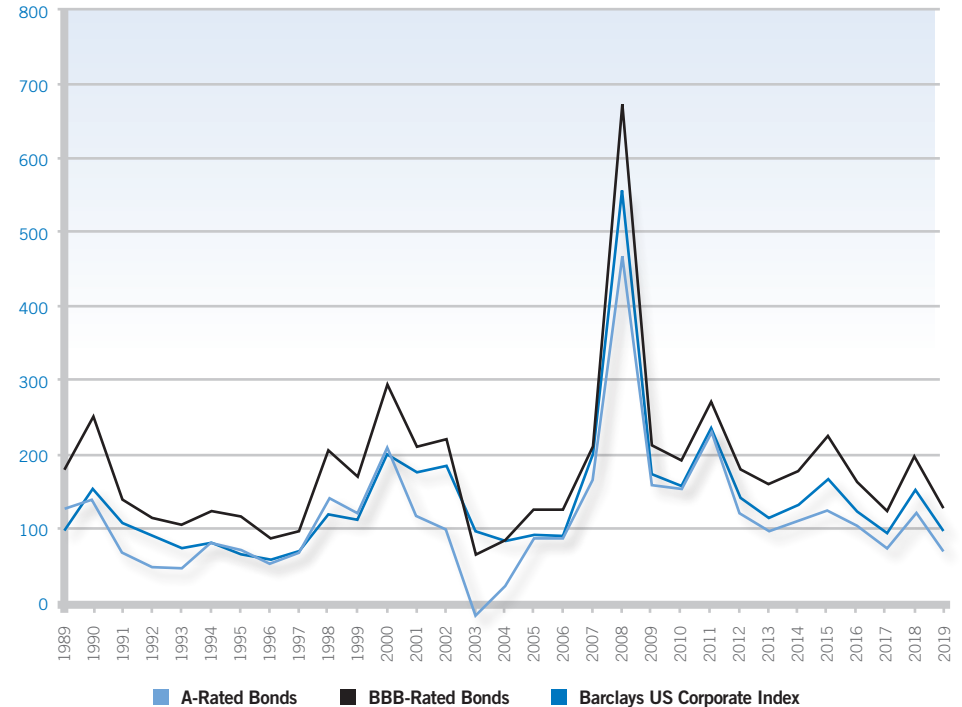


Historical Interest Rates & Credit Spreads

10 Yr U.S. Treasury Note	A-Rated Bonds		BBB-Rated Bonds		BbgBc US Corporate Index		
Month - Year	Yield to Maturity	Yield*	Spread	Yield*	Spread	Yield*	Spread
31-Dec-89	7.92	9.16	124	9.71	179	8.89	97
31-Dec-90	8.07	9.46	139	10.56	249	9.58	151
31-Dec-91	6.07	6.74	67	7.45	138	7.14	107
31-Dec-92	6.69	7.16	47	7.81	112	7.57	88
31-Dec-93	5.79	6.26	47	6.83	104	6.52	73
31-Dec-94	7.83	8.61	78	9.05	122	8.61	78
31-Dec-95	5.58	6.27	69	6.73	115	6.23	65
31-Dec-96	6.42	6.93	51	7.27	85	6.98	56
31-Dec-97	5.85	6.51	66	6.79	94	6.52	67
31-Dec-98	4.66	6.04	138	6.70	204	5.84	118
31-Dec-99	6.44	7.65	121	8.12	168	7.55	111
31-Dec-00	5.12	7.21	209	8.06	294	7.11	199
31-Dec-01	5.04	6.20	116	7.14	210	6.78	174
31-Dec-02	3.83	4.79	96	6.04	221	5.67	184
31-Dec-03	4.32	4.15	-17	4.95	63	5.27	95
31-Dec-04	4.22	4.43	21	5.05	83	5.03	81
31-Dec-05	4.39	5.25	86	5.63	124	5.29	90
31-Dec-06	4.70	5.56	86	5.94	124	5.58	88
31-Dec-07	4.03	5.69	166	6.13	210	6.01	198
31-Dec-08	2.25	6.92	467	8.98	673	7.80	555
31-Dec-09	3.84	5.40	156	5.96	212	5.56	172
31-Dec-10	3.29	4.80	151	5.20	191	4.85	156
31-Dec-11	1.68	3.97	229	4.39	271	4.02	234
31-Dec-12	1.76	2.95	119	3.56	180	3.17	141
31-Dec-13	3.03	3.98	95	4.61	158	4.17	114
31-Dec-14	2.17	3.26	109	3.95	178	3.48	131
31-Dec-15	2.27	3.49	122	4.51	224	3.92	165
31-Dec-16	2.45	3.46	101	4.05	160	3.68	123
31-Dec-17	2.41	3.14	73	3.65	124	3.34	93
31-Dec-18	2.69	3.87	118	4.66	197	4.22	153
31-Jan-19	2.63	3.59	96	4.33	170	3.91	128
28-Feb-19	2.72	3.65	93	4.31	159	3.95	123
31-Mar-19	2.41	3.32	91	3.94	153	3.60	119
30-Apr-19	2.50	3.35	85	3.91	141	3.61	111
31-May-19	2.13	3.13	100	3.75	162	3.41	128
30-Jun-19	2.01	2.89	88	3.47	146	3.16	115
31-Jul-19	2.02	2.84	82	3.40	138	3.10	108
31-Aug-19	1.50	2.42	92	3.04	154	2.70	120
30-Sep-19	1.67	2.56	89	3.14	147	2.82	115
31-Oct-19	1.69	2.53	84	3.10	141	2.79	110
30-Nov-19	1.78	2.57	79	3.12	134	2.83	105
31-Dec-19	1.92	2.62	70	3.12	120	2.85	93

Source: Barclays Capital 01/02/20. For Financial Professional Use *Represents an approximation.

Credit Spreads to Treasuries - Years ended December 31



	A-Rated Bonds	BBB-Rated Bonds	US Corporate Index
Period ended December 31, 2019			
2 years	0.90	1.47	1.15
5 years	0.90	1.65	1.25
10 years	1.19	1.80	1.40
20 years	1.29	2.01	1.62

Key Observations

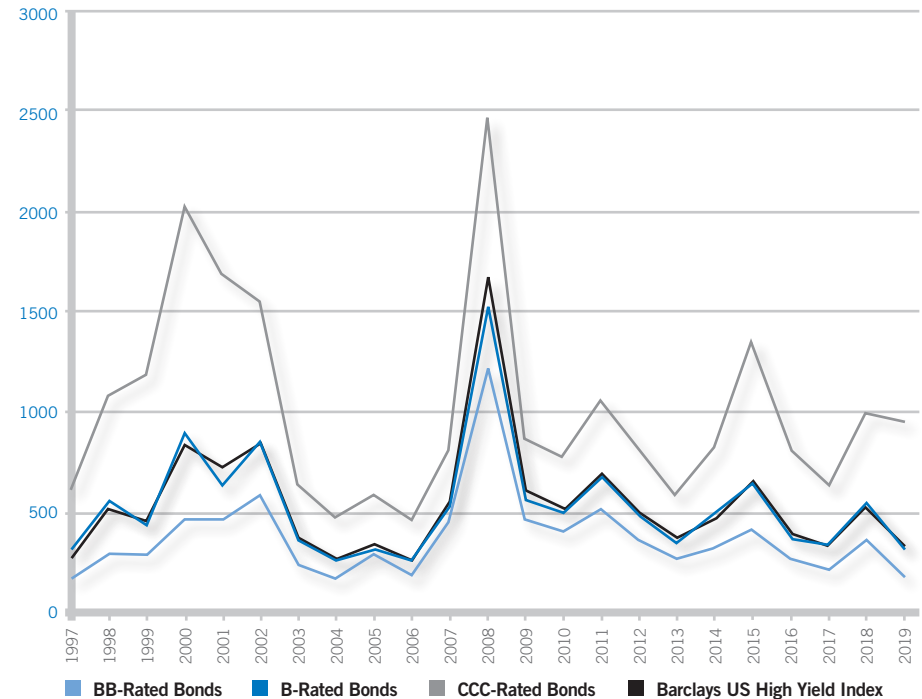
For the month of December 2019, the yield on the 10-year US Treasury Note ended at 1.92%, 14 basis points higher from the previous month. The Bloomberg Barclays US Corporate Index tightened by 12 basis points to 0.93% over Treasuries. The A Rated Corporate Credit Spread decreased by 9 basis points to 0.70%. The BBB Rated Corporate Credit Spreads tightened by 14 basis points to 1.20%.

Historical Interest Rates & Credit Spreads

Month - Year	5 Yr U.S. Treasury Note	BB-Rated Bonds		B-Rated Bonds		CCC-Rated Bonds		BbgBc US High Yield Index	
	Yield to Maturity	Yield*	Spread	Yield*	Spread	Yield*	Spread	Yield*	Spread
31-Dec-97	5.71	7.39	168	8.97	326	11.88	617	8.59	288
31-Dec-98	4.56	7.50	294	10.15	559	15.38	1082	9.83	527
31-Dec-99	6.36	9.20	284	10.84	448	18.22	1186	11.03	467
31-Dec-00	4.99	9.64	465	13.99	900	25.25	2026	13.47	848
31-Dec-01	4.38	8.87	449	10.80	642	21.30	1692	11.66	728
31-Dec-02	2.78	8.60	582	11.37	859	18.30	1552	11.29	851
31-Dec-03	3.25	5.64	239	6.96	371	9.65	640	7.18	393
31-Dec-04	3.63	5.42	179	6.30	267	8.38	475	6.50	287
31-Dec-05	4.35	7.27	292	7.61	326	10.23	588	7.91	356
31-Dec-06	4.70	6.53	183	7.39	269	9.28	458	7.44	274
31-Dec-07	3.45	7.95	450	8.81	536	11.55	810	9.14	569
31-Dec-08	1.55	13.66	1211	16.75	1520	26.21	2466	18.17	1662
31-Dec-09	2.69	7.22	453	8.36	567	11.37	868	8.85	616
31-Dec-10	2.01	6.00	399	7.07	506	9.76	775	7.27	526
31-Dec-11	0.83	5.95	512	7.65	682	11.39	1056	7.82	699
31-Dec-12	0.72	4.31	359	5.58	486	8.84	812	5.83	511
31-Dec-13	1.75	4.44	269	5.39	364	7.66	591	5.57	382
31-Dec-14	1.65	4.89	324	6.67	502	9.85	820	6.48	483
31-Dec-15	1.76	5.93	417	8.30	654	15.27	1,351	8.36	660
31-Dec-16	1.93	4.63	270	5.75	382	10.00	807	6.02	409
31-Dec-17	2.21	4.32	211	5.64	343	8.36	615	5.64	343
31-Dec-18	2.51	6.05	354	7.82	531	12.40	989	7.77	526
31-Jan-19	2.44	5.08	264	6.62	418	10.87	843	6.67	423
28-Feb-19	2.51	4.76	225	6.33	382	11.44	893	6.34	383
31-Mar-19	2.23	4.58	235	6.10	387	11.25	902	6.14	391
30-Apr-19	2.28	4.46	218	5.85	357	10.29	801	5.86	358
31-May-19	1.91	4.77	286	6.31	440	10.90	899	6.24	433
30-Jun-19	1.77	4.04	227	5.62	385	10.51	874	5.54	377
31-Jul-19	1.83	4.07	224	5.56	373	10.57	874	5.54	371
31-Aug-19	1.39	3.60	221	5.44	405	11.13	974	5.32	393
30-Sep-19	1.55	3.70	215	5.25	370	11.02	947	5.28	373
31-Oct-19	1.52	3.67	215	5.50	398	11.64	1012	5.44	392
30-Nov-19	1.63	3.54	191	5.31	368	12.07	1044	5.33	370
31-Dec-19	1.69	3.51	182	4.93	324	10.89	920	5.05	336

Source: Barclays Capital 01/02/20. For Financial Professional Use *Represents an approximation.

Credit Spreads to Treasuries - Years ended December 31



Averages	BB	B	CCC	BbgBc US HY Credit Index
	Period ended December 31, 2019			
2 years	2.33	3.76	7.88	3.74
5 years	2.87	4.47	9.36	4.55
10 years	3.30	4.77	8.74	4.88
15 years	3.92	5.33	9.28	5.57

Key Observations

For the month of December 2019, the yield on the 5-year US Treasury Note ended at 1.69%, 6 basis points higher from the previous month. The Bloomberg Barclays US High Yield Index tightened by 34 basis points to 3.36% over Treasuries. The BB Rated Corporate Credit Spread decreased by 9 basis points to 1.82%. The B Rated Corporate Credit Spreads tightened by 44 basis points to 3.24%. The CCC Rated Corporate Credit Spread decreased by 124 basis points to 9.20%.