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IBOR REFORM:
A Fundamental Change in Financial Markets

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Tags

IBOR Reform – LIBOR – EURIBOR – Risk Free Rates – RFRs – Term-RFRs - IOSCO Principles – EU-BMR – Benchmark Regulation - ISDA – LMA - Fallback Arrangements – FCA Announcement – Waterfall Methodology – critical benchmarks – Hybrid Methodology –ISDA Protocols – Legacy Transactions – Communication Plan – IBOR impact assessment program

Executive Summary

This paper gives a brief background of various IBORs, their importance in financial markets and the necessity for the impending reform. The days of IBORs are numbered and they will be replaced with alternative-risk-free-rates (RFRs). We list the different RFRs that are expected to replace the IBORs and highlight the RFR based term rates.

Regulators across the world, industry groups, associations and various market-participants are gearing up for this fundamental change in financial markets. We highlight the effort which has already been done by the private and public sector to transition from IBORs to RFRs and also provide a commentary on the latest developments.

Furthermore, we study the impact of this reform as well as the looming challenges which the market participants will face as they transition to the RFR-regime. We conclude this paper by elaborating the tasks that banks and firms should currently undertake in order to be prepared for these new benchmarks.

IBORs – Why are they so important?

IBOR or **I**nter **B**ank **O**ffered **R**ate is the interest rate which banks, within a jurisdiction, charge one another for short term unsecured interbank loans. Additionally, if a financial contract between any two parties is based on an IBOR, this IBOR works as a *benchmark* or reference rate and determines the cash flows of the contract. Since IBORs are determined by independent organizations[1], the parties of the contract do not have any influence on the benchmark.

IBORs are currently based on rates submitted by the panel banks at which they would be able to obtain funding (for each of the maturities and currencies). The most common IBORs used in financial markets are LIBOR and EURIBOR, which are the IBORs for banks in UK and Europe respectively.

LIBOR
is administered and published daily by IBA (since 2014) in London for five major currencies and seven different tenors. The LIBOR in each currency is based on the rates at which the banks believe they would be able to obtain funding in each of the maturities in that currency.

EURIBOR
is administered and published by EMMI in Brussels for Euro in eight different tenors. Based on the recommendations from European Supervisory Authorities (EBA and ESMA), starting December 2018, EURIBOR will only be calculated for five different tenors.

Box 1: LIBOR & EURIBOR

[1] EMMI for EURIBOR & ICE-Benchmark Administration (IBA) for LIBOR

The significance of the IBORs as reference rates can be understood from the fact that the notional volume of outstanding financial contracts indexed to LIBOR and EURIBOR is estimated to be greater than US$ 220 trillion and € 150 trillion, respectively.

Background – Need for reform

For decades, contracts ranging from student and home loans to complex derivatives have been pegged to IBORs. However, since some European and US banks were found guilty of having manipulated the LIBOR in order to benefit their own portfolio, the integrity of the benchmark has suffered, and the need to reform the benchmark has arisen.

More importantly, there are real concerns about the robustness and viability of some IBORs given the sharp decline in activity in the underlying unsecured bank funding market. There is a **limited number of transactions** and fewer banks are willing to contribute their rates to the administrators.

In view of these weaknesses in the existing framework for IBORs, the regulators have taken concrete measures to reform the benchmark rates in order to minimize the possibility of any manipulation. The following publications highlight the major actions and directions of the reform:

- Principles for Financial Benchmarks – *IOSCO, July 2013*
- Reforming Major Interest Rate Benchmarks – *FSB – July 2014*
- EU Benchmark Regulation (EU-BMR) – *EU Parliament and Council – June 2016*

The core objective of these regulations is to minimize the possibility of manipulation of the rates. This implies the elimination of the *survey-based* benchmarks and a shift towards *transaction-based* benchmarks. Central banks and benchmark administrators have acted by taking initiatives to review the current methodology and to modify or develop benchmark rates that adhere to the IOSCO-principles/EU-BMR.

Regulatory push

On the European front, **the EU Benchmark Regulation** (EU/2016/1011), which came into force on 30 June 2016, became applicable from start of 2018. The EU Benchmark Regulation has set the deadline of 1 January 2020 for new compliant benchmarks. After this deadline, only the EU BMR compliant benchmarks may be used in new contracts. For existing contracts, non-compliant benchmarks can still be used subject to a decision by the competent authority of the Member State where the index provider is located. If EONIA or EURIBOR will not become compliant to EU-BMR by end of 2020, it is at the discretion of the Financial Services and Markets Authority (FMSA)[2] to permit the usage of these benchmarks in legacy contracts as of that date.

Objectives of EU – BMR (EU/2016/1011)

- Improving governance and controls over the benchmark process
- Improving the quality of input data and methodologies used by benchmark administrators
- Ensuring that contributors of benchmarks and the data they provide are subject to adequate controls, in particular to avoid conflict of interests
- Protecting consumers and investors through greater transparency and adequate rights to redress

Box 2: Objectives of EU-Benchmark Regulation

Since January 2018, benchmark users are also required to produce and maintain robust written plans setting out the actions they will take in the event of a benchmark they are using materially changes or ceases to be provided. ESMA considers that users are required to reflect such plans in contracts entered into after 1 January 2018. For contracts closed before 2018, ESMA expects these contracts to be amended where feasible on a best-effort basis.

It is also *speculated* that supervisors could push the transition from IBORs by tightening the additional capital requirements on contracts that reference to IBORs.

Status Quo – Where we stand today

LIBOR

Given the IOSCO Principles & EU-BMR, IBA is trying to modify the methodology of computing LIBOR in order to fulfill the regulatory requirements. The future basis for LIBOR computation is the **Waterfall Methodology** which requires the panel banks to base their LIBOR submissions on eligible wholesale unsecured funding transactions, *to the extent*

LIBOR - post 2021

Starting 2021, Financial Conduct Authority, UK will no longer oblige the panel banks to provide quotes for the various LIBOR rates.

Box 3: LIBOR Post 2021

[2] FMSA is the financial regulatory agency in Belgium and thus the supervisor of EMMI

available. This methodology, as explained in LIBOR Evaluation Report[3], is briefly described in *Box 5*. As of today, given the short liquidity of lending in unsecured markets, the Waterfall Methodology is still weighted heavily on the 'Level 3: Expert Judgement' (See *Box 6*). Being a hypothetical judgement, this has a finite scope for manipulation. The absence of an active underlying market raises questions about the long term sustainability of LIBOR benchmarks. However, it remains to be seen if the reformed methodology will be compliant to IOSCO principles / EU BMR, which will be assessed in 2019.

Further, the Financial Conduct Authority (FCA) UK, the regulator for British financial markets which is also responsible for regulating IBA, has announced that from 2021 it will no longer oblige banks to provide quotes for the various LIBOR rates. It is likely that the banks' appetite to remain in the panel will decrease, which could lead to the collapse of the LIBOR panel.

EONIA

As an outcome of **EONIA-Review**[4], EMMI concluded that EONIA's compliance with the EU-BMR *cannot* be warranted by January 2020. In this context, EMMI will *not* take any action to reform EONIA.

EONIA

Administered by EMMI, EONIA is calculated as a weighted average of all overnight *unsecured* lending transactions in the interbank market, undertaken in the European Union and European Free Trade Association (EFTA) countries.

Box 4: EONIA

EURIBOR

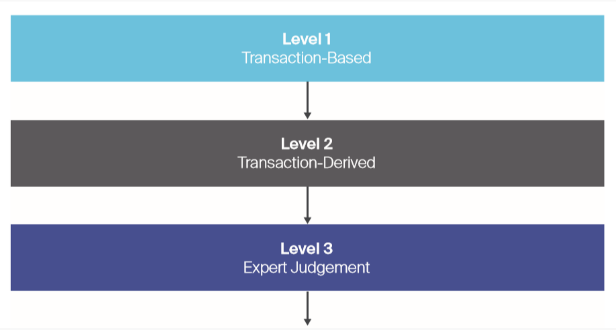
With respect to EURIBOR, the current methodology, just like LIBOR's, remains based on collecting quotes from the panel banks as well as the use of expert judgement.

In the last three years, EMMI undertook efforts, including its **Pre-Live Verification Programme**[5], to conduct analysis whether the current EURIBOR's methodology can be shifted to a fully transaction-based methodology. In May 2017, it concluded that under current market conditions it will *not* be feasible for EMMI to evolve the EURIBOR methodology to a fully transaction-based methodology following a seamless transition path.

[3] *ICE LIBOR Evaluation Report, April 2018*
[4] *EMMI – State of play of the EONIA Review (D0030D-2018 AF)*
[5] *EURIBOR Pre Live Verification Program Outcome – 4 May 2017*

The Waterfall Methodology

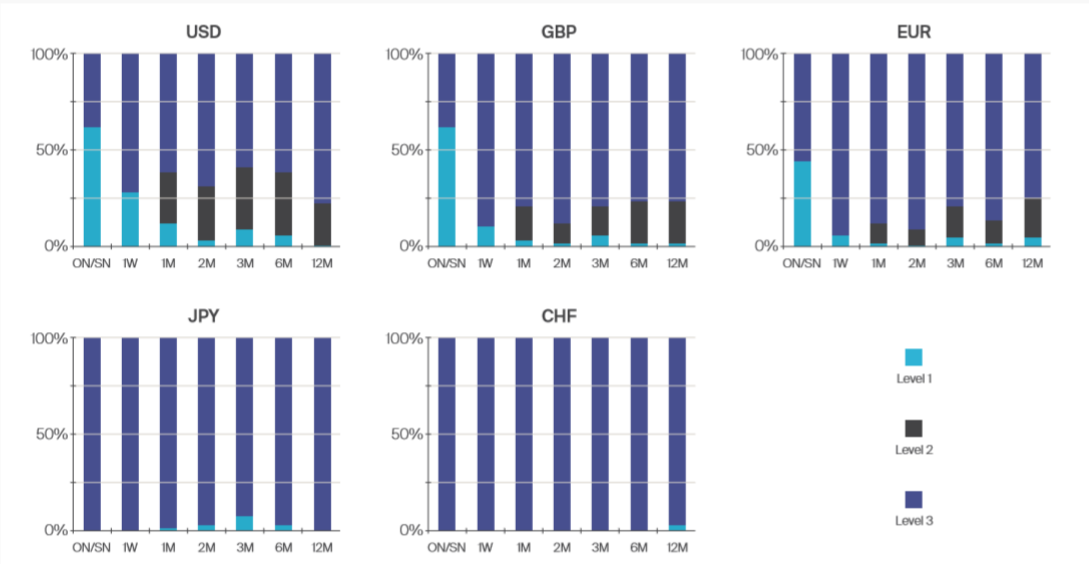
The Waterfall Methodology requires panel banks to base their LIBOR submissions in eligible wholesale, unsecured funding transactions, to the extent available. The use of expert judgement at Level 3 is designed to ensure that LIBOR submissions can be made, and consequently that LIBOR can be published on every applicable London business day, even when liquidity and transactions in particular currencies and tenors are such that a panel bank has insufficient eligible transactions or transaction-derived data to make a Level 1 or a Level 2 submission.



In case of the lack of actual transaction data, as per level 3 (expert judgement) the panel bank can submit a rate at which it *could* fund itself with reference to the unsecure, wholesale funding market.

Box 5: The Waterfall Methodology

Proportion of Panel Bank submissions used to calculate the Test Rates that were made under the Waterfall Methodology (for 3 month period ending 15th Dec 2017)



A high percentage of submissions by panel banks falls under the category of ‘Level 3 – Expert Judgement’ which underscores the lack of actual transactional data supporting the quotes submitted by the panel.

Box 6: Proportion of Level-3 in Test rates

As of November 2018 EMMI continues its effort to reform the methodology to deliver robust EURIBOR rates. In October 2018 they published the second consultation paper on **Hybrid Methodology** for EURIBOR[6]. This methodology, composed of a three-level waterfall model, should satisfy the user needs, panel banks constraints as well as the regulatory requirements. It remains to be seen whether the new methodology will cut the mustard and will be able to satisfy the various constraints and needs. The new methodology needs to be approved by the competent regulator FSMA.

In the light of the above points, it is a high priority matter for financial markets to have alternatives available to replace the IBORs currently known. This is going to be one of the biggest fundamental changes to the financial markets in terms of scale and impact.

Post-IBOR Regime – What will it look like?

It is difficult to say today how the future of benchmark rates will look like. On the one hand, IBA says it will continue to publish LIBOR even after 2021. On the other hand, panel banks will not be under any obligation to provide quotes, which are fundamentally required to calculate LIBOR. It is possible that post 2021, LIBOR dies a natural death, but it is also possible LIBOR continues to live in some other evolved form.

In 2014, FSB recommended measures to strengthen the existing benchmarks and encouraged development and adoption of Alternative Reference Rates (ARRs) or (nearly)-Risk-Free Reference Rates (RFRs) as an alternative to IBORs.

The future of benchmark rates may involve the *new Risk Free Rate* or *evolved-IBORs* or a *multi-rate regime* where evolved IBORs and RFRs may coexist. Supervisory authorities and industry groups across the world have initiated task forces and working groups to increase the awareness of the issue and to push reforms in this area.

[6] *EMMI – Second consultation paper on a hybrid methodology for EURIBOR – 17 October 2018*

Risk Free Rates (RFRs)

Which RFRs adhere to IOSCO Principles and, in case of EUR, are also compliant with EU-BMR? The RFRs comprise of transaction based overnight interest rates. Working groups in different jurisdictions (UK, US, Japan and Switzerland) have determined the appropriate RFRs in their relevant currency. Table 1 shows the different RFRs for the major currencies (in which LIBOR and EURIBOR are currently published):

Currency		RFR	Basis	Administrator	Type	Availability
	USD	SOFR	Repos (US Treasury Bonds)	US FED	Secured	Since 03.04.2018
	GBP	SONIA	O/N Money Market Transactions	BoE	Unsecured	Since 23.04.2018
	JPY	TONA	O/N Money Market Transactions	BoJ	Unsecured	Since 2017
	CHF	SARON	Interbank Repos	SIX Swiss Exchange	Secured	Since 2017
	EUR	ESTER	O/N Funding	ECB	Unsecured	From 10.2019

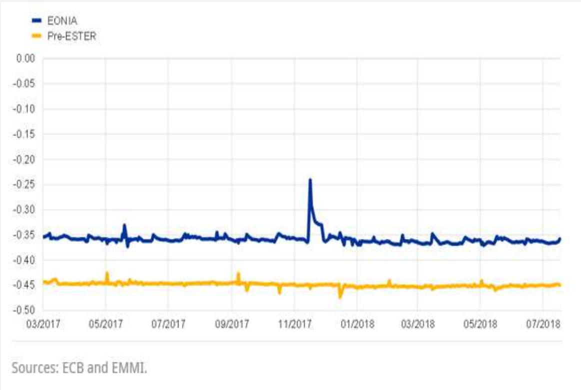
Table 1: RFRs for various currencies

With respect to EUR, a working group was established in February 2018 to identify and recommend RFRs. In September 2018, the group announced that **ESTER** (Euro Short Term Rate) will be used as RFR for the Euro area. ESTER will replace EONIA which will not be compliant with EU Benchmark Regulation and will hence be restricted as of 1st January 2020.

However, ECB has announced that it will start publishing ESTER by October 2019. ESTER will reflect the wholesale Euro unsecured overnight borrowing costs of the Euro area banks. Until ESTER is available, the ECB will publish a rate referred to as **pre-ESTER**, which the banks can use to evaluate the rate's appropriateness for their transactions.

Pre-ESTER and ESTER

Until ESTER will become available in October 2019, ECB will publish the rate as pre-ESTER. Pre-ESTER is computed using the same methodology defined for ESTER i.e. it is based on actual transactional data submitted by the reporting agents. Contrary to ESTER, Pre-ESTER includes all revisions in terms of cancellations, corrections and amendments submitted by reporting agents. ESTER, on the other hand, will be published each morning and include data received by the cut-off-time that morning.



ESTER is essentially the 'unsecured overnight rate' reflecting the 'wholesale Euro overnight borrowing costs of the Euro area banks'. It is likely to replace EONIA, which will not be compliant to EU-BMR starting 2020.

First quantitative studies of the ECB show (*see graph*) that pre-ESTER has been trading at a stable spread of 9 bps below EONIA.

Box 7: EONIA vs ESTER

Broadly speaking, post 2020 there are two scenarios for RFRs in the Euro area. Assuming the methodology to compute EURIBOR becomes compliant with EU-BMR, the scenarios depends on how sustainable EURIBOR will remain i.e. will there be sufficient transaction based submissions by the panel banks for the calculation of EURIBOR.

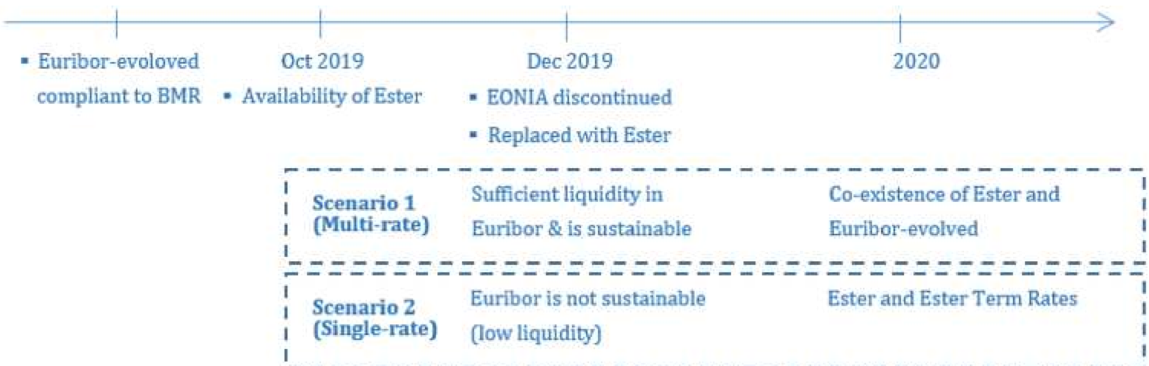
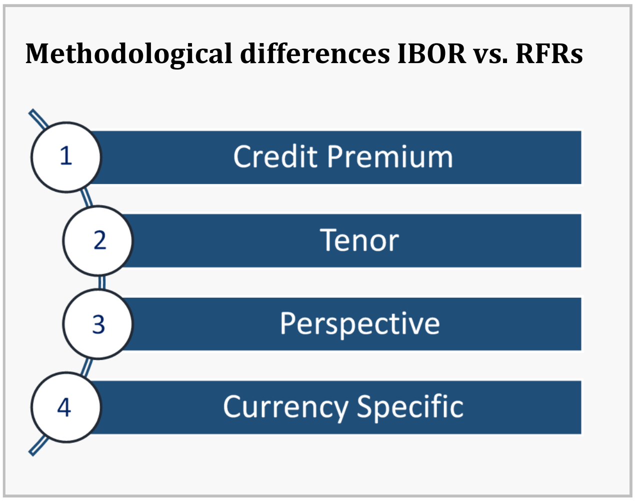


Figure 1: Scenarios – Euro area

A sub working group is already in motion at ECB to identify and develop a *RFR-ESTER-based term structure as a fallback for EURIBOR*. Though it appears likely that Scenario two will be the way to go after 2020, it is still not certain which methodology will be adopted to transform the overnight ESTER to term-rates. E.g., for short-term trades, a stable spread of 9bps could be added to bridge the gap between EONIA and ESTER. However, for longer-term EURIBOR trades, it cannot be said how the RFR term rates will be derived and how large the spread will be. It remains to be seen whether a marked-led solution will emerge which can tackle this issue.

How are the RFRs different from IBORs?

There are four aspects based on which RFRs and IBORs can be differentiated: Credit Premium, Tenors, Perspective and Currency.

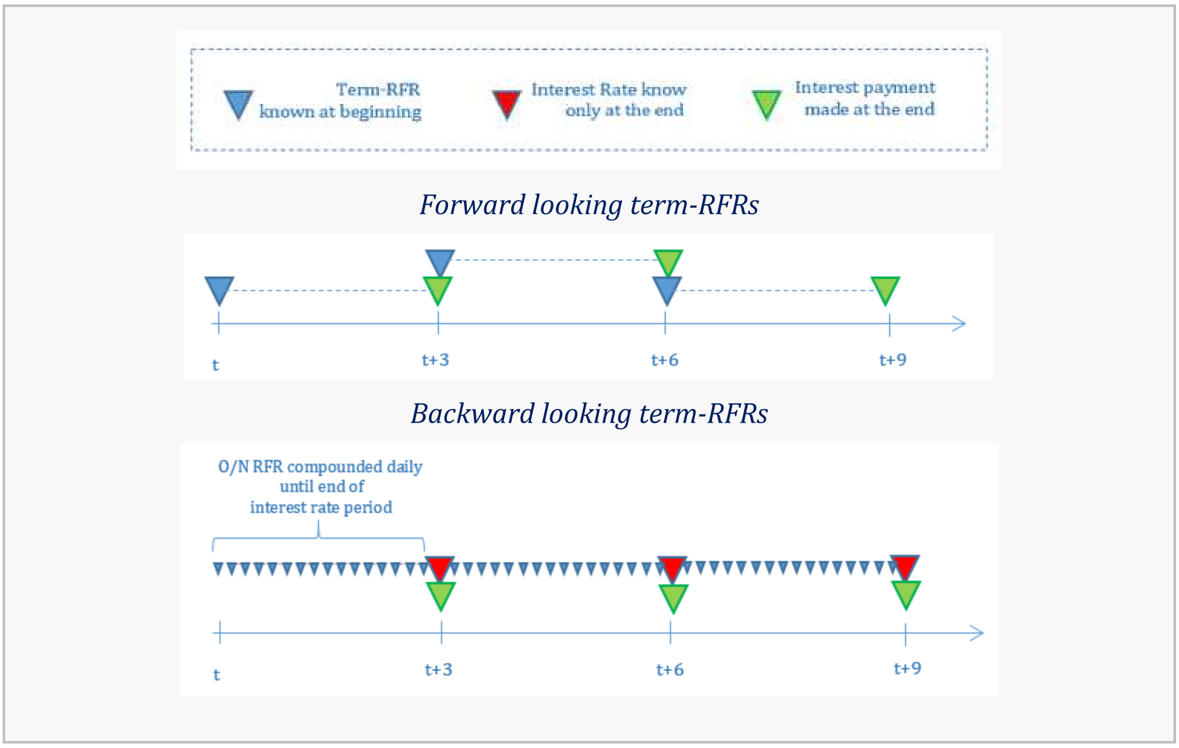


Box 8: Methodological Differences

First, the element of credit risk is built into IBORs. This reflects the risk the borrowing bank may default. Contrary to this, the RFRs are primarily overnight rates and are almost risk-free by definition. This inherently means that they do not include any credit-risk premium.

Second, the RFRs are overnight rates and in their current form are not available for various tenors. There is an ongoing debate in the market about the methodology of engineering RFR term rates. This is one of the key elements for successful transitions from IBOR to RFR regime, especially for the cash and credit market.

Third, linked to the above point, RFRs are backward-looking while IBORs are forward-looking. With IBORs the parties of a contract know their interest rate at the beginning of the interest period. Until forward-looking term rate are available for RFRs, it will not be possible to compute the interest liabilities at the beginning of interest period (See *Box 9*).



Box 9: RFRs vs. Term-RFRs

Lastly, the methodology of computing RFRs is currency-specific and depends on the currency for which the RFR is computed. For example, LIBOR is quoted on the same basis for each LIBOR currency, but for the RFRs the methodology differs depending on the jurisdiction.

Fallback language

The requirement is simple: If IBORs are not available any more, then market participants should have an agreed and documented arrangement to fall back upon. However, the solution is complex and requires careful coordinated planning by market governing bodies.

Derivative Market

In preparation for a situation in which IBORs are permanently discontinued, in July 2016, FSB-OSSG asked ISDA to participate in the work to enhance the robustness of derivative contracts which are indexed to key IBORs.

ISDA's two-pronged initiative to assist the market in transitioning away from IBORs is to define the framework for *IBOR Fallbacks* and the *ISDA Benchmark Supplement*.

The current fallback arrangement under the **2006 ISDA Definitions** requires the calculation agent to obtain quotes from major dealers in the interdealer market in case of IBORs not being available. However, in case of permanent discontinuation of IBORs, it is very likely that the interdealer market will also dry up and the dealers will be unable or unwilling to offer such quotes. Even if short-term rates are quoted, it will be unlikely that they are available for different tenors. Hence, there may be wide inconsistency across the market.

In July 2018, following the consultation with the market participants, regulators and FSB-OSSG, ISDA determined that the **fallback rates** will be the RFRs identified as alternatives to the relevant IBORs. These fallbacks will be included in the ISDA Definitions for interest rate derivatives and will apply to new trades that are referenced to IBORs. These fallbacks will be triggered upon public announcement by administrators and regulatory supervisors (of relevant IBORs), implying permanent or indefinite unavailability of the rates.

> **ISDA Fallback rates**
>
> ISDA determined that the fallback rates will be the various currency specific RFRs that were identified as alternatives to the respective IBORs.

Box 10: Fallback Rates

ISDA will also publish a **protocol** to allow participants to include these fallbacks within the legacy contracts indexed to IBORs. As per these protocols, the participants can choose to include the fallbacks within the legacy contracts.

With respect to the second initiative, on September 19 2018, ISDA published the **ISDA Benchmarks Supplement** in response to EU-BMR Article 28(1). It covers a much broader range of benchmarks[7] than ISDA's work to implement robust fallbacks to specific rates for certain IBORs. In principle, ISDA Benchmark Supplement provides a double layer of protection.

[7] Benchmarks for Interest Rate, Equity, Forex, Commodities derivatives

Firstly it provides interim fallback arrangements before the IBOR fallbacks are implemented. Secondly, it provides a framework in case the IBOR fallback arrangements (once implemented) fail. The use of ISDA Benchmark Supplements are voluntary and may be agreed bilaterally or via a protocol that ISDA will publish in the future.

In addition, ISDA has also launched an **IBOR transition initiative** where it is increasing the awareness and understanding of the use of RFRs. The FSB, in its progress report on implementation of IBOR reforms (2017)[8], concludes that the official sector has actively engaged with ISDA to tackle the risks associated with permanent discontinuation of widely used IBORs.

Credit Market

In bilateral or syndicated loans, the RFRs are not an obvious replacement of IBORs. As mentioned earlier, unlike IBORs, RFRs are backward-looking. If the switch from IBOR to RFRs will happen in their current form, it would cause significant operational issues as the credit-systems usually take forward-looking rates as an input factor and the market convention is to compute the interest liability at the beginning of the interest period. Also, unlike ISDA for the derivative markets, LMA does not have a protocol system for amendments. In credit markets, the terms of bilateral and syndicated loan agreements will differ from agreement to agreement and are less standardized.

The current fallback arrangements as specified by LMA are designed to cater the short-term unavailability of benchmark rates even they have been strengthened in 2014. Therefore each individual loan agreement which references to an IBOR would need to be amended and renegotiated to refer to a new benchmark rate. LMA is working together with other market governing bodies and working groups to facilitate the transition towards a market led solution for *RFRs*.

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[8] *FSBs Progress Report on Reforming major interest rate benchmarks – October 2017*

Impact and Challenges

The transition to a new regime of benchmark rates based on RFRs is a big fundamental change in financial markets. Given the exceptionally high volume of transactions indexed to various IBORs (more than US$ 370 trillion), any change affecting the IBORs will have a very large impact on financial markets. However, the challenge is surmountable if market participants are prepared and coordinated efforts point in the right direction.

Identifying the alternatives to the specific IBORs is only the first step in the direction of IBOR-free markets. A considerably amount of work still needs to be done to allow market participants the use of RFRs.

The challenges to transition towards a new regime of benchmarks are five-fold, ranging from market wide to firm-specific efforts (See *Table 2*). For the new RFRs to be successful and attractive enough to be adopted by market participants, it is necessary that there is sufficient **liquidity** in the products that reference to new RFRs. The market already has gained some traction in this direction and the awareness of RFRs is on the rise (See *Box 11*).

Transition to RFRs: First steps

- EIB issued GBP 1 billion bonds linked to SONIA – *Jun 2018*
- Fannie Mae issued a 3-tranche USD 6 billion bond also indexed to SOFR – *Jul 2018*
- IBRD (World Bank) issued a 2y USD 1 billion SOFR based bonds – *Aug 2018*
- ICE begins futures trading in SONIA – *Apr 2018*
- CME Group launched trading in SOFR Futures – *May 2018*
- CME Group – clearing for OTC SOFR Swaps – *Oct 2018*

Box 11: Transition to RFRs: First steps

Next, firms should invest in their resources to develop **new products** based on the RFRs. Especially on the cash side, until the term rates for RFRs are available, ambiguity will continue on using the overnight rates.

For **legacy contracts** that have a maturity beyond 2020/2021, firms have to face the task of modifying the contracts. The larger the base of different counterparties, the bigger will be the challenge. An early development of a **communication plan** for different customer groups is certainly providing an edge. Even before the IBOR are discontinued and the market for IBOR dries up, the **fallback agreements** will have to be changed as the current fallback solutions are mainly designed to bridge short time horizons of non-availability of IBORs. The task of renegotiating legacy contracts will not be a simple exercise.

Challenge	Category	Challenge Points
Building up Market Liquidity	Market wide	▪ Market-wide development of liquid markets for products (derivatives + cash) that reference the alternative RFRs ▪ In particular, the development of exchange-traded and centrally cleared derivatives based on alternative RFRs is crucial
New Product development	Firm Specific	▪ With the elimination of the existing IBOR, it will be necessary for each bank to develop new products based on the alternative RFRs ▪ Affected are money market, capital market, wholesale and retail products as well as various interest rate derivatives ▪ High stress on the new product process in the banks to get internal permissions and operational readiness
Legacy Contracts	Firm Specific	▪ High number of IBOR-based existing contracts with maturity beyond the time of IBOR termination (2020/2021) ▪ Most affected would be the contracts that affect various divisions in the bank (trading, credit, treasury, payments, etc.) ▪ The fallback solutions formulated in existing contracts for interest calculation in the case of unavailability of the IBOR rates have mostly been designed to bridge short time horizons (and not for permanent discontinuation of IBORs) ▪ Timely assessment of the risk arising from the conversion of these contracts is necessary, in particular estimation of the transition-induced value changes between the counterparties ▪ Early development of strategic communication plans for different customer groups
Valuation & Interest Rate Risk	Firm Specific	▪ The switch to alternative RFRs will lead to quantitative effects in the valuation of inventory positions. Therefore, an analysis of the P&L and limit effects will be necessary ▪ Consideration of basis-risk by different definition and calculation methods of the new and old benchmarks, during the (expected) parallel phase of coexisting IBORs and alternative RFRs ▪ For effective hedging relationships, the transition to alternative RFRs for underlying transactions and derivatives must occur simultaneously and under the same conditions
IT Systems	Firm Specific	▪ Analysis of the entire front-to-back processes and systems for identifying the necessary adjustments ▪ Adjustment of yield curve hierarchies in the trading and risk management systems for pricing and valuation ▪ Receipt, validation, distribution and archiving of new interest rates in market data systems ▪ Examination of the BO systems to see if the new interest rates can be mapped in order to trigger correct interest payments and accounting entries

Table 2: IBOR Reform – Challenge Points

Another challenge firm's face is to minimize the disturbance of existing **hedging relationships** once the transition to alternative RFRs start to take place. To ensure that the existing hedging relationships are not disturbed, the transition to the alternative RFRs for the derivatives and the underlying transactions have to occur simultaneously. On top, firms also have to take into consideration the **basis-risk** that may arise due to different definition and calculation methods of existing and new benchmarks, especially if there will be a period of coexisting interest rate regimes. The potential impact on financial accounting would also be considerable.

Last but not the least, there is the challenge around firm's **IT systems** capability to handle the change to new benchmarks. Firms should already start evaluating if their front-to-back processes and systems can handle the transition, and if required should carry out necessary adjustments.

Another major challenge to be resolved is defining and adopting a methodology for **term rates of RFRs** i.e. defining a methodology to establish rates for different tenors (for each RFR). As mentioned in the ISDA survey[9], from the end-user perspective, this theme is one of the key elements for successful transition from IBOR to RFRs regime. Working groups in different jurisdictions are working on establishing methodology for defining forward looking term rates based on observable transactions in the market.

[9] *IBOR Global Benchmark Transition Report – June 2018*

What should banks and other firms do already?

Given the challenging tasks with extremely short deadlines, firms should already shift into a higher gear and be prepared for the most fundamental change in the history of financial markets.

Firms should initiate impact studies under senior leadership to **take stock** of the exposure to IBOR-based contracts and estimate the associated risk. Such an **impact assessment program** will give firms an edge to tackle the transition smoothly and successfully.

Impact Study – IBOR Transition

Evaluation of IBOR exposure

- Take bank-wide inventory of contracts based on IBOR and calculate exposure
- Analysis of the maturity profile of such contracts (extending beyond 2020/21)
- Setting up reporting to monitor changes in IBOR exposure due to new business

Impact Analysis

- Review legacy contracts and their fallback language
- Identify contracts where fallback clauses have highest risks
- Observe market governing bodies (e.g. ISDA) with respect to fallback arrangements
- Conduct scenario analysis and derive action plans

Transition Roadmap

- Observation of relevant working groups and publications from market support organizations
- Identification of the impact on the product portfolio and the value chain of the bank
- Determination of the required infrastructure and process changes
- Development of strategic communication strategy with the clients

Initiate IBOR Project

- Increase awareness of the senior management on the importance of the topic
- Setting up IBOR reform program in the firm
- Allotment of budget to initiate IBOR reform program
- Allocation of human and other resources for the program

Box 12: Action Points

Given the increasing **awareness** and the traction in the liquidity for products based on alternative RFRs, firms should already initiate **new product planning** based on RFRs (especially on the derivative sides). The benefits will be two-fold: there will be a growth in the liquidity of RFR based derivative products and it will pave the way for RFR-based term rates. This must be complemented with a strategic **communication plan** for the different groups of clients. Last but not least, firms should observe the developments and announcements from the key market governing bodies, participate in the consultations and provide inputs when called for from such organizations.

Conclusion

The phasing-out of IBORs will not be a black swan event; it is a certainty. The alternatives to IBORs have been identified and the market supporting organization such as ISDA and LMA are working on facilitating a smooth shift. The awareness of alternative RFRs is on the rise and the liquidity of products based on the RFRs is increasing. Lately, various bonds have been issued in the market that are indexed to the new RFRs and the derivate market is heating up.

Banks and firms exposed to different IBORs should already mobilize their resources for this transition. They should start allotting financial and human resources to commence tasks in order to minimize the risk of transitioning from IBOR to RFR regime.

Acronyms

ARR	Alternative Reference Rate
EIB	European Investment Bank
EMMI	European Money Market Institute
EONIA	Euro Over Night Index Average
ESTER	Euro Short Term Rate
EU-BMR	European Union – Benchmark Regulation
EURIBOR	Euro Interbank Offered Rate
FCA	Financial Conduct Authority, UK
FSB	Financial Stability Board
IBOR	Interbank Offered Rates
ICE	Intercontinental Exchange
IOSCO	International Organisation of Securities Commission
ISDA	International Swaps and Derivatives Association
LIBOR	London Interbank Offered Rate
LMA	Loan Market Association
OSSG	Official Sector Steering Group (FSB)
RFR	Risk Free Rates
SARON	Swiss Average Rate OverNight
SOFR	Secured Overnight Financing Rate
SONIA	Sterling Overnight Index Average Rate
TONA	Tokyo Overnight Average rate

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