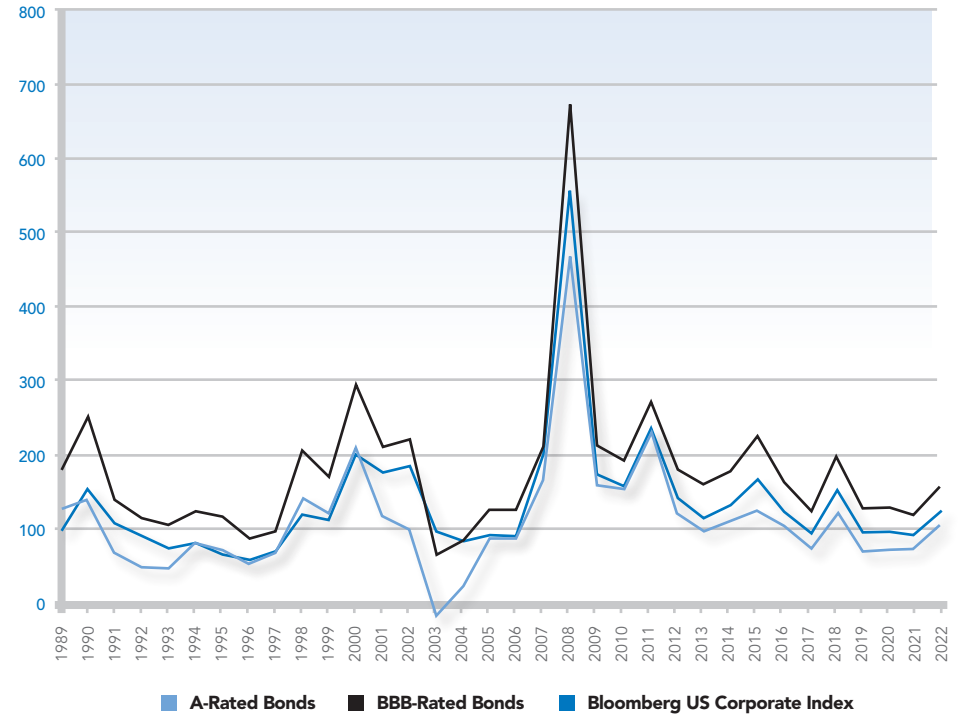


HISTORICAL INTEREST RATES & CREDIT SPREADS

10 Yr U.S. Treasury Note	A-Rated Bonds		BBB-Rated Bonds		Bbg US Corporate Index		
	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-Dec-19	1.92	2.62	70	3.12	120	2.85	93
31-Dec-20	0.92	1.65	73	2.13	121	1.88	96
31-Dec-21	1.51	2.25	74	2.64	113	2.43	92
31-Jan-22	1.78	2.65	87	3.06	128	2.84	106
28-Feb-22	1.83	2.85	102	3.29	146	3.05	122
31-Mar-22	2.34	3.28	94	3.76	142	3.50	116
30-Apr-22	2.94	4.06	112	4.57	163	4.29	135
31-May-22	2.85	3.90	105	4.46	161	4.15	130
30-Jun-22	3.02	4.28	126	4.94	192	4.57	155
31-Jul-22	2.65	3.81	116	4.44	179	4.09	144
31-Aug-22	3.20	4.34	114	4.94	174	4.60	140
30-Sep-22	3.83	5.18	135	5.75	192	5.42	159
31-Oct-22	4.05	5.42	137	5.95	190	5.63	158
30-Nov-22	3.61	4.73	112	5.24	163	4.94	133
31-Dec-22	3.88	4.97	109	5.47	159	5.18	130

Source: Barclays Capital 01/03/23. For Financial Professional Use *Represents an approximation.

CREDIT SPREADS TO TREASURIES | YEARS ENDED DECEMBER 31



Averages	A-Rated Bonds	BBB-Rated Bonds	US Corporate Index
	Period ended December 31, 2022		
2 years	0.91	1.38	1.12
5 years	0.89	1.42	1.13
10 years	0.94	1.55	1.19
20 years	1.20	1.84	1.50

KEY OBSERVATIONS

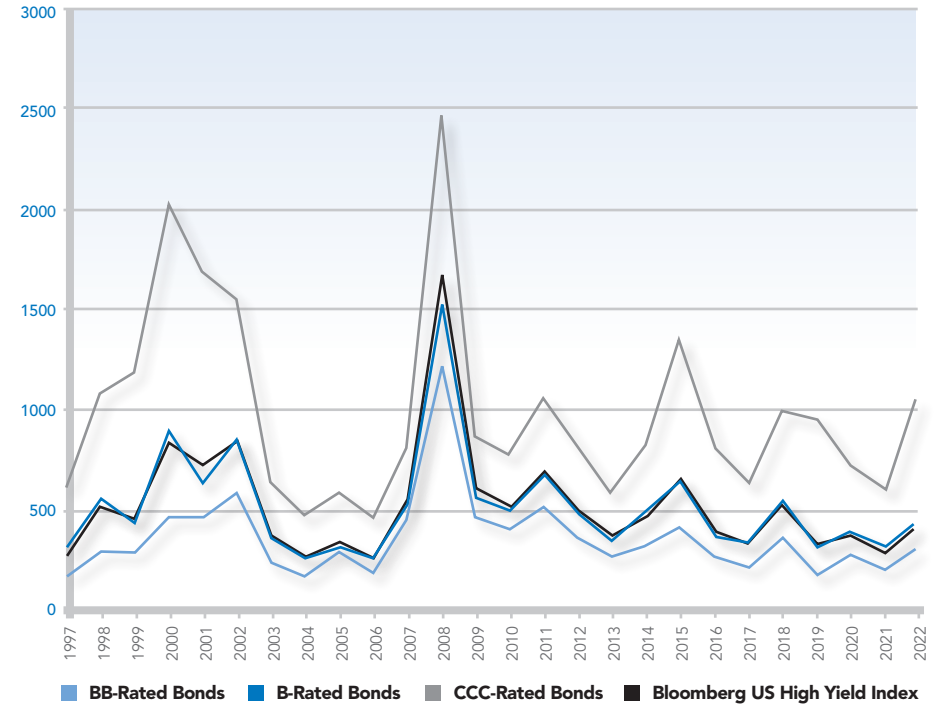
For the month of December 2022, the yield on the 10-year US Treasury Note ended at 3.88%, 27 basis points higher from the previous month. The Bloomberg US Corporate Index tightened by 3 basis points to 1.30% over Treasuries. The A Rated Corporate Credit Spread decreased by 3 basis points to 1.09%. The BBB Rated Corporate Credit Spread decreased by 4 basis points to 1.59%.

HISTORICAL INTEREST RATES & CREDIT SPREADS

Month - Year	5 Yr U.S. Treasury Note		BB-Rated Bonds		B-Rated Bonds		CCC-Rated Bonds		Bbg 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	1351	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-Dec-19	1.69	3.51	182	4.93	324	10.89	920	5.05	336	
31-Dec-20	0.36	3.00	264	4.15	379	7.51	715	3.96	360	
31-Dec-21	1.26	3.20	194	4.39	313	7.22	596	4.09	283	
31-Jan-22	1.61	4.11	250	5.33	372	8.17	656	5.03	342	
28-Feb-22	1.72	4.39	267	5.55	383	8.61	689	5.31	359	
31-Mar-22	2.46	4.78	232	5.88	342	9.24	678	5.71	325	
30-Apr-22	2.96	5.69	273	6.96	400	10.74	778	6.75	379	
31-May-22	2.82	5.45	263	7.30	448	11.90	908	6.88	406	
30-Jun-22	3.04	7.08	404	9.35	631	14.17	1113	8.73	569	
31-Jul-22	2.68	5.76	308	7.88	520	12.97	1029	7.37	469	
31-Aug-22	3.35	6.66	331	8.42	507	14.20	1085	8.19	484	
30-Sep-22	4.09	7.63	354	10.28	619	16.30	1221	9.61	552	
31-Oct-22	4.23	7.14	291	9.05	482	16.02	1179	8.87	464	
30-Nov-22	3.74	6.63	289	8.39	465	14.80	1106	8.22	448	
31-Dec-22	4.01	6.96	295	8.90	489	15.55	1154	8.70	469	

Source: Barclays Capital 01/03/23. 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, 2022				
2 years	2.58	4.03	7.69	3.71
5 years	2.58	4.07	8.75	3.95
10 years	2.78	4.28	8.56	4.25
15 years	3.81	5.36	9.69	5.51
20 years	3.53	4.91	8.75	5.07

KEY OBSERVATIONS

For the month of December 2022, the yield on the 5-year US Treasury Note ended at 4.01%, 27 basis points higher from the previous month. The Bloomberg US High Yield Index widened by 21 basis points to 4.69% over Treasuries. The BB Rated Corporate Credit Spread increased by 6 basis points to 2.95%. The B Rated Corporate Credit Spread widened by 24 basis points to 4.89%. The CCC Rated Corporate Credit Spread increased by 48 basis points to 11.54%.