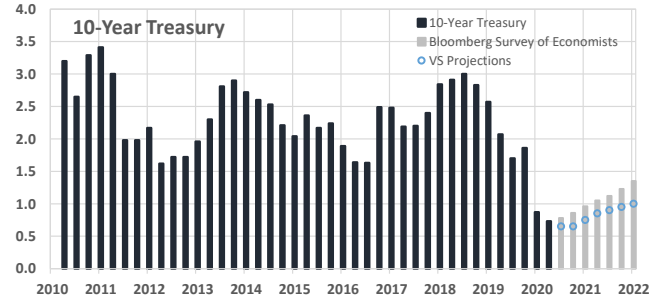
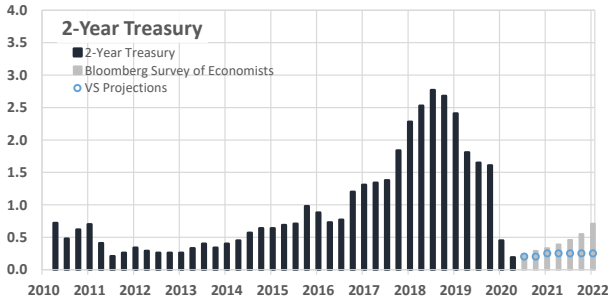
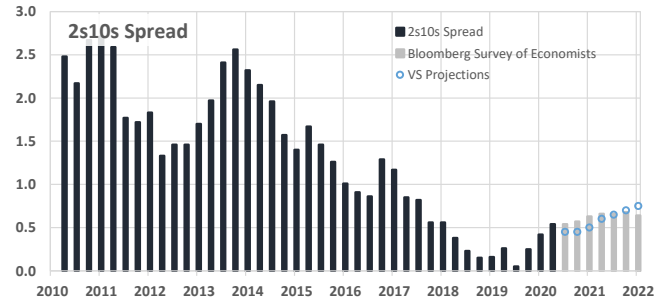
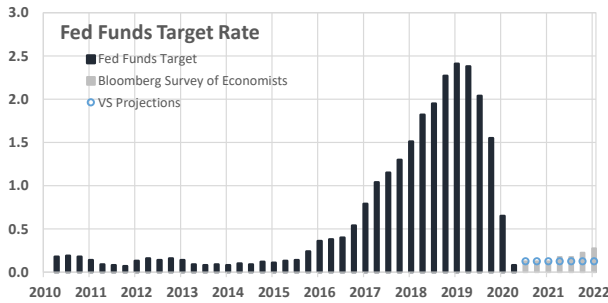
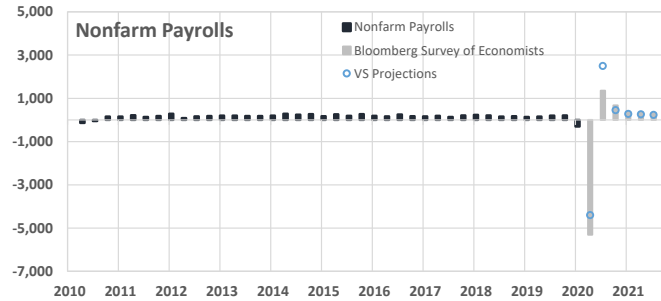
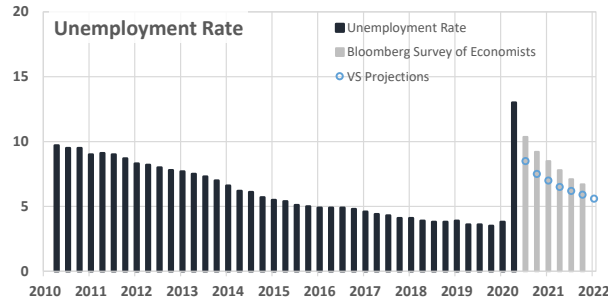
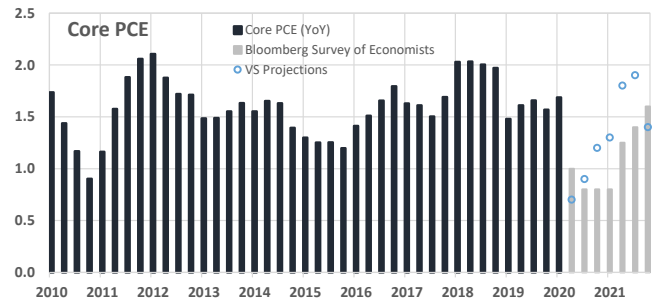
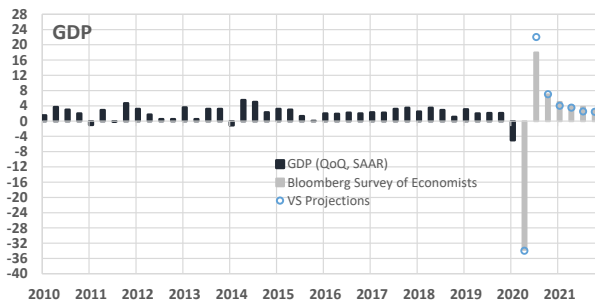


Vining Sparks Economic and Interest Rate Projections

July 2020

	Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
GDP (QoQ, SAAR)	-34.0	22.0	7.0	4.0	3.5	2.5	-5.5	2.9
Headline CPI (YoY)	0.4	0.6	1.1	1.4	2.2	2.2	0.6	2.6
Core PCE (YoY)	0.7	0.9	1.2	1.3	1.8	1.9	1.2	2.4
Unemployment Rate	11.1	8.5	7.5	7.0	6.5	6.2	8.1	6.0
Nonfarm Payrolls (Monthly)	(4,400)	2,500	450	280	260	240	-500	250

	Q220	Q320	Q420	Q121	Q221	Q321	Q421	Q122
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	0.20	0.25	0.25	0.25	0.25	0.25
10-Year Treasury Yield	0.65	0.65	0.65	0.75	0.85	0.90	0.95	1.00
30-Year Treasury Yield	1.25	1.25	1.20	1.28	1.45	1.53	1.61	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	2.75	2.65	2.65	2.65	2.70	2.75	2.80



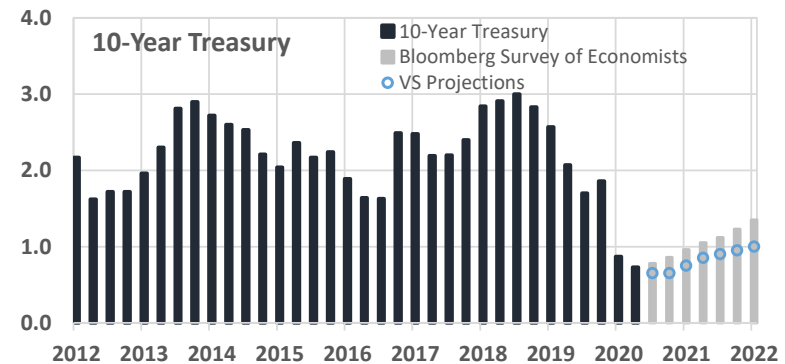
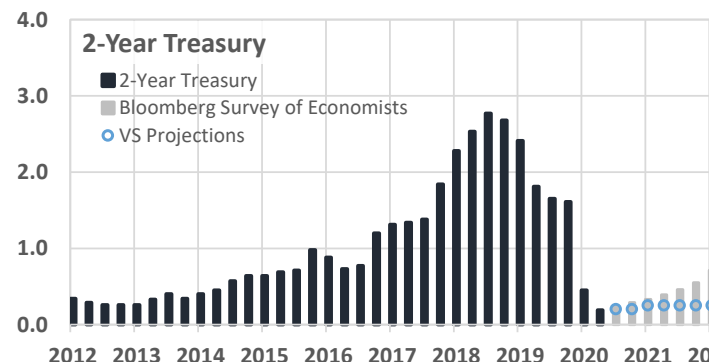
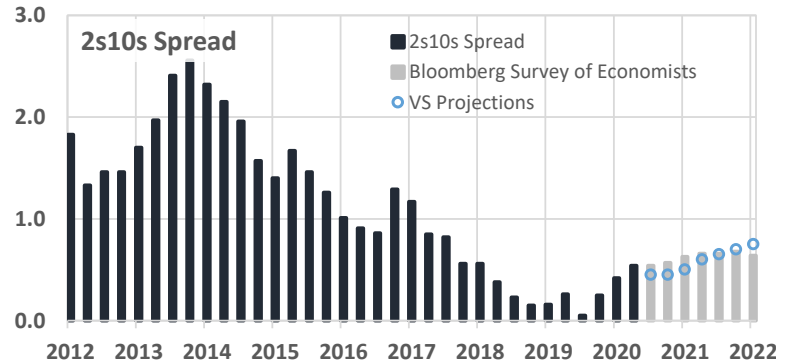
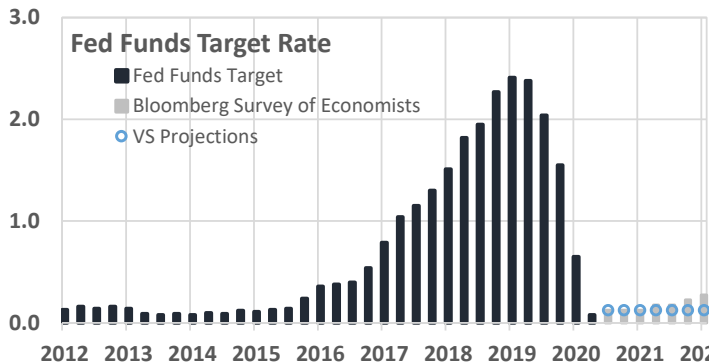
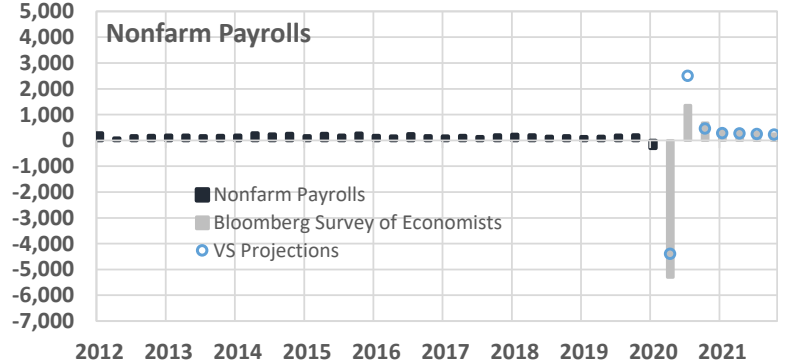
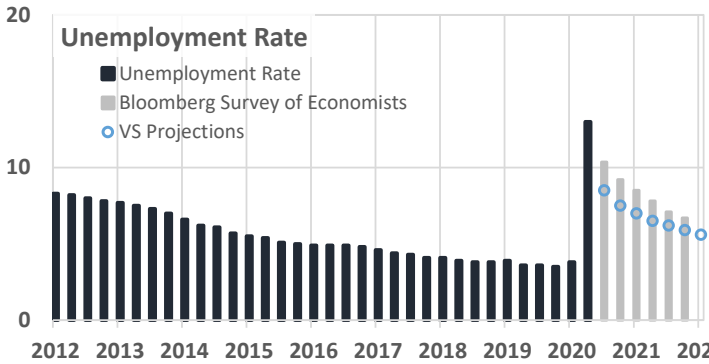
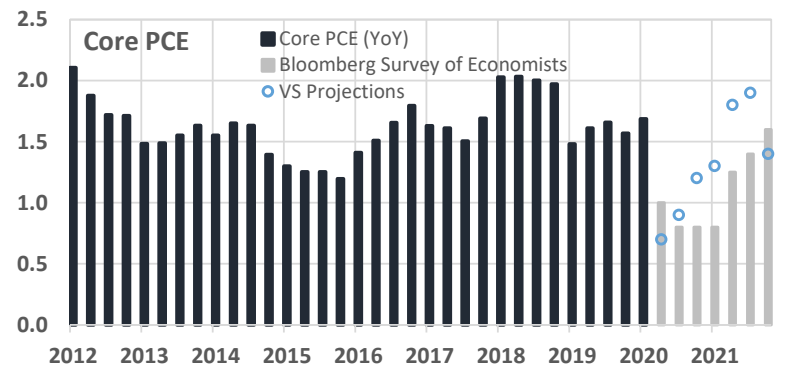
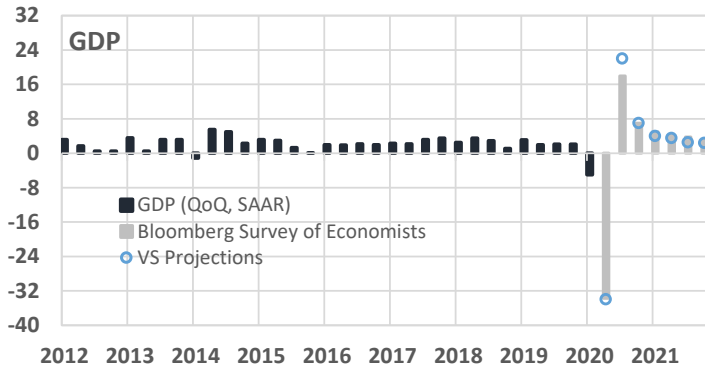
Sources: ¹ Bloomberg Survey of Economists, ² Economists' Real-Time Tracking Updates, Vining Sparks

Vining Sparks Economic and Interest Rate Projections

July 2020

	Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
GDP (QoQ, SAAR)	-34.0	22.0	7.0	4.0	3.5	2.5	-5.5	2.9
Headline CPI (YoY)	0.4	0.6	1.1	1.4	2.2	2.2	0.6	2.6
Core PCE (YoY)	0.7	0.9	1.2	1.3	1.8	1.9	1.2	2.4
Unemployment Rate	11.1	8.5	7.5	7.0	6.5	6.2	8.1	6.0
Nonfarm Payrolls (Monthly)	(4,400)	2,500	450	280	260	240	-500	250

	Q220	Q320	Q420	Q121	Q221	Q321	Q421	Q122
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	0.20	0.25	0.25	0.25	0.25	0.25
10-Year Treasury Yield	0.65	0.65	0.65	0.75	0.85	0.90	0.95	1.00
30-Year Treasury Yield	1.25	1.25	1.20	1.28	1.45	1.53	1.61	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	2.75	2.65	2.65	2.65	2.70	2.75	2.80



Bloomberg Survey of Economists

July Survey

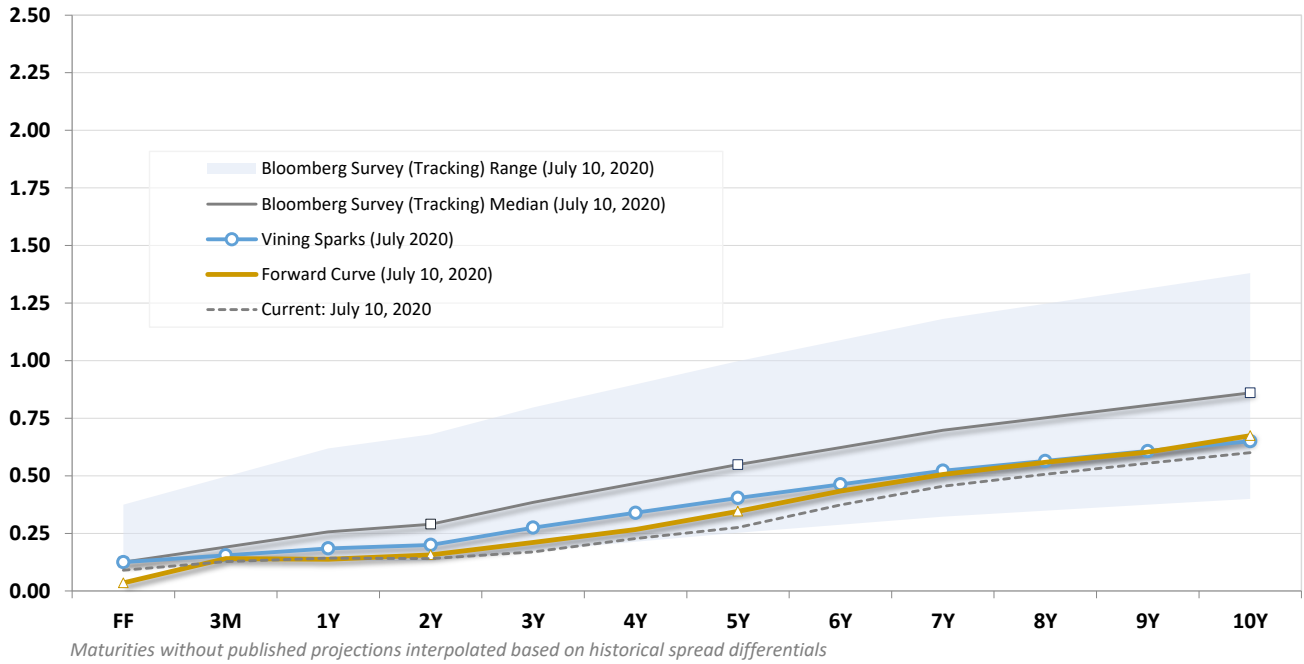
GDP		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
Vining Sparks Projections	7/10/2020	-34.0	22.0	7.0	4.0	3.5	2.5	-5.5	2.9
July Survey	7/10/2020	-32.6	18.0	6.8	5.0	4.0	3.5	-5.5	3.9
June Survey	6/12/2020	-35.0	19.8	8.8	5.2	4.0	3.7	-5.7	4.0
Personal Consumption		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
July Survey	7/10/2020	-36.0	24.6	7.3	4.0	3.8	3.6	-5.7	4.0
June Survey	6/12/2020	-40.4	25.0	10.0	4.5	4.0	3.7	-6.4	4.3
Private Investment		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
July Survey	7/10/2020	-33.1	2.8	8.2	10.2	6.4	6.0	-10.3	5.6
June Survey	6/12/2020	-34.6	-1.8	7.6	11.4	7.3	6.7	-9.5	5.7
Government Expenditures		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
July Survey	7/10/2020	-0.9	2.2	1.4	1.2	1.5	1.4	1.5	1.2
June Survey	6/12/2020	2.3	3.3	2.5	1.5	1.5	1.8	2.0	1.5
Headline CPI		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
Vining Sparks Projections	7/10/2020	0.4	0.6	1.1	1.4	2.2	2.2	0.6	2.6
July Survey	7/10/2020	0.4	0.6	0.6	0.8	2.0	1.9	0.9	1.7
June Survey	6/12/2020	0.4	0.5	0.5	0.8	1.8	1.8	0.8	1.6
Core PCE		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
Vining Sparks Projections	7/10/2020	0.7	0.9	1.2	1.3	1.8	1.9	1.2	2.4
July Survey	7/10/2020	1.0	0.8	0.8	0.8	1.3	1.4	1.1	1.3
June Survey	6/12/2020	0.9	0.7	0.7	0.8	1.2	1.4	1.0	1.3
Unemployment Rate		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
Vining Sparks Projections	7/10/2020	11.1	8.5	7.5	7.0	6.5	6.2	8.1	6.0
July Survey	7/10/2020	13.4	10.3	9.1	8.4	7.8	7.1	9.1	7.6
June Survey	6/12/2020	16.1	10.7	9.5	8.7	7.9	7.2	9.5	7.5
Nonfarm Payroll (Monthly)		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
Vining Sparks Projections	7/10/2020	(4,400)	2,500	450	280	260	240	-500	250
July Survey	7/10/2020	(5,060)	1,400	600	358	308	281	-765	275
June Survey	6/12/2020	(7,850)	1,500	752	468	399	310	-789	338
New Home Sales		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
July Survey	7/10/2020	645	661	691	684	694	700	676	697
June Survey	6/12/2020	626	642	648	651	655	664	655	656
Existing Home Sales		Q220	Q320	Q420	Q121	Q221	Q321	2020	2021
July Survey	7/10/2020	4,300	4,900	4,800	5,000	5,200	5,200	4,900	5,200
June Survey	6/12/2020	4,300	4,800	4,900	5,100	5,200	5,300	4,800	5,300
Fed Funds Target ¹		Q220	Q320	Q420	Q121	Q221	Q321	Q421	Q122
Vining Sparks Projections	7/10/2020	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
July Survey	7/10/2020	0.13	0.13	0.13	0.53	0.18	0.18	0.23	0.28
June Survey	6/12/2020	0.13	0.13	0.13	0.13	0.18	0.23	0.23	0.33
2-Year Treasury ¹		Q220	Q320	Q420	Q121	Q221	Q321	Q421	Q122
Vining Sparks Projections	7/10/2020	0.20	0.20	0.20	0.25	0.25	0.25	0.25	0.25
July Survey	7/10/2020	0.22	0.24	0.29	0.33	0.39	0.46	0.55	0.71
June Survey	6/12/2020	0.22	0.27	0.33	0.39	0.48	0.58	0.65	0.75
10-Year Treasury ¹		Q220	Q320	Q420	Q121	Q221	Q321	Q421	Q122
Vining Sparks Projections	7/10/2020	0.65	0.65	0.65	0.75	0.85	0.90	0.95	1.00
July Survey	7/10/2020	0.75	0.78	0.86	0.96	1.05	1.12	1.23	1.35
June Survey	6/12/2020	0.75	0.84	0.94	1.05	1.14	1.26	1.34	1.44

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

Year-End Rate Projections

July 2020

YE2020 Treasury Yield Projections



Bloomberg Survey Tracking Index and Vining Projections

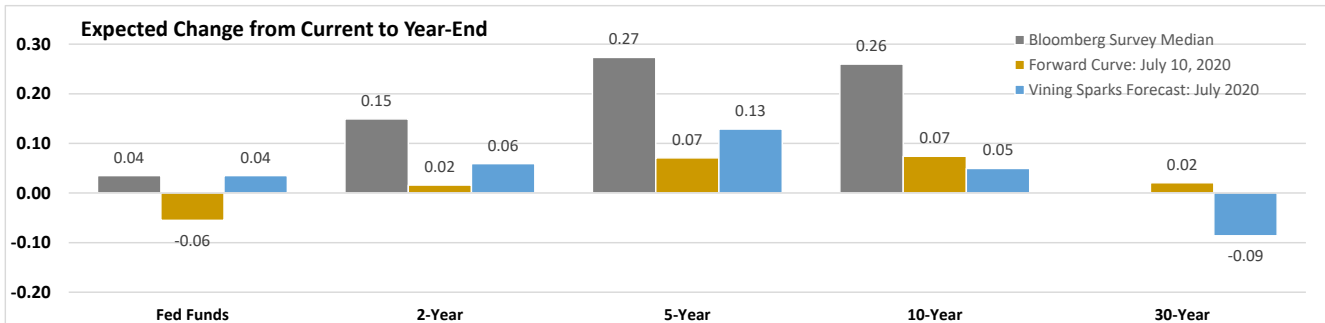
Interest Rate Projections

July 10, 2020

	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: July 10, 2020									
Low Forecast	0.13			0.13		0.25		0.40	
Median Forecast	0.13			0.29		0.55		0.86	
High Forecast	0.38			0.68		1.00		1.38	
Forward Curve: July 10, 2020	0.04	0.14	0.14	0.16	0.21	0.35	0.51	0.67	1.30
Vining Sparks Forecast: July 2020	0.13	0.16	0.19	0.20	0.28	0.40	0.52	0.65	1.20
Current: July 10, 2020	0.09	0.13	0.14	0.14	0.17	0.28	0.45	0.60	1.28

Projected Δ by Year-End

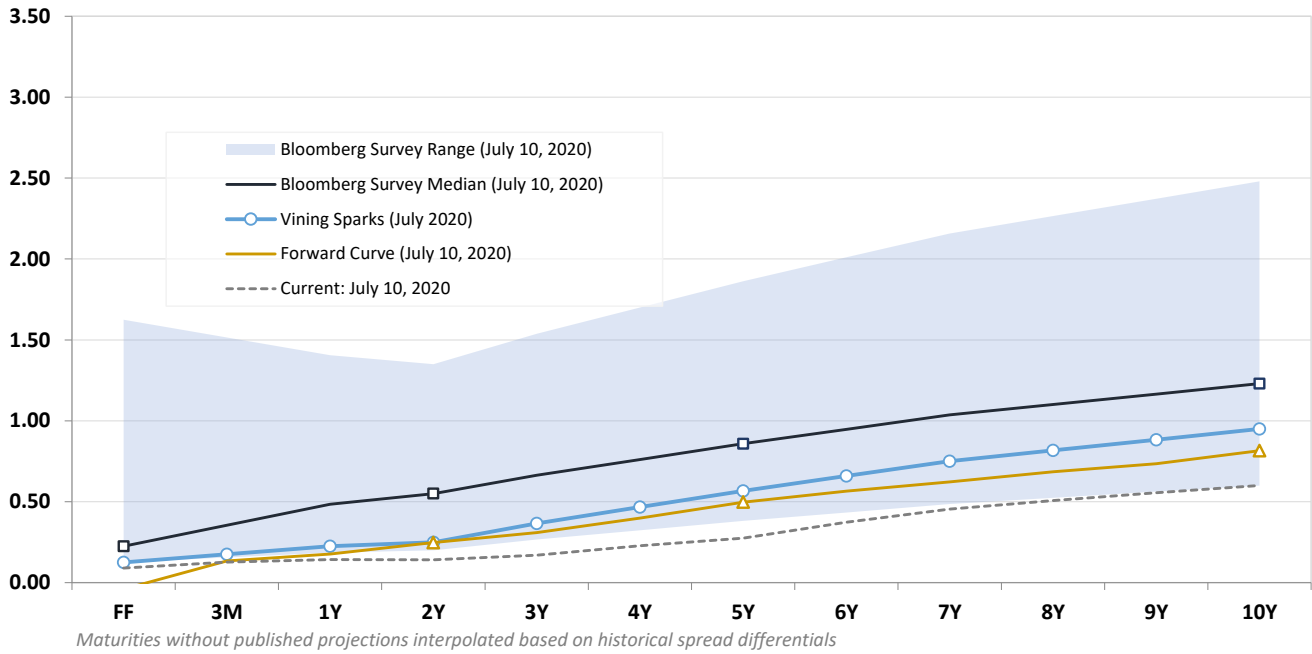
	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: July 10, 2020									
Low Forecast	0.04			-0.01		-0.02		-0.20	
Median Forecast	0.04			0.15		0.27		0.26	
High Forecast	0.29			0.54		0.72		0.78	
Forward Curve: July 10, 2020	-0.06	0.01	-0.01	0.02	0.04	0.07	0.05	0.07	0.02
Vining Sparks Forecast: July 2020	0.04	0.03	0.04	0.06	0.11	0.13	0.07	0.05	-0.09



Year-End Rate Projections

July 2020

YE2021 Treasury Yield Projections



Bloomberg Survey Tracking Index and Vining Projections

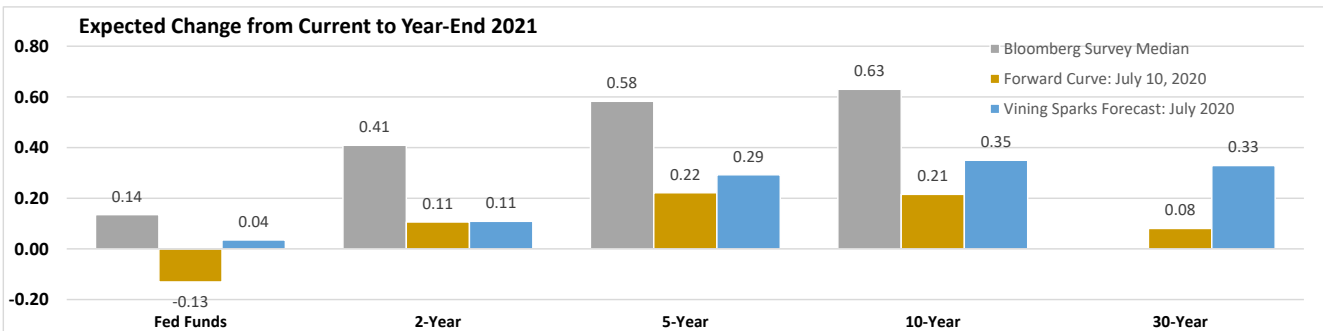
Interest Rate Projections

July 10, 2020

	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: July 10, 2020									
Low Forecast	0.13			0.20		0.38		0.60	
Median Forecast	0.23			0.55		0.86		1.23	
High Forecast	1.63			1.35		1.86		2.48	
Forward Curve: July 10, 2020	-0.04	0.13	0.18	0.25	0.31	0.50	0.62	0.82	1.36
Vining Sparks Forecast: July 2020	0.13	0.18	0.23	0.25	0.37	0.57	0.75	0.95	1.61
Current: July 10, 2020	0.09	0.13	0.14	0.14	0.17	0.28	0.45	0.60	1.28

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: July 10, 2020									
Low Forecast	0.04			0.06		0.11		0.00	
Median Forecast	0.14			0.41		0.58		0.63	
High Forecast	1.54			1.21		1.59		1.88	
Forward Curve: July 10, 2020	-0.13	0.01	0.03	0.11	0.14	0.22	0.17	0.21	0.08
Vining Sparks Forecast: July 2020	0.04	0.05	0.08	0.11	0.20	0.29	0.30	0.35	0.33



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

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