

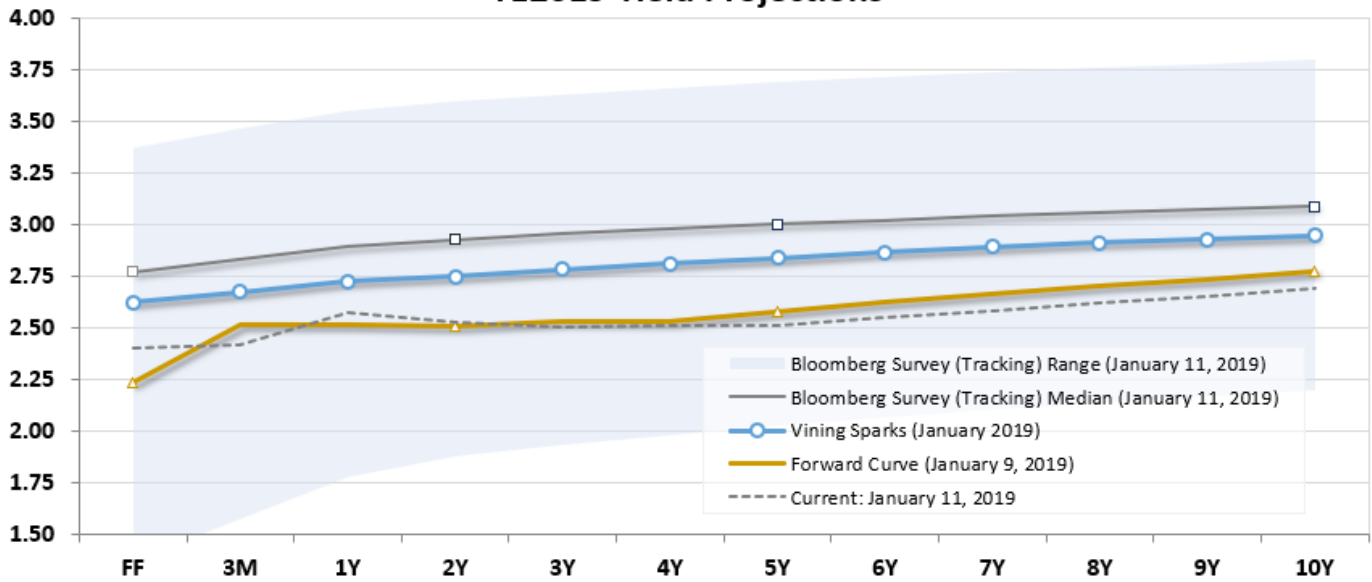
Survey of Economists

January Survey

GDP		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
Vining Sparks Projections	1/11/2019	1.9	2.6	2.5	2.4	1.7	1.9	2.4	1.8
January Survey	1/11/2019	2.1	2.4	2.2	2.0	1.8	1.9	2.5	1.9
December Survey	12/14/2018	2.4	2.5	2.3	2.0	1.9	2.0	2.6	1.9
Personal Consumption		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
January Survey	1/11/2019	2.4	2.5	2.3	2.2	2.1	2.1	2.7	2.2
December Survey	12/14/2018	2.5	2.5	2.3	2.2	2.1	2.1	2.7	2.1
Private Investment		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
January Survey	1/11/2019	2.7	3.5	3.9	2.8	2.7	2.4	3.8	2.6
December Survey	12/14/2018	3.3	3.7	3.5	3.5	2.9	2.6	3.8	2.8
Government Expenditures		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
January Survey	1/11/2019	2.1	2.0	1.6	1.3	1.0	1.2	2.2	1.3
December Survey	12/14/2018	2.0	1.9	1.7	1.4	1.0	1.2	2.2	1.3
Headline CPI		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
Vining Sparks Projections	1/11/2019	2.1	2.0	1.9	1.9	2.0	1.9	1.9	1.9
January Survey	1/11/2019	1.8	2.1	2.2	2.2	2.3	2.2	2.1	2.2
December Survey	12/14/2018	2.1	2.2	2.3	2.3	2.3	2.2	2.2	2.2
Core PCE		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
Vining Sparks Projections	1/11/2019	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9
January Survey	1/11/2019	1.9	1.9	2.0	2.1	2.1	2.1	2.0	2.1
December Survey	12/14/2018	1.9	1.9	2.0	2.1	2.1	2.1	2.0	2.1
Unemployment Rate		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
Vining Sparks Projections	1/11/2019	3.7	3.7	3.8	3.8	3.9	3.9	3.8	3.9
January Survey	1/11/2019	3.7	3.6	3.6	3.6	3.6	3.7	3.6	3.7
December Survey	12/14/2018	3.6	3.6	3.6	3.5	3.6	3.6	3.6	3.6
Nonfarm Payroll (Monthly)		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
Vining Sparks Projections	1/11/2019	160	155	155	150	140	130	155	130
January Survey	1/11/2019	175	160	150	131	125	128	159	118
December Survey	12/14/2018	170	160	150	140	132	125	156	120
New Home Sales		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
January Survey	1/11/2019	601	612	627	629	634	636	620	640
December Survey	12/14/2018	605	616	624	631	632	633	625	640
Existing Home Sales		Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
January Survey	1/11/2019	5,320	5,370	5,400	5,400	5,450	5,450	5,400	5,460
December Survey	12/14/2018	5,390	5,400	5,410	5,440	5,460	5,450	5,410	5,480
Fed Funds Target ¹		Q119	Q219	Q319	Q419	Q120	Q220	Q320	Q420
Vining Sparks Projections	1/11/2019	2.38	2.38	2.63	2.63	2.88	2.63	2.63	2.63
January Survey	1/11/2019	2.43	2.63	2.73	2.78	2.73	2.73	2.73	2.68
December Survey	12/14/2018	2.58	2.78	2.83	2.93	2.93	2.88	2.88	2.83
2-Year Treasury ¹		Q119	Q219	Q319	Q419	Q120	Q220	Q320	Q420
Vining Sparks Projections	1/11/2019	2.70	2.70	2.75	2.75	2.65	2.50	2.50	2.50
January Survey	1/11/2019	2.74	2.87	2.91	2.93	2.96	2.99	2.99	2.94
December Survey	12/14/2018	2.95	3.06	3.10	3.12	3.16	3.18	3.20	3.15
10-Year Treasury ¹		Q119	Q219	Q319	Q419	Q120	Q220	Q320	Q420
Vining Sparks Projections	1/11/2019	2.90	2.90	3.00	2.95	2.80	2.70	2.70	2.70
January Survey	1/11/2019	2.90	3.01	3.06	3.09	3.14	3.17	3.17	3.16
December Survey	12/14/2018	3.14	3.24	3.28	3.29	3.35	3.36	3.39	3.37

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

YE2019 Yield Projections



Maturities without published projections interpolated based on historical spread differentials

Bloomberg Survey Tracking Index and Vining Projections

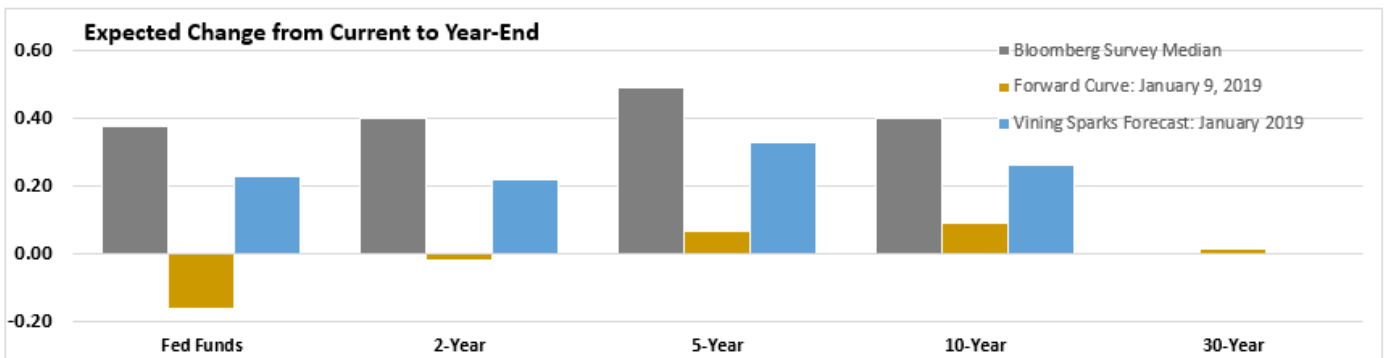
Interest Rate Projections

January 9, 2019

	Fed Funds	3M T-Bill	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	30-Year
Bloomberg Survey - Tracking: January 11, 2019									
Low Forecast	1.38			1.88		2.03		2.20	
Median Forecast	2.78			2.93		3.00		3.09	
High Forecast	3.38			3.60		3.69		3.80	
Forward Curve: January 9, 2019	2.24	2.52	2.52	2.51	2.53	2.58	2.66	2.78	3.04
Vining Sparks Forecast: January 2019	2.63	2.68	2.73	2.75	2.78	2.84	2.89	2.95	3.02
Current: January 11, 2019	2.40	2.42	2.57	2.53	2.50	2.52	2.59	2.69	3.03

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: January 11, 2019									
Low Forecast	-1.03			-0.65		-0.49		-0.49	
Median Forecast	0.38			0.40		0.49		0.40	
High Forecast	0.98			1.07		1.18		1.11	
Forward Curve: January 9, 2019	-0.17	0.10	-0.05	-0.02	0.03	0.07	0.08	0.09	0.01
Vining Sparks Forecast: January 2019	0.23	0.26	0.15	0.22	0.28	0.33	0.31	0.26	-0.01



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

Economic and Interest Rate Projections

Vining Sparks Projections

January 2019

	Q119	Q219	Q319	Q419	Q120	Q220	2019	2020
GDP (QoQ, SAAR)	1.9	2.6	2.5	2.4	1.7	1.9	2.4	1.8
Headline CPI (YoY)	2.1	2.0	1.9	1.9	2.0	1.9	1.9	1.9
Core PCE (YoY)	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9
Unemployment Rate	3.7	3.7	3.8	3.8	3.9	3.9	3.8	3.9
Nonfarm Payrolls (Monthly)	160	155	155	150	140	130	155	130

	Q119	Q219	Q319	Q419	Q120	Q220	Q320	Q420
Fed Funds Target	2.38	2.38	2.63	2.63	2.88	2.63	2.63	2.63
2-Year Treasury Yield	2.70	2.70	2.75	2.75	2.65	2.50	2.50	2.50
10-Year Treasury Yield	2.90	2.90	3.00	2.95	2.80	2.70	2.70	2.70
30-Year Treasury Yield	3.12	3.12	3.23	3.17	3.00	2.92	2.92	2.92
Prime Rate	5.50	5.50	5.75	5.75	6.00	5.75	5.75	5.75
30-Year Mortgage Rate	4.55	4.55	4.65	4.60	4.45	4.35	4.35	4.35

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



Survey's economic projections based on data at time of survey release. Interest rate data based on the real-time updated forecasts.

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