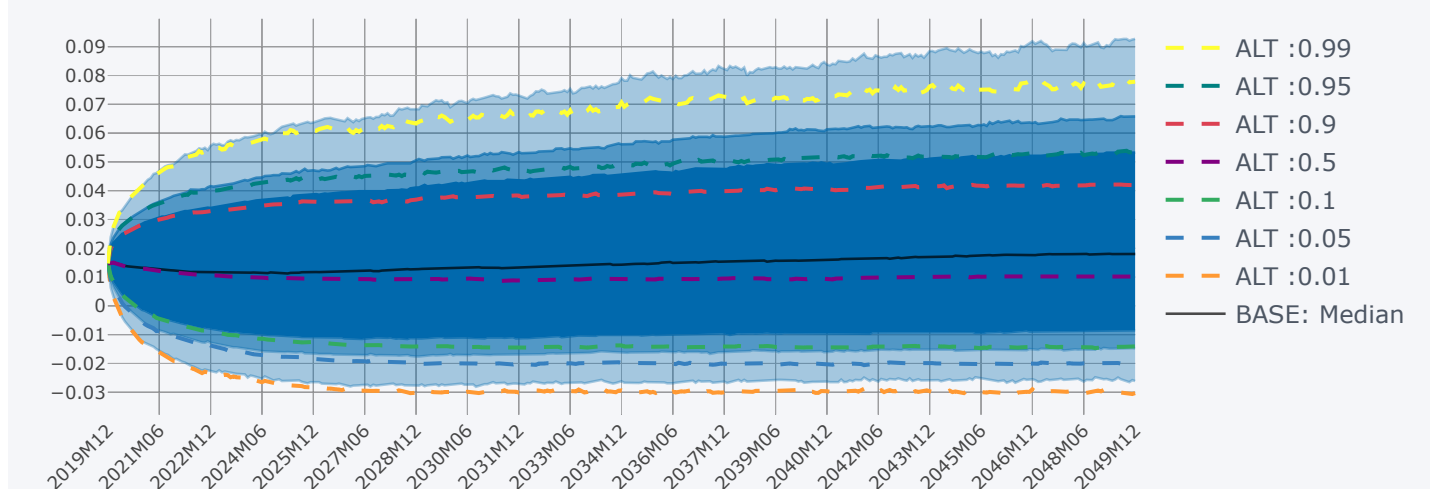


Simulated Data in Percentiles : US Treasury 1 Month Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

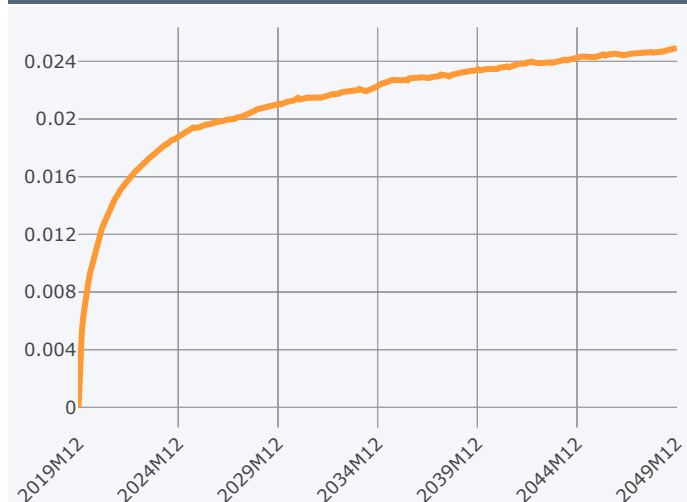
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

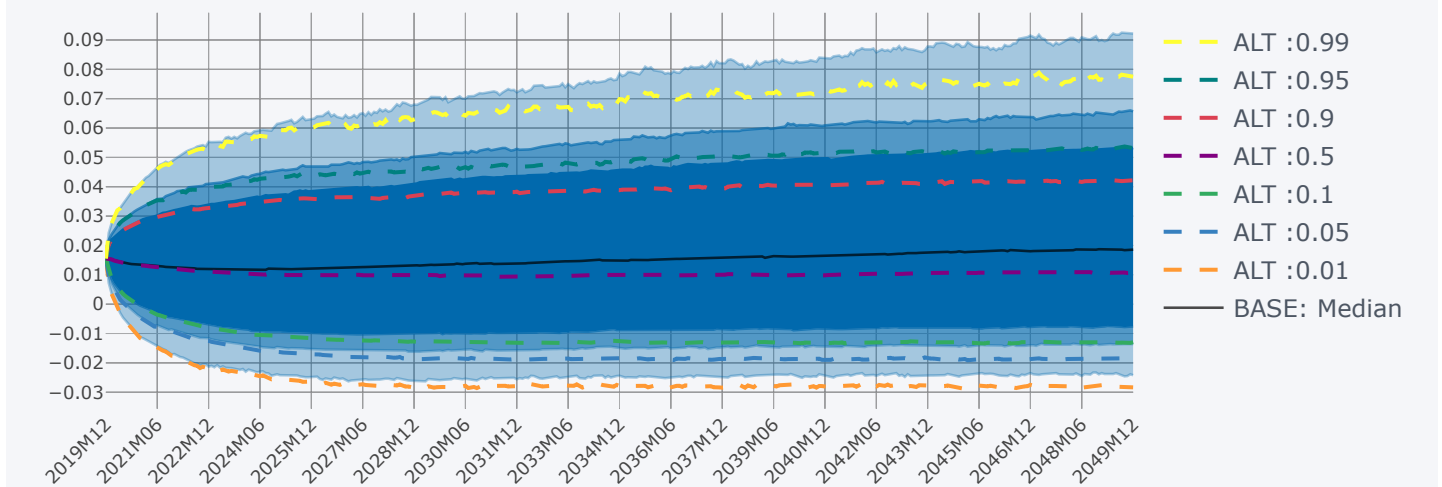
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0134	0.0207	0.0131	0.0126
std	0.0117	0.0249	0.0117	0.0227
min	-0.0266	-0.0459	-0.0268	-0.0474
1%	-0.0124	-0.0261	-0.0127	-0.0303
5%	-0.0052	-0.0148	-0.0055	-0.0197
10%	-0.0014	-0.0085	-0.0017	-0.0141
50%	0.0132	0.018	0.0129	0.0102
90%	0.0285	0.0532	0.0282	0.0422
95%	0.0328	0.0658	0.0325	0.0533
99%	0.0416	0.0927	0.0412	0.0779
max	0.0671	0.1666	0.0668	0.1478

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 3 Month Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

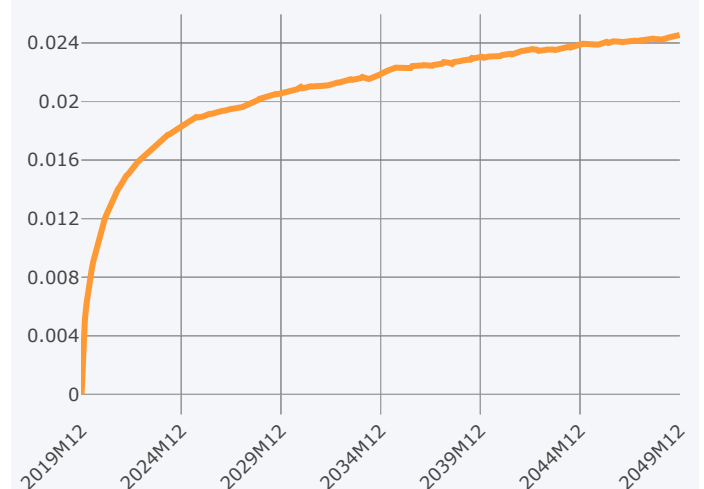
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

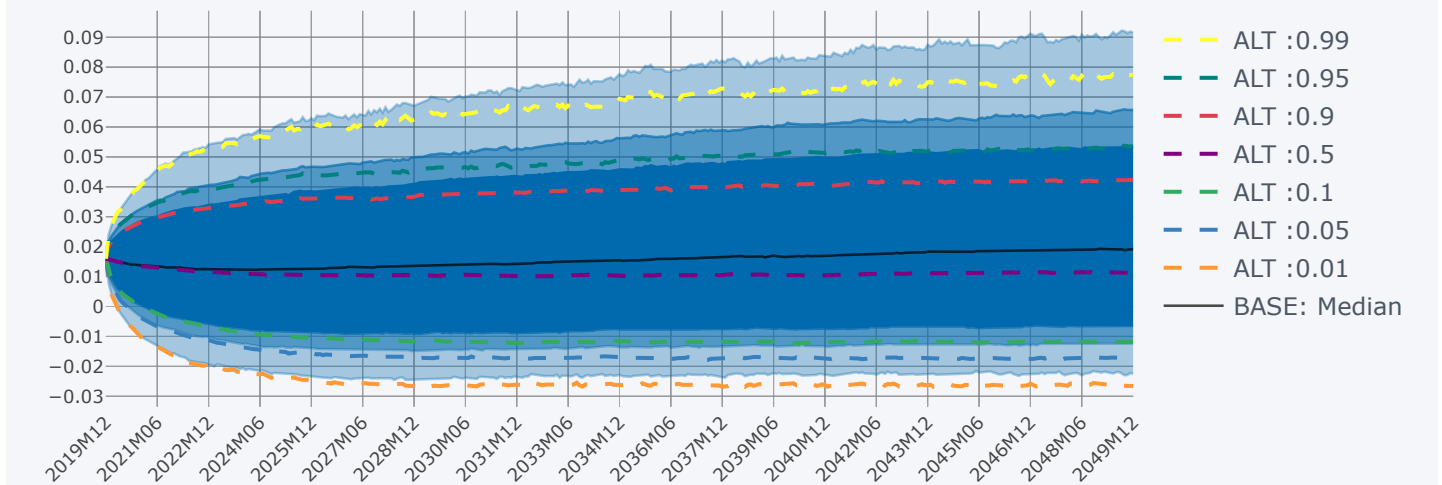
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0138	0.0213	0.0135	0.0132
std	0.0113	0.0245	0.0113	0.0223
min	-0.0247	-0.0451	-0.0248	-0.0466
1%	-0.0113	-0.0242	-0.0116	-0.0283
5%	-0.0043	-0.0136	-0.0046	-0.0184
10%	-0.0005	-0.0076	-0.0008	-0.0129
50%	0.0135	0.0186	0.0132	0.0107
90%	0.0285	0.0532	0.0282	0.0422
95%	0.0327	0.0657	0.0324	0.0531
99%	0.0411	0.0922	0.0408	0.0775
max	0.0669	0.1681	0.0665	0.1493

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 6 Month Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

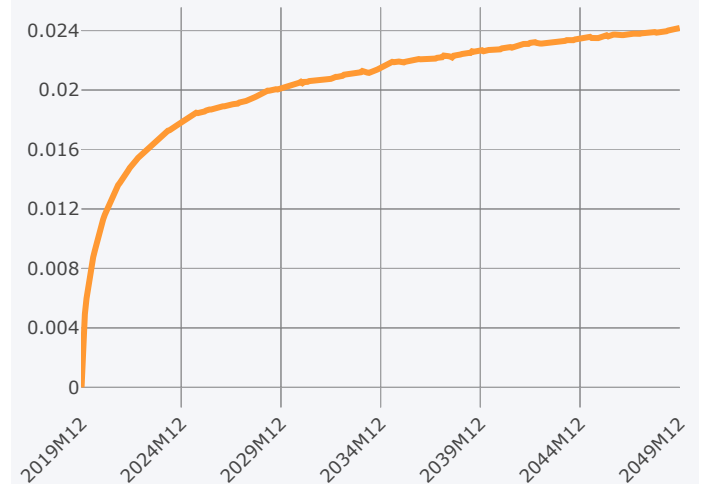
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

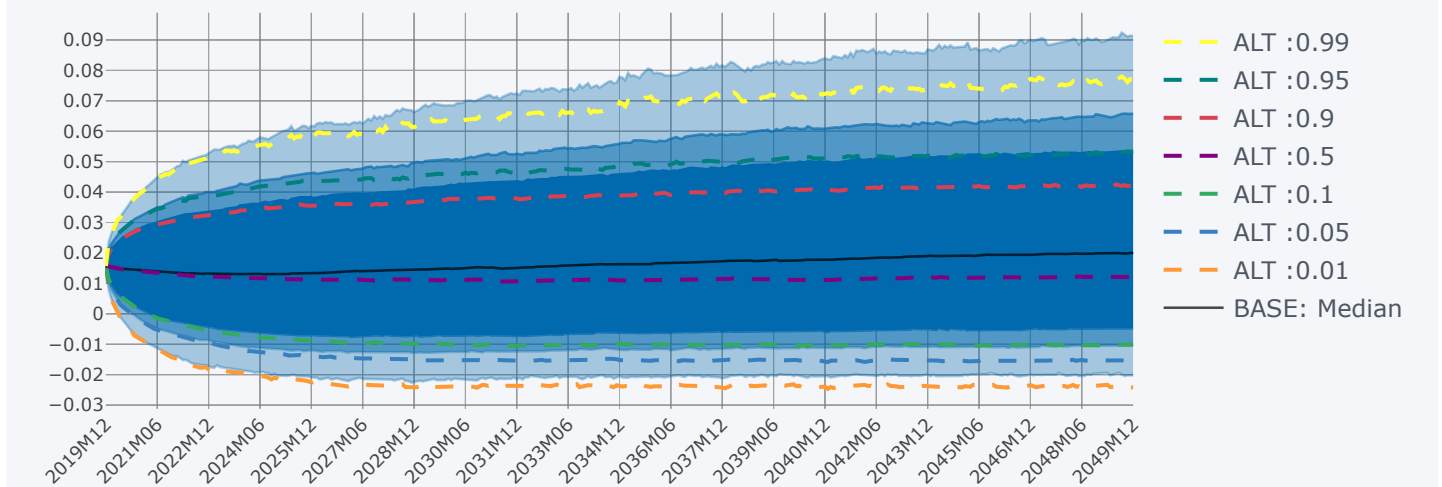
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0141	0.0218	0.0139	0.0137
std	0.0109	0.0242	0.0109	0.0219
min	-0.0229	-0.0438	-0.0231	-0.0452
1%	-0.0101	-0.0225	-0.0103	-0.0266
5%	-0.0033	-0.0124	-0.0036	-0.0171
10%	0.0004	-0.0065	0.0002	-0.0119
50%	0.0139	0.0192	0.0136	0.0113
90%	0.0284	0.0533	0.028	0.0422
95%	0.0325	0.0657	0.0322	0.0535
99%	0.0407	0.0916	0.0403	0.0775
max	0.0661	0.1691	0.0658	0.1504

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 1 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

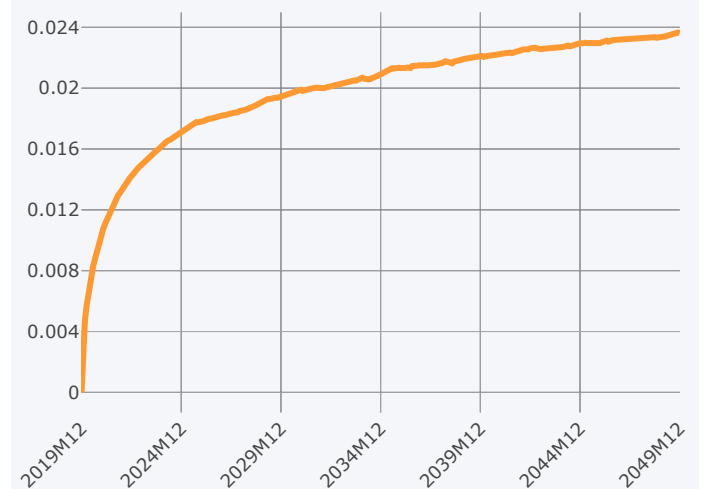
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

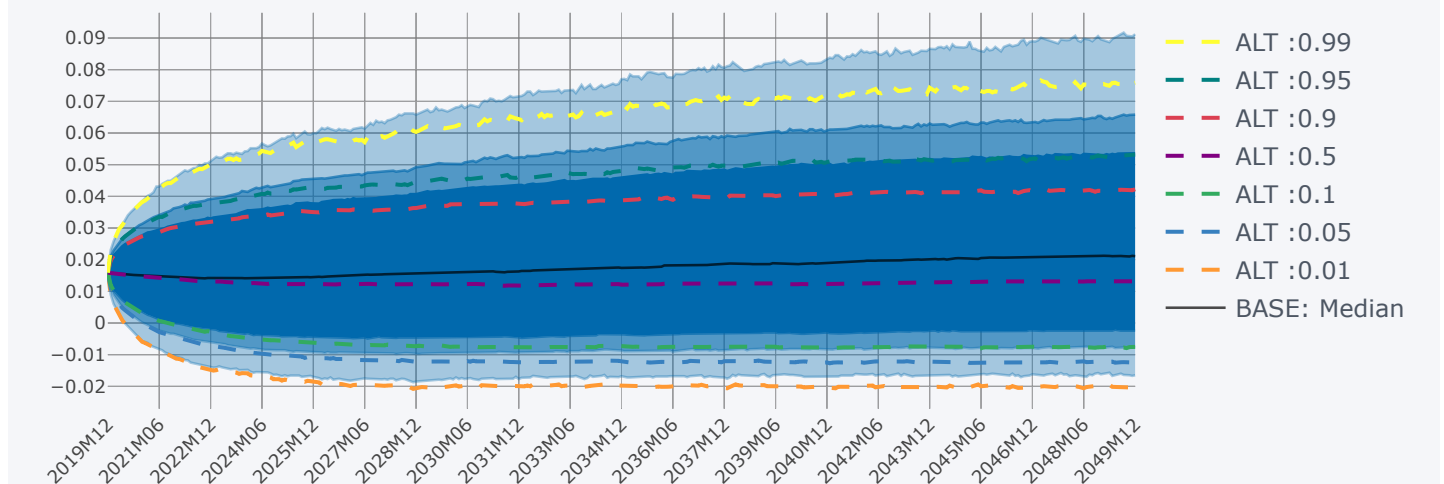
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0146	0.0227	0.0143	0.0145
std	0.0104	0.0236	0.0104	0.0213
min	-0.0211	-0.041	-0.0213	-0.0424
1%	-0.0083	-0.0202	-0.0086	-0.0242
5%	-0.0019	-0.0105	-0.0022	-0.0153
10%	0.0016	-0.0048	0.0013	-0.0101
50%	0.0144	0.02	0.0141	0.0121
90%	0.0281	0.0535	0.0278	0.0421
95%	0.0322	0.0658	0.0319	0.0534
99%	0.0401	0.0913	0.0397	0.077
max	0.0644	0.1698	0.064	0.151

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 2 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

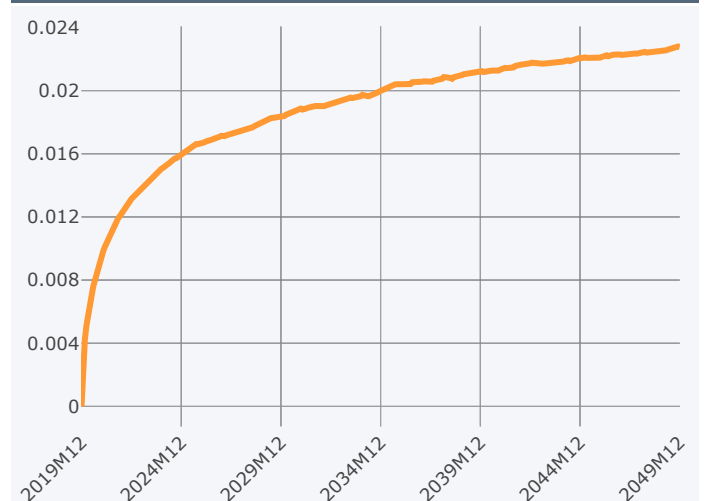
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

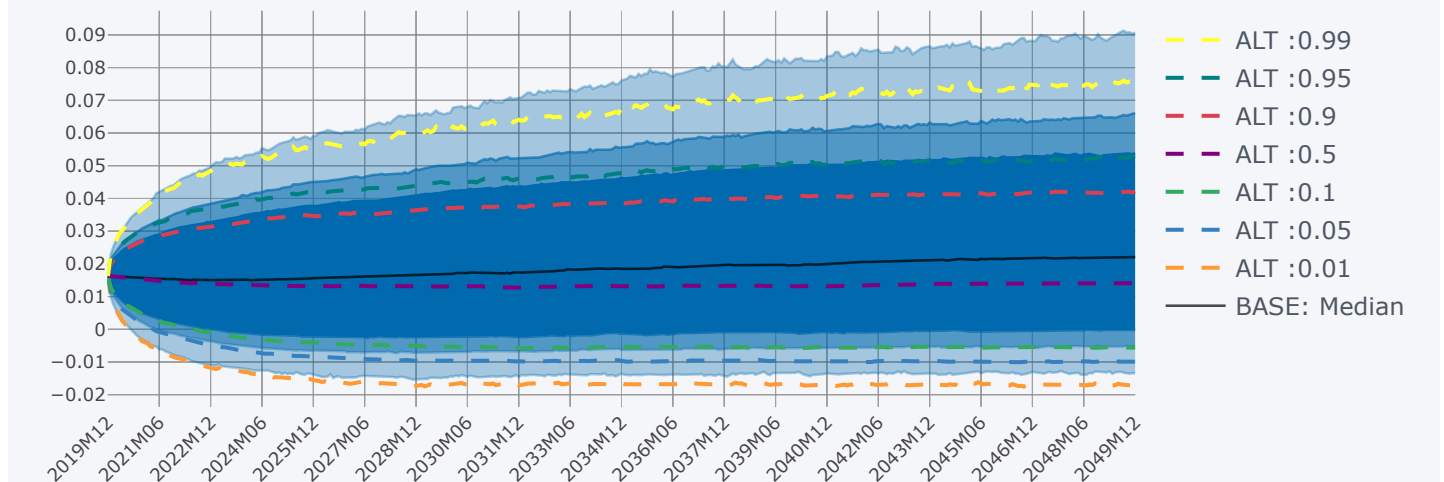
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0154	0.024	0.015	0.0157
std	0.0095	0.0228	0.0095	0.0203
min	-0.0177	-0.0356	-0.0179	-0.0371
1%	-0.0057	-0.0165	-0.0059	-0.0204
5%	0.0002	-0.0077	0	-0.0125
10%	0.0034	-0.0024	0.0031	-0.0075
50%	0.0152	0.0211	0.0148	0.0132
90%	0.0278	0.0536	0.0274	0.0422
95%	0.0313	0.0658	0.031	0.0532
99%	0.0386	0.0912	0.0382	0.0759
max	0.0609	0.1699	0.0606	0.1509

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 3 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

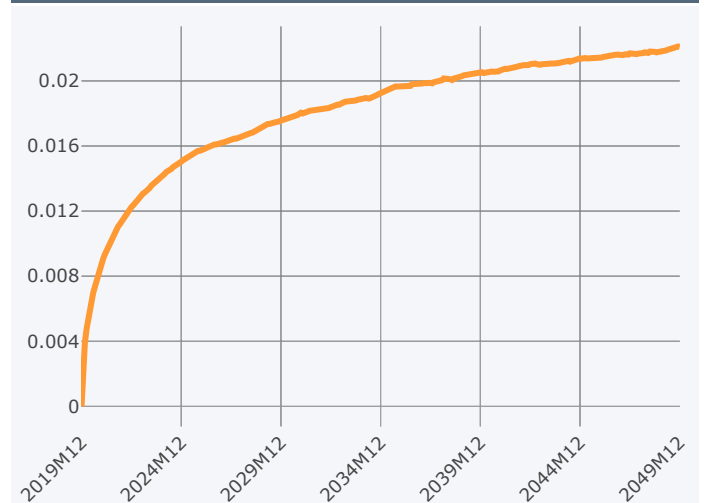
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

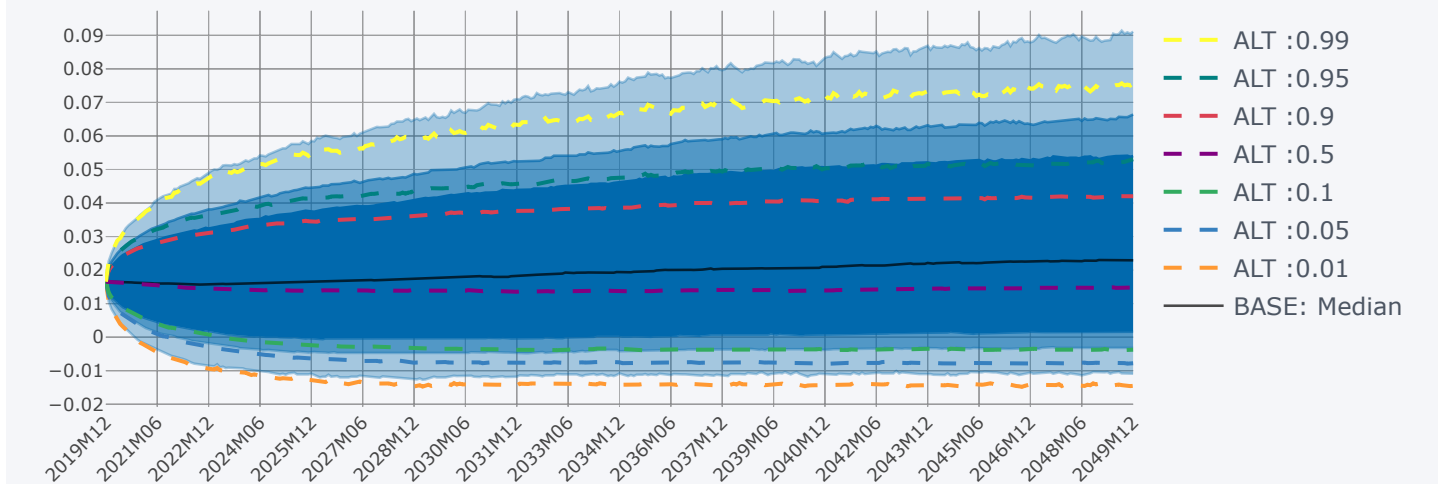
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.016	0.0251	0.0156	0.0167
std	0.0088	0.0221	0.0087	0.0196
min	-0.0147	-0.0309	-0.015	-0.0325
1%	-0.0033	-0.0135	-0.0036	-0.0173
5%	0.0021	-0.0052	0.0018	-0.0099
10%	0.0049	-0.0002	0.0046	-0.0056
50%	0.0158	0.0221	0.0154	0.0141
90%	0.0273	0.0538	0.027	0.0421
95%	0.0308	0.0661	0.0304	0.053
99%	0.0373	0.0907	0.0369	0.0757
max	0.058	0.1697	0.0576	0.1506

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 4 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

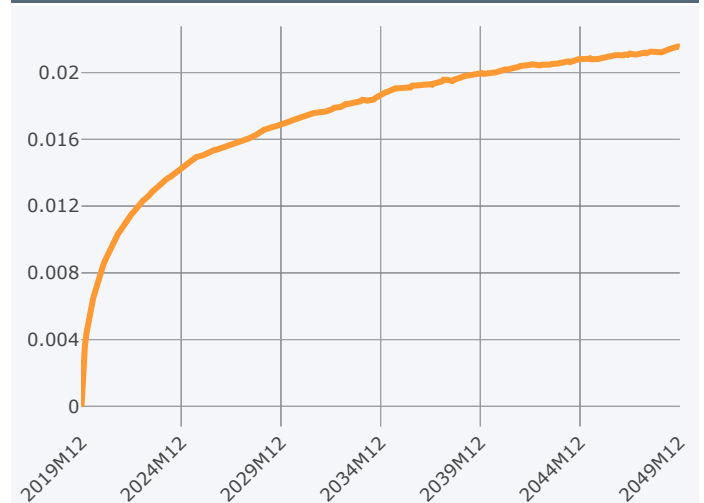
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

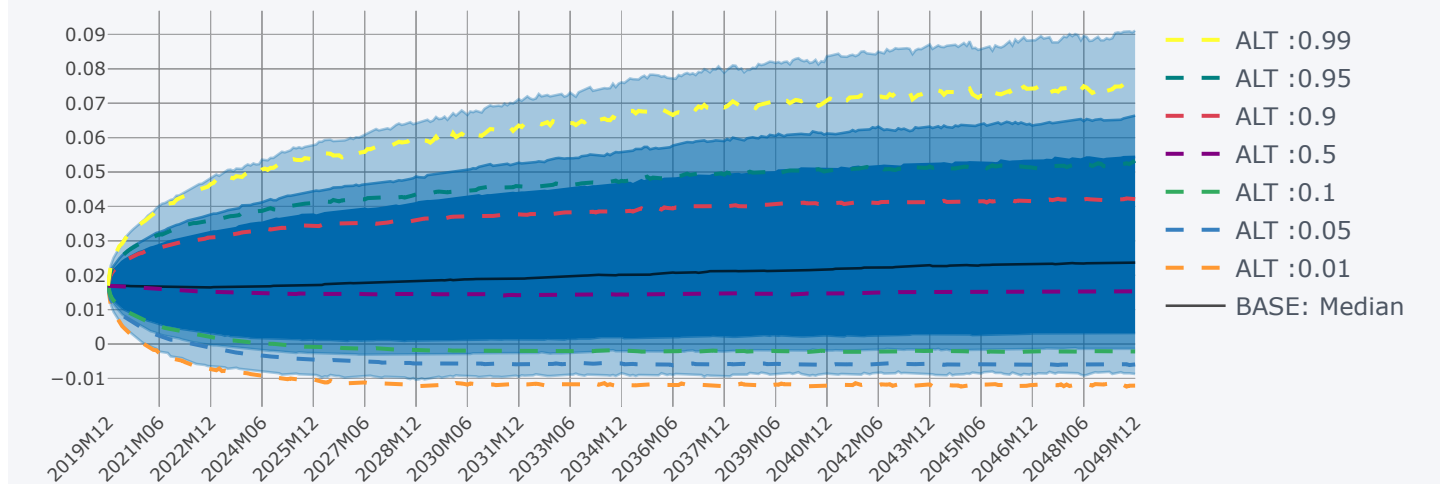
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0165	0.026	0.0161	0.0175
std	0.0082	0.0215	0.0081	0.0189
min	-0.0121	-0.0269	-0.0124	-0.0285
1%	-0.0013	-0.0109	-0.0017	-0.0145
5%	0.0037	-0.0032	0.0034	-0.0078
10%	0.0063	0.0016	0.0059	-0.0037
50%	0.0163	0.0229	0.0159	0.0147
90%	0.0271	0.054	0.0267	0.042
95%	0.0303	0.0664	0.0299	0.053
99%	0.0364	0.0911	0.0359	0.0757
max	0.0556	0.1695	0.0551	0.1503

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 5 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

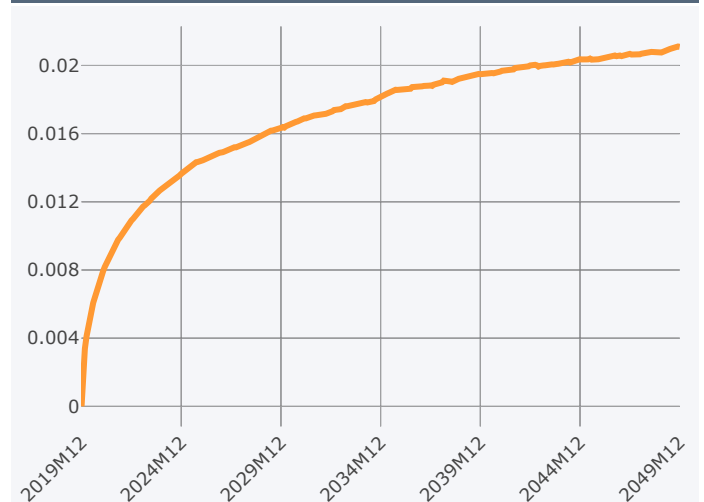
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

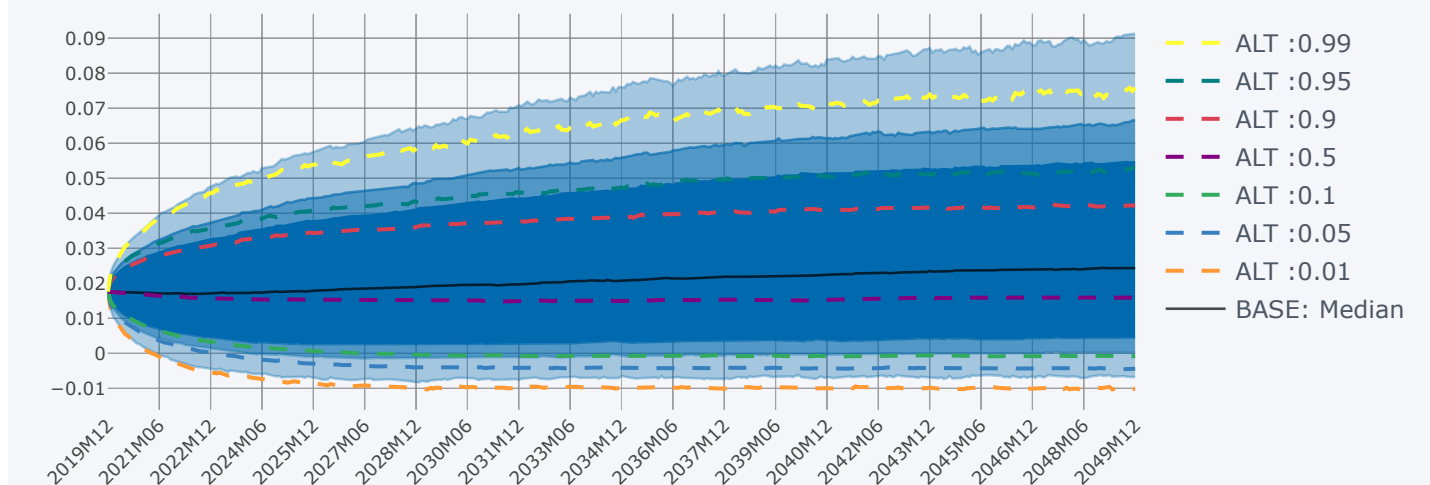
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0171	0.0268	0.0166	0.0183
std	0.0077	0.0211	0.0076	0.0184
min	-0.0098	-0.0233	-0.0101	-0.025
1%	0.0005	-0.0087	0.0001	-0.0121
5%	0.005	-0.0014	0.0046	-0.0059
10%	0.0074	0.0032	0.007	-0.0022
50%	0.0168	0.0237	0.0164	0.0153
90%	0.0269	0.0544	0.0265	0.0421
95%	0.03	0.0664	0.0295	0.0533
99%	0.0357	0.0911	0.0353	0.0762
max	0.0535	0.1692	0.0531	0.1499

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 6 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

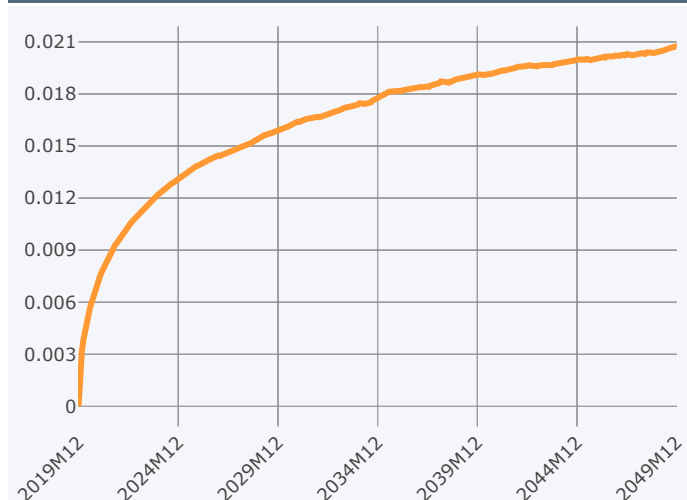
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

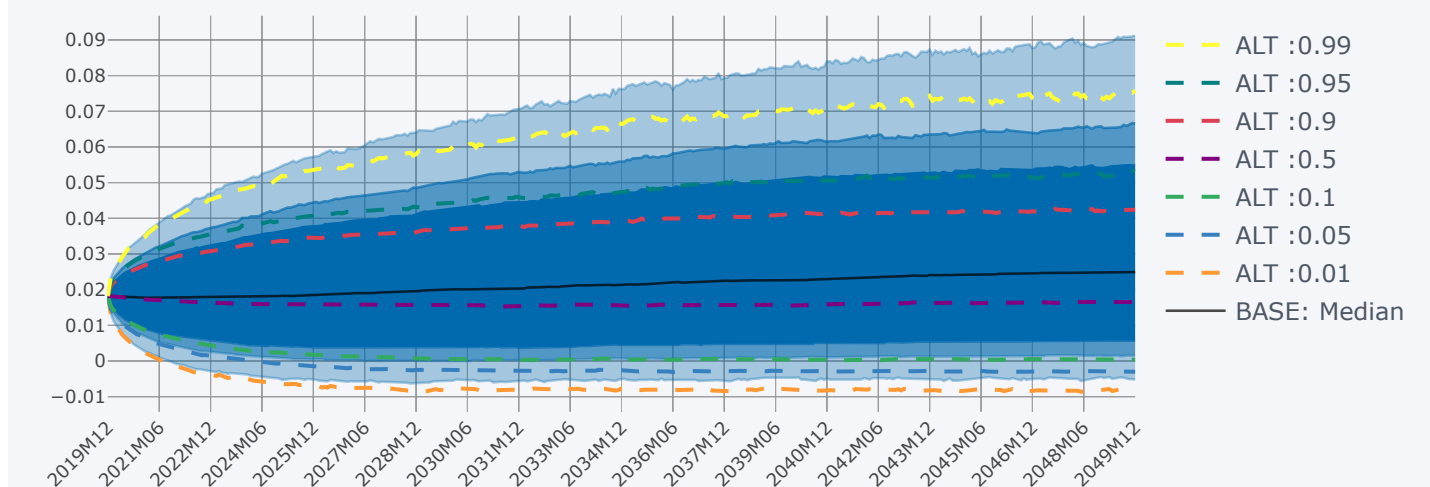
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0176	0.0276	0.0171	0.019
std	0.0073	0.0207	0.0072	0.018
min	-0.0077	-0.0202	-0.008	-0.0219
1%	0.0019	-0.0068	0.0016	-0.0101
5%	0.0061	0.0002	0.0058	-0.0044
10%	0.0084	0.0045	0.008	-0.0008
50%	0.0173	0.0243	0.0169	0.0159
90%	0.0269	0.0545	0.0265	0.0422
95%	0.0298	0.0666	0.0293	0.053
99%	0.0351	0.0913	0.0346	0.0759
max	0.0518	0.1689	0.0513	0.1496

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 7 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

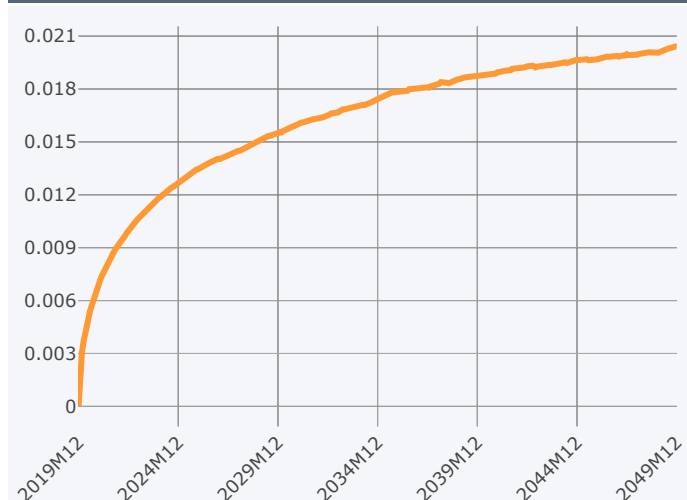
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

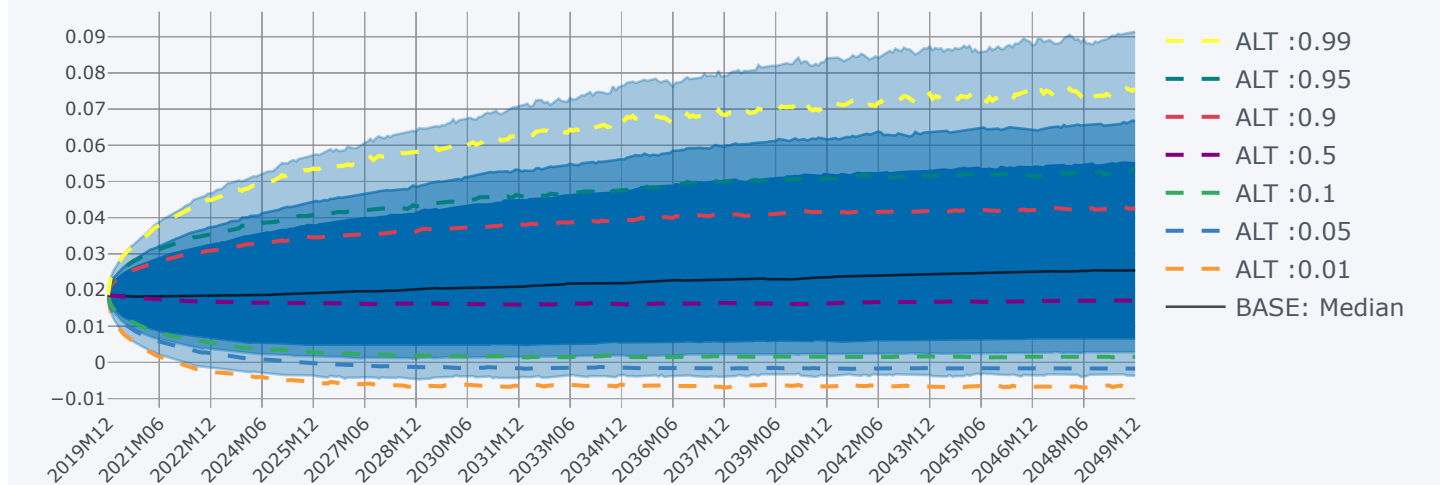
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.018	0.0282	0.0176	0.0196
std	0.0069	0.0204	0.0069	0.0176
min	-0.0059	-0.0174	-0.0062	-0.0192
1%	0.0032	-0.0052	0.0028	-0.0082
5%	0.0072	0.0015	0.0068	-0.003
10%	0.0093	0.0057	0.0089	0.0004
50%	0.0178	0.0249	0.0173	0.0165
90%	0.027	0.0548	0.0265	0.0424
95%	0.0297	0.0666	0.0292	0.0532
99%	0.0348	0.0912	0.0343	0.0758
max	0.0504	0.1686	0.0499	0.1493

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 8 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

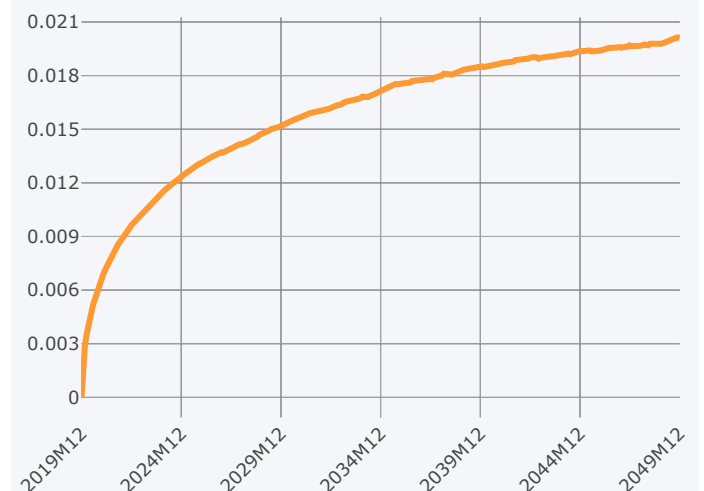
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

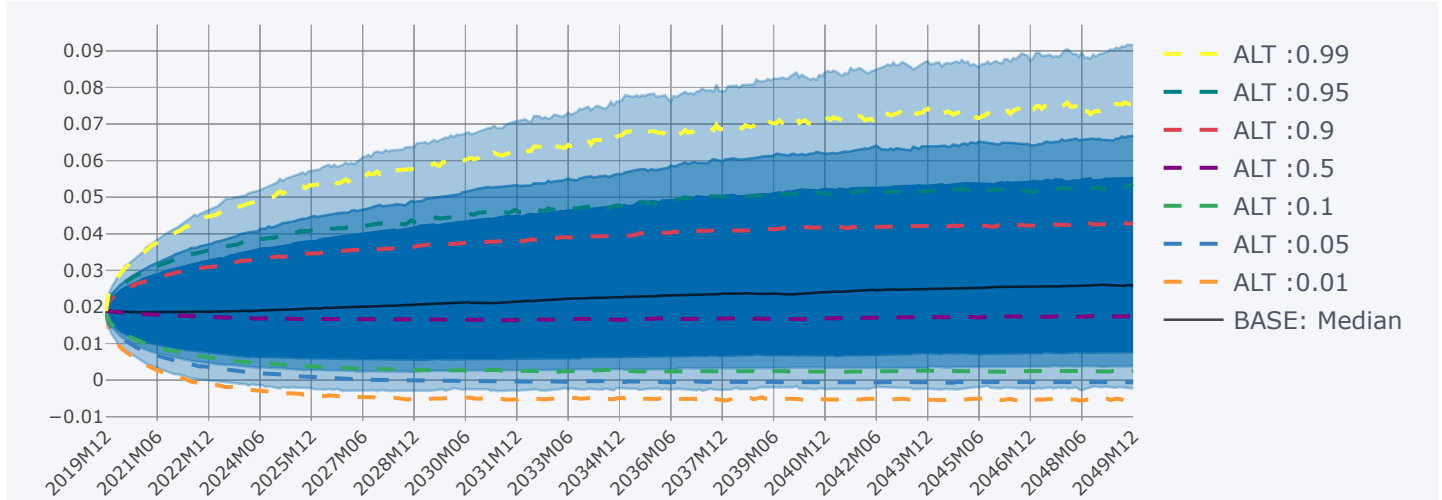
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0184	0.0289	0.018	0.0202
std	0.0066	0.0201	0.0066	0.0173
min	-0.0043	-0.015	-0.0046	-0.0168
1%	0.0044	-0.0037	0.0039	-0.0066
5%	0.0081	0.0028	0.0076	-0.0017
10%	0.0101	0.0066	0.0097	0.0015
50%	0.0182	0.0254	0.0177	0.0171
90%	0.027	0.055	0.0265	0.0426
95%	0.0297	0.0667	0.0292	0.0532
99%	0.0347	0.0914	0.0341	0.0756
max	0.0492	0.1684	0.0486	0.149

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 9 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

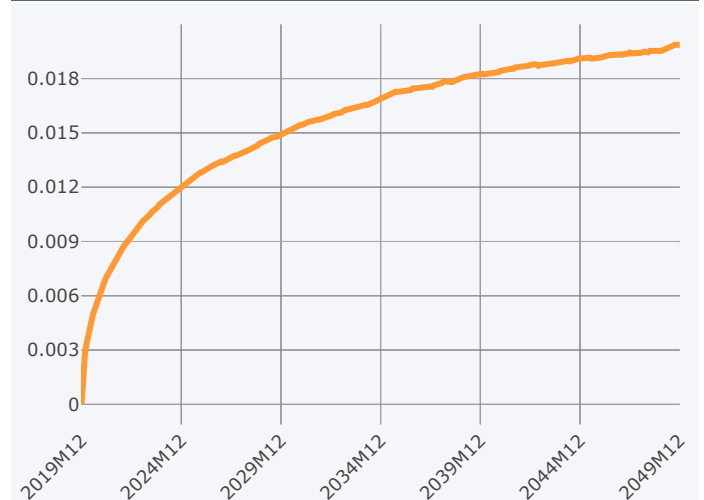
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

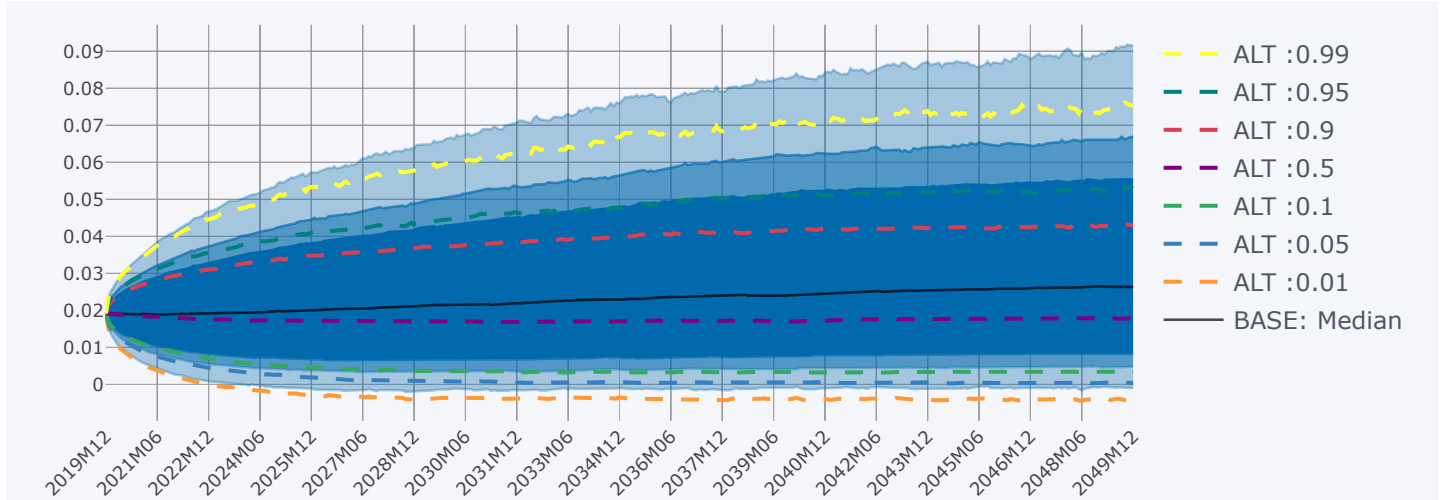
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0189	0.0294	0.0184	0.0207
std	0.0064	0.0199	0.0063	0.0171
min	-0.0029	-0.0128	-0.0032	-0.0147
1%	0.0053	-0.0023	0.0049	-0.0052
5%	0.0089	0.0038	0.0085	-0.0006
10%	0.0109	0.0076	0.0104	0.0026
50%	0.0186	0.0259	0.0181	0.0175
90%	0.0272	0.0552	0.0266	0.0428
95%	0.0297	0.0668	0.0292	0.0535
99%	0.0347	0.0916	0.0342	0.0758
max	0.0481	0.1681	0.0476	0.1487

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 10 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

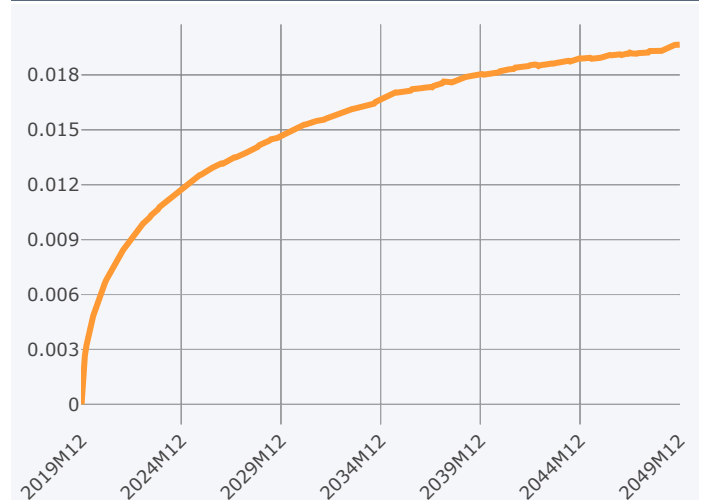
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

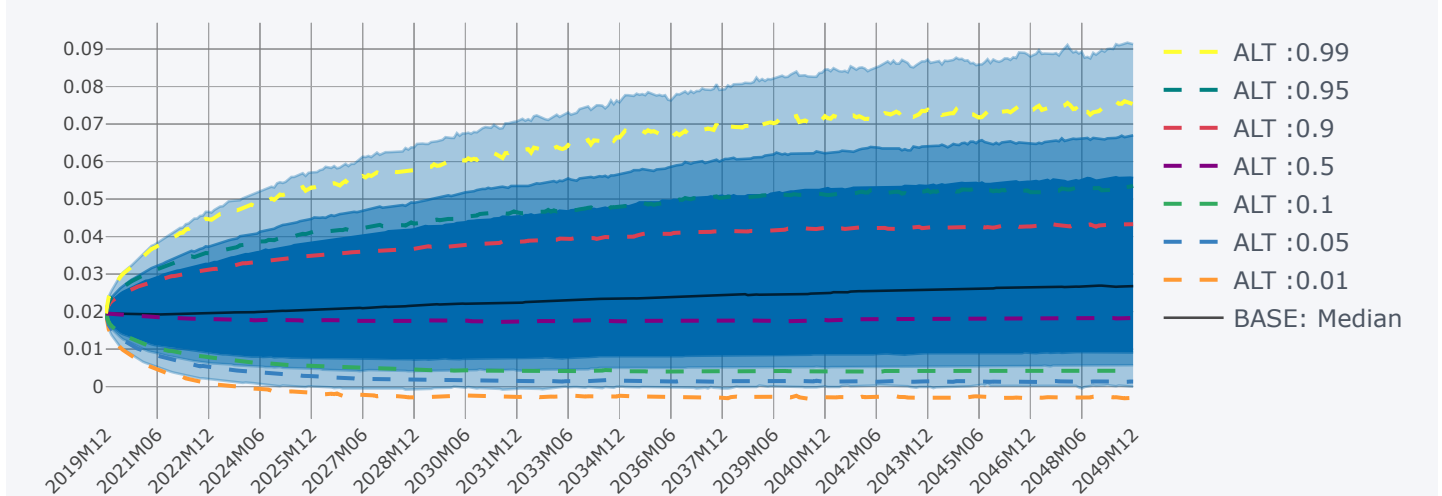
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0192	0.0299	0.0188	0.0212
std	0.0062	0.0196	0.0061	0.0168
min	-0.0016	-0.0109	-0.0019	-0.0127
1%	0.0062	-0.001	0.0058	-0.0041
5%	0.0097	0.0048	0.0092	0.0004
10%	0.0115	0.0083	0.0111	0.0034
50%	0.0189	0.0263	0.0185	0.0179
90%	0.0273	0.0554	0.0268	0.0431
95%	0.0297	0.0669	0.0292	0.0536
99%	0.0346	0.0915	0.034	0.0755
max	0.0473	0.1678	0.0467	0.1484

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 11 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

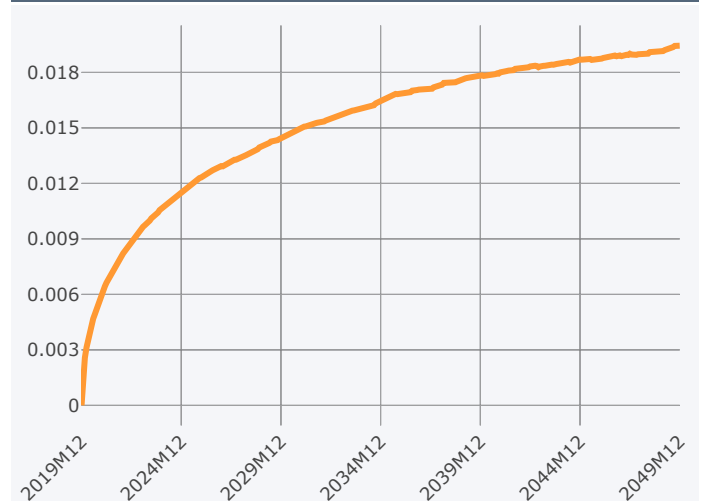
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

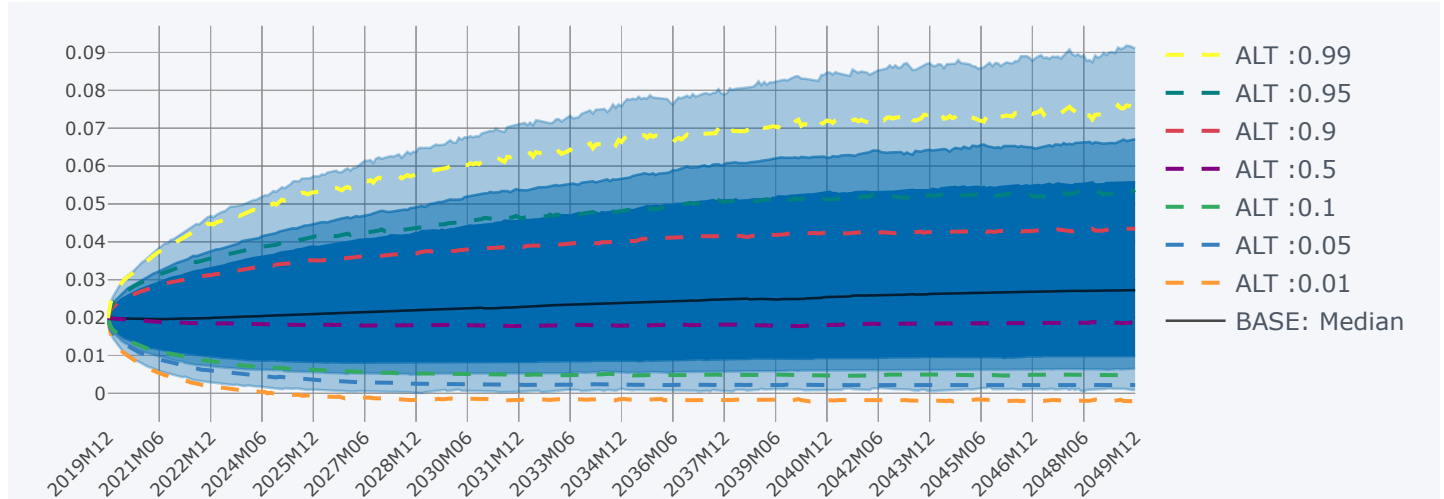
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0196	0.0303	0.0191	0.0216
std	0.006	0.0194	0.0059	0.0166
min	-0.0004	-0.0092	-0.0007	-0.011
1%	0.0071	0	0.0066	-0.003
5%	0.0103	0.0057	0.0099	0.0013
10%	0.0122	0.0091	0.0117	0.0042
50%	0.0193	0.0268	0.0188	0.0183
90%	0.0274	0.0556	0.0269	0.0433
95%	0.0298	0.067	0.0293	0.0535
99%	0.0346	0.0913	0.034	0.0753
max	0.0465	0.1675	0.046	0.1481

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 12 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

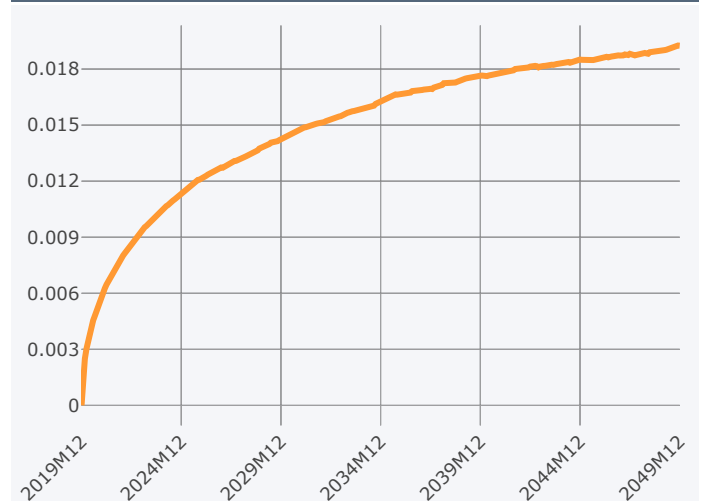
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

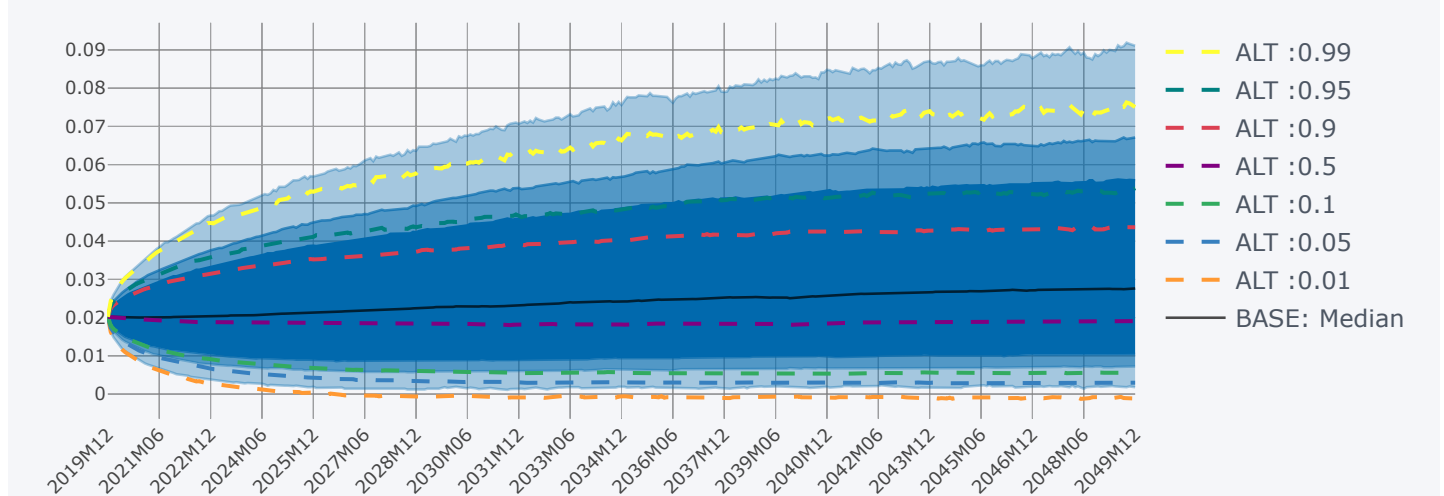
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.02	0.0308	0.0195	0.0221
std	0.0058	0.0193	0.0058	0.0164
min	0.0007	-0.0076	0.0003	-0.0095
1%	0.0078	0.0009	0.0074	-0.0021
5%	0.011	0.0065	0.0105	0.0022
10%	0.0127	0.0098	0.0123	0.0049
50%	0.0197	0.0272	0.0192	0.0187
90%	0.0276	0.0557	0.027	0.0435
95%	0.03	0.0671	0.0294	0.0537
99%	0.0346	0.0911	0.0341	0.0752
max	0.0459	0.1673	0.0453	0.1478

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 13 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

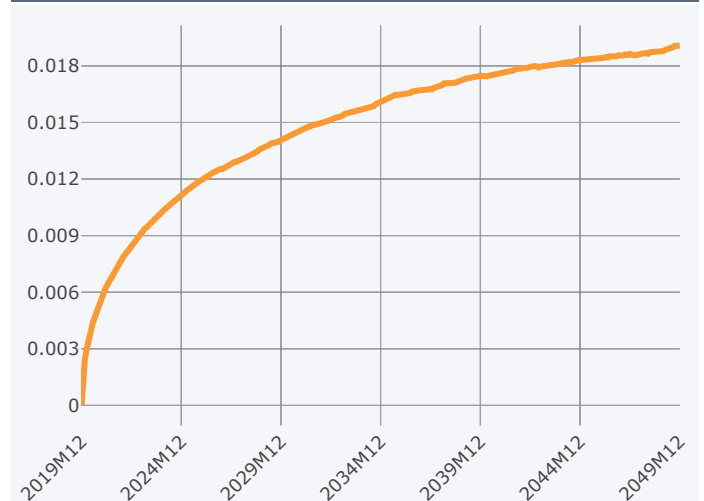
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

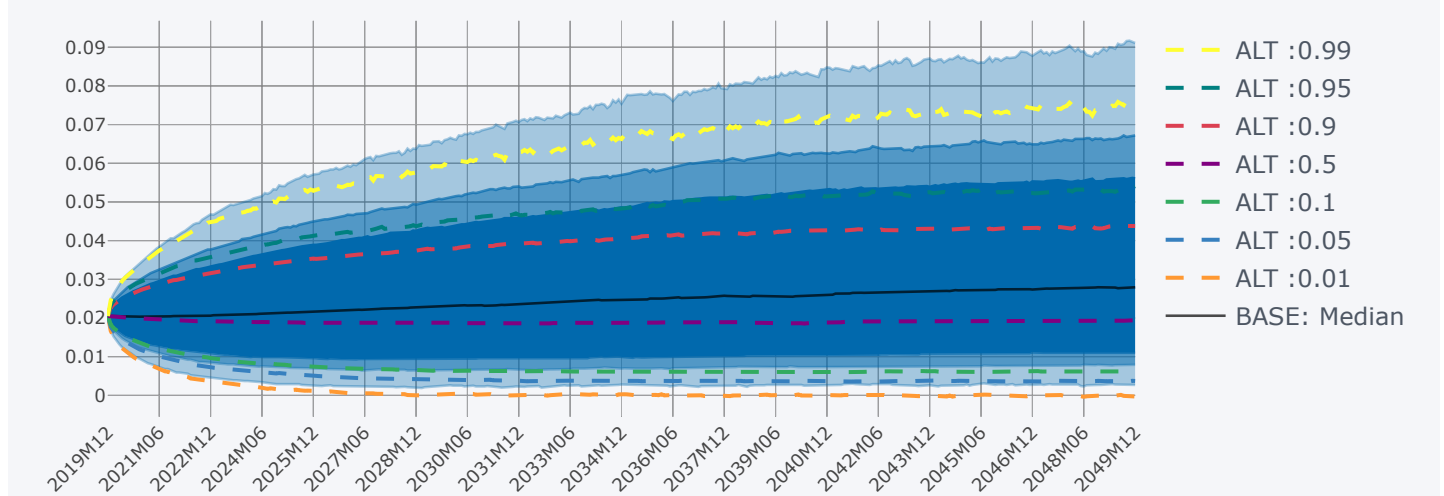
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0203	0.0311	0.0198	0.0225
std	0.0057	0.0191	0.0056	0.0163
min	0.0017	-0.0062	0.0013	-0.0081
1%	0.0085	0.0018	0.0081	-0.0012
5%	0.0115	0.0072	0.0111	0.003
10%	0.0132	0.0105	0.0128	0.0056
50%	0.02	0.0276	0.0195	0.0191
90%	0.0277	0.0559	0.0272	0.0436
95%	0.0301	0.0671	0.0296	0.0539
99%	0.0347	0.0911	0.0341	0.0751
max	0.0454	0.167	0.0448	0.1476

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 14 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

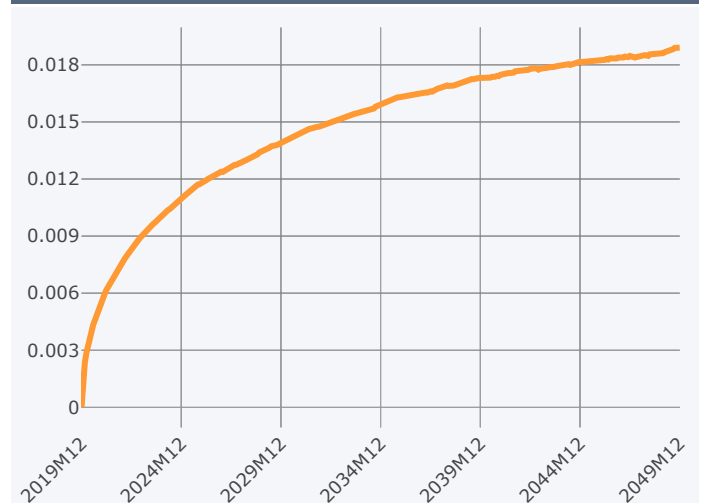
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

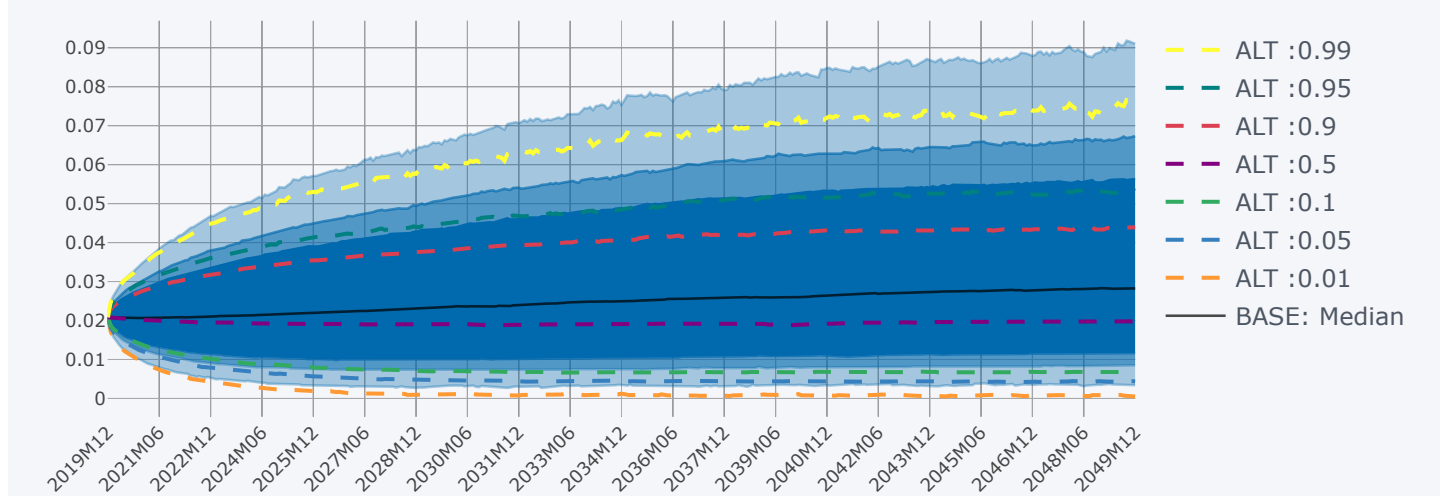
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0207	0.0315	0.0201	0.0229
std	0.0056	0.0189	0.0055	0.0161
min	0.0026	-0.0049	0.0022	-0.0068
1%	0.009	0.0027	0.0087	-0.0003
5%	0.0121	0.0079	0.0116	0.0037
10%	0.0137	0.011	0.0133	0.0062
50%	0.0203	0.0279	0.0198	0.0194
90%	0.0279	0.0561	0.0274	0.0438
95%	0.0302	0.0672	0.0297	0.054
99%	0.0347	0.0911	0.0342	0.0752
max	0.0449	0.1667	0.0443	0.1473

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 15 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

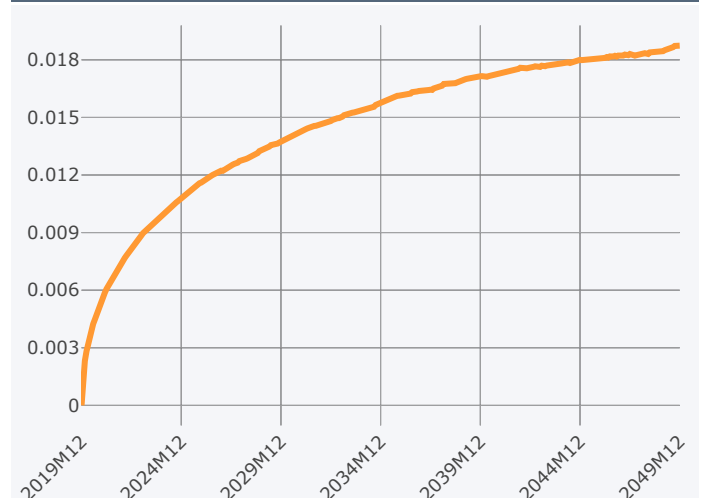
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

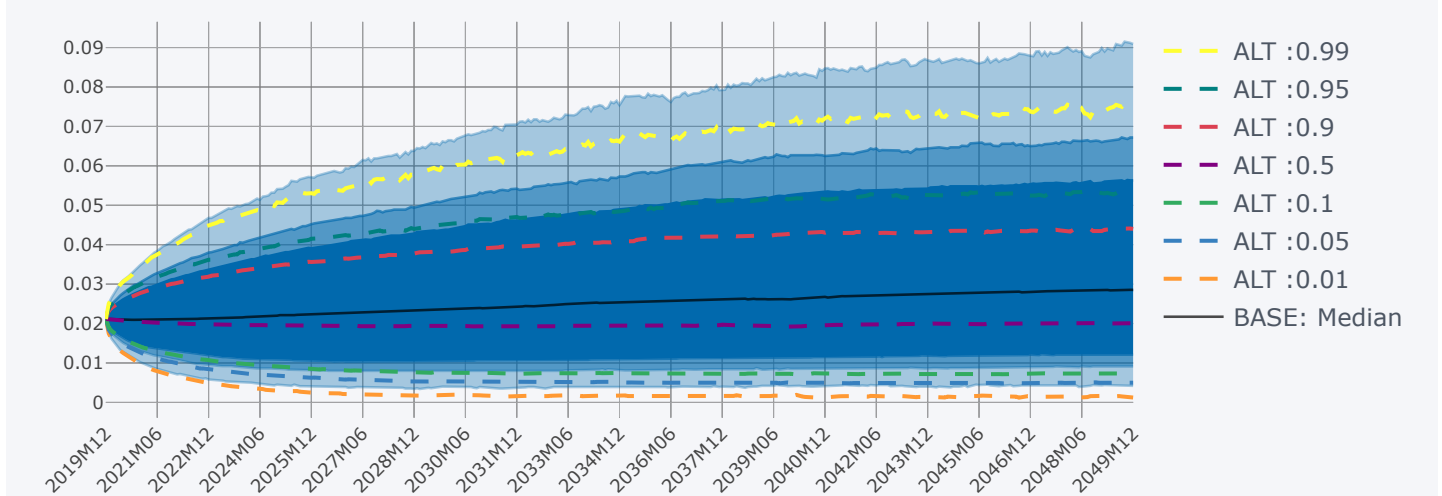
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.021	0.0318	0.0205	0.0232
std	0.0054	0.0187	0.0054	0.0159
min	0.0034	-0.0038	0.0031	-0.0056
1%	0.0096	0.0034	0.0092	0.0005
5%	0.0126	0.0085	0.0121	0.0044
10%	0.0142	0.0116	0.0137	0.0068
50%	0.0206	0.0282	0.0201	0.0198
90%	0.0281	0.0562	0.0276	0.0439
95%	0.0304	0.0673	0.0298	0.0539
99%	0.0347	0.091	0.0342	0.0752
max	0.0445	0.1665	0.0439	0.147

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 16 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

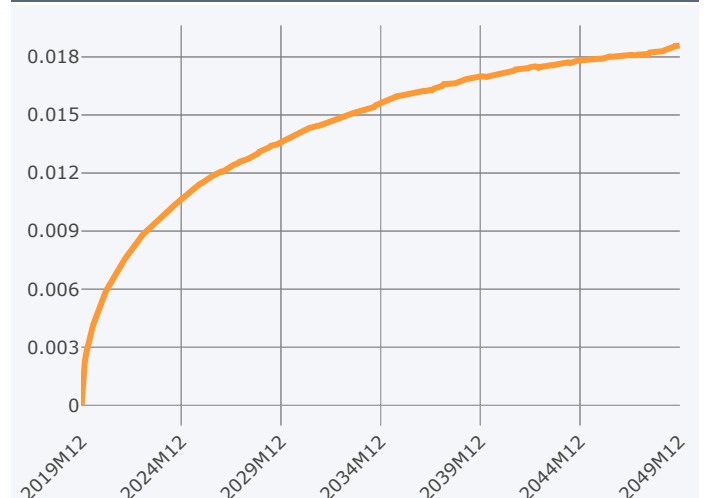
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

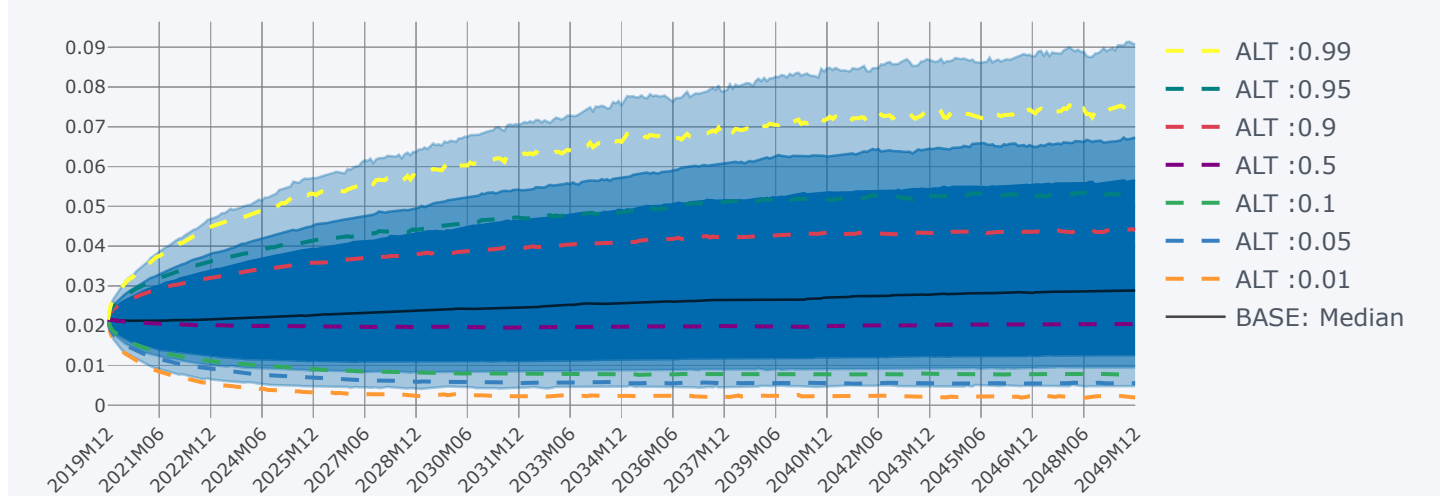
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0213	0.0321	0.0208	0.0235
std	0.0053	0.0186	0.0053	0.0158
min	0.0042	-0.0027	0.0039	-0.0045
1%	0.0102	0.0042	0.0098	0.0012
5%	0.013	0.0091	0.0126	0.005
10%	0.0146	0.0121	0.0142	0.0073
50%	0.0209	0.0285	0.0204	0.0201
90%	0.0283	0.0563	0.0277	0.044
95%	0.0305	0.0672	0.03	0.0539
99%	0.0348	0.0909	0.0342	0.0752
max	0.0446	0.1662	0.044	0.1468

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 17 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

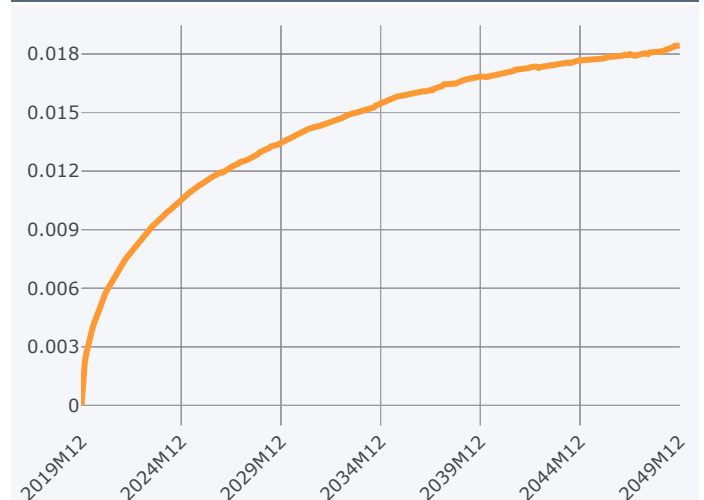
Percentiles Plotted : 1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

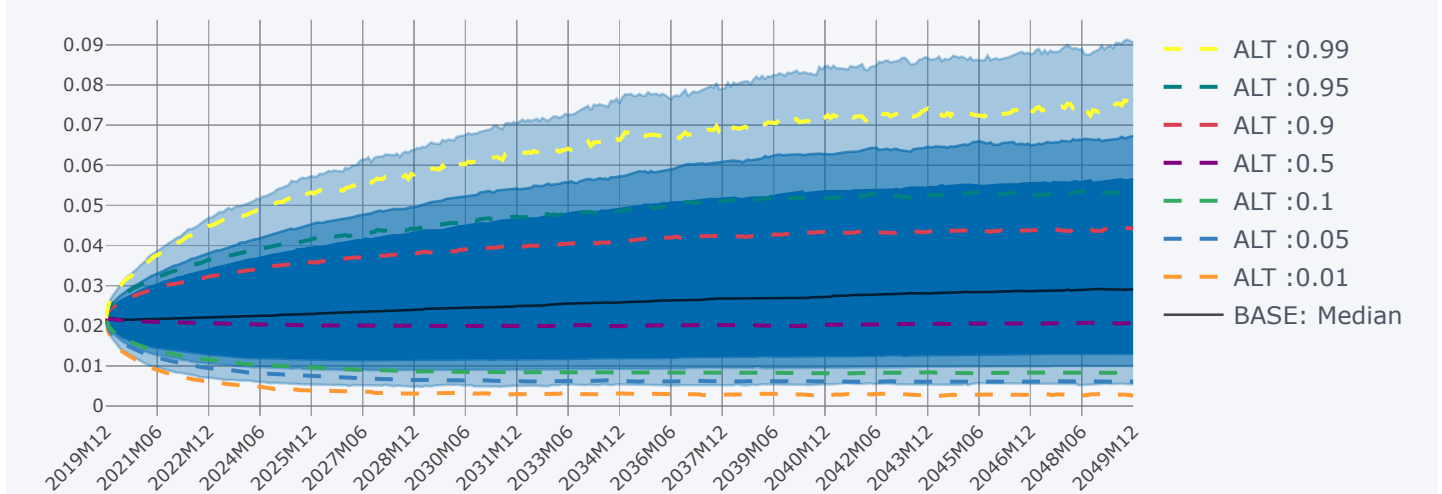
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT : 2020M12	ALT : 2049M12
mean	0.0216	0.0324	0.0211	0.0239
std	0.0053	0.0184	0.0052	0.0156
min	0.005	-0.0017	0.0046	-0.0035
1%	0.0107	0.0048	0.0102	0.0019
5%	0.0135	0.0095	0.013	0.0056
10%	0.015	0.0126	0.0146	0.0078
50%	0.0212	0.0288	0.0207	0.0204
90%	0.0285	0.0564	0.0279	0.0441
95%	0.0307	0.0673	0.0301	0.054
99%	0.0349	0.0907	0.0343	0.0751
max	0.0448	0.166	0.0441	0.1465

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 18 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

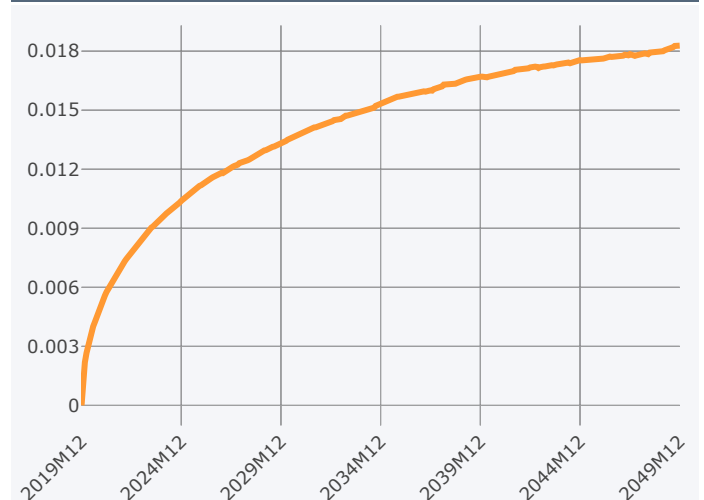
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

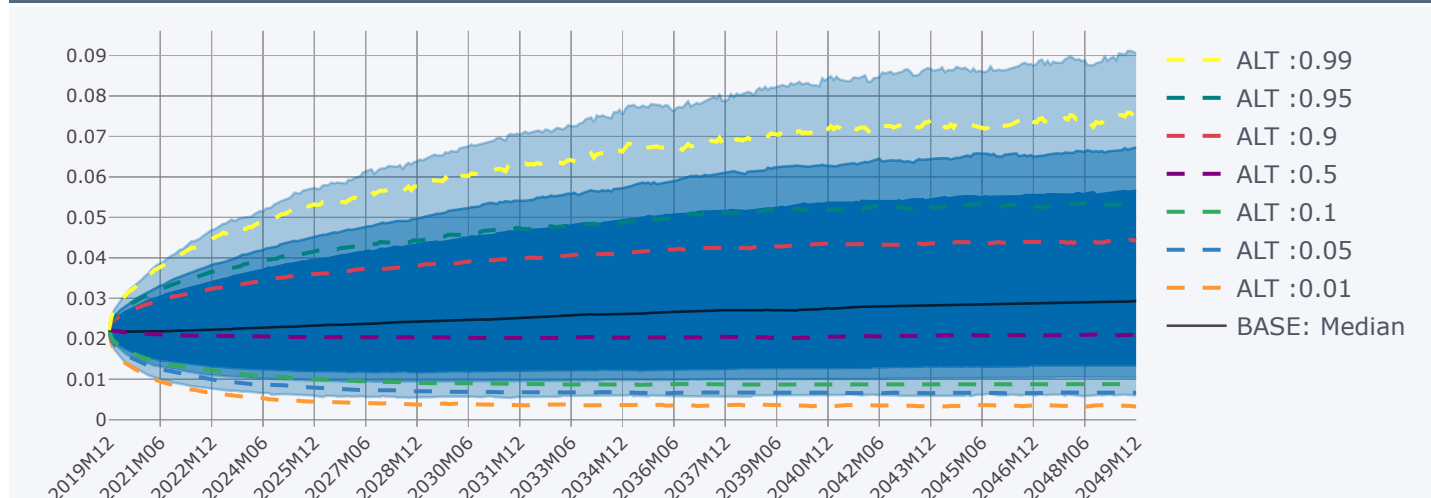
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0218	0.0326	0.0213	0.0242
std	0.0052	0.0183	0.0051	0.0155
min	0.0056	-0.0008	0.0053	-0.0026
1%	0.0112	0.0054	0.0107	0.0026
5%	0.0139	0.01	0.0135	0.0061
10%	0.0154	0.013	0.015	0.0083
50%	0.0215	0.0291	0.021	0.0207
90%	0.0286	0.0565	0.0281	0.0442
95%	0.0308	0.0673	0.0302	0.0539
99%	0.035	0.0906	0.0343	0.0751
max	0.0449	0.1657	0.0442	0.1463

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 19 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

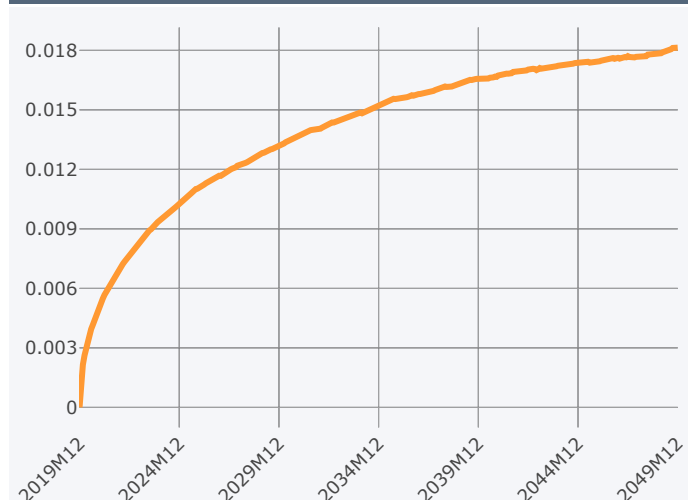
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

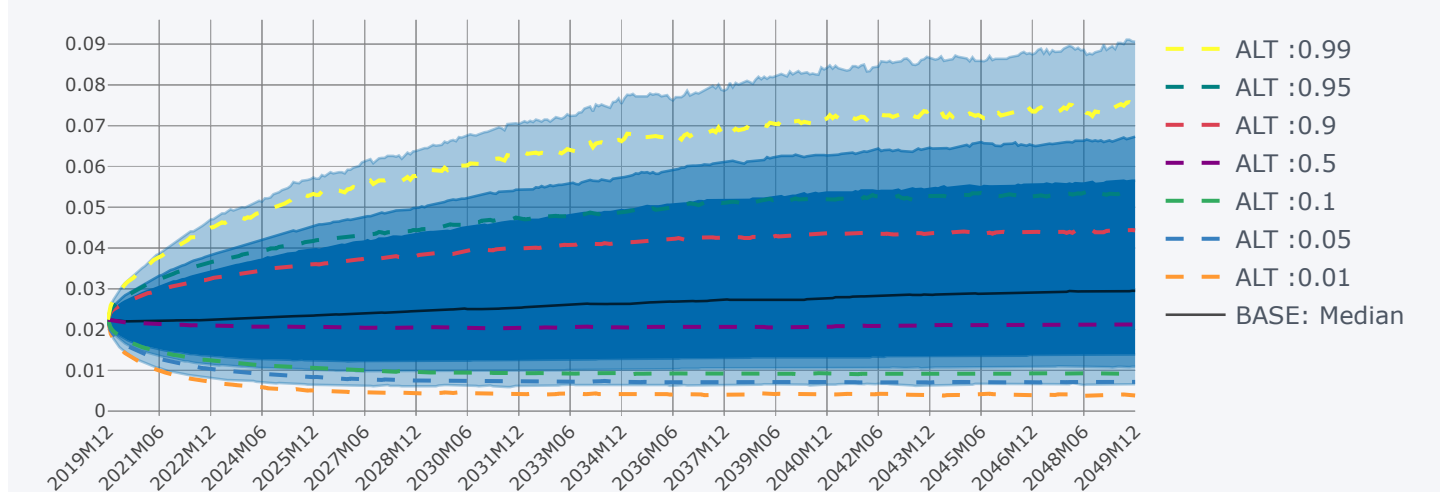
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0221	0.0328	0.0216	0.0244
std	0.0051	0.0181	0.005	0.0153
min	0.0063	0.0001	0.0059	-0.0017
1%	0.0116	0.006	0.0112	0.0033
5%	0.0143	0.0104	0.0139	0.0067
10%	0.0158	0.0134	0.0154	0.0088
50%	0.0218	0.0293	0.0212	0.021
90%	0.0288	0.0565	0.0282	0.0442
95%	0.0309	0.0673	0.0304	0.0539
99%	0.035	0.0906	0.0344	0.0752
max	0.0449	0.1655	0.0443	0.146

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 20 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

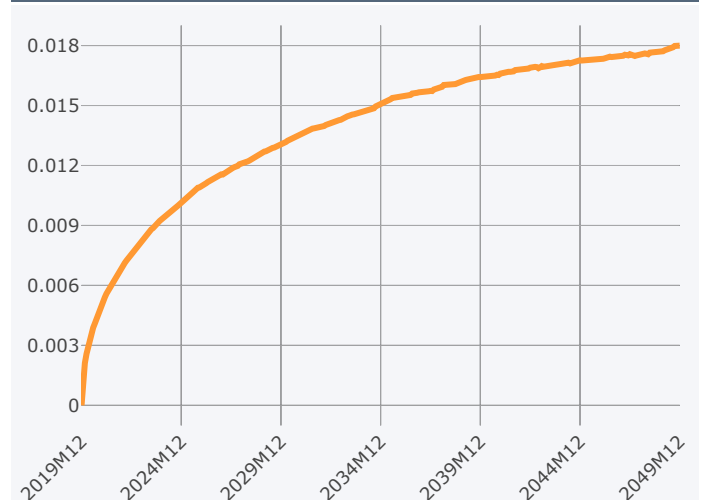
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

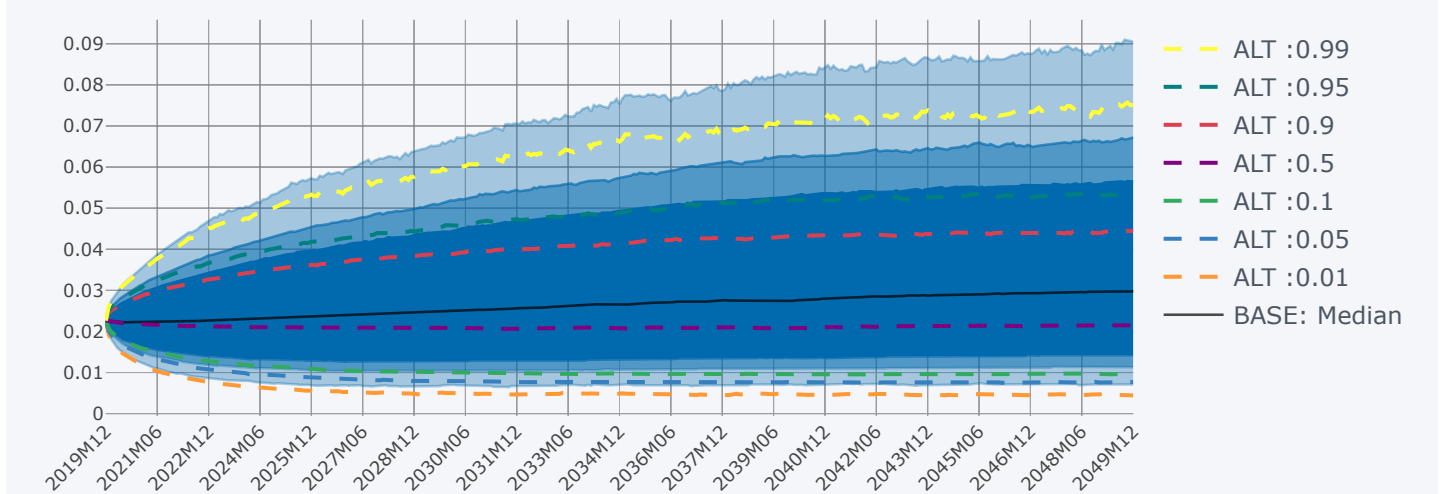
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0223	0.0331	0.0218	0.0247
std	0.005	0.018	0.005	0.0152
min	0.0069	0.0009	0.0065	-0.0009
1%	0.012	0.0066	0.0116	0.0038
5%	0.0147	0.0109	0.0142	0.0072
10%	0.0162	0.0139	0.0157	0.0092
50%	0.022	0.0295	0.0215	0.0213
90%	0.0289	0.0565	0.0284	0.0443
95%	0.0311	0.0673	0.0305	0.0539
99%	0.0351	0.0906	0.0344	0.0751
max	0.045	0.1653	0.0443	0.1458

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 21 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

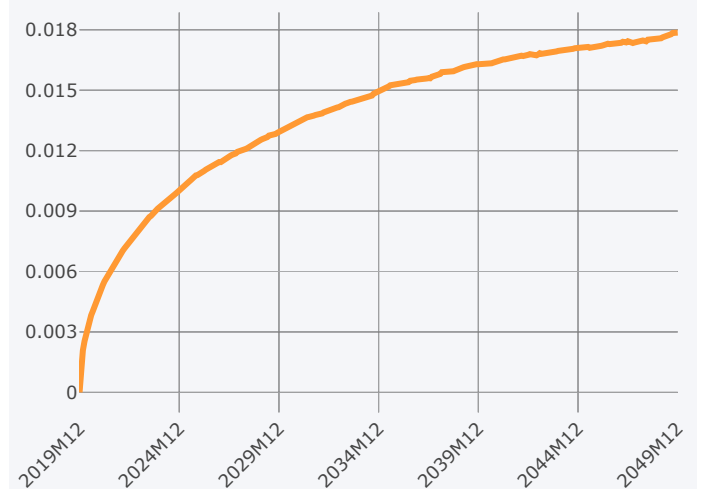
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

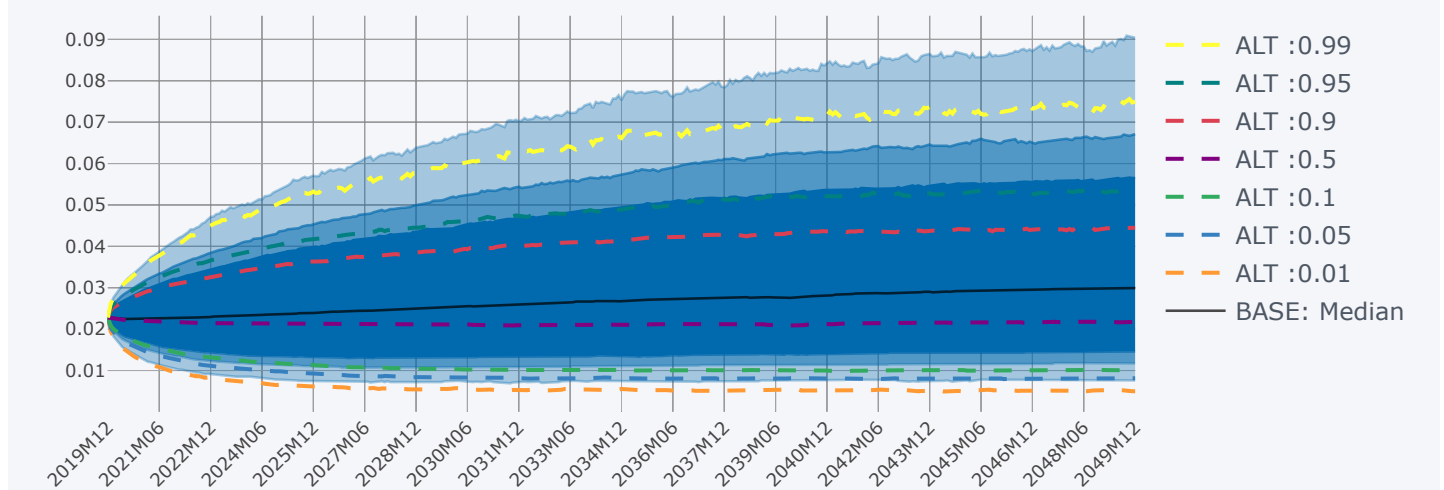
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0226	0.0333	0.0221	0.0249
std	0.0049	0.0179	0.0049	0.0151
min	0.0074	0.0016	0.0071	-0.0001
1%	0.0124	0.0071	0.012	0.0044
5%	0.015	0.0113	0.0146	0.0077
10%	0.0165	0.0142	0.016	0.0097
50%	0.0222	0.0297	0.0217	0.0215
90%	0.0291	0.0565	0.0285	0.0444
95%	0.0312	0.0672	0.0306	0.0539
99%	0.0351	0.0905	0.0345	0.0751
max	0.0451	0.1651	0.0444	0.1456

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 22 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

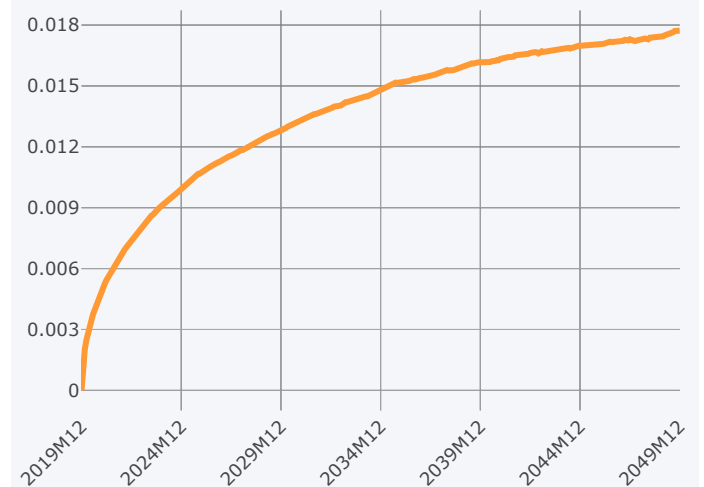
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

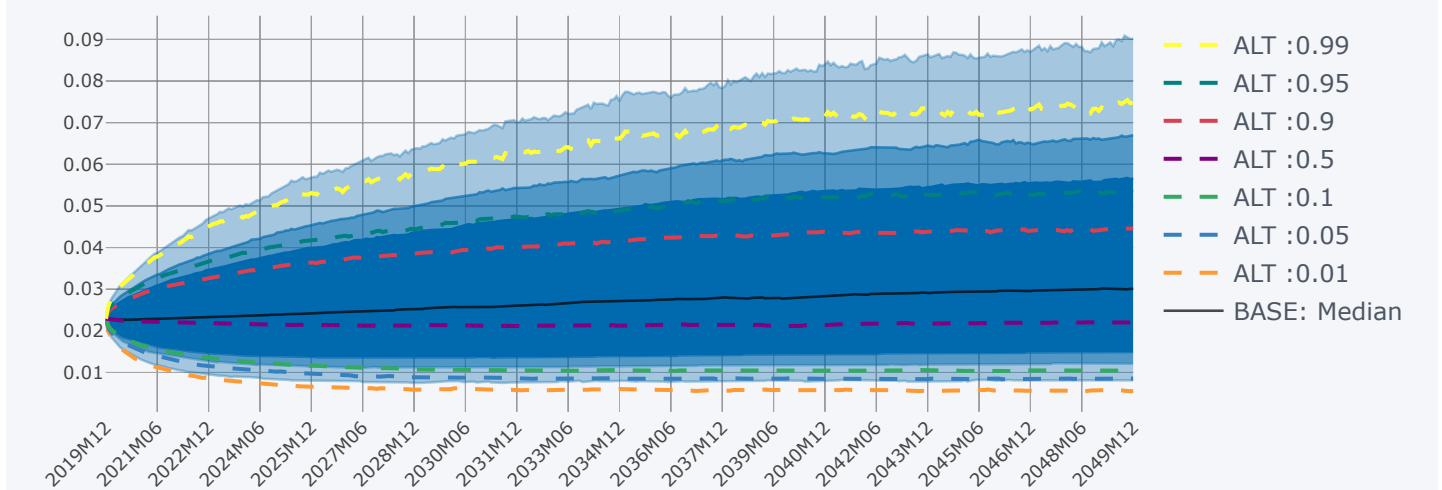
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0228	0.0334	0.0223	0.0252
std	0.0049	0.0177	0.0048	0.0149
min	0.008	0.0023	0.0076	0.0006
1%	0.0128	0.0076	0.0124	0.005
5%	0.0153	0.0117	0.0149	0.0081
10%	0.0168	0.0146	0.0163	0.0101
50%	0.0225	0.0299	0.022	0.0218
90%	0.0292	0.0565	0.0287	0.0445
95%	0.0313	0.0671	0.0307	0.0539
99%	0.0352	0.0904	0.0346	0.0749
max	0.0451	0.1649	0.0444	0.1454

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 23 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

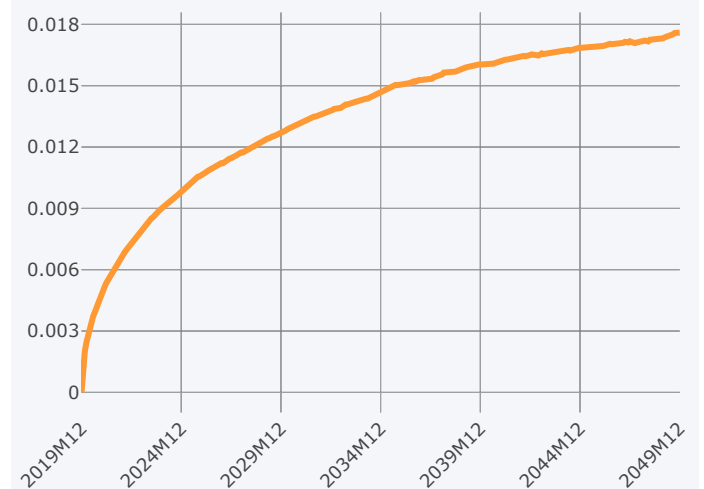
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

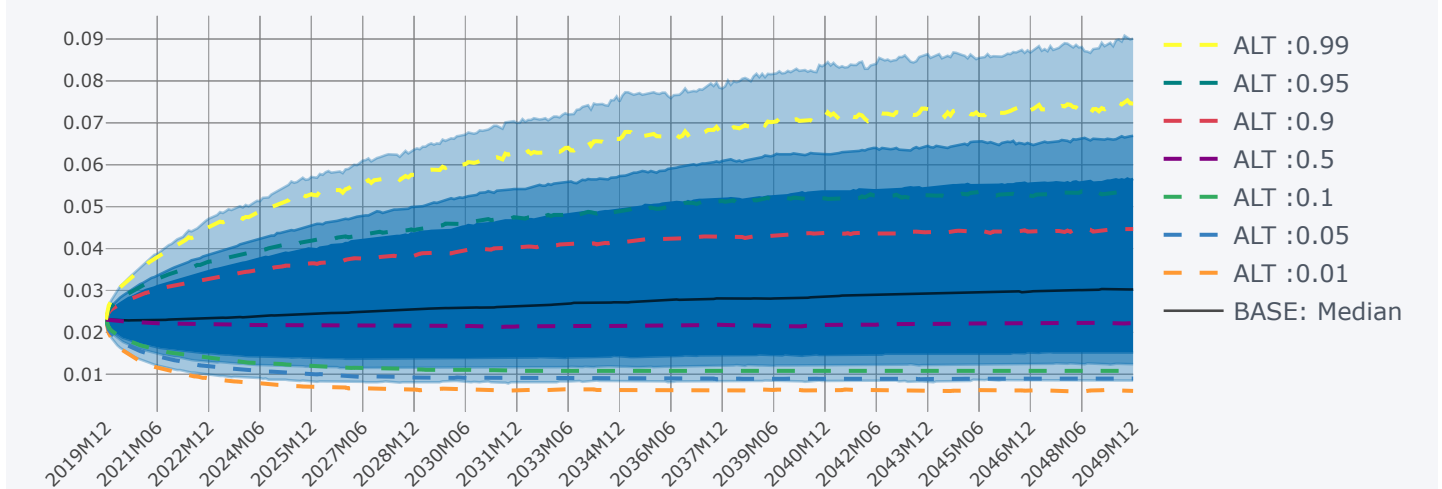
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.023	0.0336	0.0225	0.0254
std	0.0048	0.0176	0.0048	0.0148
min	0.0085	0.003	0.0081	0.0013
1%	0.0132	0.0081	0.0128	0.0055
5%	0.0157	0.0121	0.0152	0.0085
10%	0.0171	0.0149	0.0166	0.0104
50%	0.0227	0.0301	0.0222	0.022
90%	0.0293	0.0566	0.0288	0.0446
95%	0.0314	0.067	0.0309	0.0538
99%	0.0352	0.0902	0.0346	0.0747
max	0.0451	0.1647	0.0445	0.1452

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 24 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

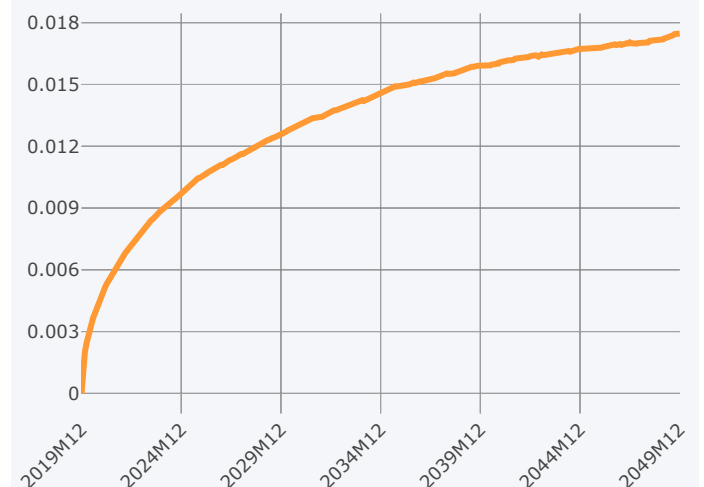
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

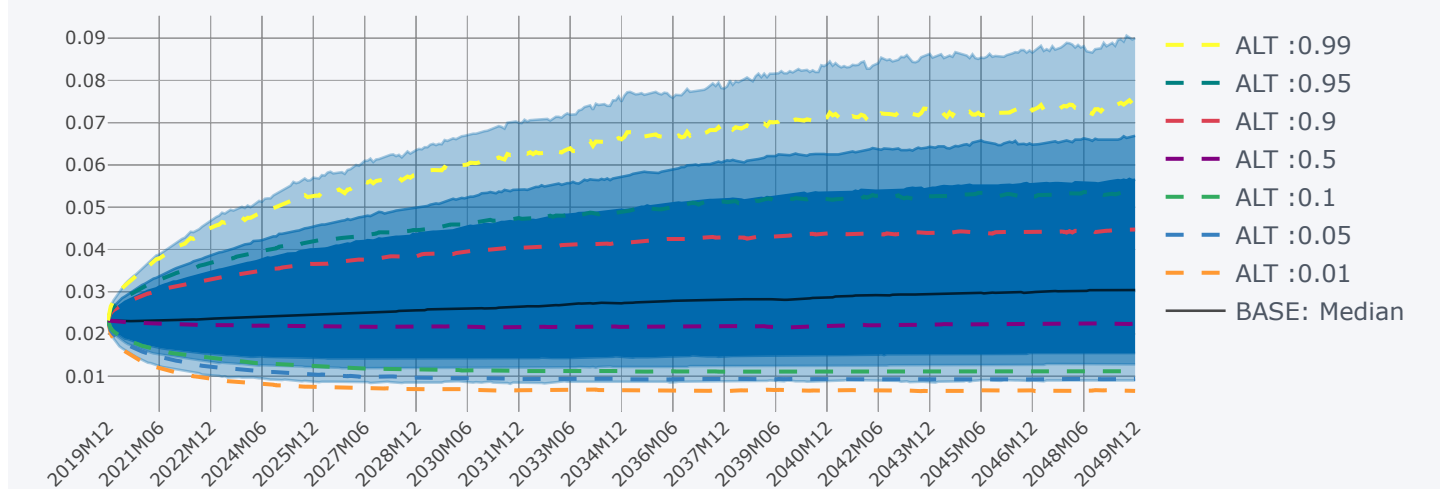
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0232	0.0338	0.0227	0.0256
std	0.0047	0.0175	0.0047	0.0147
min	0.0089	0.0036	0.0086	0.0019
1%	0.0135	0.0085	0.0131	0.006
5%	0.016	0.0124	0.0155	0.009
10%	0.0174	0.0152	0.0169	0.0108
50%	0.0229	0.0302	0.0224	0.0222
90%	0.0295	0.0566	0.0289	0.0447
95%	0.0315	0.0669	0.0309	0.0538
99%	0.0353	0.0901	0.0347	0.0746
max	0.0452	0.1645	0.0445	0.145

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 25 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

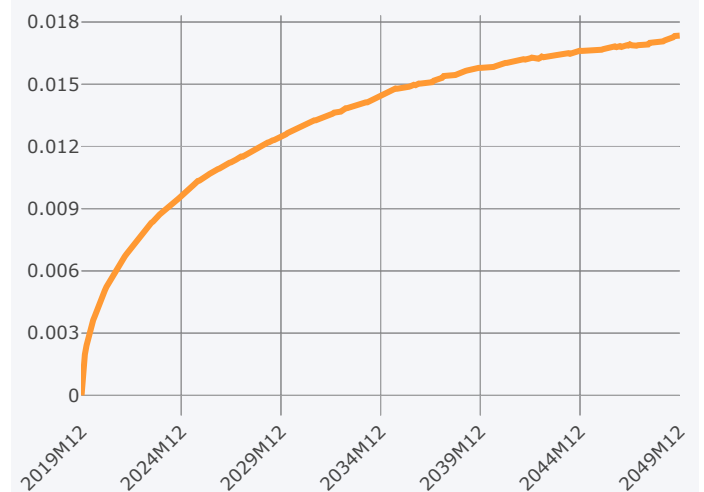
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

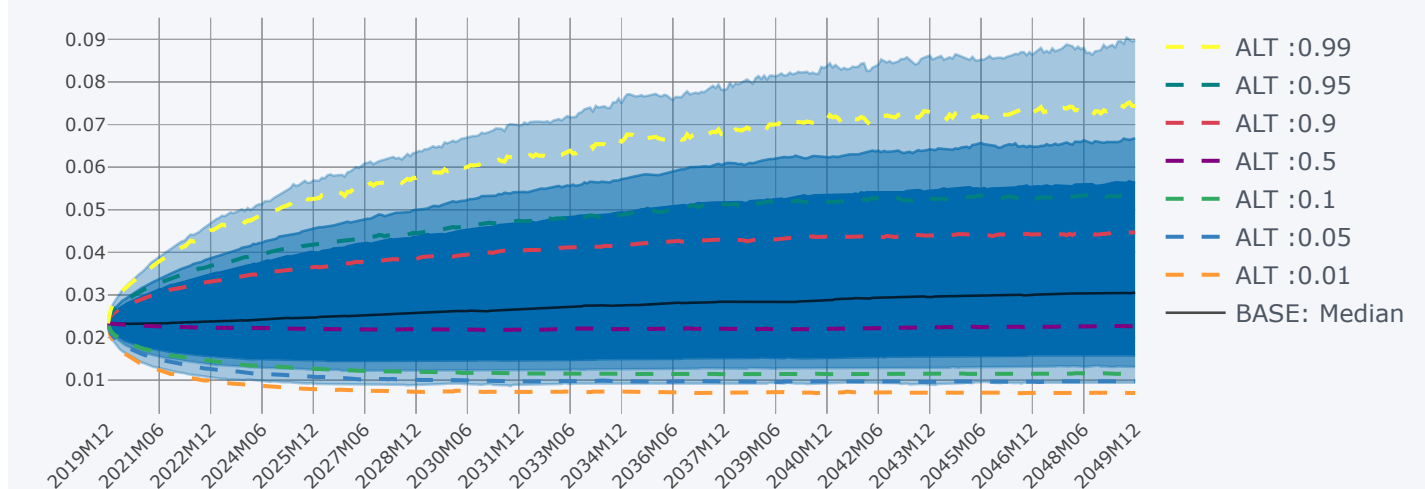
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0234	0.0339	0.0229	0.0258
std	0.0047	0.0173	0.0046	0.0145
min	0.0094	0.0042	0.009	0.0025
1%	0.0138	0.009	0.0134	0.0065
5%	0.0163	0.0128	0.0158	0.0094
10%	0.0176	0.0155	0.0172	0.0112
50%	0.0231	0.0304	0.0226	0.0224
90%	0.0296	0.0565	0.029	0.0447
95%	0.0316	0.0669	0.031	0.0538
99%	0.0354	0.09	0.0347	0.0745
max	0.0452	0.1644	0.0445	0.1448

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 26 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

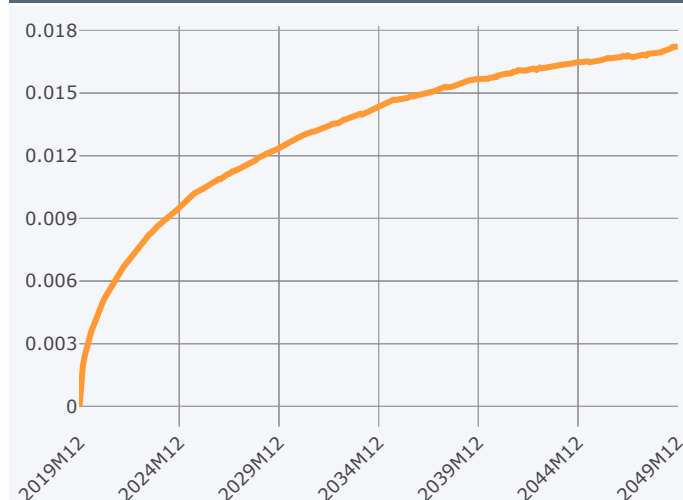
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

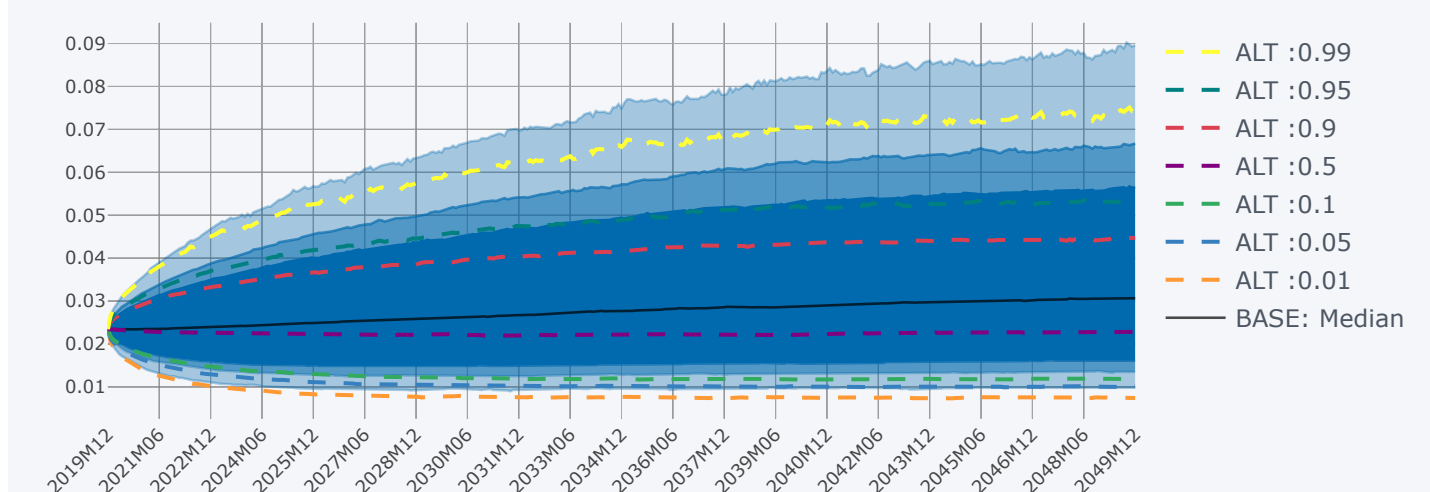
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0236	0.034	0.0231	0.026
std	0.0046	0.0172	0.0046	0.0144
min	0.0098	0.0048	0.0095	0.0031
1%	0.0141	0.0094	0.0138	0.007
5%	0.0165	0.0131	0.0161	0.0098
10%	0.0179	0.0158	0.0174	0.0115
50%	0.0233	0.0306	0.0228	0.0226
90%	0.0297	0.0565	0.0291	0.0447
95%	0.0317	0.0668	0.0311	0.0538
99%	0.0354	0.0898	0.0348	0.0743
max	0.0452	0.1642	0.0445	0.1446

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 27 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

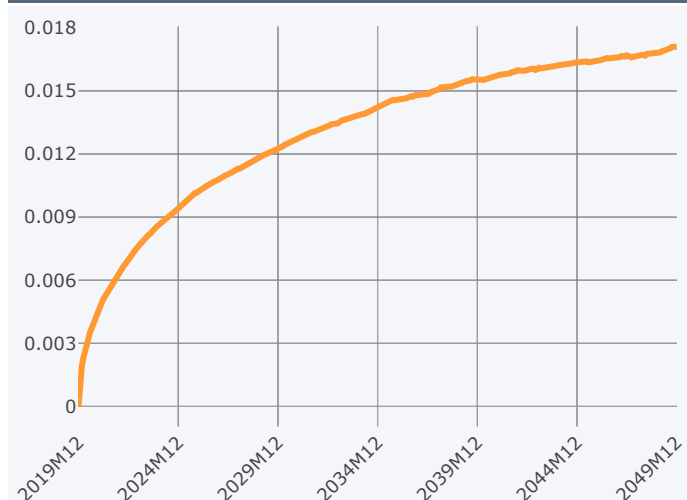
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

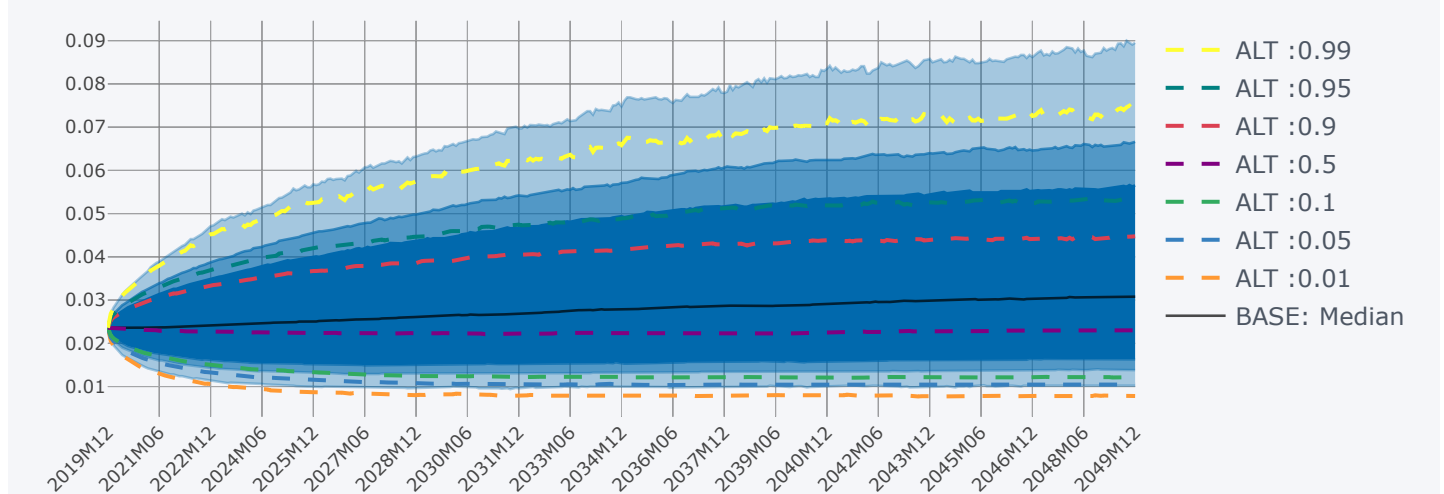
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0238	0.0342	0.0233	0.0262
std	0.0046	0.0171	0.0045	0.0143
min	0.0102	0.0053	0.0099	0.0036
1%	0.0144	0.0098	0.0141	0.0074
5%	0.0168	0.0135	0.0164	0.0101
10%	0.0181	0.0161	0.0177	0.0118
50%	0.0234	0.0307	0.0229	0.0228
90%	0.0298	0.0565	0.0293	0.0447
95%	0.0318	0.0667	0.0312	0.0537
99%	0.0355	0.0896	0.0349	0.0743
max	0.0452	0.164	0.0446	0.1444

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 28 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

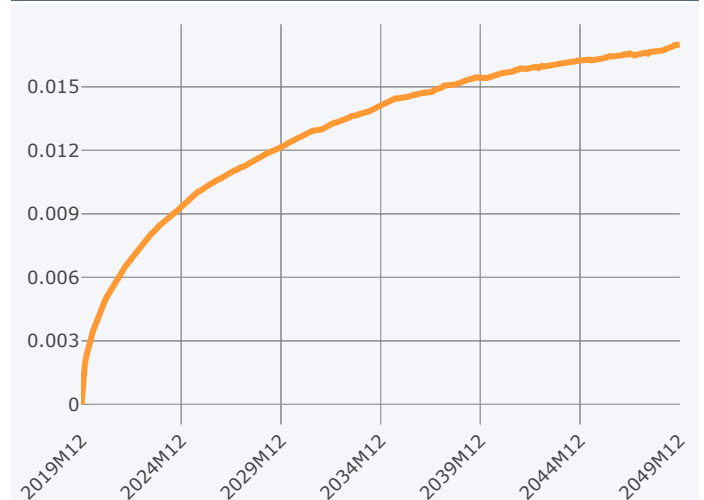
Percentiles Plotted : 1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

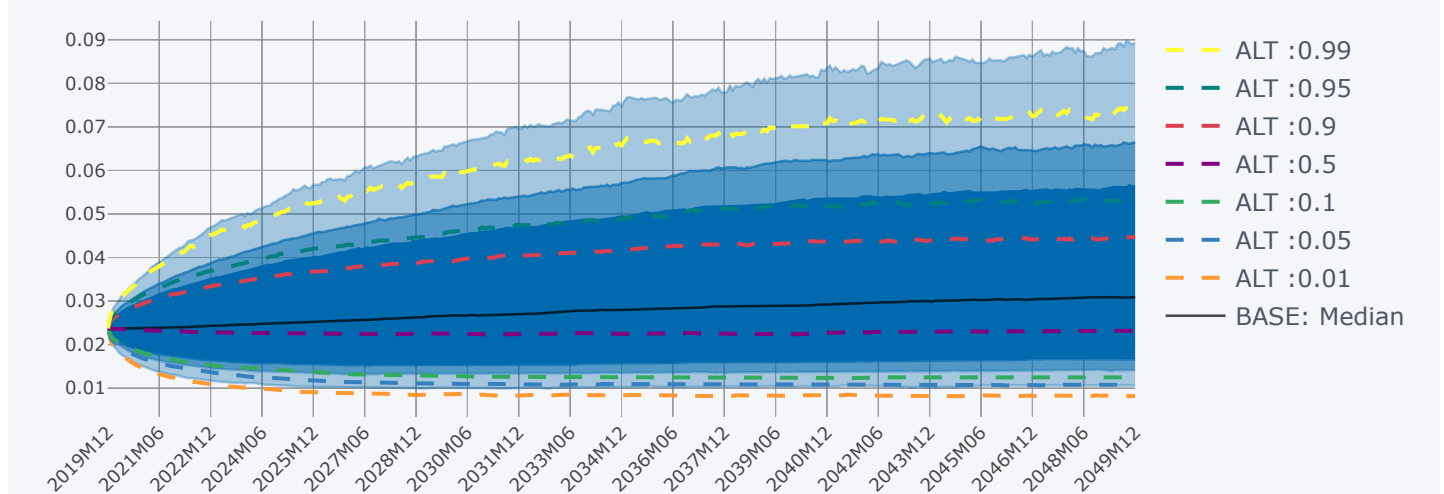
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0239	0.0343	0.0234	0.0264
std	0.0045	0.017	0.0045	0.0142
min	0.0106	0.0058	0.0103	0.0042
1%	0.0148	0.0102	0.0144	0.0078
5%	0.0171	0.0138	0.0166	0.0105
10%	0.0184	0.0163	0.0179	0.0122
50%	0.0236	0.0308	0.0231	0.023
90%	0.0299	0.0565	0.0294	0.0448
95%	0.0319	0.0666	0.0313	0.0536
99%	0.0355	0.0895	0.035	0.0742
max	0.0452	0.1639	0.0446	0.1443

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 29 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

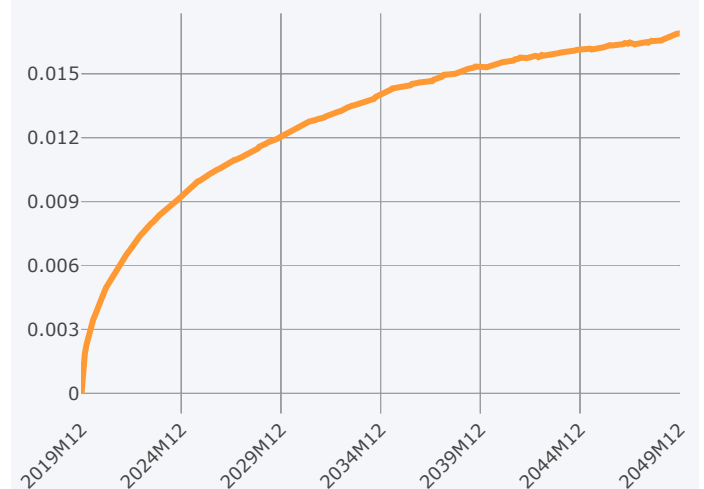
Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

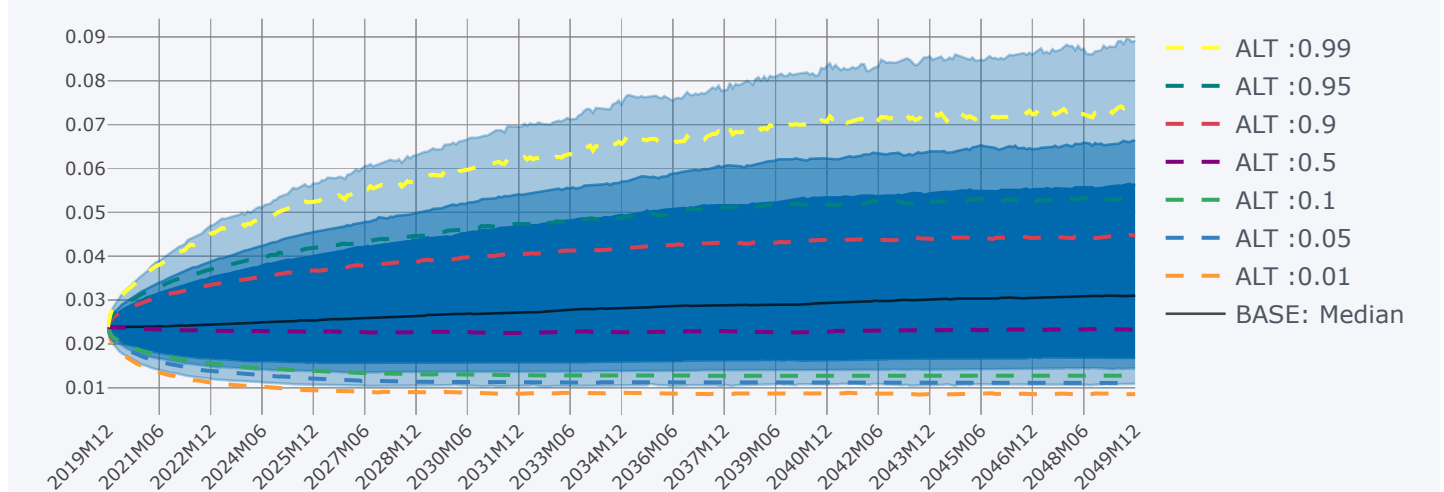
Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0241	0.0344	0.0236	0.0265
std	0.0045	0.0169	0.0044	0.0141
min	0.011	0.0063	0.0106	0.0047
1%	0.015	0.0106	0.0146	0.0082
5%	0.0173	0.0141	0.0169	0.0108
10%	0.0186	0.0166	0.0182	0.0125
50%	0.0238	0.0309	0.0233	0.0232
90%	0.03	0.0564	0.0295	0.0447
95%	0.0319	0.0665	0.0314	0.0536
99%	0.0356	0.0893	0.035	0.0741
max	0.0452	0.1638	0.0446	0.1441

Cross Sectional Volatility Over Time : BASE



Simulated Data in Percentiles : US Treasury 30 Year Yield - Coupon



Simulated Data: There are 360 Time Periods. Percentiles, Mean and Median are calculated across 10000 PATHS.

Percentiles Plotted :1%, 5%, 10%, 50%, 90%, 95%, 99%

The distributions shown are across the paths for a given time period.

Simulation Summary

	BASE: 2020M12	BASE: 2049M12	ALT :2020M12	ALT :2049M12
mean	0.0242	0.0345	0.0238	0.0267
std	0.0044	0.0168	0.0044	0.014
min	0.0113	0.0067	0.011	0.0051
1%	0.0153	0.0109	0.0149	0.0086
5%	0.0175	0.0144	0.0171	0.0111
10%	0.0188	0.0168	0.0184	0.0128
50%	0.0239	0.031	0.0235	0.0233
90%	0.0301	0.0564	0.0296	0.0447
95%	0.032	0.0664	0.0314	0.0535
99%	0.0356	0.0892	0.0351	0.074
max	0.0452	0.1636	0.0445	0.144

Cross Sectional Volatility Over Time : BASE

