ABA Policy Advocacy Committee Meeting

LIBOR Transition to Alternative Reference Rates

Position Paper by Erste Group Bank AG

Manila, 14 November 2019



PROBLEMS WITH LIBOR

- Classic conflict of interest parties determining LIBOR were also users/consumers of the same; manipulation during financial crisis, leading to to banks paying billions of dollars of fines and people going to jail
- Declining liquidity in unsecured interbank markets since the financial crisis, banks have reduced their interbank funding LIBOR borrowings; only about USD500mn of daily three-month interbank trading as 'informational foundation' for USD LIBOR curve quotes - used to price USD200tr of financial contracts (USD370tr equivalent across all five currencies)
- Small number of actual interbank trades and potential legal liabilities makes providing LIBOR submissions unattractive for banks. For now, the remaining 20 panel banks have agreed to continue their LIBOR submissions through 2021, but the UK Financial Conduct Authority (FCA) will not compel banks to submit LIBOR quotes thereafter



THE ALTERNATIVE: [NEARLY] RISK-FREE RATES (RFR)

CURRENCY LIBOR	PREFERRED ALTERNATIVE	ADMINISTRATOR	NATURE	DATA SOURCE	O/N RATE AVAILABLE	TERM RATE AVAILABLE	WORKING GROUP
**** * * * * _{**} *	€STR	European Central Bank	Unsecured	MMSR transactions	To be published on 2nd Oct 2019	x Under consideration	Working Group on Euro Risk-Free Rates
	Reformed SONIA	Bank of England	Unsecured	Unsecured overnight sterling transactions negotiated bilaterally and brokered in London by WMBA	✓	x Under consideration	Working Group on Sterling Risk-Free Rates
	SOFR	Federal Reserve Bank of New York	Secured	Tri-party repo, FICC GC repo, FICC bilateral treasury repo	✓	× Planned 2021	Alternative Reference Rates Committee (ARRC)
	SARON	SIX Exchange	Secured	CHF repo transactions in the interbank market	✓	x Under consideration	National Working Group on Swiss Franc Reference Rates
	TONAR	Bank of Japan	Unsecured	Data provided by money market brokers	✓	x Under consideration	Study Group on Risk- Free Reference Rates



DIFFERENCES LIBOR - RFR

	LIBOR	RFR		
Calculation	Forward-looking estimate based on panel bank submissions	Backward-looking average rate based on actual transactions		
Publication	11:55am London time, quoted on same basis & time for all 5 currencies	Different calculation methodology and publication time on T+1 for each currency		
Term	7 term rates from O/N to 12m	Only O/N rates		
Credit & Term Premium	Includes both	Includes none, proxy to risk-free		
Underlying Volumes	Narrow range of panel banks	Large number of actual transactions in very liquid markets		
Administrator	Private sector	Central Banks (except SARON)		

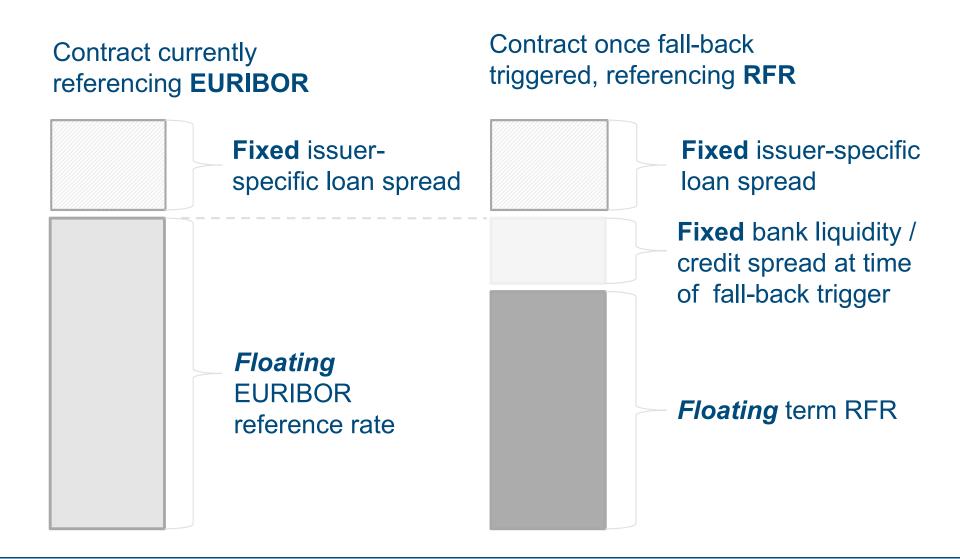


KEY CHALLENGES & POTENTIAL SOLUTIONS

- No RFR Term Rates yet overnight rates used for long time already e.g. in Overnight Index Swaps (OIS) or U.S. bank loans based on Prime Rate; forward-looking term rates derived from RFR derivatives should develop, current preferred option is compounded setting in arrears under reference to average rate over interest period (see next slide)
- **No Credit Spread** additional compensation needed with RFR, current preferred option is spread adjustment using historical mean/median over 5 10 years lookback period
- Fallback Language current fallback language in most contracts not sufficiently robust to address
 permanent cessation of LIBOR, potential litigation risk; differing fallback language between derivatives and
 cash products can impair hedging effectiveness and give rise to valuation swings. All legacy documents
 should be reviewed to understand existing fallback language and amendment flexibility. New or amended
 documents should use new reference rates or include a mechanism that facilitates the transition from
 LIBOR to a replacement rate. Three major components the fallback language should address:
 - 1. Trigger event that initiates the transition from LIBOR to a replacement rate
 - 2. Definition of replacement rate and spread adjustment, e.g. conversion to last LIBOR rate quoted (turning variable into fixed), conversion to Prime Rate (typically higher than LIBOR), or conversion to RFR (using amendment approach)
 - 3. Any amendment process that must occur (e.g. lenders majority consent)
- Potential mismatch of payments, e.g. asset switches to SOFR and liability to last LIBOR or switch occurs
 at different points in time or to two different RFR

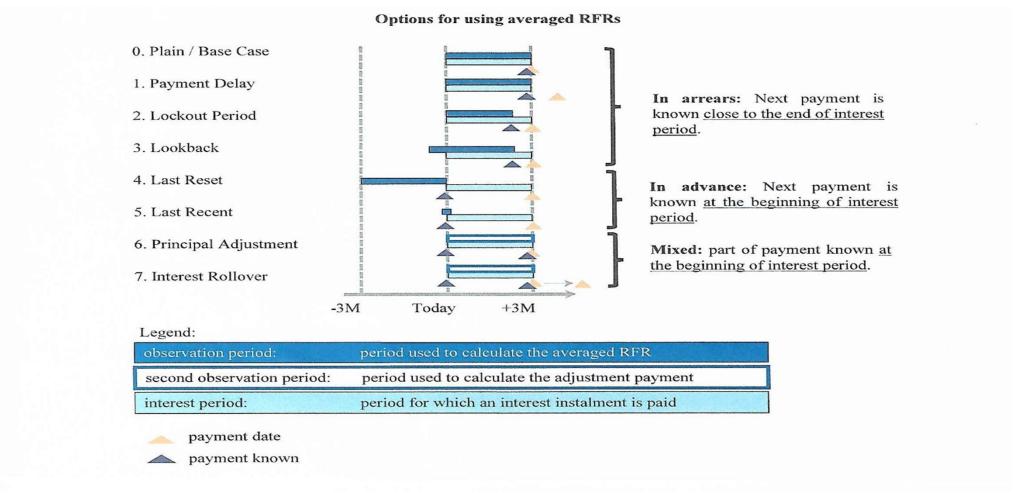


CONTRACTUAL CHANGES TO BENCHMARK LANGUAGE





HOW TO USE RFR'S IN CASH PRODUCTS



- ➤ Most likely options to be used: 1., 3., 4.
- > Trade-off between knowing cash flows in advance and efficient hedge of interest rate risk

Source: FSB – Overnight Risk-Free Rates User's Guide



RFR PIONEERS

- BMO Global Asset Management moved nearly 95% of its GBP10bn (USD13bn) Sterling Libor swaps portfolio onto SONIA. The firm targets pockets of liquidity from asset swaps and unwinds, and all of its new sterling swap trades are linked to SONIA
- Associated British Ports moved more than GBP500mn of Sterling Libor swaps onto SONIA is asking holders of its listed floating rate notes to switch the benchmark to SONIA
- The European Investment Bank issued an (oversubscribed) GBP1bn SONIA-linked floating rate note in 2018 and in the process worked out how to properly use the compounded-in-arrears methodology to calculate coupon payments
- Among Asian banks, ADB, Sumitomo, and Mizuho were the first to issue SOFR instruments in the U.S. Bank of China issued the first Asia region SOFR-linked FRN through its Macau Branch in October 2019



SAMPLE SOFR DEALS

Issuer Name	Cpn	Maturity	Issue Date	Maturity Type	Curr	Floater Spread (bp)
African Development Bank	2.18	11/18/2020	12/6/2018	AT MATURITY	USD	32
Asian Development Bank	2.20	9/10/2021	9/12/2019	AT MATURITY	USD	24
Bank of America NA	2.41	6/21/2021	6/21/2019	CALLABLE	USD	55
Bank of Montreal/Chicago IL	2.09	5/8/2020	5/9/2019	AT MATURITY	USD	23
Canadian Imperial Bank of Commerce/New York NY	2.07	6/12/2020	6/13/2019	AT MATURITY	USD	21
Citibank NA	2.46	3/13/2021	3/13/2019	CALLABLE	USD	60
Credit Agricole Corporate and Investment Bank/New York	2.01	2/12/2020	7/12/2019	AT MATURITY	USD	15
Credit Suisse AG/New York NY	2.09	2/14/2020	8/15/2019	AT MATURITY	USD	23
European Bank for Reconstruction & Development	2.27	8/19/2022	8/29/2019	AT MATURITY	USD	26
European Investment Bank	2.54	10/8/2021	12/5/2018	AT MATURITY	USD	32
Goldman Sachs Bank USA/New York NY	2.60	5/24/2021	5/24/2019	CALLABLE	USD	60
Grant Bancshares Inc	5.63	8/15/2029	8/14/2019	CALLABLE	USD	436
Inter-American Development Bank	2.20	9/16/2022	9/18/2019	AT MATURITY	USD	26
International Bank for Reconstruction & Development	2.08	8/21/2020	8/21/2018	AT MATURITY	USD	22
Jackson National Life Global Funding	2.36	5/27/2021	6/11/2019	AT MATURITY	USD	50
JPMorgan Chase & Co	2.74	10/15/2030	9/12/2019	CALLABLE	USD	151
Landeskreditbank Baden-Wuerttemberg Foerderbank	2.27	3/15/2022	3/15/2019	AT MATURITY	USD	35
Metropolitan Life Global Funding I	2.43	9/7/2020	9/7/2018	AT MATURITY	USD	57
Midland States Bancorp Inc	5.00	9/30/2029	9/20/2019	CALLABLE	USD	361
Mizuho Bank Ltd/New York NY	2.07	2/21/2020	8/22/2019	AT MATURITY	USD	21
Morgan Stanley	2.77	6/10/2022	6/10/2019	CALLABLE	USD	83
Natixis SA/New York NY	2.20	3/12/2020	3/13/2019	AT MATURITY	USD	34
Northpointe Bancshares Inc	6.00	9/30/2029	9/9/2019	CALLABLE	USD	490.5
Royal Bank of Canada/New York NY	2.18	9/21/2020	9/19/2019	AT MATURITY	USD	32
State Street Bank and Trust Co	2.06	11/21/2019	8/21/2019	AT MATURITY	USD	20
Sumitomo Mitsui Banking Corp/New York	2.07	1/31/2020	7/31/2019	AT MATURITY	USD	21
Toronto-Dominion Bank/The	2.51	6/7/2021	6/7/2019	AT MATURITY	USD	65
Wells Fargo Bank NA	2.34	3/25/2020	9/25/2018	CALLABLE	USD	48

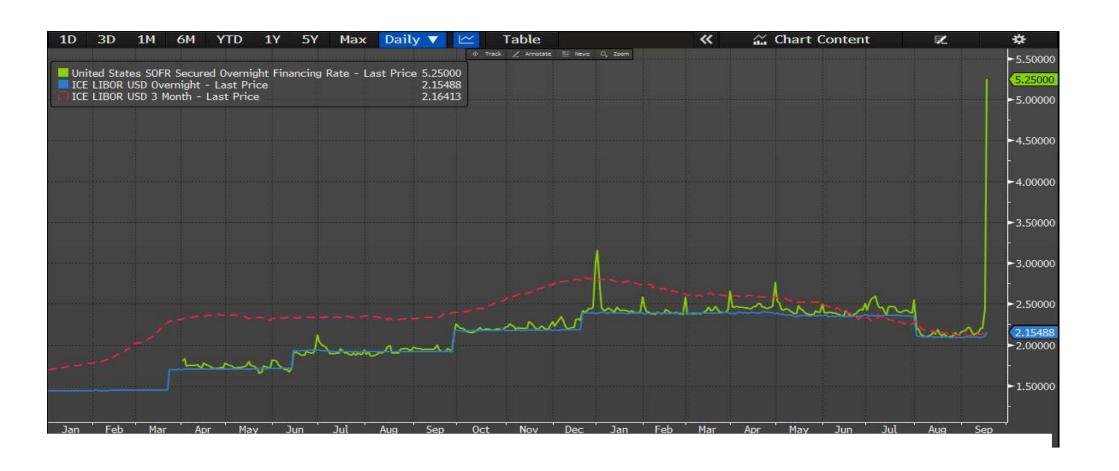


RECENT DEVELOPMENTS

- So far, only around 120 debt instruments linked to SOFR in the market, but trading volumes linked to alternative risk-free rates have been growing
- For 1H2019, around USD1.8tr RFR-linked interest rate derivatives (IRD) notional traded; in same period, around USD41.7tr LIBOR-linked IRD notional traded
- EU Benchmarks Regulation in force since January 2018. Requires EU-regulated firms (and parties dealing with them) in contracts to set out steps they will take in the event a financial benchmark ceases to exist, materially changes, or is not authorized for use any longer
- European Overnight Index Average (EONIA) phased out and replaced by Euro Short-Term Rate (€STR) from 02 October 2019 on (EONIA will cease to be published 03 January 2022)
- SOFR is based on U.S. repo rates which shot up from around 2% to almost 10% on 17 Sep 2019. Effect will
 be smoothened out over time as the benchmark uses average of O/N rates, but concerns are raised about
 repo market liquidity issues (see next slide)



SOFR SPIKE ON 17 SEP 2019





WHAT SHOULD / CAN BANKS IN ASIA DO?

- Perform assessment of LIBOR exposure & consider reduction through transition to RFR
- Familiarise with RFR product conventions and ensure systems & processes can support RFR
- Review contractual terms and prepare for potential re-pricing of reference rates and/or amendments to fallback language
- Assess potential tax & accounting implications
- Seek dialogue with LIBOR-linked counterparties. While for derivative contracts, consent is in hands of ISDA who will provide protocol procedure, for cash products (unanimous) consent needs to be negotiated between borrowers/issuers and lenders/investors



SOURCES

- Erste Group Bank AG
- Alternative Reference Rate Committee (ARRC)
- Financial Stability Board (FSB)
- Loan Syndications and Trading Association (LSTA)
- International Swaps and Derivatives Association (ISDA)
- European Central Bank (ECB)
- Standard & Poors (S&P)
- Mazars
- Standard Chartered Bank



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