



GOES (E/A) Subgroup: Equity Calibration Alternatives

December 19th, 2024

NAIC NATIONAL ASSOCIATION OF
INSURANCE COMMISSIONERS

Equity Calibration Alternatives

Background:

- After the conclusion of the 2024 GOES field test, some participants and interested parties commented that the gross wealth factors (GWFs) in the lower tail and later projection years were too extreme and deviated from the acceptance criteria. The ACLI proposed an alternative calibration of the Conning equity model.
- This issue was further discussed at the 2024 NAIC Fall National Meeting, and regulators directed Conning to tweak the 2024 GOES field test calibration to bring up the lower tail GWFs.
- In response, Conning has produced two alternative calibrations that increase the lower tail GWFs in the later projection years

Ratio of 1st Percentile Large Cap Equity Simulated GWFs to Acceptance Criteria by Calibration and Projection

1 st Percentile Comparison	1 Years	5 Years	10 Years	20 Years	30 Years	50 Years
2024 GOES Field Test	100%	95%	88%	79%	82%	77%
Revised Conning #1	97%	91%	90%	93%	95%	91%
Revised Conning #2	97%	93%	94%	96%	100%	96%
ACLI	100%	99%	97%	96%	100%	97%

2024 GOES Field Test: Large Cap Equity Scenarios vs Acceptance Criteria

Percentiles	Targets						Simulated						Ratio					
	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.49	0.21	0.14	0.08	0.17	0.26	1.08	0.87	0.64	0.29	0.57	0.57
1	0.70	0.58	0.60	0.79	1.15	2.82	0.70	0.55	0.53	0.63	0.94	2.17	1.00	0.95	0.88	0.79	0.82	0.77
5	0.82	0.80	0.91	1.36	2.20	6.38	0.82	0.79	0.88	1.29	2.03	5.47	1.00	1.00	0.96	0.95	0.92	0.86
10	0.88	0.93	1.12	1.81	3.08	9.78	0.88	0.92	1.11	1.74	2.93	8.81	1.00	0.99	0.99	0.96	0.95	0.90
15	0.92	1.02	1.28	2.18	3.84	12.94	0.93	1.02	1.28	2.10	3.73	11.91	1.00	1.00	1.00	0.96	0.97	0.92
25	0.99	1.18	1.54	2.81	5.26	19.23	0.99	1.18	1.55	2.80	5.17	18.42	1.00	1.01	1.01	1.00	0.98	0.96
30	1.01	1.24	1.66	3.12	6.01	22.79	1.01	1.25	1.67	3.13	5.89	22.02	1.00	1.00	1.00	1.00	0.98	0.97
50	1.09	1.48	2.15	4.47	9.23	39.98	1.10	1.49	2.17	4.48	9.28	39.64	1.01	1.01	1.01	1.00	1.01	0.99
70	1.17	1.74	2.71	6.30	14.12	68.89	1.18	1.76	2.75	6.36	14.09	69.20	1.01	1.01	1.02	1.01	1.00	1.00
75	1.19	1.82	2.89	6.93	15.88	80.22	1.20	1.83	2.92	6.96	15.89	80.89	1.01	1.01	1.01	1.00	1.00	1.01
85	1.25	2.02	3.36	8.69	21.06	115.31	1.26	2.03	3.40	8.62	21.02	115.56	1.01	1.01	1.01	0.99	1.00	1.00
90	1.28	2.15	3.71	10.09	25.20	147.92	1.30	2.17	3.76	9.97	25.08	145.91	1.01	1.01	1.01	0.99	1.00	0.99
95	1.34	2.37	4.30	12.33	33.19	210.72	1.36	2.39	4.38	12.30	32.53	211.90	1.01	1.01	1.02	1.00	0.98	1.01
99	1.45	2.82	5.64	18.18	53.74	397.23	1.47	2.83	5.68	17.53	50.56	394.09	1.01	1.00	1.01	0.96	0.94	0.99
100	1.76	4.20	8.98	42.03	140.72	1676.94	1.82	4.29	9.32	38.28	120.07	2292.44	1.03	1.02	1.04	0.91	0.85	1.37

Conning Alternative #1: Large Cap Equity Scenarios vs Acceptance Criteria

Percentiles	Targets						Simulated						Ratio					
	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.47	0.15	0.16	0.22	0.24	0.32	1.02	0.61	0.74	0.90	0.84	0.69
1	0.7	0.58	0.6	0.79	1.15	2.82	0.68	0.52	0.54	0.74	1.09	2.57	0.97	0.90	0.90	0.93	0.95	0.91
5	0.82	0.8	0.91	1.36	2.2	6.38	0.81	0.78	0.89	1.33	2.1	6.09	0.98	0.98	0.98	0.98	0.95	0.95
10	0.88	0.93	1.12	1.81	3.08	9.78	0.87	0.92	1.1	1.78	2.96	9.44	0.99	0.99	0.98	0.98	0.96	0.96
15	0.92	1.02	1.28	2.18	3.84	12.94	0.91	1.02	1.27	2.14	3.76	12.41	0.99	1.00	0.99	0.98	0.98	0.96
25	0.99	1.18	1.54	2.81	5.26	19.23	0.98	1.17	1.54	2.8	5.21	18.85	0.99	0.99	1.00	1.00	0.99	0.98
30	1.01	1.24	1.66	3.12	6.01	22.79	1	1.24	1.67	3.13	5.91	22.18	0.99	1.00	1.01	1.00	0.98	0.97
50	1.09	1.48	2.15	4.47	9.23	39.98	1.09	1.49	2.15	4.46	9.32	38.93	1.00	1.01	1.00	1.00	1.01	0.97
70	1.17	1.74	2.71	6.3	14.12	68.89	1.17	1.76	2.71	6.22	14.04	68.43	1.00	1.01	1.00	0.99	0.99	0.99
75	1.19	1.82	2.89	6.93	15.88	80.22	1.2	1.83	2.88	6.79	15.74	78.94	1.01	1.01	1.00	0.98	0.99	0.98
85	1.25	2.02	3.36	8.69	21.06	115.3	1.25	2.03	3.34	8.44	20.62	113	1.00	1.00	0.99	0.97	0.98	0.98
90	1.28	2.15	3.71	10.09	25.2	147.9	1.29	2.17	3.67	9.73	24.6	145.6	1.01	1.01	0.99	0.96	0.98	0.98
95	1.34	2.37	4.3	12.33	33.19	210.7	1.34	2.39	4.25	12	31.67	199.6	1.00	1.01	0.99	0.97	0.95	0.95
99	1.45	2.82	5.64	18.18	53.74	397.2	1.46	2.9	5.57	16.75	50	370.2	1.01	1.03	0.99	0.92	0.93	0.93
100	1.76	4.2	8.98	42.03	140.7	1677	2.01	4.83	11.57	46.2	125.5	1028	1.14	1.15	1.29	1.10	0.89	0.61

Conning Alternative #2: Large Cap Equity Scenarios vs Acceptance Criteria

Percentiles	Targets						Simulated						Ratio					
	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.469	0.157	0.168	0.27	0.275	0.372	1.02	0.63	0.76	1.08	0.95	0.81
1	0.7	0.58	0.6	0.79	1.15	2.82	0.683	0.538	0.567	0.761	1.142	2.718	0.98	0.93	0.95	0.96	0.99	0.96
5	0.82	0.8	0.91	1.36	2.2	6.38	0.808	0.793	0.91	1.369	2.176	6.348	0.98	0.99	1.00	1.01	0.99	0.99
10	0.88	0.93	1.12	1.81	3.08	9.78	0.873	0.931	1.115	1.81	3.042	9.796	0.99	1.00	1.00	1.00	0.99	1.00
15	0.92	1.02	1.28	2.18	3.84	12.94	0.915	1.028	1.283	2.164	3.856	12.65	0.99	1.01	1.00	0.99	1.00	0.98
25	0.99	1.18	1.54	2.81	5.26	19.23	0.978	1.177	1.554	2.82	5.241	19.01	0.99	1.00	1.01	1.00	1.00	0.99
30	1.01	1.24	1.66	3.12	6.01	22.79	1.005	1.246	1.675	3.144	5.951	22.37	0.99	1.00	1.01	1.01	0.99	0.98
50	1.09	1.48	2.15	4.47	9.23	39.98	1.095	1.488	2.137	4.454	9.26	38.67	1.00	1.01	0.99	1.00	1.00	0.97
70	1.17	1.74	2.71	6.3	14.12	68.89	1.174	1.75	2.691	6.181	13.9	67.21	1.00	1.01	0.99	0.98	0.98	0.98
75	1.19	1.82	2.89	6.93	15.88	80.22	1.2	1.826	2.866	6.722	15.51	77.26	1.01	1.00	0.99	0.97	0.98	0.96
85	1.25	2.02	3.36	8.69	21.06	115.3	1.251	2.023	3.323	8.345	20.41	109.5	1.00	1.00	0.99	0.96	0.97	0.95
90	1.28	2.15	3.71	10.09	25.2	147.9	1.29	2.166	3.657	9.58	24.15	142.4	1.01	1.01	0.99	0.95	0.96	0.96
95	1.34	2.37	4.3	12.33	33.19	210.7	1.343	2.385	4.24	11.95	31.28	196.8	1.00	1.01	0.99	0.97	0.94	0.93
99	1.45	2.82	5.64	18.18	53.74	397.2	1.461	2.904	5.525	16.38	49.67	368.7	1.01	1.03	0.98	0.90	0.92	0.93
100	1.76	4.2	8.98	42.03	140.7	1677	2.011	4.994	11.91	47.91	118.2	979	1.14	1.19	1.33	1.14	0.84	0.58

ACLI Proposal: Large Cap Equity Scenarios vs Acceptance Criteria

	ACLI Large Cap							AAA Criteria (Avg. GWF)							ACLI / AAA Criteria					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.49	0.17	0.16	0.19	0.21	0.54	Min	0.46	0.25	0.22	0.25	0.29	0.46	Min	1.07	0.70	0.72	0.73	0.72	1.19
0.5%	0.67	0.51	0.48	0.62	0.89	2.13	0.5%							0.5%						
1.0%	0.70	0.57	0.58	0.76	1.15	2.75	1.0%	0.70	0.58	0.60	0.79	1.15	2.82	1.0%	1.00	0.99	0.97	0.96	1.00	0.97
5.0%	0.82	0.78	0.90	1.36	2.23	6.17	5.0%	0.82	0.80	0.91	1.36	2.20	6.38	5.0%	1.00	0.99	0.98	1.00	1.01	0.97
10.0%	0.88	0.92	1.11	1.82	3.05	9.48	10.0%	0.88	0.93	1.12	1.81	3.08	9.78	10.0%	1.00	1.00	0.99	1.01	0.99	0.97
25.0%	0.98	1.17	1.54	2.81	5.11	18.81	25.0%	0.99	1.18	1.54	2.81	5.26	19.23	25.0%	1.00	1.00	1.00	1.00	0.97	0.98
50.0%	1.09	1.47	2.14	4.44	9.20	39.45	50.0%	1.09	1.48	2.15	4.47	9.23	39.98	50.0%	1.00	1.00	1.00	0.99	1.00	0.99
75.0%	1.19	1.82	2.89	6.92	15.79	79.76	75.0%	1.19	1.82	2.89	6.93	15.88	80.22	75.0%	1.00	1.00	1.00	1.00	0.99	0.99
90.0%	1.29	2.16	3.70	9.99	25.22	148.83	90.0%	1.28	2.15	3.71	10.09	25.20	147.92	90.0%	1.00	1.00	1.00	0.99	1.00	1.01
95.0%	1.34	2.40	4.33	12.50	33.40	209.78	95.0%	1.34	2.37	4.30	12.33	33.19	210.72	95.0%	1.00	1.01	1.00	1.01	1.01	1.00
99.0%	1.47	2.91	5.62	19.04	52.86	415.11	99.0%	1.45	2.82	5.64	18.18	53.74	397.23	99.0%	1.01	1.03	1.00	1.05	0.98	1.05
99.5%	1.51	3.12	6.26	22.26	66.31	512.63	99.5%							99.5%						
Max	1.83	4.70	10.85	43.13	168.19	1,514.65	Max	1.76	4.20	8.98	42.03	140.72	1,676.94	Max	1.04	1.12	1.21	1.03	1.20	0.90

Source: "ACLI Equity Calibration Proposal" LATF session of 2024 NAIC Fall National Meeting