calculation methodology for ESTER (based on 50+ banks deposits) differs significantly from EONIA[24] (based on 12-15 banks loans); the difference between the two rates is currently nine basis points. There is also lingering uncertainty as to the ability to replicate this rate on the market and thus hedging for this type of transaction.

21 European Central Bank - Minutes of the third meeting of the working group on euro risk free rates, 17 May 2018
22 European Central Bank - Euribor and EONIA reforms, February 2018
23 cBanque, ECB to publish its own interbank benchmark rate from Autumn 2019, 28 June 2018
24 Oliver Wyman - A tale of two benchmarks, June 2018

In minutes of a meeting of the working group on euro risk-free rates on 17 May 2018, three potential scenarios were put forward regarding the future of EONIA and EURIBOR, depending on the decisions of the FSMA[25]. A working group will assess the feasibility of each scenario:

Scenario 1	• The use of EONIA would be permitted for legacy contracts and prohibited for use in new contracts. • Reformed EURIBOR calculated using the hybrid method would be BMR-compliant.
Scenario 2	• EONIA and the reformed EURIBOR would not be BMR-compliant, but could be used in legacy contracts beyond 2020 (but prohibited in new contracts).
Scenario 3	• EONIA and the reformed EURIBOR would not be BMR-compliant and could not be used in new or legacy contracts.

25 European Central Bank - Minutes of the third meeting of the working group on euro risk free rates, 17 May 2018.

How are market participants preparing for the transition?

In the view of Andrew Bailey, FCA Chief Executive: *"the planning and the transition must begin now"*[24]. However, market participants are far from ready for the transition. An ISDA survey in conjunction with a number of bodies, including the AFME, has found that while 76% of IBOR market participants have opened discussions regarding the transition from LIBOR and EURIBOR, only 11% of those surveyed have allocated a budget to assist in the transition, while 12% have prepared an action plan. The vast majority of market participants do not appear to have taken any substantive action [25].

EONIA will be prohibited for use in new contracts from 1 January 2020 but there is at present no suitable alternative for new and outstanding contracts 26. It is clear that in the case of EONIA, uncertainty is increasing risk and actors are less able to react.

These findings are especially concerning given that interest rate reforms impose significant constraints for market participants, not least the amendment of contracts with a maturity date occuring after the benchmark to which they are linked has been phased out. The arrangements and constraints vary depending on the type of product and the contract itself.

24 FCA - The Future of LIBOR, Speech by Andrew Bailey, 27 July 2017
25 IBOR Global Benchmark Transition Report, June 2018
26 European Central Bank - The importance of euro interest rate benchmark reforms

Successful transition - the experience of Switzerland From TOIS fixing to SARON

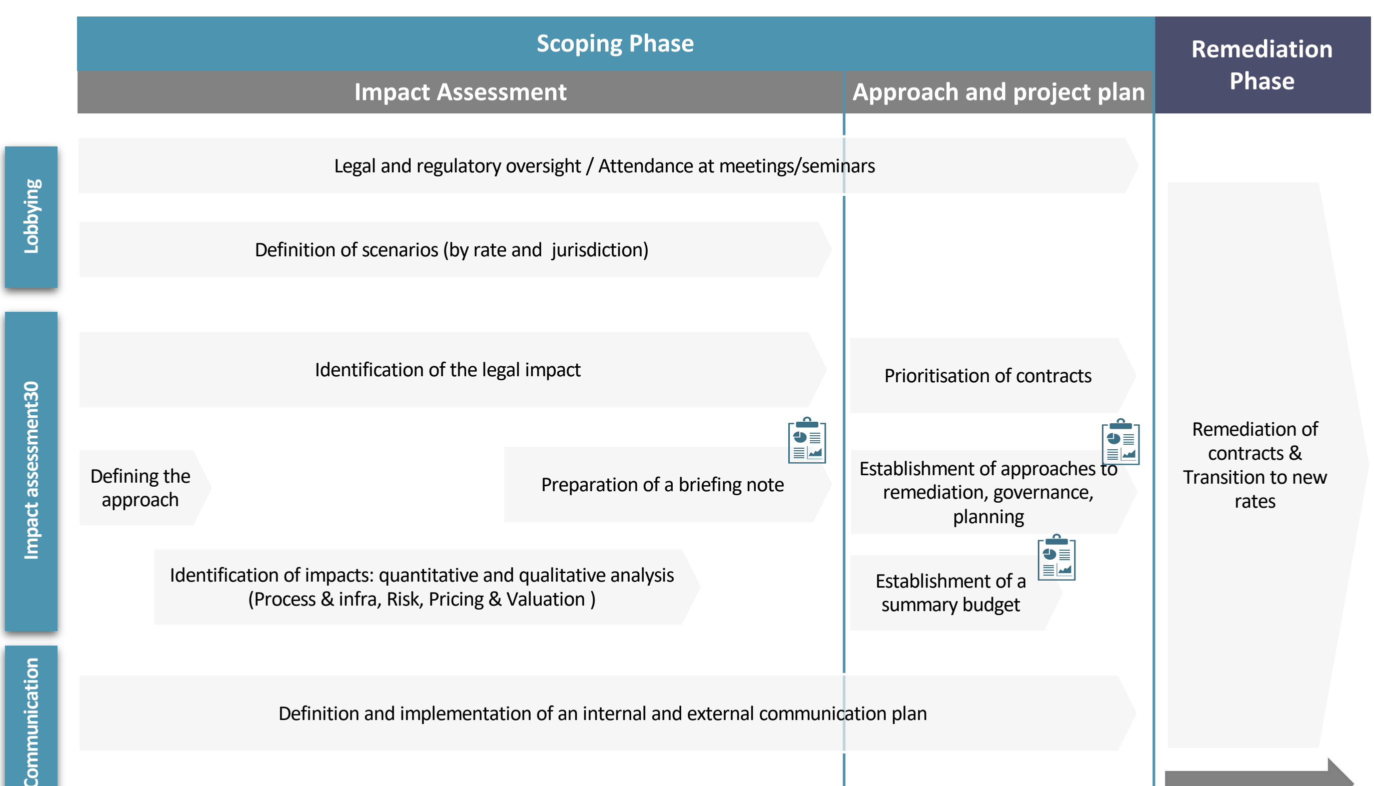
SARON has been in place since 2009 and is set to become the benchmark rate for the CHF repo market[27]. It is already used for interest rate derivatives. While TOIS, its predecessor, was calculated using data provided by banks in the same way as LIBOR and EURIBOR, SARON is based on actual and collateralised transactions. SARON replaced TOIS in late 2017[28].

The National Working Group, made up of representatives from the public and private sector in the area of finance, have been engaged in reform efforts since 2016, and in October 2017 published guidelines for the transition for contracts maturing after TOIS has been phased out[29]. The group urges parties to move towards two alternative solutions:

- End the contract early by mutual agreement and sign a new contract linked to the new rate;
- Amend the contract by replacing TOIS with SARON. To do this, the ISDA has published a template amendment form, where parties are only required to enter the date, their names, signatures and the benchmarks in the original contract.

27 Swiss National Bank - Swiss Reference Rates, 2018
28 Swiss National Bank - Reform of reference interest rates, 2018
29 National Working Group on CHF Reference Interest Rates, Discontinuation of TOIS fixing and replacement with SARON – impact and recommendations, 12 October 2017

Proposed approach for managing the index transition project



30 See focus on the impact study on the next page

The remediation phase shall run until the end of implementation of all new rates (currently scheduled for 2021)

Focus : Impact assessment

For the scoping phase to be relevant and effective, we have applied an impact assessment in two phases:

1. Identification of the impacts of discontinuation of indices (e.g. legal, qualitative and quantitative analysis)
2. Definition of the remediation plan and related budget

1. IMPACT ASSESSMENT

SUMMARY OF IMPACTS

1 Legal Analysis

Objectives:

1. Identify impacts for the legal department
2. Identify the associated workload for remediation

Approach:

- Identification of contract typologies and examination of legal clauses
- Estimation of workload (in conjunction with quantitative analysis on volumes by contract typology)
- Prioritisation of contracts subject to remediation

2 Quantitative Analysis

Objectives:

1. Identify the bank's level of exposure to the benchmark rates
2. Identify the workload of remediation for Middle/Back Office

Approach:

- Identifying the volume of exposures and contracts (broken down by rate, terms and maturity)

3 Qualitative Analysis

Objectives:

1. Identifying impacts on the following areas:
   - Process & Information Systems
   - Pricing & Valuation
   - Risk
2. Identifying the level of remediation and implementation of new rates for Front to Back, IT and Risk departments

Approach (bottom-up):

- Definition of working and business unit scenarios
- Identification of impacts and related costing through subject-specific workshops

2. APPROACH AND PROJECT PLAN

REMEDIATION PLAN

Definition of a **remediation plan** for 2019 and 2020 containing: :

- An approach (see suggestion below)
- A project governance structure
- An implementation plan

Proposed contract remediation approach:

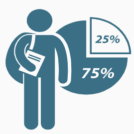
Stage 1
Definition of categories
& operating methods
And triggers for remediation
(milestones for regulators and international benchmark administrators, commercial decisions, IT upgrades)

Stage 2
Prepare contract lists
And positions on the expected Triggers

Stage 3
System changes/upgrades

Stage 4
Adjustment of Triggers
Contract remediation
(amendment of contracts, client contacts, entries)

SUMMARY BUDGET



Following an impact assessment, a budget must be drawn up based on identified costings and on the remediation plan. This exercise is also used to determine the proportion of work to be carried out as BAU (Business As Usual - internal only) and the proportion to be carried out within the project framework (internal and external).

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