

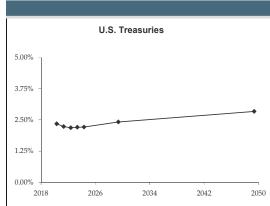
YIELD ANALYSIS

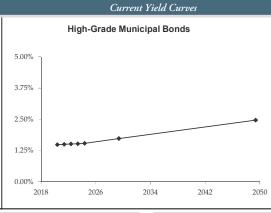
May 21, 2019

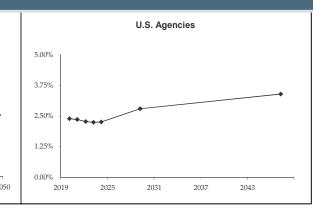
U.S. Treasury Yields				
Coupon	Maturity	YTM		
0.000%	04/23/20	2.35%		
2.250%	04/30/21	2.23%		
2.125%	05/15/22	2.18%		
2.750%	04/30/23	2.20%		
2.250%	04/30/24	2.21%		
2.375%	05/15/29	2.42%		
2.875%	05/15/49	2.84%		

Municipal Bond Yields ¹			
Maturity	YTM	Tax-Equiv. ²	
05/20/20	1.49%	2.12%	
05/20/21	1.50%	2.14%	
05/20/22	1.51%	2.16%	
05/20/23	1.52%	2.17%	
05/20/24	1.54%	2.20%	
05/20/29	1.73%	2.47%	
05/20/49	2.47%	3.52%	

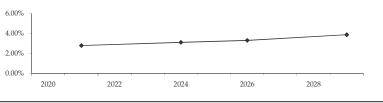
U.S. Agency Yields - Active Bonds					
Agency	Coupon	Maturity	Price	YTM	To Muni (bp)
FNMA	1.500%	02/28/20	\$99.33	2.39%	+27
FNMA	1.375%	02/26/21	\$98.31	2.36%	+22
FHLB	2.250%	03/11/22	\$99.94	2.27%	+11
FHLB	2.750%	03/10/23	\$0.00	2.24%	+7
FHLB	3.250%	03/08/24	\$104.49	2.26%	+6
FFCB	3.000%	03/14/29	\$101.64	2.79%	+32
FFCB	3.580%	04/11/47	\$102.93	3.40%	-13







Corporate Bond Yields					
Description	Price	YTM	To Treasury (bp)		
WFC (A2/A-) 2.5% 3/4/2021	\$99.50	2.79%	+56		
JPM (A2/A-) 3.56% 4/23/2024	\$101.81	3.10%	+90		
BAC (A2/A-) 3.5% 4/19/2026	\$101.24	3.30%	+108		
MS (A3/BBB+) 4.05% 3/13/2029	\$101.07	3.87%	+145		
6.00%		-			
0.00%					



Description	Call Date	Price	YTM	YTW
FHLB 2.58% 3/20/2020	09/20/19	\$99.96	2.57%	2.57%
FHLB 2.65% 3/11/2021	06/11/19	\$99.96	2.65%	2.65%
FHLMC 3.05% 3/11/2024	06/11/19	\$100.06	3.03%	1.90%
FHLB 3.04% 2/28/2029	05/29/19	\$99.50	3.10%	3.10%
4.00% - 2.00% -				
2019 2021	2023	2025	2027	2029

Bullet & Callable Agency Bond Yields 3