MAKING THE WORLD'S MOST IMPORTANT NUMBER LESS IMPORTANT

LIBOR TRANSITION

July 2018 Edition
Updated version

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1. PROLOGUE – RATES, CONTRACTS, ACTION!

It has been a year since Andrew Bailey, Chief Executive of the UK Financial Conduct Authority (FCA), announced the FCA would not persuade or compel banks to submit the inputs used for the London Interbank Offered Rate (LIBOR) after 2021, and five months since our original paper on this topic, *Changing the World's Most Important Number*, was published. Since then market participants have taken concrete foundational steps to transition from LIBOR to transaction-based alternative reference rates. However, this work needs to dramatically accelerate to meet the 2021 timeline. This report is an updated version of our original paper, providing the latest overview of the LIBOR transition.

Working groups convened by regulators for each LIBOR currency continue to lay the foundation for LIBOR transition. Two important steps occurred in April when the Federal Reserve Bank of New York began publishing the Secured Overnight Funding Rate (SOFR), a new benchmark rate alternative to USD LIBOR, and the Bank of England (BOE) began publishing the Reformed Sterling Overnight Index Average (SONIA) rate. This was followed by the reconstitution of the US Alternative Reference Rates Committee (ARRC) and the UK Working Group on Sterling Risk-Free Rates, with expanded constituencies and mandates to include cash products and other transition planning dependencies. The European Central Bank (ECB) convened the Working Group on Euro Risk-Free Rates, including a focus on the EUR-LIBOR, EURIBOR, and EONIA transition and reform efforts.

Industry associations and market infrastructure providers have taken solid steps to facilitate the transition. Intercontinental Exchange (ICE) and the London Clearing House (LCH) began futures trading based on SONIA in April, and the CME Group launched SOFR futures in May. These providers plan to develop a pipeline of products and services supporting transition. ISDA has convened working groups to develop options for addressing the conversion between LIBOR and the new alternative rates for derivatives, and several other industry associations (including SIFMA, SFIG, AFME, LSTA and LMA) have significantly ramped up efforts to build awareness amongst their members.

"There is some good news to report on the important steps taken towards transition. But the pace of that transition is not yet fast enough. There is much further to go"

Andrew Bailey, Financial Conduct Authority, Chief Executive
"Interest rate benchmark reform," Speech at Bloomberg, London, July 12, 2018

Market participants have made progress as well. In a recent ISDA survey[1], over 75 percent of respondents noted that they have begun internal discussions related to LIBOR transition and a third have taken concrete steps to mobilize. From our observations, these typically include identifying central resources/leads for the LIBOR transition, and formalizing the firm's inventory of LIBOR products, processes, and exposures. Transparency into the size and scope of the impact allows firms to properly structure their LIBOR transition programs.

But a great deal remains to be done and one-quarter of the LIBOR-available timeframe is gone. Awareness of the transition is concentrated in the large financial institutions, while end users and other institutions (such as vendors that provide infrastructure support and corporates) often have limited awareness of the issue and what they need to do. Even for those that are aware, many are not yet engaged – while about a third of the respondents to the ISDA survey are members of the currency working groups, only 20 percent have developed a preliminary project plan or allocated resources to the transition. **The industry is in danger of missing the deadline, and risks the ensuing operational, financial, and worst case, market stability impacts.**

Beyond a need for awareness, adoption of new rates by providers and end users is a requisite to transition. The volume of SOFR futures traded on CME is concentrated among a small number of large banks; widespread use will be necessary to build liquidity. Cash products using the new rates are almost nonexistent.[2] More directly, the industry cannot transition from LIBOR-based products if replacements do not exist and there has been no progress on the "back book" over the past year. In fact, according to the Bank of England, LIBOR positions are growing at a faster pace than they are maturing.[3]

"Fall back are not designed as, and should not be relied upon, as the primary mechanism for transition. The wise driver steers a course to avoid a crash rather than relying on a seatbelt. That means moving to contracts which do not rely on LIBOR and will not switch references rates at an unpredictable time"

Andrew Bailey, Financial Conduct Authority, Chief Executive
"Interest rate benchmark reform," Speech at Bloomberg, London, July 12, 2018

Uncertainty and other priorities continues to slow industry response. Market participants have commonly highlighted a lack of clarity into what shape the transition will ultimately take – will there be one or many replacements for LIBOR for each currency? Will some form of LIBOR continue beyond 2021, and what would be the implication for existing trades that refer to LIBOR? Will the credit spread and term structure of LIBOR be replicated for the alternative rates, and if so, how will the industry reach a consensus on its approach?

1 IBOR Global Benchmark Report – June 2018: http://assets.isda.org/media/85260f13-66/406780f5-pdf

2 The European Investment Bank (EIB) issued $1 BN in SONIA-linked floating rate notes in June 2018.

3 Bank of England Financial Stability Report: https://www.bankofengland.co.uk/-/media/boe/files/financial-stability-report/2018/june-2018.pdf?la=en&hash=9D057C7302B80EF57D634020F50C6F46D782904C

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These uncertainties should be alleviated by the series of coordinated speeches and statements recently made by the FCA, the Financial Stability Board (FSB), and the U.S. Commodities and Futures Trading Commission (CFTC).[4] These statements provided warnings that the supervisors can stop use of LIBOR for new trades and will ask firms for their LIBOR transition plans. Further, they urged that participants stop hoping for continued LIBOR submission and synthetic LIBOR for legacy contracts. The releases of the ISDA consultation paper and the ARRC guiding principles for cash products on the same day should also provide direction for the market to start moving ahead.

"One way in which the future of LIBOR could unfold is that either the administrator of LIBOR, or we, as supervisor, judges that LIBOR is no longer sufficiently representative, and so no longer satisfies the requirements of the Benchmark Regulation"

Andrew Bailey, Financial Conduct Authority, Chief Executive
"Interest rate benchmark reform," Speech at Bloomberg, London, July 12, 2018

Market participants must accelerate their LIBOR transition programs. It is increasingly important to consider the impact of the LIBOR transition at a granular level. This includes analytics that quantify value and risk transfer for different conversion scenarios. In addition, pricing and risk models will need to be recalibrated, and asset-liability management and balance sheet management processes will be impacted. Fiduciaries will need similar modeling work to assess values. Moreover, with the broad scope of products that rely on LIBOR, market participants need to begin speeding up new product development, so that products using alternative rates can replace existing LIBOR products.

One year later, the message from regulators is clear: the industry must work under the assumption that LIBOR will be unavailable after 2021. And for market participants that have not yet begun mobilizing… the time to begin is now.

"For firms who are not yet aware, not yet engaged, and without plans to address their LIBOR-related dependencies, I warn you again of the risks"

Andrew Bailey, Financial Conduct Authority, Chief Executive
"Interest rate benchmark reform," Speech at Bloomberg, London, July 12, 2018

4 These include (1) speech by Andrew Bailey at Bloomberg, London, July 12 2018; (2) statement by the FSB on Interest rate benchmark reform, July 12 2018; and (3) separate opening statements by CFTC Chairman J. Christopher Giancarlo, Commissioner Brian Quintenz, and Commissioner Rostin Behnam before the CFTC Market Risk Advisory Committee Meeting, Washington, D.C., July 12 2018

WHAT'S YOUR LIBOR SPIRIT ANIMAL?

1. When asked who is leading your LIBOR transition program, you say:

- (A) "[Name] is the lead and has pulled together an enterprise working group"
- (B) "We have many leads from each of our businesses and functions"
- (C) "Maybe someone from rates. Or legal. I don't know"

2. Your firm is proceeding under the assumption that:

- (A) LIBOR discontinuation is a certainty; we have defined a base-case set of outcomes, but will monitor and adapt accordingly
- (B) LIBOR's longevity is uncertain, but we will wait and see what happens
- (C) LIBOR will continue. Why would we assume anything else?

3. You're drafting a contract for a new LIBOR-based issuance. Your template:

- (A) Includes disclosures on discontinuance of LIBOR and new fallback language with trigger, alternative reference rate, and spread methodology
- (B) May or may not consider discontinuance for LIBOR and/or new fallback language
- (C) Is the same as usual – use LIBOR and if it's unavailable use Prime, last available LIBOR or poll a number of banks

4. LIBOR is permanently discontinued today and you need to quantify the impact to your firm. You:

- (A) Run a report that shows notional exposure to LIBOR, and potential risk and value impact across various scenarios
- (B) Build on a static report of LIBOR-dependent products and processes
- (C) Launch an urgent firm-wide exercise to pull data and start crunching; this might take a while

5. It's 2019. Regulators ask for your plan to address the discontinuance of LIBOR and how you comply with European Benchmark Regulation (as applicable). You:

- (A) Refresh your existing response plan
- (B) Pull together everyone who has worked on the transition in some capacity and start compiling activities
- (C) What's European Benchmark Regulation?

Mostly A: Lion
Organized, prideful

Congratulations! You are ahead of the pack, and on your way to building a strong LIBOR transition program. Your firm is committed to supporting the transition and is well informed. There is still a lot to be done, so keep up the forward momentum while watching out for industry developments and unknown unknowns

Mostly B: Turtle
Slow and steady

Moving in the right direction, there is still a bit of hesitance in committing to the transition given the number of uncertainties. However, there are a number of "no regrets" efforts that your firm can focus on to stay in good shape for the transition

Mostly C: Ostrich
Head in the sand

It's not too late! While LIBOR transition has not been at the top of the management agenda for your firm, this is the time to begin focusing. Get involved in industry discussions and consider what you need to do to build awareness and support within the organization to get mobilized

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2. EXECUTIVE SUMMARY

The London Interbank Offered Rate (LIBOR) is the reference interest rate for tens of millions of contracts worth more than USD 260 trillion, ranging from complex derivatives to residential mortgages. LIBOR is also hardwired into all manner of financial activity, such as risk, valuation, performance modelling, and commercial contracts. It has been called the "world's most important number."

However, significantly reduced volumes of interbank unsecured term borrowing, which is the basis for LIBOR, is calling into question its ability to continue playing this central role.

Working groups convened by regulators in the most used LIBOR currencies have already converged on alternative reference rates. In addition, the UK's Financial Conduct Authority (FCA) last year announced that after 2021 it would no longer persuade or compel panel banks to submit the rates required to calculate LIBOR.

Many have argued that publication of LIBOR rates will not necessarily end after 2021. Nothing prevents banks from continuing to submit the relevant data and ICE Benchmark Administration from publishing the rates. In addition, the submitting banks are conscious of the conduct risk inherent in making judgment-based submissions to a benchmark that determines the value of a vast number of contracts. However, even if this happens, regulatory pressure to transition to new rates is expected to increase.

The transition from LIBOR will bring considerable costs and risks for financial firms. Since the proposed alternative rates are calculated differently, payments under contracts referencing the new rates will differ from those referencing LIBOR. The transition will change firms' market risk profiles, requiring changes to risk models, valuation tools, product design, and hedging strategies.

LIBOR may become unavailable even though products referencing it remain in force. These contracts typically include "fall-back provisions" which specify contract terms in case LIBOR is unavailable. If the period of unavailability is brief, as envisaged when the contracts were drafted, the resulting losses and gains are manageable. But if fall-back terms are used for the remaining life of the contract, the economic impact is likely to be significant, with one side a winner and the other a loser.

Renegotiating a large volume of contracts is difficult, especially when one party has a contractual right to a windfall gain. If contracts are left to convert to fall-back provisions if LIBOR becomes unavailable, a vast number of price changes would occur in a short period. The associated financial, customer, and operational impacts will be difficult to manage.

Financial firms will also face a serious communication challenge with retail customers. For example, most variable rate mortgage customers in the US may understand that their rate is LIBOR+200 basis points (or similar) but have little understanding of LIBOR itself. Unless appropriately communicated, they are likely to think that a proposed alternative rate of the Secured Overnight Financing Rate (SOFR) +230 basis points is a worse deal, even if SOFR is on average 30 basis points lower than LIBOR.

Transitioning away from LIBOR could create considerable conduct, reputational, and legal risk. Even today, writing long-dated business that may extend beyond a LIBOR transition period entails conduct risk. Without clarity about the alternative rates or when the transition will happen, it is difficult to know how contracts should be priced. The longer uncertainty persists, the greater the mis-selling risk incurred by financial firms.

Financial firms still have the opportunity to work with regulators to influence the transition process and outcomes. The alternative rates are defined but market expectations and choices are not.

A wait-and-see approach is unwise. Given the volume of products and processes that will have to change, transition away from LIBOR entails considerable work and risk. LIBOR transition programs should mobilize immediately.

"The discontinuation of LIBOR is not a possibility. It is a certainty. We must anticipate it, we must accommodate it and we must adapt to it"

J. Christopher Giancarlo, U.S. Commodity Futures Trading Commission, Chairman
Opening Statement before the Market Risk Advisory Committee (MRAC) Meeting, Washington, D.C., July 12, 2018

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3. REGULATORS SEEK REPLACEMENTS FOR LIBOR

The London Interbank Offered Rate (LIBOR) is ubiquitous in the financial landscape. Called the "world's most important number," it is used as a reference rate in a wide range of wholesale and retail financial products, the total notional outstanding value of which exceeds USD 260 trillion (see Exhibit 1). As well as corporates and institutions, we estimate that over 15 million retail customers globally currently hold products that reference LIBOR.

Exhibit 1: Notional outstanding balances by reference rate

NOTIONAL VOLUMES BY REFERENCE RATES AND INDICATIVE CONCENTRATIONS
ORDER OF MAGNITUDE – ($US TRILLION)

		LIBOR: ~$240 trillion					EUR reference rates: >$175 trillion	
		USD-LIBOR	GBP-LIBOR	JPY-LIBOR	CHF-LIBOR	EURO-LIBOR	EURIBOR	EONIA
NOTIONAL VOLUME		**175–185**	**30**	**30**	**5**	**<2**	**135–145**	**13–14**
By asset class								
Syndicated loans		High	Medium	Medium	Low	Low	High	Low
Business loans	Corporate business loans	Medium	Medium	Medium	Low	Low	High	Low
	Other business loans	Medium	Low	Low	Low	Low	Medium	Low
	CRE/Commercial mortgages	High	Low	Low	Low	Low	Low	Low
Retail loans	Retail mortgages	High	Low	Low	Medium	Low	Medium	Low
	Credit cards	Low	Low	Low	Low	Low	Low	Low
	Auto loans	Low	Low	Low	Low	Low	Low	Low
	Consumer loans	Low	Low	Low	Low	Low	Low	Low
	Student loans	Low	Low	Low	Low	Low	Low	Low
Floating rate notes		High	Medium	Medium	Medium	Low	Medium	Low
Securitizations	RMBS	High	Medium	Low	Low	Low	Medium	Low
	Other (CMBS/ABS/CLO)	Medium	Low	Low	Low	Low	Medium	Low
OTC Derivatives	Interest rate swaps	High	High	High	High	Low	High	Low
	Forward rate agreements	High	High	Low	High	Low	High	Low
	Interest rate options	High	High	Medium	Low	Low	High	Low
	Cross-currency swaps	High	High	High	Medium	Low	High	Low
Exchange Traded Derivatives	Interest rate options	High	High	Low	Low	Low	High	Low
	Interest rate futures	High	High	Medium	Medium	Low	High	Low
Deposits		Low	Low	Low	Low	Low	Medium	Low

Key: High >$1 trillion Medium $100 billion<x<$1 trillion Low <$100 billion

Source: Oliver Wyman analysis, data as available as of December 2017

1 In 2014 the Financial Stability Board reported a total outstanding notional value of USD 370 trillion which included EURIBOR and TIBOR. USD 240 trillion is the total outstanding notional value referencing the five currency LIBORs, excluding contracts referencing EURIBOR and TIBOR and is updated for latest available data as of December 2017

LIBOR is also used in adjacent processes – integral to risk, valuation, and accounting models, for example – and in non-financial contracts, for example in late payment clauses and as a performance benchmark for measuring returns and funding costs. The extent to which LIBOR has filtered through the financial world is difficult to overestimate.

Nevertheless, LIBOR's central role in the financial system appears to be coming to an end. Following the 2012 rate-fixing scandals, substantial improvements have been made. However, over this period, activity in the market on which LIBOR is based – unsecured interbank term borrowing – has declined substantially. Following the financial crisis, banks have shifted away from unsecured short-term borrowing, preferring repos, bonds, and other forms of financing. And the post-crisis liquidity rules, which treat interbank borrowing as unstable, have reinforced the trend. In his July 2017 speech, Andrew Bailey, Chief Executive of the FCA, spoke of a currency-tenor combination where submitting banks "executed just fifteen transactions of potentially qualifying size in that currency at tenor in the whole of 2016."

This lack of activity calls into question the sustainability of LIBOR as a benchmark rate in its current form. Although its status arose as a market convention rather than a regulatory diktat, regulators have expressed a desire to see financial firms move away from LIBOR. In 2017, the FCA declared that after 2021 it will no longer persuade nor compel banks to submit their interbank borrowing rates to ICE Benchmark Administration (IBA), which has administered LIBOR since 2014. Working groups have been established for each LIBOR currency and most have converged on an alternative reference rate (see Exhibit 2).

Exhibit 2: Alternative reference rates

OVERVIEW OF PREFERRED ALTERNATIVE RATES

CURRENCY	PREFERRED ALTERNATIVE RATE	ADMINISTRATOR	NATURE	DATA/ TRANSACTIONS SOURCE	O/N RATE AVAILABLE	TERM RATE AVAILABLE[7]	WORKING GROUP
(US flag)	SOFR[1]	Federal Reserve Bank of New York	Secured	Tri-party repo, FICC GCF repo, FICC bilateral treasury repo	✓	✗ Planned 2021	Alternative Reference Rates Committee (ARRC)
(UK flag)	Reformed SONIA[2]	Wholesale Markets Brokers' Association (WMBA) Transitioning to Bank of England	Unsecured	Unsecured overnight sterling transactions negotiated bilaterally and brokered in London by WMBA	✓	✗ Under consideration	Working Group on Sterling Risk-Free Rates
(Swiss flag)	SARON[3]	SIX Exchange	Secured	CHF repo transactions in the interbank market[6]	✓	✗ Under consideration	National Working Group on Swiss Franc Reference Rates
(Japanese flag)	TONAR[4]	Bank of Japan	Unsecured	Data provided by money market brokers	✓	✗ Under consideration	Study Group on Risk-Free Reference Rates
(EU flag)	Under discussion[5]	European Central Bank	TBD	TBD[7]	TBD	TBD	Working Group on Euro Risk-Free Rates

1. Secured Overnight Financing Rate; 2. Sterling Overnight Index Average; Reformed SONIA will not be available until April 2018; 3. Swiss Average Rate Overnight; 4. Tokyo Overnight Average Rate;
5. EMMI concluded in Feb 2018 that EONIA's compliance with European Regulation by Jan 2020 "cannot be warranted"; 6. As well as indicative quotes posted on SIX Repo trading platform;
7. Contenders include the Euro Short-Term Rate (ESTER), the GC Pooling Deferred Rate, and the RepoFunds Rate. ESTER is the new wholesale unsecured overnight bank borrowing rate, which the ECB will produce before 2020

Source: Working Groups, Oliver Wyman analysis

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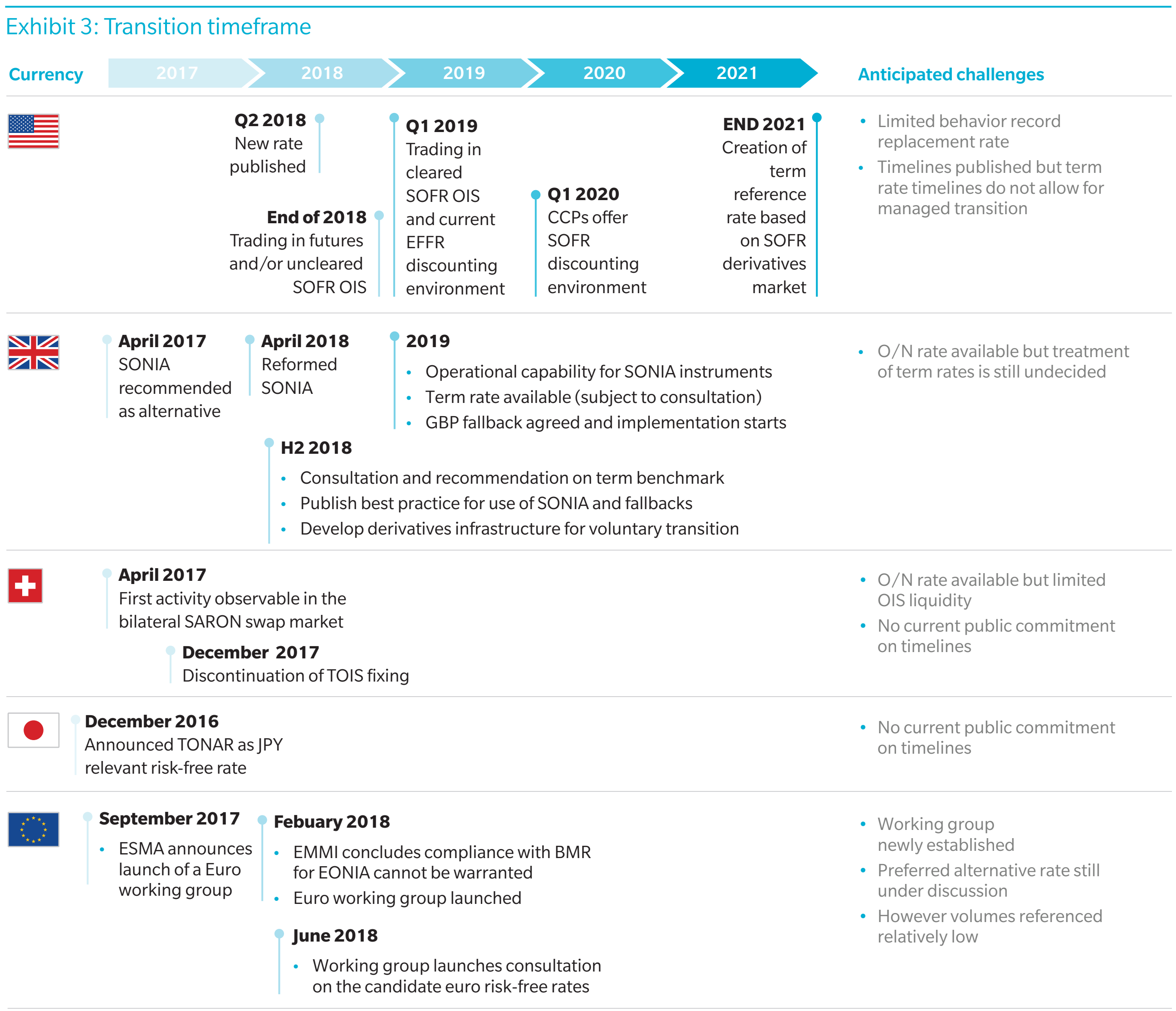
As with the rise of LIBOR, the shift to these alternatives will depend on choices made by market participants. The transition is unlikely to be required by regulation and, strictly speaking, LIBOR could survive as the pre-eminent reference rate, as only five panel banks are technically required to sustain LIBOR. However, given the regulatory direction of travel, this seems unlikely.

The timing of the likely transition will vary by currency depending on the availability of the alternative reference rate and liquidity in the relevant markets (see Exhibit 3). For example, in the UK, reformed SONIA is already widely used as the reference rate for Sterling Overnight Indexed Swaps (OIS) and discounting for Sterling interest rate portfolios. By contrast, the new US rate, SOFR, was not published until April 2018, and the market for products referencing SOFR is currently limited.

Exhibit 3: Transition timeframe



4. THE NEW REFERENCE RATES WILL NOT BE ECONOMICALLY EQUIVALENT TO LIBOR

If the new reference rates were to differ from LIBOR only in the way they are calculated and not in their resulting levels, the transition to them would be largely administrative. However, the new rates are likely to differ materially from LIBOR, sometimes dramatically – especially during periods of financial stress.

As shown in Exhibit 2, the proposed alternative reference rates are all overnight rates. Yet LIBOR rates are published for multiple terms, the most commonly used LIBOR tenors being one, three, and six months. Moreover, two of the alternative rates are secured and therefore exclude the credit spread related to bank credit risk currently embedded in LIBOR. In addition, the unsecured alternative rates, being overnight, have a vanishingly small credit spread that does not correspond to the spread in the LIBOR term rates. Contracts based on the new overnight reference rates would unavoidably entail different payments from contracts based on longer-tenor LIBOR rates.

Consider a contract that today sets an interest payment at GBP 3M LIBOR+100 basis points (bps). This cannot be translated into a contract referencing SONIA that will give rise to the same future payments. The average difference between GBP 3M LIBOR and a computed forward-looking 3M SONIA rate is roughly 30 basis points (see Exhibit 4). But 3M LIBOR+100bps is not equivalent to SONIA+130bps, because this 30bps difference represents an average of differences that vary dramatically over time. In the last 10 years alone, this difference has been as great as 398bps, and can be negative when the yield curve inverts. Payments made under a contract priced at 3M LIBOR+100 bps and under a contract priced at 3M SONIA+130bps will only be the same level on rare occasions.

The working groups are now considering term structures for the new reference rates. It is not yet clear how term structures will be derived, when these rates will be determined, or whether they will be determined at all. But even if term-adjusted reference rates are produced, payments will still differ from the LIBOR rates, creating significant valuation differences.

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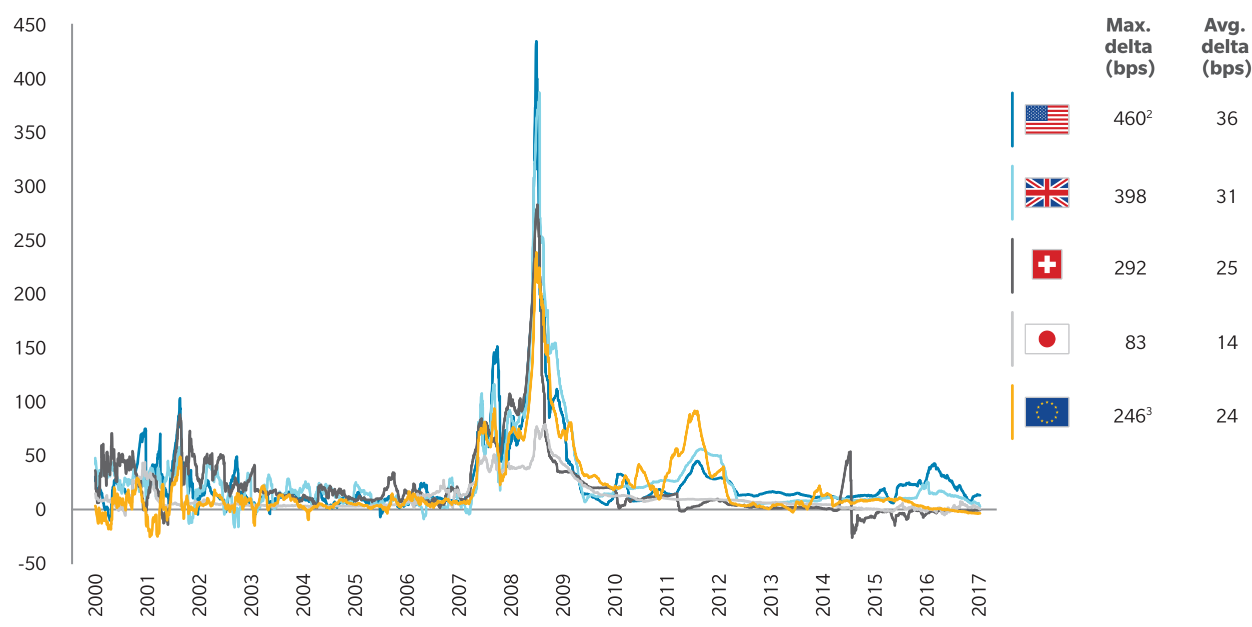
Exhibit 4: Difference between 3M LIBOR and alternative rate

DELTA BETWEEN 3M LIBOR AND 3M COMPUTED FORWARD LOOKING ALTERNATIVE RATE[1] – BY CURRENCY

2000–2017, BPS



1. 3M forward looking alternative rate calculated based on a geometric average of the overnight rate over a 90 day period on a forward looking basis
2. Treasury Repo Rate used as a proxy for SOFR in the absence of a published alternative rate; February Edition of this paper had used Effective Fed Funds Rate as proxy
3. EONIA used for the purposes of this analysis

Source: Bank of England, Thomson Reuters datastream, SNB data portal, Oliver Wyman analysis

Given that bank funding no longer includes much unsecured interbank lending, setting prices on LIBOR does not provide the "natural hedge" it once did. As a result, moving to the new reference rates will change the nature of the asset-liability mismatch risk banks face between their borrowing and lending activities.

In short, shifting from LIBOR to the proposed alternative reference rates will not be like shifting from miles to kilometers in the measurement of distance. While the International Swaps and Derivatives Association (ISDA) published a consultation in July to develop industry consensus on an approach to address the credit spread and term structure embedded in LIBOR, all options in the consultation will result in a fixed spread adjustment methodology. As a result, at a minimum, there will be increased basis risk for existing LIBOR products that transition to a new rate, as the spread between LIBOR and the alternative rates are unlikely to remain constant over the life of the product. New contracts and products using the new reference rates will also be economically different from the old ones based on LIBOR. The transition will thus have important long-term implications for product design and future market risk management.

In the short-term, the risk management challenge created by the transition is likely to be exacerbated by new reference rates coming available at different times. Financial firms could find themselves operating in LIBOR for some currencies (e.g., USD) and new reference rates in other (e.g., GBP, and CHF), sometimes within the same deals. This risk could be reduced if the transition process, currently being undertaken independently for each currency, were coordinated at an international level. However, there are no such plans at the moment.

Given the prevailing uncertainties, it is challenging to estimate the financial impact of the transitions on the various businesses that now reference LIBOR. However, to give a more tangible sense of what may be at stake, we have provided hypothetical case studies for three lines of business: variable rate mortgage lending in the US, UK commercial lending, and pension fund interest rate hedging.

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Retail mortgages for a model bank in the US

Illustrative book for a large bank
$US billion

~300 billion

Fixed or tied to another rate: 255 billion

LIBOR-linked: 45 billion

Total # of customers: ~2 million

Impact of LIBOR to SOFR direct substitution

~300 thousand
US Retail customers affected per bank

~$120 million
Annual bank/investor income at risk[1]

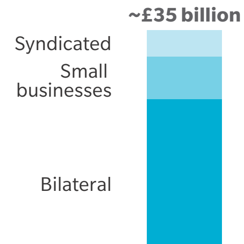
Transition challenges

- Communicating to hundreds of thousands of retail customers
- Potential need for customer approval
- Potential need for investor approval
- Reputational, legal risk of rate divergence working against customers
- Issuing LIBOR-linked mortgages now – knowing LIBOR may transition
- Coordination for securitization investors

1. Based on a potential delta of 25 bps between SOFR/LIBOR (2 year average delta between 3M LIBOR and computed 3M forward-looking EFFR)

Corporate and SME lending for a model bank in the UK

Illustrative LIBOR-linked loan book of a UK bank



Impact of LIBOR to SONIA direct substitution

~100 thousand
UK Corporate & SME clients affected per bank

~£55 million
Annual bank income at risk[1]

Transition challenges

- High levels of contract variation, dealing with paper contracts
- Loss of cash flow visibility for borrowers if no term rate exists
- Ensuring clients can continue to hedge if rate shifts
- Pricing, terms, and disclosures for any new LIBOR-linked lending and associated hedges which date beyond 2021

1. Based on a potential delta of 15 bps between SONIA/LIBOR (2 year average delta between 3M LIBOR and computed 3M forward-looking SONIA)

GBP interest rate swap book for a pension fund

Illustrative directional pension fund swap book

~£1 billion
LIBOR swaps across 5–30yr maturities

Pension fund is beneficial owner paying floating rate and receiving fixed rate

Impact of transitioning existing LIBOR swaps to SONIA

£30–50 million
Notional valuation (and collateral requirement) impact

up to ~3%
DV01 risk impact (to be rebalanced)

If existing LIBOR swaps taken off and replaced with new SONIA swaps:

0%[1]
DV01 risk impact

up to 10–15%
Higher initial margin for cleared trades

Valuation impact dependent on timing of when existing swaps are closed and margin settled

Transition challenges

- Potential large mark-to-market impacts if LIBOR swaps replaced with SONIA swaps
- Potential higher margin requirements (for any cleared swaps)
- Need for managers to re-design swaps portfolios to ensure risk profile is maintained
- Operational impacts for fund managers – updates to booking, risk models, valuation approach, collateral changes

1. Assuming portfolio held constant pre and post transaction

5. “THE BACK BOOK”: CURRENT LIBOR-BASED CONTRACTS

Many millions of financial contracts reference LIBOR, often defining it as the rate listed under that heading by a named information provider, such as Bloomberg or the Wall Street Journal. What happens if, one day, LIBOR is no longer reported while those contracts are extant?

All well-drafted contracts have “fall-back provisions,” which specify an alternative rate in case LIBOR is unavailable. Thanks perhaps to historic confidence in LIBOR, these provisions assume a short period of unavailability, caused perhaps by a technical glitch. Such provisions might say, for example, that if LIBOR is unavailable, the rate last used will continue unchanged. Over a few days, this would entail small differences in payments even if interest rates moved significantly. But if “the same rate” persisted over a period of months or years, as it would for many contracts if LIBOR ended, the differences (which translate to gains and losses) would be considerable. For example, US mortgage lenders locked into charging today’s low interest rates on LIBOR-linked variable rate products would incur large losses if interest rates were suddenly fixed and market rates rose significantly.

“Fall back language to support contract continuity or enable conversion of contracts if LIBOR ceases is an essential safety net – a ‘seat belt’ in case of a crash when LIBOR reaches the end of the road. But fall backs are not designed as, and should not be relied upon, as the primary mechanism for transition”

Andrew Bailey, Financial Conduct Authority, Chief Executive
Interest rate benchmark reform,” Speech at Bloomberg, London, July 12, 2018

Rather than persist under a disadvantageous fall-back provision, the losing party will be keen to re-negotiate the contract. But the gaining party will be equally keen to retain the existing terms. Where interbank and other institutional business is concerned, the gains and losses may “come out in the wash,” provided a firm is not systematically on one side of deals. And financial firms may have an interest in renegotiating agreements conforming to the new, industry-agreed norms. When it comes to contracts between financial firms and corporate customers, retail customers, or small businesses, the financial firm is almost sure to be the loser from a reputational standpoint. Refusing to amend a LIBOR-based residential mortgage will cause the homeowner no reputational or legal risk. Not so for the mortgage lender. In this David and Goliath duel, David starts the hot favorite. The end of LIBOR thus represents a significant operational, reputational, and legal risk for financial firms with LIBOR-based retail products.

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Even where fall-back provisions do not lock financial firms into loss-making arrangements, the transition away from LIBOR will be fraught with risk. Because the new rates are overnight and in some cases secured, they are likely to be lower than the LIBOR rates they replace. This means new contracts will often increase the "add-on" – the "plus XXX basis points." Even if the customer is no worse off in aggregate, the "optics" could be problematic. And, as noted above, depending on how the difference between overnight and longer LIBOR rates changes over time, customers could in fact be worse off than they would have been on LIBOR (and possibly better off, of course). A field-day for anti-bank advocacy groups and lawyers selling class action suits beckons!

"It is easy to see why there is some hope that at least some panel banks could be persuaded to continue to contribute to LIBOR for a further period. We should not rely on that. Nor at this stage would I rely on creating a 'synthetic' LIBOR – not reliant on bank submissions – to assist with the legacy issue"

Andrew Bailey, Financial Conduct Authority, Chief Executive
"Interest rate benchmark reform," Speech at Bloomberg, London, July 12, 2018

To minimize these reputational and legal risks, firms will need to communicate a clear, consistent, and justifiable transition approach to both counterparties and regulators. While the ISDA consultation will provide options for conversion approaches that can be applied for legacy derivatives, a decision will still need to be made on how other products will be addressed. They will need to be especially careful when dealing with less sophisticated retail and commercial counterparties. Currency working groups such as the ARRC[5] have established sub-working groups to address these considerations across broad product types, including derivatives and cash products.

Additional complexity: Numerous instruments including residential mortgages, commercial mortgages, structured products, and corporate bonds use a trustee for administration. The trustee is a fiduciary and is there to manage payments from the debtor and payments to the bond holders, and other administrative tasks. Many large banks have a Corporate Trust business. LIBOR transition will be a particular concern for these trustees as they will need to manage the post-LIBOR changes. For example, unless the issuer and bondholders agree, a LIBOR-based bond that has fall-back language akin to "use the last rate" will be enforced and administered by the trustee. In general trustees have little-to-no flexibility to change the existing terms and little incentive to do anything other than follow the existing fall-back language – even if it is widely different from the original product intent. Thus we believe Corporate Trust departments will be "ground zero" for the negotiation and resolution of legacy products if LIBOR is discontinued.

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5 The ARRC includes 11 sub-working groups: Paced transition plan, Market structure, Regulatory issues, Legal, Floating rate notes, Mortgages/consumer loans, Business loans/CLOs, Securitizations, Term rate, Accounting/tax and Outreach/communications

6. MANAGING THE TRANSITION

Banks and other market participants with significant LIBOR positions face major risks and administrative burdens arising from the transition to the new rates. Firms that do not act quickly in anticipation of the transition will increase both their risks and costs. They will be ill-prepared to manage customers through the changes and to manage the ALM implications. And they will continue to build up exposures which reference LIBOR. This increased quantity of conversion work will be compressed into a tighter timeframe, exacerbating the disruption and attendant costs. "Do nothing" firms will also find themselves following industry standards and protocols as they emerge, rather than playing a role in shaping them.

By contrast, a firm that moves early to redesign products on the new reference rates can choose to stop writing new business that references LIBOR and, where possible, start converting existing contracts. How rapidly this process can take place, and LIBOR exposures be run down, will depend not only on internal capacity but on external factors, such as the availability of the replacement rate, liquidity of products referencing the new rates, supporting market infrastructure, and the willingness of customers and counterparties to transition. Nevertheless, large players who move early will have an opportunity to shape industry norms.

Each firm's transition will vary depending on the type of market participant and their exposure to LIBOR. The first step will thus be to get a better understanding of where the firm is exposed to the transition from LIBOR, the impact of this transition, and the scale of the risks and transition tasks. For firms with any material exposure, the transition work will span the organization – from product strategy and customer and counterparty management through to risk models, contracts, finance processes, and systems (see Exhibit 5).

Increasing conduct risk with every new LIBOR contract: Financial institutions currently writing new long dated business extending beyond 2021 that references LIBOR are building up a book of potential problems. How are loans, bonds, and derivatives with maturities beyond 2021 currently being priced with the knowledge that LIBOR is likely to discontinue in the future? How are clients informed about the behavior of their contracts should LIBOR become unavailable? If loans or bonds are issued with associated hedging swaps, does the client understand the implications for their hedge should the derivatives contract revert to fall-back rates? There is also potential concern around asymmetry of information given those participating in currency alternative reference rate working groups will likely be more attuned to the implications of LIBOR transition than clients or counterparties not involved. But at the same time, the market cannot come to a standstill. To continue to do business but mitigate conduct risks, we believe there is an urgent need for banks to revisit client communication and disclosures to ensure transparency around future risks and uncertainties.

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The difficulty of contract renegotiation and product redesign will differ by asset class and currency. For example, transition discussions for derivatives are more mature and contracts are largely standardized, so industry protocols may well emerge quickly. Netting of exposures may also be possible. In cash products such as loans, however, documentation is less standardized and financial institutions may need to renegotiate contracts individually. Difficulties will also be greater in regions where replacement rates are not already in use, such as the US. This could lead to a bifurcation in the transition (cash vs. derivatives, between currencies), which will add to the operational risk and basis risk for market participants and potentially trigger accounting issues if interest rate hedging products are no-longer considered effective.

Industry infrastructure providers, such as exchanges and clearing houses, and individual market participants, will probably need to manage activity on both LIBOR and the replacement rates in parallel during the transition period. Sufficient liquidity in both rates will be a pressure point at either end of the transition period.

Exhibit 5: LIBOR transition high level book of work

IMPACT ASSESSMENT AND PROGRAM STRUCTURING

- Prepare inventory
- Transition impact assessment including:
  - Economic
  - Client
  - Technical
  - Contracts
  - Balance sheet
  - Accounting and tax
  - Processes and systems
- Develop response & structure program
- Formalize central PMO and governance

CONTRACTS AND TERMS

- Contracts gathering
- Product language analysis
- Legal frameworks design
- New business contract updates
- Disclosures
- Existing contract amendments (opportunistic)
- Existing contract amendments (strategic)
- New business contract design
- Negotiation strategy

COMMUNICATION AND INDUSTRY ENGAGEMENT

- Understand customer needs
- Discuss with regulators and authorities
- Develop coordinated external communications plan
- Coordinate on internal communication and education
- Engagement and input into industry forums
- Ongoing waves of communication as transition develops

CASH PRODUCT STRATEGY

- Detailed transition planning (e.g. by product, by customer)
- Client communication
- Manage economic impacts
- Client negotiations
- New product and services design
- New rate business (when available) phase in
- Existing contract update/ conversion

DERIVATIVES PRODUCT STRATEGY

- Detailed transition planning (e.g. by product, by counterparty)
- Client communication
- Manage economic impacts
- Client negotiations
- New product and services design
- New rate trading (when available) phase in
- Existing contract update/ conversion

FIRM INFRASTRUCTURE

- Detailed transition planning
- Treasury / ALM strategy
- Risk models update/development
- Accounting
- Tax
- Operational processes
- Controls updates
- Data management
- Systems update/development
- Systems migration as required

2018 priority actions

7. THE CLOCK IS TICKING

Much still has to be ironed out – particularly with the back book. The term structures of the new reference rates, or even if there will be term structures, remains unclear for some rates. So does the timing of the transition for certain LIBOR currencies. However, firms must not use this uncertainty, and the fact that the end of compelled rate submission is still three plus years away, as a pretext for inactivity. They should engage with regulators and industry bodies to help shape the transition process and its outcomes – responding to the ISDA consultation process should be a near-term priority. They should firm up their position based on internal impact analyses and reviews of customer needs. They should start developing new non-LIBOR products and managing down LIBOR exposures.

The latest round of regulatory statements should provide added impetus for action, now. Three years is not long to undertake a project that could cover hundreds of thousands of contracts and affect multiple business lines and every function in the organization. Early industry estimates are that the cost of transition could be greater than $200 million for some banks – a similar order of magnitude to recent regulatory change programs such as MiFID 2 and historical transition programs such as the Euro transition and Y2K.

With just over three years left until the end of 2021, the pace of transition away from LIBOR must now take center stage and accelerate into top gear.

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