

# What Happens When LIBOR Is Unavailable?

2021



VEGA  
ECONOMICS



# Four General “Buckets” of Replacement Rates

1. Fallback provisions in the governing agreements describe various replacement alternatives, such as the last available LIBOR and/or an average of reference bank rates.
2. Existing reference rates such as SOFR or AMERIBOR.
3. New reference rates that take a simple function form of existing indices (such as averages).
4. Newly-developed reference rates designed to match LIBOR’s term and credit spread.

## What Are the Tradeoffs?

How closely the new rate matches LIBOR



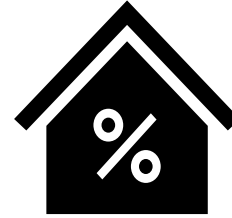
How dependent the rate is on complex methodologies



# Bucket 1: LIBOR Fallback Provisions



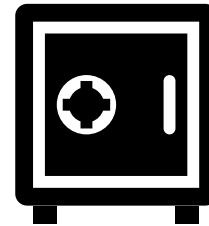
Alternative Comparable Rate



Reserve Interest Rate



Quotes from Reference Banks



Previous LIBOR Rate

The relevant language in the governing agreements and offering documents specify these unique elements in varying order and combination.

# Example Element: Average of Two Quotes from Reference Banks



There were 15 quotes submitted by reference banks on 8/23/2007.

BTMU	Barclays	BOA	Citi	Credit Suisse	Deutsche
5.51	5.52	5.51	5.5	5.51	5.49
HBOS	HSBC	JPM	Lloyd	Norinchukin	Rabobank
5.51	5.5	5.51	5.5	5.51	5.5
	RBS	UBS	West LB		
	5.5	5.5	5.51		



LIBOR  
5.505

If we randomly select quotes from two banks and average them:

HSBC	Deutsche
5.5	5.49

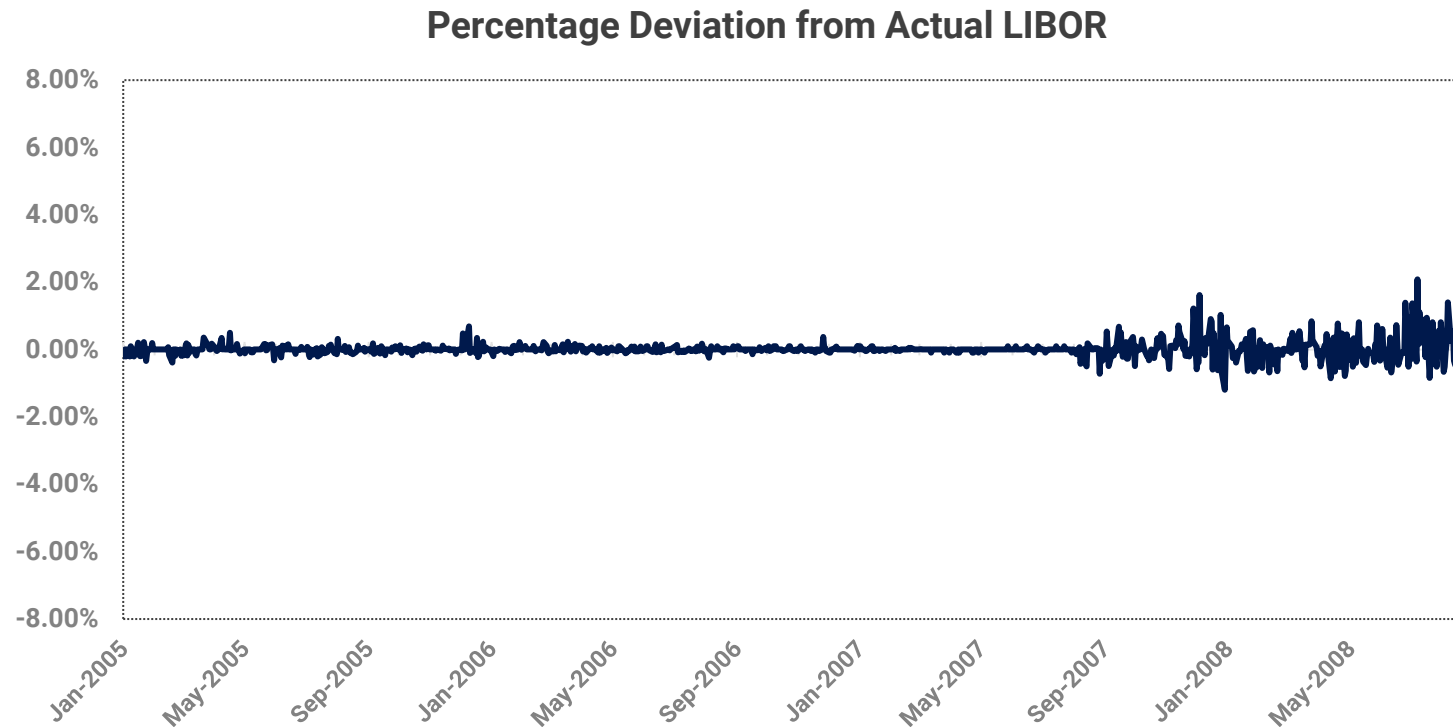


Replacement  
5.495

# Average of Two Random Quotes from Reference Banks Track Actual LIBOR Rates Closely

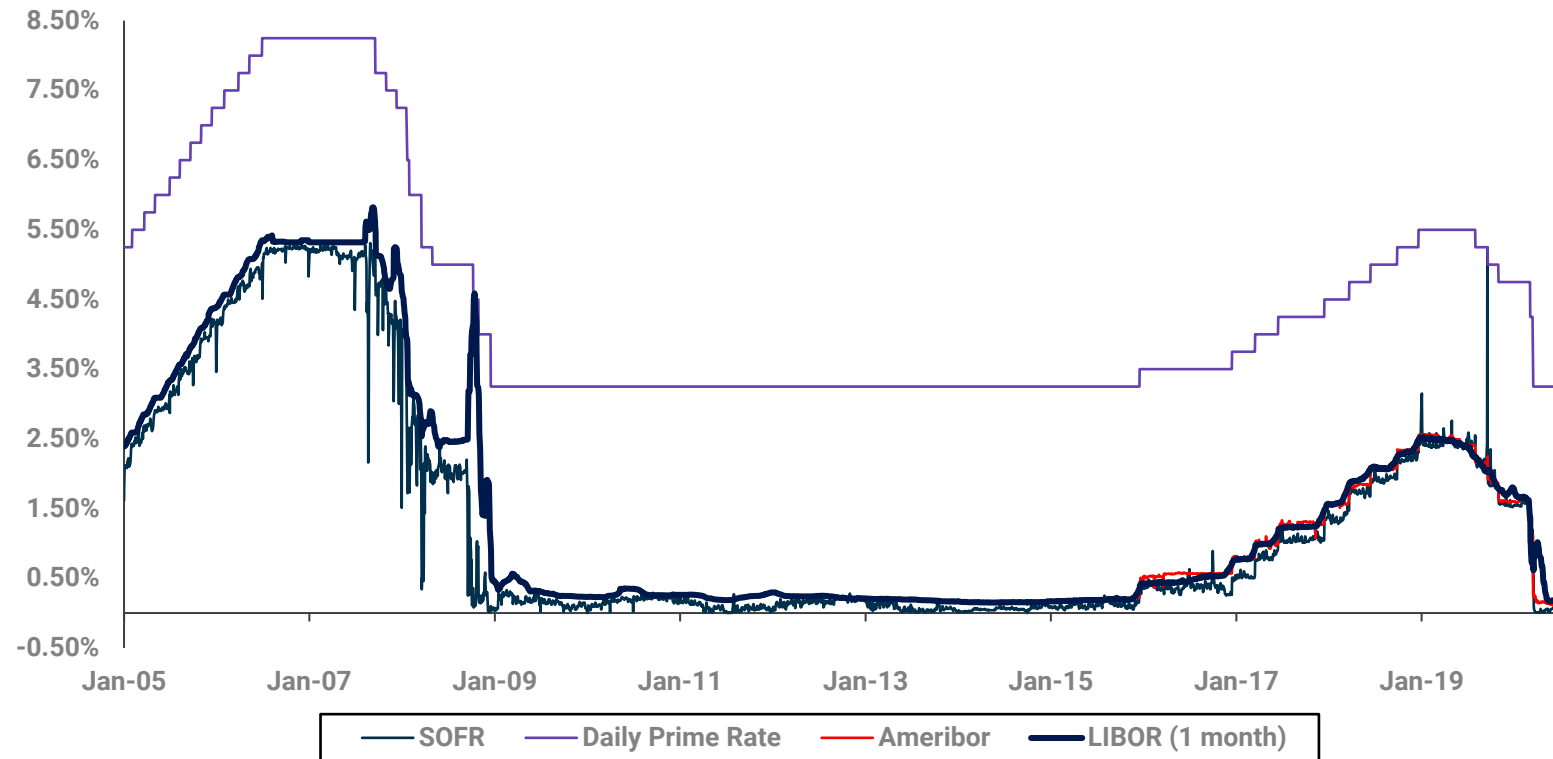


We repeat this simulation exercise for the time period between Jan. 2005 and Aug. 2008. The averages of two randomly selected quotes from panel banks track the actual LIBOR rates closely.





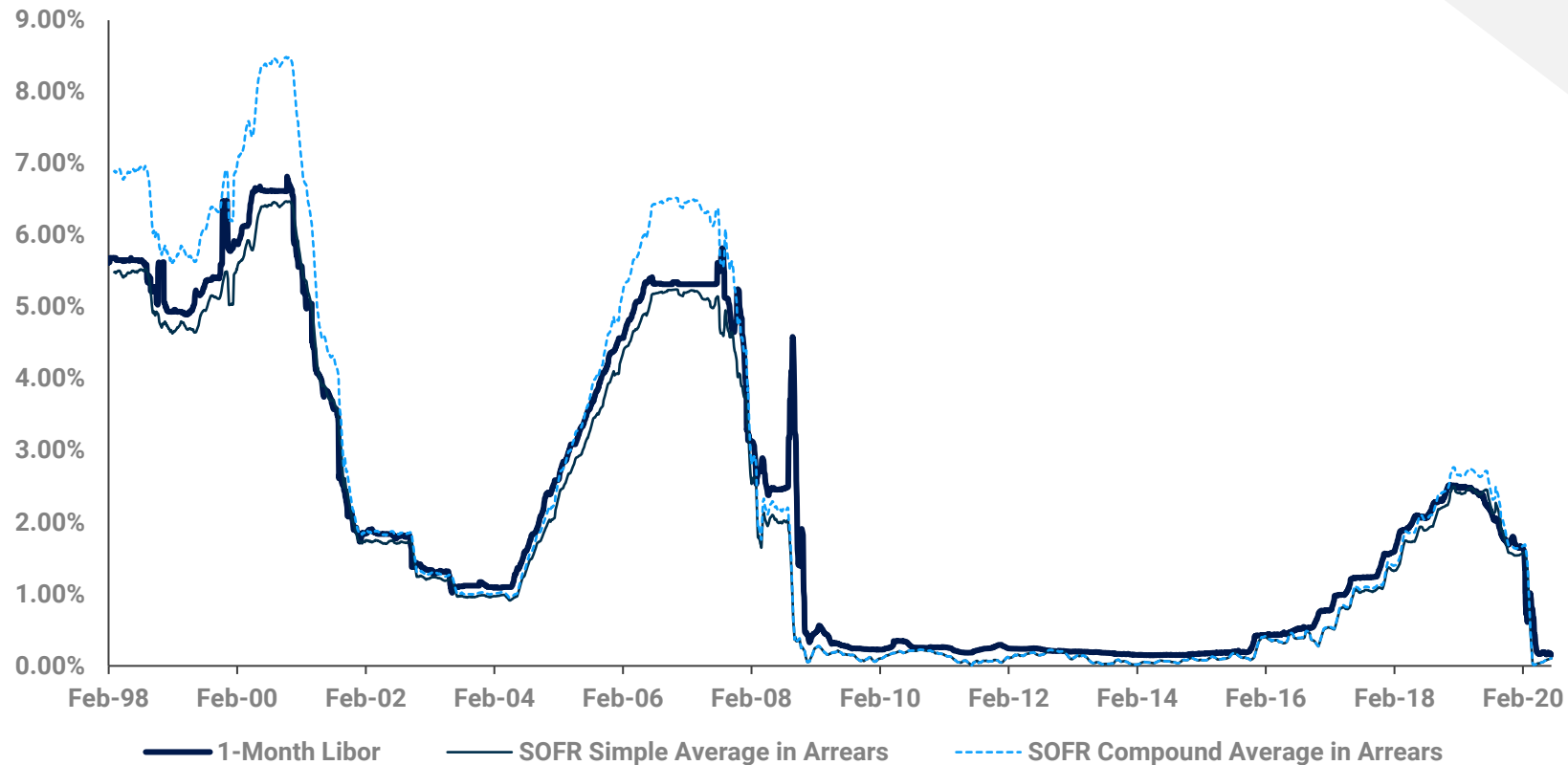
# Bucket 2: Existing U.S. Reference Rates



SOFR and AMERIBOR are most commonly discussed. These rates are highly correlated with LIBOR but do not perfectly match. They are straightforward to implement and require no additional methodology or additional calculations.

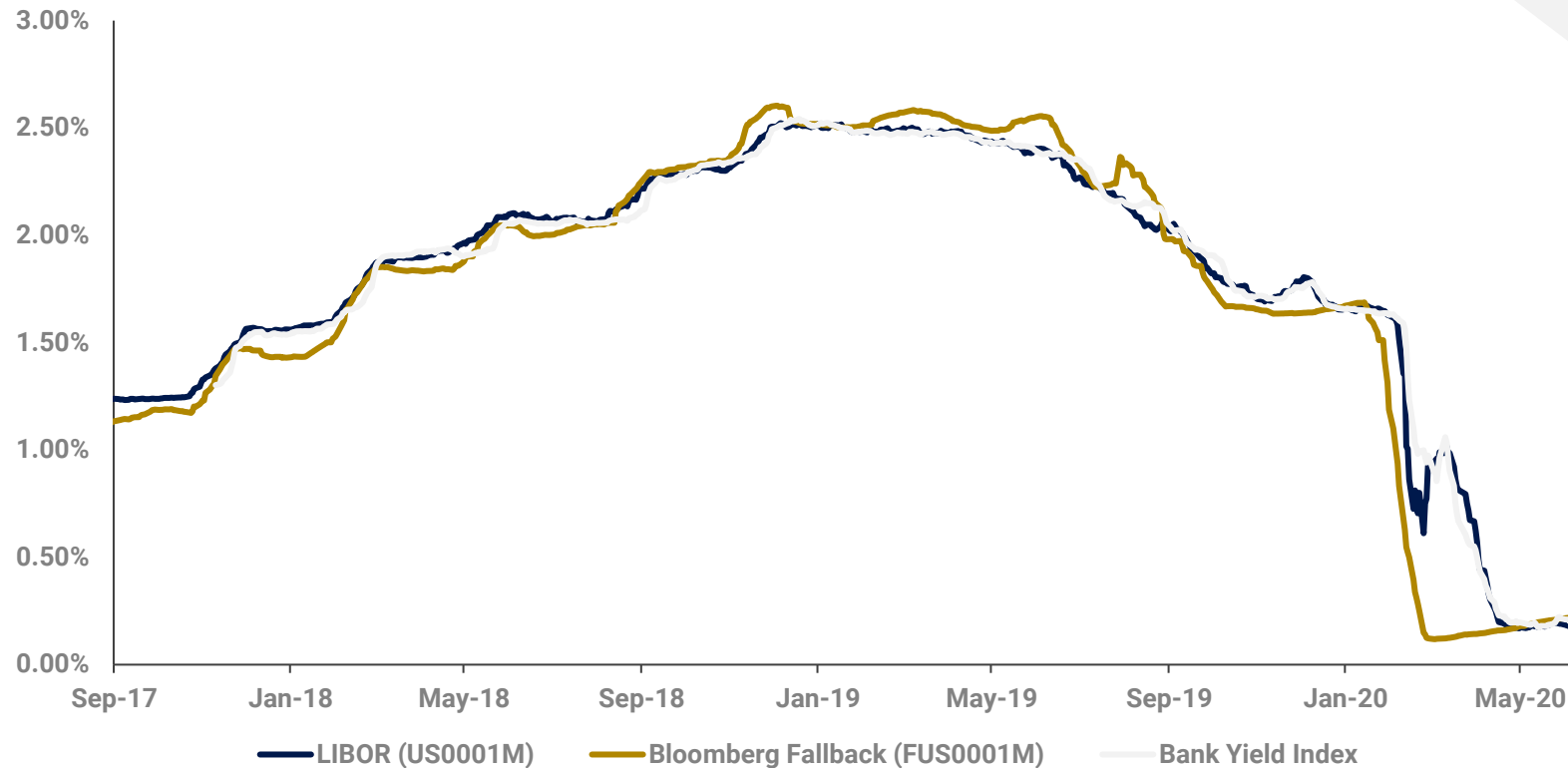


# Bucket 3: A Simple Function of Existing Indices



The averages of existing indices track LIBOR closer than the “raw” indices. They do not rely on complex methodologies but do require additional steps to calculate. Compounded average SOFR in arrears is the most discussed in this bucket.

# Bucket 4: Newly-Developed Rates Designed to Match LIBOR's Term and Credit Spread



Bloomberg has created a new SOFR-based LIBOR-like index by adjusting SOFR's term and credit spread. ICE also proposed a new Bank Yield Index that mimics LIBOR. Both indices are based on complex and potentially evolving methodologies, but they match LIBOR the best.



# Important Dimensions of Alternative Rates Relative to LIBOR



Alternative Rates for 1M LIBOR	Level	Standard Deviation	Correlation	Hedging Opportunity
Last Available LIBOR	-91.046%	0.000%	-	
Averages of Two Quotes	-0.007%	0.139%	1.000	
SOFR	-0.134%	0.105%	0.951	Yes
AMERIBOR	-0.047%	0.081%	0.980	Yes
Averages of SOFR	0.034%	0.134%	0.958	
Averages of AMERIBOR	-0.026%	0.043%	0.974	
Bloomberg's Fallback Rates	-0.049%	0.105%	0.976	
ICE's Bank Yield Index Test Rates	-0.002%	-0.005%	0.996	

- All considered indices track LIBOR closely but, historically have:
  - Slightly lower rates
  - Higher volatility
- Complex indices track better, but use more opaque methodology
- Futures/swaps market exist for SOFR and AMERIBOR, indicating opportunities for investors to hedge their exposure to these rates



# Vega Economics

Berkeley, CA

510.280.5520

[info@vegaeconomics.com](mailto:info@vegaeconomics.com)

[vegaeconomics.com](http://vegaeconomics.com)