

June 2019



# EU Benchmark Regulation and IBOR Reform

## The Future of Benchmark Rates

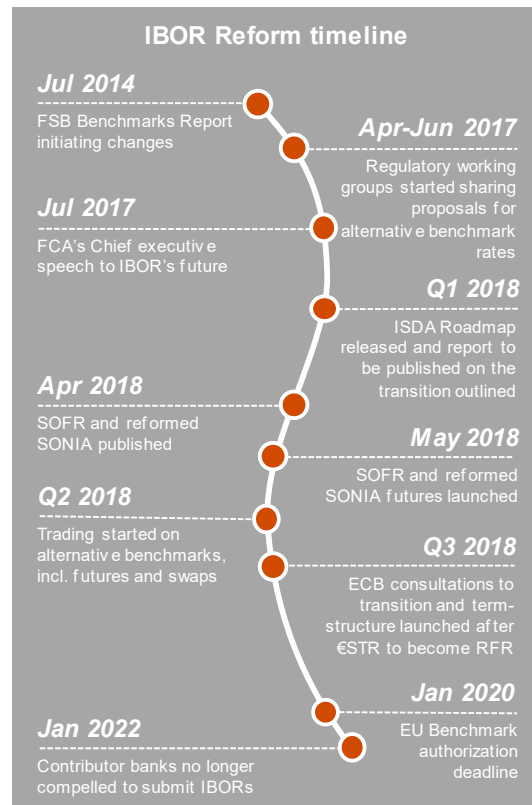
# Benchmark users need to prepare for transition to new benchmarks as response to the EU Bench-mark Regulation and market developments

## EU Benchmark Regulation

- The EU Benchmark Regulation (EU BMR) introduces new compliance requirements for benchmark administrators, contributors and users with effective date January 1, 2018 (transition period for certain requirements)
- As of January 1, 2018, benchmark users are required to create and maintain robust written plans to identify measures that come into effect with cession or modification of an existing benchmark
- After January 1, 2020, only BMR compliant benchmarks (provided by registered or authorized administrator) may be used in new contracts
- For legacy contracts, non-compliant benchmarks can still be used after January 1, 2020 subject to a decision by the competent authority of the administrator's Member State
- EU institutions agreed to grant an extension by two extra years for critical benchmarks and benchmarks from third country administrators until December 31, 2021

## IBOR reform

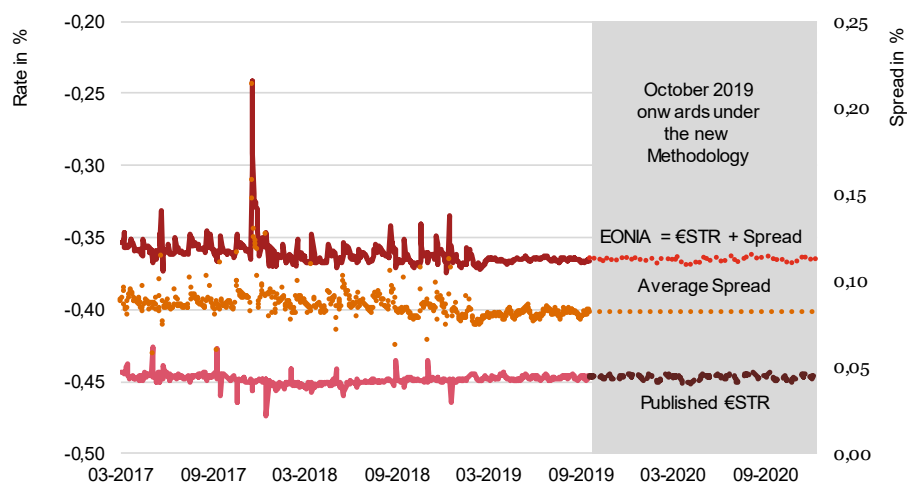
- The commitment of panel banks to support the quotation of existing IBORs expires after 2021
- At latest by 2022 new, risk-free interest rates, which are based (mostly) on real market transactions, should have replaced the old reference interest rates
- Working groups from jurisdictions across the world have proposed alternative reference rates or are working to substantially strengthen existing rates



Existing IBOR rate(s)	Successor	Borrowing Type
EURIBOR / EUR LIBOR	€STR	Unsecured
USD LIBOR	SOFR	Secured
GBP LIBOR	SONIA (new)	Unsecured
CHF LIBOR	SARON	Secured
JPY LIBOR, TIBOR	TONAR	Unsecured

# For a limited time period, a recalibrated EONIA (€STR plus Spread) and €STR will be published in parallel with clean discounting

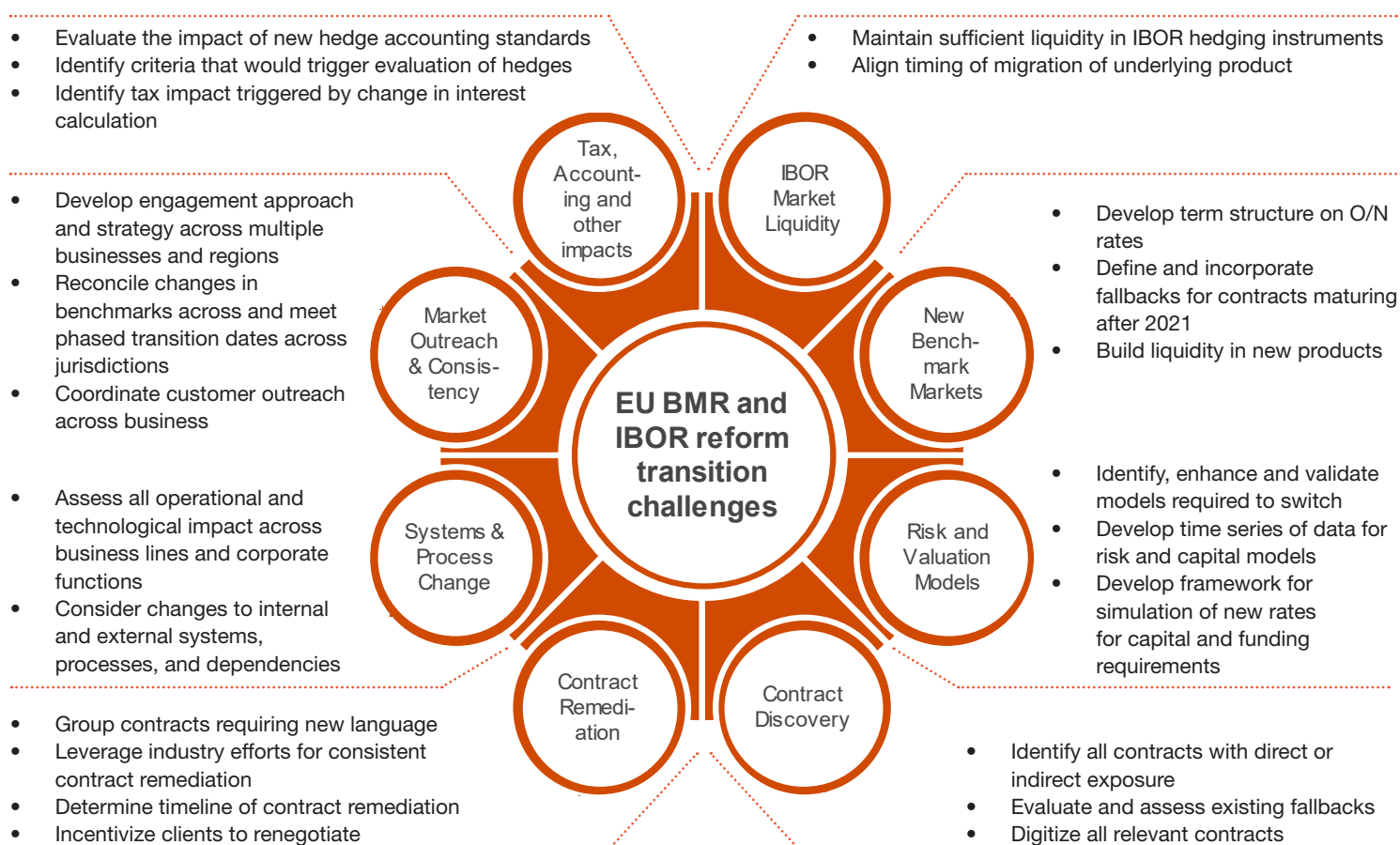
- €STR will be published as successor to EONIA from 2 October 2019 – currently a so-called pre-€STR is being published.
- Under a time-limited recalibration approach (up to end-2021) with a fixed spread, EONIA will be directly linked to €STR.
- The parallel approach allows for orderly transition and sufficient time for transferring current EONIA liquidity to the emergent €STR market
- Use of a single discounting regime encourages transfer of liquidity from EONIA to €STR
- Both, €STR and recalibrated EONIA will be published T+1



Source: ECB Data, PwC analysis: Data for EONIA and Pre-€STR available until end of February 2019; Data from March 2019 to October 2019 are simulated; Average Spread was calculated with Data from October 2018 to October 2019

— EONIA      — Pre-€STR      ..... New EONIA  
 - - - €STR      • Daily Spread      ..... Trim. 1Y-Avg. Spread

## Challenges in implementing the requirements of the EU BMR and the IBOR reform are affecting a large number of areas



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### Mobilization

- Conduct a organization-wide scoping exercise to ensure that all impacted stakeholders are aware and involved in discussions and a consistent understanding is established
- Establish a working group with representatives from all impacted areas of the bank for the ongoing management of the transition period
- Join and participate in relevant working groups to remain current on the developments of the LIBOR reform and the guidance provided by regulators and industry groups



### Impact analysis and development of a roadmap

- Define, communicate and continuously monitor firm-wide scenarios for the transition to new rates
- Conduct an initial impact assessment to develop a high-level understanding of how the bank is impacted across the organization differentiating between legacy and new business
- Quantify the exposure (direct and indirect) in the relevant reference rates
- Assess the risks associated with the transition to new reference rates
- Develop initial draft of the roadmap for the transition period



### Short-term strategic priorities

- Assess and potentially replace fallback language in contracts for new business
- Run new product approval processes to allow trading in new reference rates
- Prepare a communication strategy to be able to respond to requests from your customers



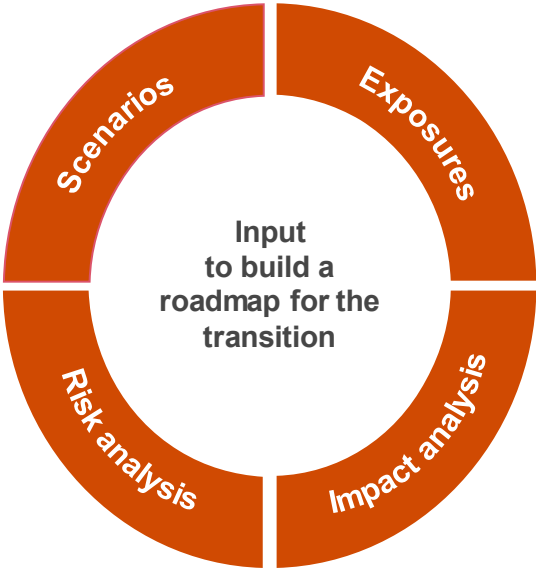
# The definition of several transition scenarios reflects the remaining uncertainty and facilitates the impact and risk assessment

### Definition of transition scenarios

- Definition of 3-5 scenarios based on potential transition alternatives or by currency
- Description of important assumptions for each identified scenario
- Identification of a basis scenario as foundation for the impact and risk analysis

### Risk analysis

- Definition of key level 1 und 2 risks resulting from the transition to new reference rates following the internal risk taxonomy
- Risk assessment for each scenario (H/M/L or relative risk in comparison to base scenario)
- Development of actions to be taken to mitigate identified risks




### Quantification of exposures

- Identification of exposures (direct/indirect) in relevant interest rate benchmarks (e.g. USD LIBOR, EONIA, EURIBOR)
- Analysis and illustration of exposures in various dimensions and aggregation levels (e.g. business function, reference rate, region, maturity bucket)
- Identification of run-off profile to inform about transition strategy and definition of an ongoing process

### Impact analysis

- Identification of required changes along the value chain and assessment of required efforts and complexity due to the replacement of existing rates based on the identified base case
- Execution based on assumptions of Base Case along the front-to back process chain

## Our proven PwC tools can help and support you in the arising challenges emerging from the transition

Impact Assessment	Exposure Monitoring	Semantic Contract Analysis	Outreach & Repapering	PwC FIVE
				
<b>Primary Purpose</b> Facilitate and accelerate an enterprise wide impact analysis from the IBOR cessation across business units, regions, products and operations	<b>Primary Purpose</b> Identify and visualize relevant data on all products, contracts and customers that have a link to IBOR	<b>Primary Purpose</b> Discover and extract relevant parameters and content from affected contracts and other documents	<b>Primary Purpose</b> Connect and communicate with all affected clients in a collaboration and outreach platform	<b>Primary Purpose</b> Provide and use a modular valuation and IT infrastructure for affected contracts and product
<b>Target</b> Create and assess robust written plan and action progress using input as well as identify most important next steps	<b>Target</b> Review and track quantitative impacts before, while and after the transition period in a detailed Dashboard view	<b>Target</b> Extract and structure data, analyze each component consistently as well as in clusters or filter and sort by parameters	<b>Target</b> Achieve better communication and faster documents gathering as well as work smarter including tracking and reporting	<b>Target</b> Analyze and simulate any effects and quantitative impacts arising on profit and loss and market value changes

Our references from ongoing and completed projects in IBOR transition presents PwC as industry leader and reliable partner for you

Client	EU-BMR	IBOR Reform
Major international bank		
Major international bank		
Major international bank		
Major international asset manager		
Major German bank		
Regional German bank		
Market infrastructure		

## Expert knowledge

PwC has extensive experience in the implementation of the EU BMR and the IBOR reform – in addition you will benefit from our interaction with local and international working groups

## Strategic advantage

PwC established an internal Reference Rate Reform working group to combine our expertise globally and exchange latest market developments – you will gain an strategic advantage

## Efficiency

Due to our experience and tools we stand for efficient methodologies and implementation processes to fulfill project expectations which enables us to close projects in time

## Project insights

Currently, we support a German bank in performing a pre-study on the reference rate reform

## Project goals

Assessing the technical implementation effort to represent €STR in client systems (Front to back)  
Impact assessment on hedge accounting and other financial statement components  
Setting up a roadmap for a detailed concept and implementation including a proposal for project structure and milestones  
In addition setup of project organization, communication and project phases to perform the pre-study

## Relevant products

1. Implementation  
“Floater using €STR reference rate”
2. Implementation  
“Floating loans with alternative reference rate”
3. Substitution of EONIA  
as reference rate in CSA by €STR
4. Substitution of EONIA  
as reference rate in contracts including safeguarding of credits by €STR

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**In order to respond to the various potential implementation challenges, PwC involves experts from various competence teams**

## Our Experience and Capabilities

## Ongoing client projects

PwC actively supports the IBOR and Reference Rate Reform projects for numerous clients, including the impact assessment, mobilisation program and governance structure, and preparation for client and customer outreach initiatives.

## Knowledge Centre

We keep abreast of regulatory developments, their implications for our clients and of the progress of ongoing projects. We discuss market standards, obtain insights from associations/regulators and take part in the debate of significant issues.

## Monitoring und dialogue with industry groups

PwC maintains long-term relationships with the leading industry groups that play important role in the IBOR transition to alternative reference rates. We have organized and hosted numerous industry-specific events and frequently publish insights and analysis on the IBOR transition and the related topics.

## Cooperation with working groups

PwC is a member of the working group “Sterling Risk-Free Rates” of the sub-group “Communication & Outreach”. We expect to join other working groups in the future.

## Global coordination and tool development

PwC experts meet regularly to discuss current market developments and keep our methodologies and tools up-to-date. Our IBOR capabilities are supported by a number of tools accelerating the impact assessment, contract amendment process, and other components of the transition.

## Benefits

- PwC has access to up-to-date, directly relevant experience
- We apply our knowledge and learnings from previous projects, but also from our experience in managing complex change programs combining a whole range of expertise

- PwC can assist you in the navigation of the uncertainties associated with the transition
- Our broad engagement across the various industry participants allows us to stay abreast of market developments and support you in planning for the various transition scenarios

- Our team can provide you with insights and knowledge from all of our IBOR transition efforts
- Our tools can support a more efficient transition, with sustainable benefits

# Vil du vide mere?

For uddybende spørgsmål - eller har du brug for konkret rådgivning mht. IBOR transitionen og reference rente reformen - så er du altid velkommen til at kontakte vores team, der er specialister indenfor regulering, risiko og kapital i den finansielle sektor.

Financial Markets & Risk tilbyder rådgivning i forbindelse med regulatoriske forandringer og bidrager med ekspertviden indenfor finansiell risikostyring, optimering af regulatorisk kapital samt markedsregulering. Vi har indenfor de seneste 4 år arbejdet intenst i Danmark og i Europa med bl.a. MiFID II, Basel IV, FRTB og EBA guidelines, samt ændringer i investeringsstrategi mod alternative investeringer. Vores dybe forståelse af vores kunders forretningsmodel og operating model er med til at målrette vores rådgivning, og gør at vi altid stiller med det stærkeste team af bl.a. økonomi- og risikoeksperter, jurister, proces eksperter, data arkitekter, og analytikere.



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