

Expediting the LIBOR Transition with AI-Based Solutions

WHITE PAPER

Executive Summary



Transitioning successfully from LIBOR is no small feat, and even harder, is to rework on an estimated \$350 trillion worth of contracts globally.

Converting outstanding contracts is critical to success, however, it necessitates extensive data processing, system updates, and documentation review. Contract conversion will require a complete understanding of the document types and contractual triggers, and the ability to link amendments and applicable clauses. The rate is so embedded in the

day-to-day activities of providers and users of financial services that institutions must leverage the right technology to make the transition efficient and cost-effective. As an applied AI and data science software and services company, Quantiphi has developed a customized solution to assist financial services organizations in transitioning away from LIBOR to alternative overnight risk-free rates. In this paper we showcase how your organization can leverage Quantiphi's AI-based solution to overcome this regulatory challenge.

Introduction



The discontinuation of LIBOR after December 2021 has sent financial institutions all over the world scrambling for ideas to rework an estimated \$350 trillion worth of contracts globally. A single global systemically important bank will have more than 250,000 contracts with direct references to LIBORs that will mature post-2021 and several thousand other contracts with indirect LIBOR exposure. To successfully transition away from LIBOR, firms will need to conduct an enterprise-wide contract discovery, digitization, repapering, and client outreach programs. The estimated cost for the entire legal and contract remediation performed manually, is thereby expected to cost a G-SIB upwards of \$50 million.

What is LIBOR and Why is it Important?



LIBOR is a benchmark interest rate that is used by the world's leading banks to charge other banks for short-term loans. It serves the basis for calculating interest rates on various loans worldwide. It is a theoretical estimate of the rate at which large banks would borrow. The rate is published daily in response to the query and the final estimate is calculated as the trimmed mean of the rates provided by each bank.








LIBOR has become deeply entrenched into the global financial markets ever since it was first published in 1986. Over the decades, it has served as the basis for determining interest payments on adjustable-rate financial products, which vary from the smallest of loans to the largest of International transactions.

However, the LIBOR rate is something that banks report based on their proprietary observations, unlike the actual transaction-based rates determined by public supply and demand functions. This incoherency between volume and value marked the beginning of LIBOR's end and led a group of industry participants and regulators to look for an alternative rate. This group is also planning the transition to alternate rates as LIBOR will cease to exist after 2021.

Transitioning to an Alternate Rate





Since LIBOR will cease to exist, banks must select an alternative Risk-Free Reference Rate (RFR) or a proxy rate on par with LIBOR. However, the Alternate Reference Rates (ARRs) in contention are typically overnight and collateralized. The risk premium would have to be added on these ARR as a spread adjustment factor as LIBOR is an unsecured reference rate. The rate selected must also be based on legitimate transactions and not on professional judgments.

To identify the most suitable rate, banks can use various multivariate statistical techniques to compare the values, trends, and co-integration features between LIBOR and ARR historical time series data. Banks must examine the taxonomy, features, and volume buildup of the proposed risk-free rates and make an informed decision by weighing the risk and corresponding return.

Geography							
Proposed Alt Reference Rate (Overnight)	Reformed Sterling Overnight Index Average (SONIA)	Secured Overnight Financing Rate (SOFR)	Swiss Average Rate Overnight (SARON)	Tokyo Overnight Average Rate (TONAR)	Euro Short-term Rate (ESTER) by Oct '19	Canadian Overnight Repo Rate Average (CORRA)	RBA Cash Rate
Regulatory Body	Bank of England	FedReserve	SIX Swiss Exchange	Bank of Japan	European Central Bank	Banque Du Canada/Bank of Canada	Reserve Bank of Australia

Understanding the Associated Risks

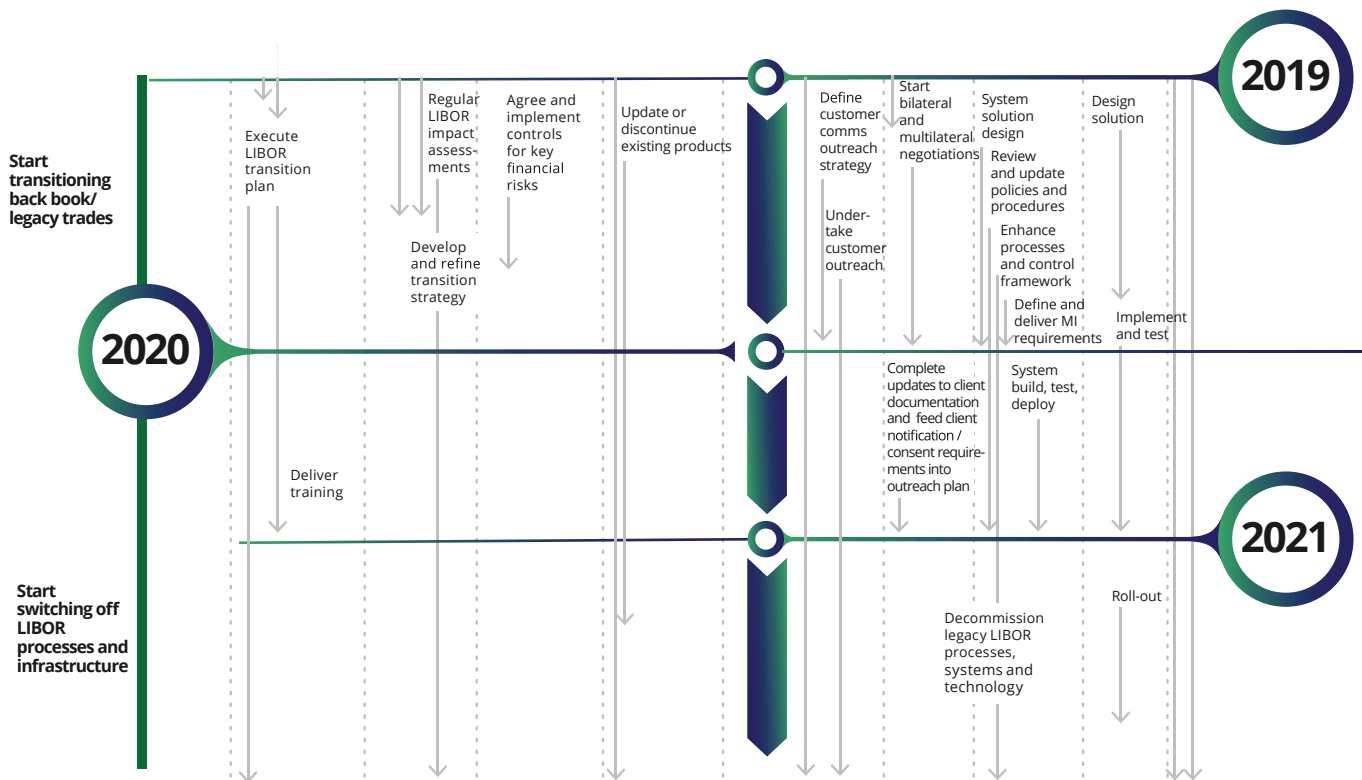
Despite the uncertainty and slow transition, banks and industry groups continue to prepare for a shift from LIBOR. As these efforts progress, there are a series of new emerging risks that organizations must address:

<p>1</p>  <p>Over-Reliance on Fallback Clauses Relying solely on the updated fallback clauses when LIBOR becomes unavailable will create a significant operational risk for a firm.</p>	<p>2</p>  <p>Inconsistency in Fallback Terms and Triggers Differences in fallback language for subsets of transactions could result in increased basis risk.</p>	<p>3</p>  <p>Conduct Risk and Data Complexity in the Repapering Process A fragmented approach to choosing an alternate rate could negatively impact customer relationships and lead to reputational damage, economic loss, conduct fines, or legal action.</p>	<p>4</p>  <p>Impact on Earnings of Using a Risk-Free Rate for Lending Banks need to analyze the economic, balance sheet, P&L impact of various transition scenarios, and the potential impact of future stress scenarios.</p>
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Action Plan for Firms



- Actively monitor fallback language consultations and conventions led by national and industry working groups
- Ensure that all new cash transactions and contracts have a robust fallback language in all new cash transactions and contracts
- Verify readiness to implement robust fallback language for derivatives based on ISDA's Benchmark Supplement and LIBOR fallback amendment to the 2006 ISDA Definitions
- Prioritize remediation efforts with a representative sample of contracts referencing LIBORs and assess the strength of fallback language in legacy transactions by contract type, product, and client segment
- Assess potential financial, legal, and conduct risk
- Assess the feasibility of leveraging technology solutions to digitize and extract fallback language
- Define legal remediation, product transition, and client outreach and communication strategies
- Identify impacted contracts; develop an inventory of those referencing LIBORs
- Consolidate impacted contracts to one or more contract repositories for analysis, remediation, and repapering
- Identify impacted systems and develop detailed business requirements for system updates to operationalize fallback language in the event of an LIBOR cessation



Evaluating Exposure and Enhancing Contract Robustness



Banks are currently using LIBOR as a reference rate for pricing and interest modeling across a majority of contracts. Manually identifying all contracts that use LIBOR as a reference rate and modifying the explicit fallback language for handling temporary or permanent discontinuation scenarios is a daunting task due to the sheer number of contracts.

Firms need to consider other critical contractual features that may impact the LIBOR transition, including maturity date, firm's role in the contract, benchmark use, amendment, and consent provision, governing law and jurisdiction, and force majeure provisions.

For all legacy transactions or contracts with references to LIBOR that mature after 2021, firms must define a clear transition strategy and roadmap. Transition strategies may include sale or exit, repricing, amendment of fallback language, or no action, depending on the transaction, client segment, contract type, and provisions.

Leveraging Technology



Traditionally, large scale document review projects use a structured manual review process. The document review team performs a document-by-document review using document review platforms and the review playbook.

Manual review is a slow process, particularly for the complex contracts involved in LIBOR analysis. Review speeds depend on the reviewers' knowledge base, and an inexperienced document review professional can take up to 3 hours to review and tag a single syndicated loan agreement.

The amount of document review required to address LIBOR issues demands more than what the manual review can offer. The benefit from technology-assisted review (TAR) undoubtedly justifies the cost of using software systems.

Firms must switch to AI-based model libraries, optical character recognition (OCR), and computer vision techniques to extract contextual information from digital documents. Natural language processing (NLP) technologies screen contracts, pinpoint language variations, identify impacted contracts, and predict dollar value exposure. Firms can also leverage robotic process automation (RPA) solutions to embed robust fallback provisions and enhance contractual robustness to reduce cycle time and manual interventions.

Quantiphi Solution

Quantiphi's LIBOR Contract Remediation Lifecycle includes the following steps.



Digitize - Convert scanned PDFs to searchable documents using deep-learning-based OCR techniques



Extract the LIBOR references and the contract maturity date from the contract



Classify based on the LIBOR cessation impact by assessing the LIBOR Reference Relevance Contract validity



Interpret the Impacted attributes and clauses, Fall-back Language, and the Amendment provisions in the contact



Remediation - Summarize the impact and provide suggestive amendments. Ensure accuracy with a human in the loop and a two-stage review process

Digitization



Digitization of document

Scanned Document Upload

Extraction & Classification



Extraction of LIBOR reference & Date



Legacy Libor



New Libor



Legacy Libor Expired



New Libor Expired

Contract Interpretation



Extraction of Attributes



Categorization Model



Amendments by SME

Out of Scope for POC

Impacted Groups

Business Units



Retail & Commercial Banking



Investment Banking



Insurance



Wealth Management

Central Functions



Finance



IT



Legal



Tax & Treasury

Control Functions



Risk



Compliance



Internal Audit

How Will It Impact?

Implementing Quantiphi's solution will help you successfully transition away from the LIBOR in a timely manner while ensuring:

- **80% reduction** in costs through document processing and RPA
- Reduction in risks through superior reporting and case management
- Faster contracts processing with advanced AI and robotics
- Assessment of exposures with accuracy at any point in time
- **78% reduction** in effort with document processing



Webinar Link and Info

Conclusion



Our Solution at Quantiphi focuses on mitigating risks and delivering specific solutions that will help you navigate this challenging period within the industry.

Leveraging AI enabled Document Understanding technology will automate repetitive tasks and replace humans from the loop by enabling the repapering work much smoother with minimal human interventions.

Quantiphi is an award-winning applied AI and data science software and services company driven by the desire to solve transformational problems at the heart of business. Quantiphi solves the toughest and complex business problems by combining deep industry experience, disciplined cloud and data engineering practices, and cutting-edge artificial intelligence research to achieve quantifiable business impact at unprecedented speed.

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