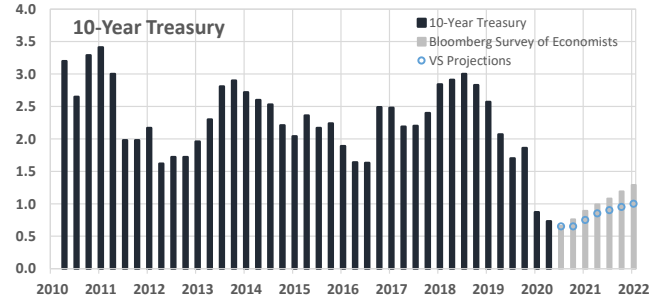
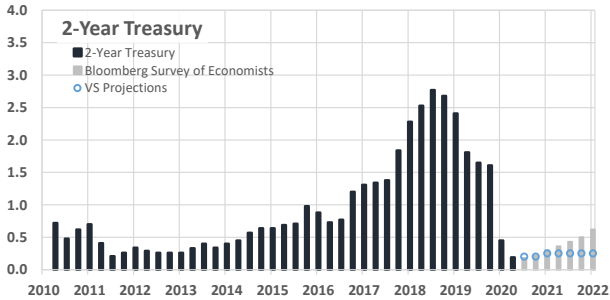
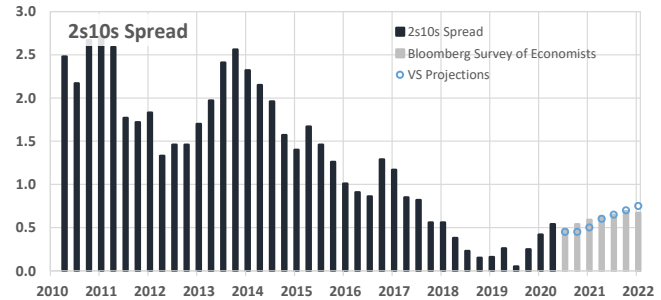
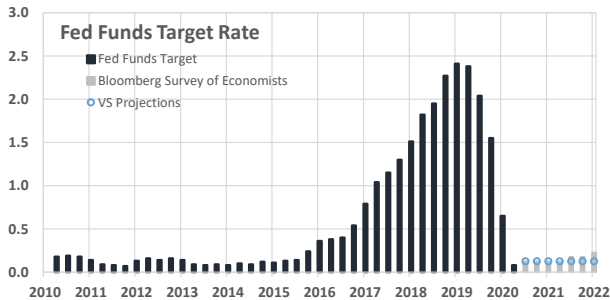
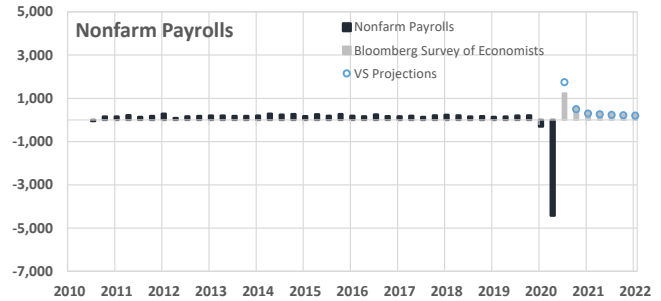
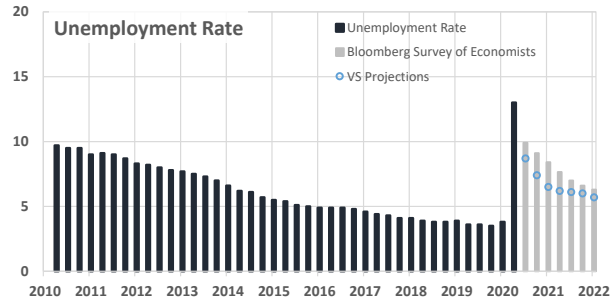
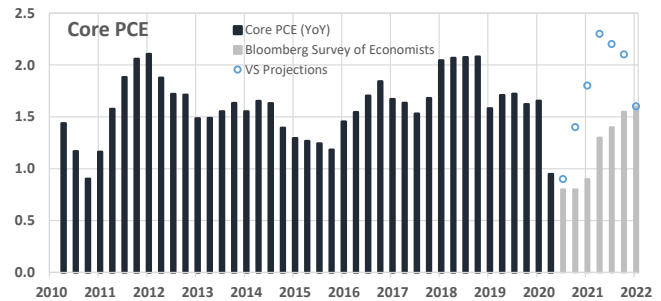
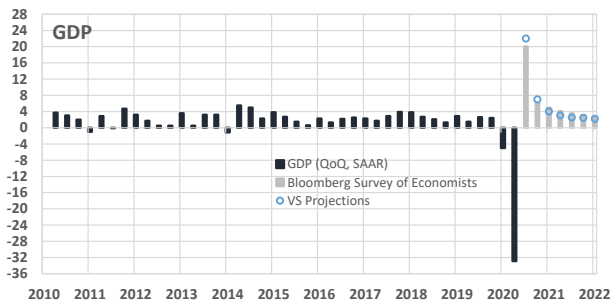


Vining Sparks Economic and Interest Rate Projections

August 2020

	Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
GDP (QoQ, SAAR)	22.0	7.0	4.0	3.0	2.5	2.4	-5.9	2.9
Headline CPI (YoY)	1.4	1.6	1.8	2.3	2.2	1.8	1.0	2.3
Core PCE (YoY)	0.9	1.4	1.8	2.3	2.2	2.1	1.2	2.4
Unemployment Rate	8.7	7.4	6.5	6.2	6.1	6.0	8.3	6.2
Nonfarm Payrolls (Monthly)	1,750	500	300	260	240	220	-620	270

	Q320	Q420	Q121	Q221	Q321	Q421	Q122	Q222
Fed Funds Target	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
2-Year Treasury Yield	0.20	0.20	0.25	0.25	0.25	0.25	0.25	0.25
10-Year Treasury Yield	0.65	0.65	0.75	0.85	0.90	0.95	1.00	1.00
30-Year Treasury Yield	1.25	1.20	1.28	1.45	1.53	1.61	1.70	1.70
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
30-Year Mortgage Rate	2.75	2.65	2.65	2.65	2.70	2.75	2.80	2.80



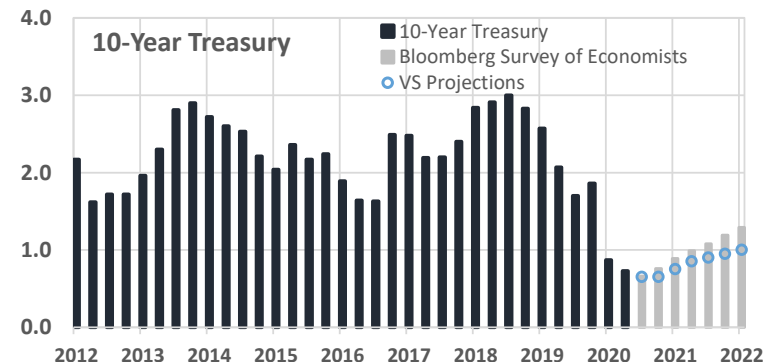
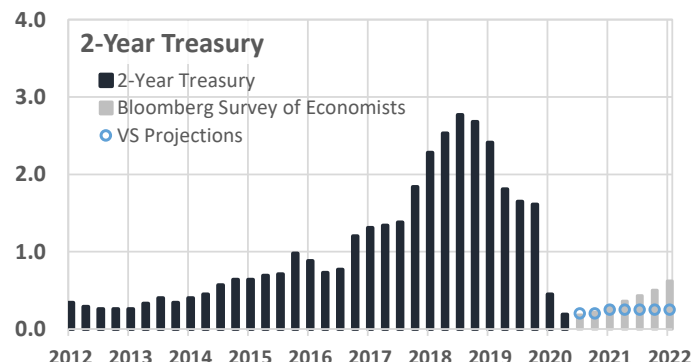
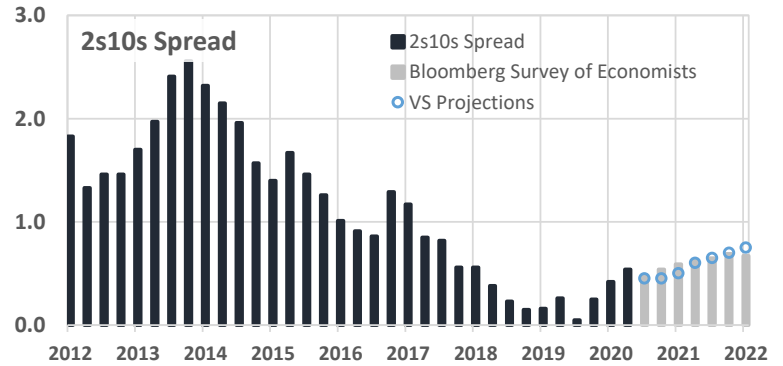
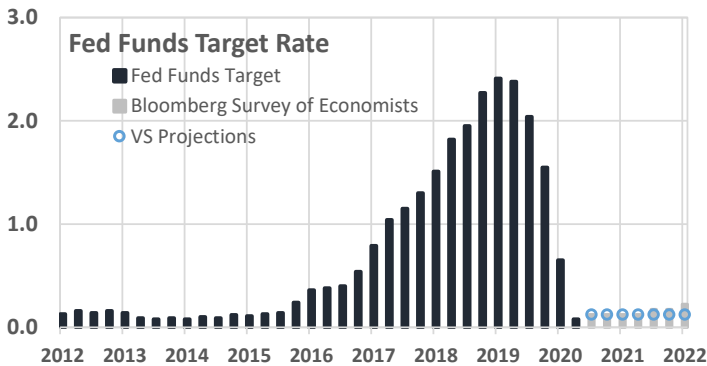
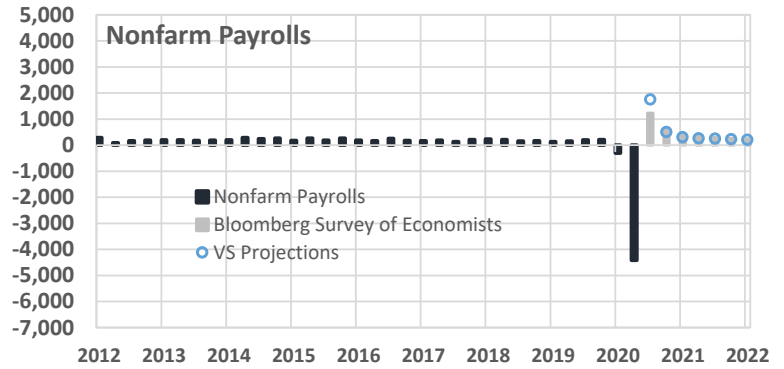
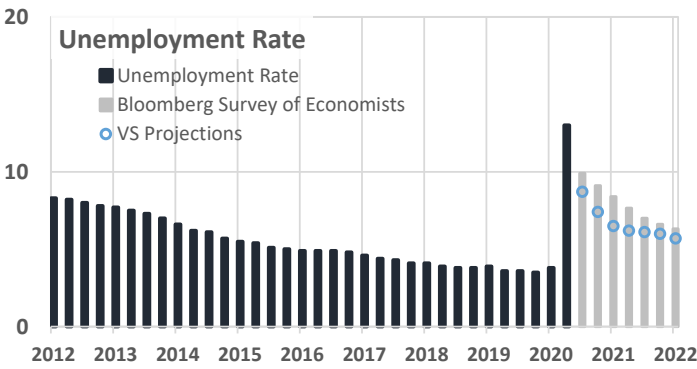
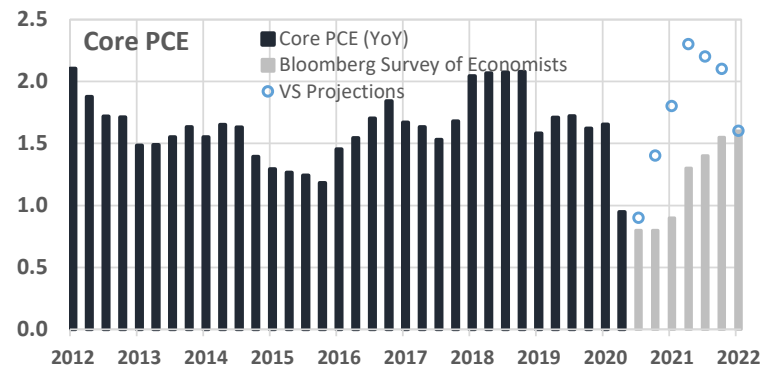
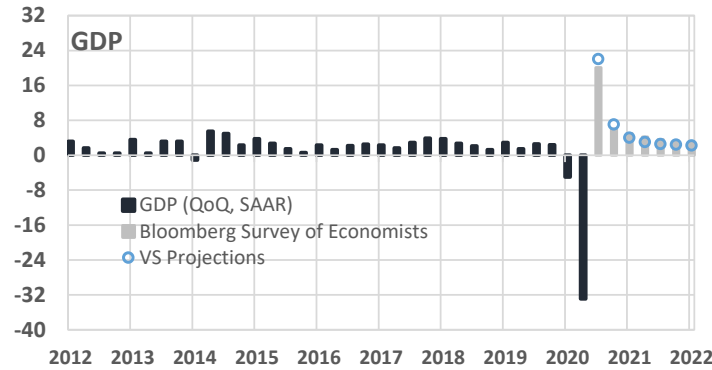
Sources: ¹ Bloomberg Survey of Economists, ² Economists' Real-Time Tracking Updates, Vining Sparks

Vining Sparks Economic and Interest Rate Projections

August 2020

	Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
GDP (QoQ, SAAR)	22.0	7.0	4.0	3.0	2.5	2.4	-5.9	2.9
Headline CPI (YoY)	1.4	1.6	1.8	2.3	2.2	1.8	1.0	2.3
Core PCE (YoY)	0.9	1.4	1.8	2.3	2.2	2.1	1.2	2.4
Unemployment Rate	8.7	7.4	6.5	6.2	6.1	6.0	8.3	6.2
Nonfarm Payrolls (Monthly)	1,750	500	300	260	240	220	-620	270

	Q320	Q420	Q121	Q221	Q321	Q421	Q122	Q222
Fed Funds Target	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
2-Year Treasury Yield	0.20	0.20	0.25	0.25	0.25	0.25	0.25	0.25
10-Year Treasury Yield	0.65	0.65	0.75	0.85	0.90	0.95	1.00	1.00
30-Year Treasury Yield	1.25	1.20	1.28	1.45	1.53	1.61	1.70	1.70
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
30-Year Mortgage Rate	2.75	2.65	2.65	2.65	2.70	2.75	2.80	2.80



Bloomberg Survey of Economists

August Survey

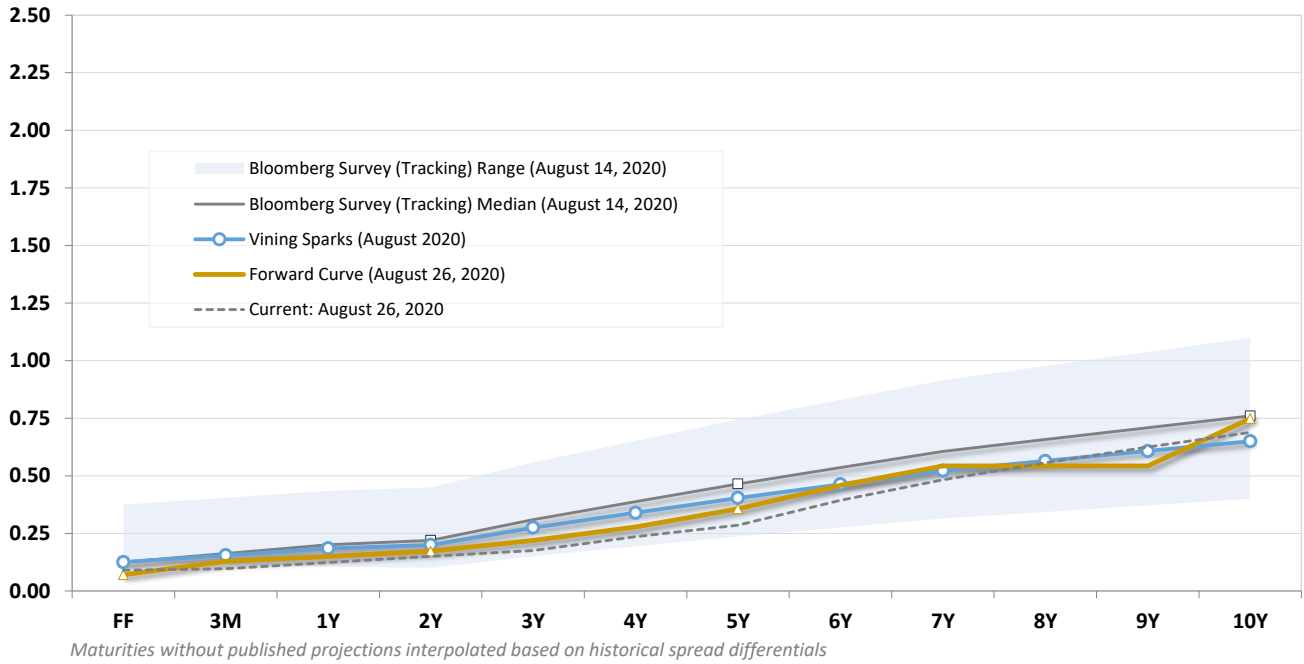
GDP		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
Vining Sparks Projections	8/26/2020	22.0	7.0	4.0	3.0	2.5	2.4	-5.9	2.9
August Survey	8/14/2020	20.0	6.1	5.0	4.1	3.8	3.2	-5.1	3.7
July Survey	7/10/2020	18.0	6.8	5.0	4.0	3.5	3.0	-5.5	3.9
Personal Consumption		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
August Survey	8/14/2020	23.6	5.5	4.1	3.8	3.6	3.2	-5.2	3.6
July Survey	7/10/2020	24.6	7.3	4.0	3.8	3.6	3.2	-5.7	4.0
Private Investment		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
August Survey	8/14/2020	12.8	10.8	9.9	6.5	6.3	5.1	-9.5	6.1
July Survey	7/10/2020	2.8	8.2	10.2	6.4	6.0	4.6	-10.3	5.6
Government Expenditures		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
August Survey	8/14/2020	1.6	1.4	1.0	1.0	1.3	1.1	2.0	1.0
July Survey	7/10/2020	2.2	1.4	1.2	1.5	1.4	1.2	1.5	1.2
Headline CPI		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
Vining Sparks Projections	8/26/2020	1.4	1.6	1.8	2.3	2.2	1.8	1.0	2.3
August Survey	8/14/2020	0.8	0.7	1.2	2.1	1.9	2.0	1.0	1.6
July Survey	7/10/2020	0.6	0.6	0.8	2.0	1.9	2.0	0.9	1.7
Core PCE		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
Vining Sparks Projections	8/26/2020	0.9	1.4	1.8	2.3	2.2	2.1	1.2	2.4
August Survey	8/14/2020	0.9	0.9	0.9	1.4	1.5	1.6	1.1	1.3
July Survey	7/10/2020	0.8	0.8	0.8	1.3	1.4	1.6	1.1	1.3
Unemployment Rate		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
Vining Sparks Projections	8/26/2020	8.7	7.4	6.5	6.2	6.1	6.0	8.3	6.2
August Survey	8/14/2020	10.0	9.0	8.4	7.6	7.0	6.6	9.0	7.4
July Survey	7/10/2020	10.3	9.1	8.4	7.8	7.1	6.7	9.1	7.6
Nonfarm Payroll (Monthly)		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
Vining Sparks Projections	8/26/2020	1,750	500	300	260	240	220	-620	270
August Survey	8/14/2020	1,228	605	342	354	292	250	-700	300
July Survey	7/10/2020	1,400	600	358	308	281	250	-765	275
New Home Sales		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
August Survey	8/14/2020	696	700	716	704	725	727	691	728
July Survey	7/10/2020	661	691	684	694	700	708	676	697
Existing Home Sales		Q320	Q420	Q121	Q221	Q321	Q421	2020	2021
August Survey	8/14/2020	4,800	4,900	5,000	5,100	5,100	5,200	4,900	5,100
July Survey	7/10/2020	4,900	4,800	5,000	5,200	5,200	5,300	4,900	5,200
Fed Funds Target ¹		Q320	Q420	Q121	Q221	Q321	Q421	Q122	Q222
Vining Sparks Projections	8/26/2020	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
August Survey	8/14/2020	0.13	0.13	0.13	0.18	0.18	0.18	0.23	0.28
July Survey	7/10/2020	0.13	0.13	0.13	0.18	0.18	0.23	0.28	0.33
2-Year Treasury ¹		Q320	Q420	Q121	Q221	Q321	Q421	Q122	Q222
Vining Sparks Projections	8/26/2020	0.20	0.20	0.25	0.25	0.25	0.25	0.25	0.25
August Survey	8/14/2020	0.18	0.22	0.30	0.36	0.43	0.50	0.62	0.69
July Survey	7/10/2020	0.25	0.29	0.33	0.39	0.46	0.54	0.69	0.76
10-Year Treasury ¹		Q320	Q420	Q121	Q221	Q321	Q421	Q122	Q222
Vining Sparks Projections	8/26/2020	0.65	0.65	0.75	0.85	0.90	0.95	1.00	1.00
August Survey	8/14/2020	0.66	0.76	0.89	0.99	1.08	1.19	1.29	1.39
July Survey	7/10/2020	0.78	0.87	0.96	1.05	1.12	1.23	1.34	1.44

*Sources: Bloomberg Survey of Economists, ¹ Economists' Real-Time Updates, Vining Sparks

Year-End Rate Projections

August 2020

YE2020 Treasury Yield Projections



Bloomberg Survey Tracking Index and Vining Projections

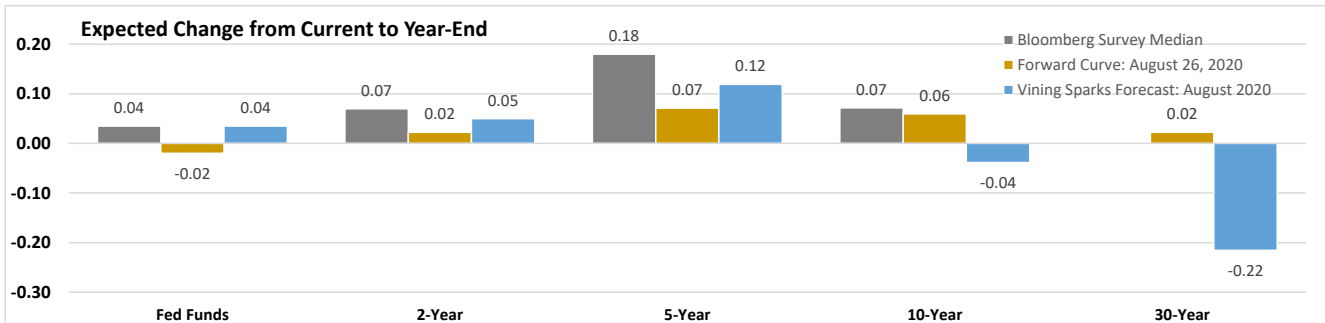
Interest Rate Projections

August 26, 2020

	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: August 14, 2020									
Low Forecast	0.13			0.10		0.24		0.40	
Median Forecast	0.13			0.22		0.46		0.76	
High Forecast	0.38			0.45		0.74		1.10	
Forward Curve: August 26, 2020	0.07	0.13	0.15	0.17	0.22	0.36	0.54	0.75	1.44
Vining Sparks Forecast: August 2020	0.13	0.16	0.19	0.20	0.28	0.40	0.52	0.65	1.20
Current: August 26, 2020	0.09	0.10	0.12	0.15	0.18	0.29	0.48	0.69	1.41

Projected Δ by Year-End

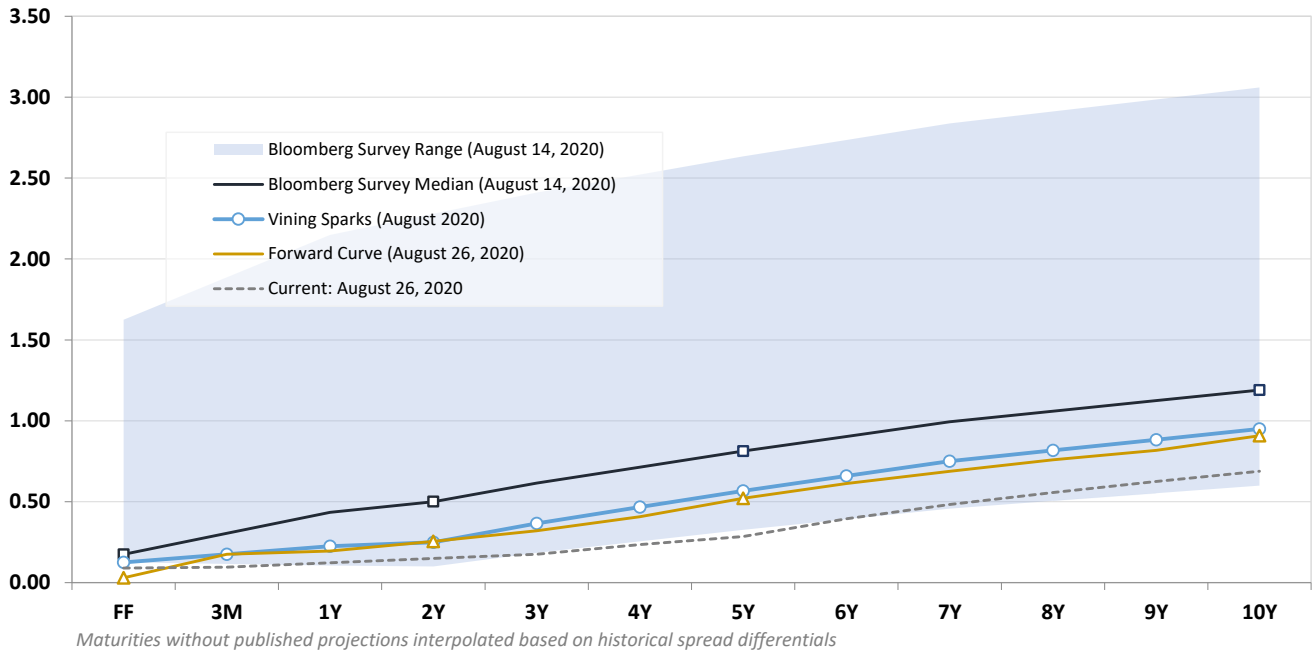
	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: August 14, 2020									
Low Forecast	0.04			-0.05		-0.05		-0.29	
Median Forecast	0.04			0.07		0.18		0.07	
High Forecast	0.29			0.30		0.46		0.41	
Forward Curve: August 26, 2020	-0.02	0.03	0.03	0.02	0.04	0.07	0.06	0.06	0.02
Vining Sparks Forecast: August 2020	0.04	0.06	0.06	0.05	0.10	0.12	0.04	-0.04	-0.22



Year-End Rate Projections

August 2020

YE2021 Treasury Yield Projections



Bloomberg Survey Tracking Index and Vining Projections

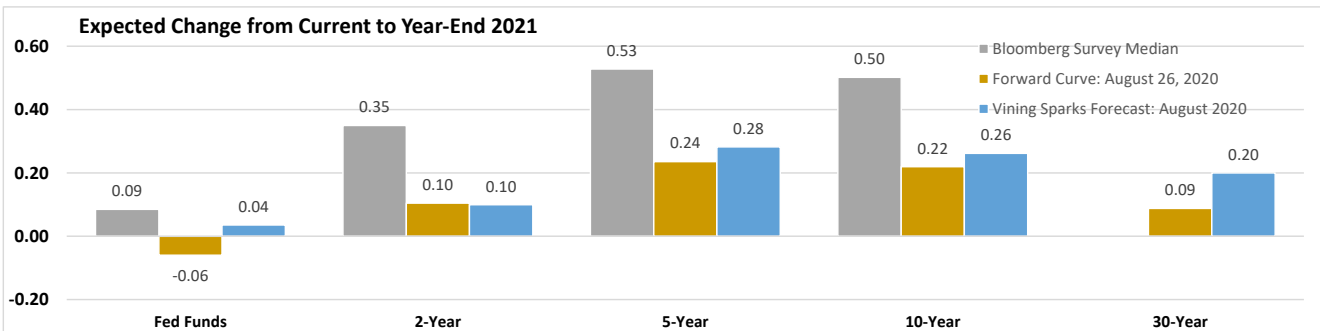
Interest Rate Projections

August 26, 2020

	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: August 14, 2020									
Low Forecast	0.13			0.10		0.33		0.60	
Median Forecast	0.18			0.50		0.81		1.19	
High Forecast	1.63			2.28		2.63		3.06	
Forward Curve: August 26, 2020	0.03	0.18	0.19	0.25	0.32	0.52	0.69	0.91	1.50
Vining Sparks Forecast: August 2020	0.13	0.18	0.23	0.25	0.37	0.57	0.75	0.95	1.61
Current: August 26, 2020	0.09	0.10	0.12	0.15	0.18	0.29	0.48	0.69	1.41

Projected Δ by Year-End

	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: August 14, 2020									
Low Forecast	0.04			-0.05		0.04		-0.09	
Median Forecast	0.09			0.35		0.53		0.50	
High Forecast	1.54			2.13		2.35		2.37	
Forward Curve: August 26, 2020	-0.06	0.08	0.07	0.10	0.14	0.24	0.21	0.22	0.09
Vining Sparks Forecast: August 2020	0.04	0.08	0.10	0.10	0.19	0.28	0.27	0.26	0.20



Sources: Bloomberg Survey of Economists Real-Time Tracking Index, Vining Sparks

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