

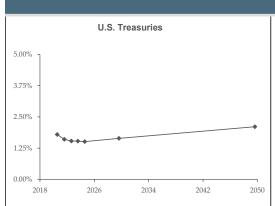
YIELD ANALYSIS

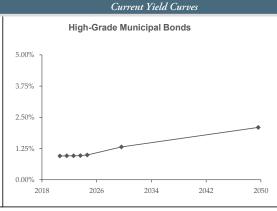
August 13, 2019

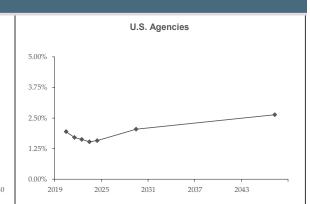
U.S. Treasury Yields			
Coupon	Maturity	YTM	
0.000%	07/16/20	1.79%	
1.750%	07/31/21	1.60%	
1.500%	08/15/22	1.53%	
2.750%	07/31/23	1.53%	
1.750%	07/31/24	1.51%	
1.625%	08/15/29	1.64%	
2.250%	08/15/49	2.11%	

Municipal Bond Yields ¹			
Maturity	YTM	Tax-Equiv. ²	
08/12/20	0.95%	1.36%	
08/12/21	0.96%	1.37%	
08/12/22	0.96%	1.37%	
08/12/23	0.97%	1.38%	
08/12/24	0.99%	1.42%	
08/12/29	1.32%	1.88%	
08/12/49	2.10%	2.99%	

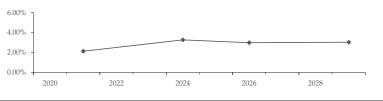
U.S. Agency Yields - Active Bonds					
Agency	Coupon	Maturity	Price	YTM	To Muni (bp)
FNMA	1.500%	06/22/20	\$99.63	1.94%	+58
FHLB	2.100%	07/01/21	\$100.71	1.70%	+33
FHLB	2.375%	06/10/22	\$102.06	1.63%	+25
FHLMC	2.750%	06/19/23	\$104.55	1.53%	+14
FHLB	2.875%	06/14/24	\$106.02	1.58%	+16
FHLB	2.750%	06/08/29	\$106.25	2.04%	+16
FFCB	3.580%	04/11/47	\$118.06	2.63%	-36







Corporate Bond Yields					
Description	Price	YTM	To Treasury (bp)		
WFC (A2/A-) 2.1% 7/26/2021	\$99.95	2.12%	+52		
JPM (A2/A-) 3.72% 8/29/2024	\$100.31	3.26%	+173		
C (A3/BBB+) 3% 5/15/2026	\$100.11	2.98%	+147		
MS (A3/BBB+) 4.05% 3/13/2029	\$108.07	3.02%	+138		
6.00% =					



Description	Call Date	Price	YTM	YTW
FHLB 2.58% 3/20/2020	09/20/19	\$100.05	2.42%	2.42%
FHLB 1.5% 6/30/2021	08/20/19	\$98.34	2.32%	2.32%
FHLMC 2.82% 5/20/2024	11/20/19	\$100.17	2.77%	2.16%
FHLB 3.04% 2/28/2029	08/20/19	\$100.01	3.04%	2.41%
6.00% 4.00% - 2.00%	•			
2019 2021	2023	2025	2027	2029

Bullet & Callable Agency Bond Yields ³