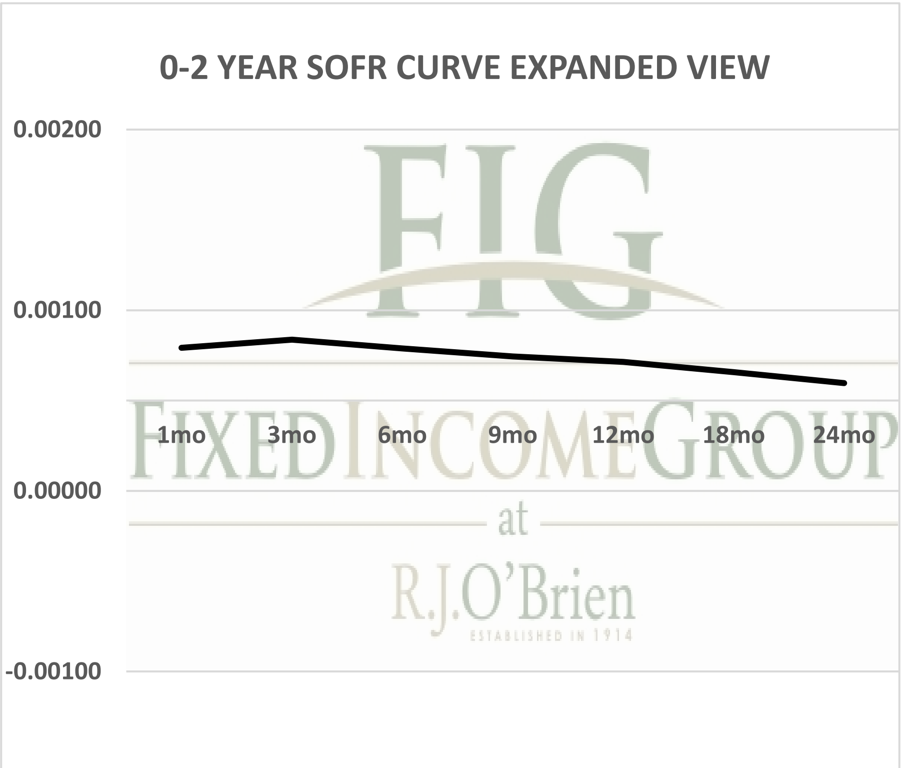
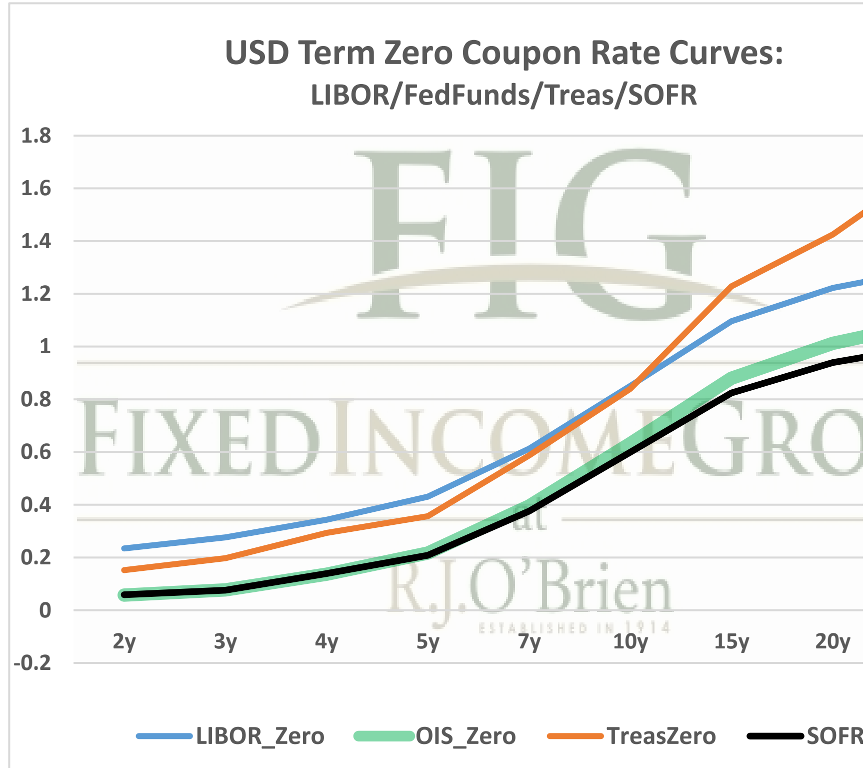
THE SOFR CURVE

Distributed by The Fixed Income Group at RJ O'Brien

Making the change from LIBOR to a new reference rate is not an insignificant exercise. It will take planning and changes to processes and systems. Sonia and SOFR appear likely to offer two options for users: compounded, setting in arrears (currently used in OIS markets) or a term rate setting in advance like LIBOR. You have questions, we have answers.





For more information on the Libor replacement contact:

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10/22/2020 6:30

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Term SOFR from 1-day Returns

0.07923%	**0.08369%**	**0.07875%**	**0.07441%**	**0.07145%**	**0.06565%**	**0.05964%**
1.000068222	1.000213883	1.00039814	1.000564259	1.000724442	1.000997536	1.00120944
1mo	**3mo**	**6mo**	**9mo**	**12mo**	**18mo**	**24mo**
10/22/2020	10/22/2020	10/22/2020	10/22/2020	10/22/2020	10/22/2020	10/22/2020
11/21/2020	1/21/2021	4/21/2021	7/21/2021	10/21/2021	4/21/2022	10/21/2022
31	92	182	273	365	547	730

Term SOFR+Credit from 1-day Returns

0.65627%	**0.65899%**	**0.65532%**	**0.65129%**	**0.64876%**	**0.64394%**	**0.63892%**
1.000565124	1.001684091	1.003313	1.004938972	1.00657766	1.00978433	1.01295597
1mo	**3mo**	**6mo**	**9mo**	**12mo**	**18mo**	**24mo**
10/22/2020	10/22/2020	10/22/2020	10/22/2020	10/22/2020	10/22/2020	10/22/2020
11/21/2020	1/21/2021	4/21/2021	7/21/2021	10/21/2021	4/21/2022	10/21/2022
31	92	182	273	365	547	730

Term AMERIBOR from 1-day Returns

0.08873%	**0.08616%**	**0.08029%**	**0.07766%**	**0.07633%**		
1.00	**1.00**	**1.00**	**1.00**	**1.00**		
1mo	**3mo**	**6mo**	**9mo**	**12mo**		
10/22/2020	**10/22/2020**	**10/22/2020**	**10/22/2020**	**10/22/2020**		
11/21/2020	**1/21/2021**	**4/21/2021**	**7/21/2021**	**10/21/2021**		
31	**92**	**182**	**273**	**365**		

Term AMERIBOR+Credit from 1-day Returns

0.66395%	**0.66138%**	**0.65551%**	**0.65288%**	**0.65156%**		
1.00	1.00	1.00	1.00	1.00		
1mo	3mo	6mo	9mo	12mo		
10/22/2020	10/22/2020	10/22/2020	10/22/2020	10/22/2020		
11/21/2020	1/21/2021	4/21/2021	7/21/2021	10/21/2021		
31	92	182	273	365		


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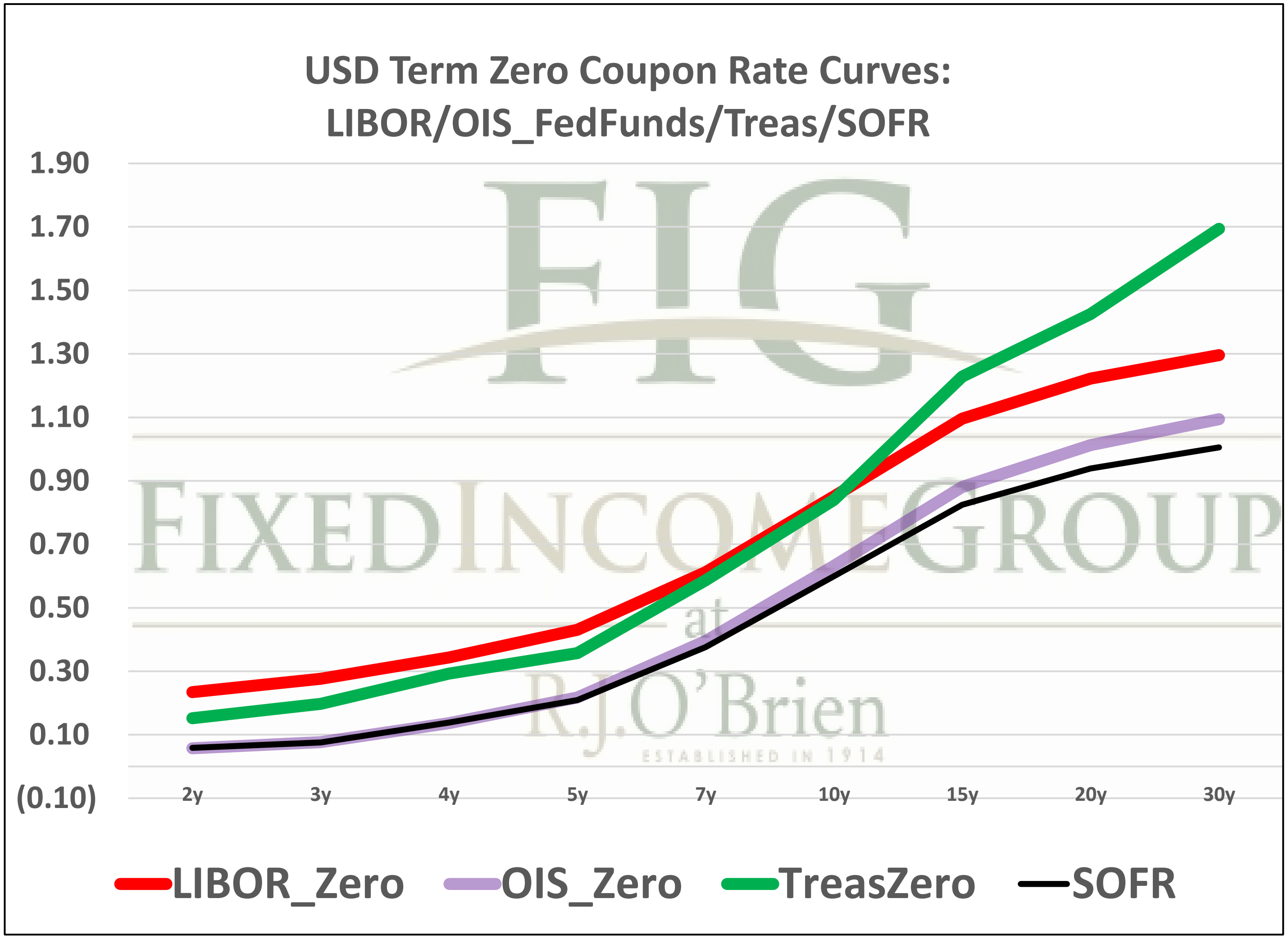
USD Term Zero Coupon Rate Curves:
LIBOR/OIS_FedFunds/Treas/SOFR
1.90
1.70
1.50
1.30
1.10
0.90
0.70
0.50
0.30
0.10
(0.10)
2y
3y
4y
5y
7y
10y
15y
20y
30y
LIBOR_Zero
OIS_Zero
TreasZero
SOFR
FIG
FIXED INCOME GROUP
at
R.J.O'Brien
ESTABLISHED IN 1914