

Table A2: The Distribution of Coverage Ratios, 1900–2019

This table shows, for 11 asset allocations with different proportions of stocks (S) and bonds ($100 - S$), over 91 rolling 30-year retirement periods beginning with 1900–1929 and ending with 1990–2019, summary statistics for the distributions of coverage ratios for all the countries in the sample. The analysis is based on a \$1,000 retirement portfolio, a 4% initial withdrawal rate, 30 annual withdrawals adjusted by inflation, and annual rebalancing. For each distribution, the statistics include the mean, the median, cutoff points for six percentiles, and the proportion of periods in which the coverage ratio is lower than 1 ($P_{C<1}$). S and $P_{C<1}$ expressed in %. The data is described in Table A1.

$S \rightarrow$	100	90	80	70	60	50	40	30	20	10	0
Australia											
1%	0.43	0.47	0.50	0.50	0.50	0.53	0.53	0.53	0.50	0.47	0.43
5%	1.18	1.09	0.97	0.87	0.77	0.70	0.63	0.57	0.53	0.50	0.47
10%	1.39	1.23	1.10	0.97	0.87	0.77	0.70	0.63	0.57	0.53	0.50
Median	3.24	3.01	2.85	2.55	2.23	1.96	1.60	1.20	0.93	0.83	0.77
Mean	4.14	3.72	3.33	2.98	2.65	2.36	2.09	1.85	1.65	1.47	1.33
90%	8.55	7.29	6.19	6.00	5.51	4.92	4.43	4.32	4.16	4.03	3.74
95%	9.27	8.27	7.38	6.49	5.90	5.43	4.91	4.79	4.65	4.34	4.14
99%	11.63	10.68	9.76	8.89	8.07	7.29	6.57	5.96	5.44	4.89	4.52
$P_{C<1}$	3.3%	4.4%	7.7%	11.0%	18.7%	26.4%	34.1%	37.4%	52.7%	59.3%	61.5%
Austria											
1%	0.17	0.20	0.20	0.17	0.17	0.17	0.17	0.17	0.13	0.10	0.07
5%	0.23	0.23	0.27	0.27	0.23	0.23	0.20	0.20	0.17	0.17	0.13
10%	0.30	0.30	0.30	0.30	0.30	0.27	0.23	0.20	0.20	0.17	0.17
Median	0.90	1.04	1.19	1.27	1.29	1.17	1.03	1.01	1.05	1.05	0.83
Mean	1.40	1.55	1.65	1.70	1.71	1.67	1.60	1.51	1.39	1.27	1.13
90%	3.86	3.81	4.13	4.24	4.07	4.10	3.92	3.72	3.59	3.39	2.88
95%	3.93	4.41	4.84	5.14	5.28	5.26	5.09	4.76	4.32	3.71	3.24
99%	5.36	5.98	6.43	6.68	6.79	6.75	6.48	5.99	5.31	4.50	3.60
$P_{C<1}$	56.0%	49.5%	45.1%	44.0%	42.9%	45.1%	49.5%	49.5%	48.4%	49.5%	52.7%
Belgium											
1%	0.30	0.30	0.30	0.30	0.30	0.27	0.27	0.27	0.27	0.27	0.27
5%	0.37	0.33	0.33	0.33	0.33	0.33	0.33	0.30	0.30	0.30	0.30
10%	0.47	0.47	0.47	0.47	0.43	0.43	0.40	0.40	0.37	0.37	0.33
Median	1.09	1.05	1.03	0.93	0.93	0.97	0.93	0.90	0.87	0.87	0.83
Mean	1.86	1.85	1.83	1.79	1.73	1.66	1.58	1.49	1.40	1.31	1.21
90%	5.17	5.10	5.22	5.25	5.19	5.05	4.85	4.38	3.82	3.34	3.15
95%	7.41	7.49	7.40	6.80	6.36	5.95	5.57	5.14	4.68	4.20	3.73
99%	9.28	8.55	8.00	7.66	7.22	6.70	6.23	5.73	5.19	4.71	4.24
$P_{C<1}$	47.3%	48.4%	49.5%	51.6%	50.5%	51.6%	52.7%	53.8%	57.1%	60.4%	65.9%
Canada											
1%	0.87	1.16	1.15	1.05	0.93	0.83	0.77	0.67	0.63	0.57	0.53
5%	1.28	1.24	1.21	1.15	1.04	0.90	0.80	0.73	0.67	0.60	0.57
10%	1.48	1.36	1.36	1.20	1.08	0.93	0.83	0.73	0.67	0.63	0.57
Median	2.83	2.77	2.57	2.16	1.93	1.62	1.45	1.24	1.05	0.90	0.80
Mean	3.30	3.03	2.79	2.56	2.35	2.16	1.99	1.83	1.70	1.58	1.47
90%	5.99	5.36	4.81	4.44	3.98	3.89	3.76	3.84	3.89	3.79	3.77
95%	7.67	6.55	5.09	4.59	4.45	4.19	4.37	4.55	4.54	4.74	4.86
99%	9.05	7.39	7.02	6.59	6.11	5.60	5.88	6.29	6.66	6.99	7.26
$P_{C<1}$	1.1%	0.0%	0.0%	0.0%	1.1%	13.2%	16.5%	25.3%	41.8%	58.2%	60.4%
Denmark											
1%	0.77	0.83	0.87	0.93	0.83	0.77	0.70	0.67	0.60	0.50	0.47
5%	1.18	1.11	1.06	0.97	0.90	0.83	0.77	0.70	0.63	0.60	0.53
10%	1.26	1.19	1.13	1.04	0.97	0.87	0.77	0.70	0.67	0.60	0.53
Median	1.80	1.66	1.58	1.44	1.34	1.21	1.03	0.93	0.87	0.80	0.77
Mean	2.77	2.68	2.57	2.44	2.29	2.14	1.98	1.82	1.67	1.53	1.39
90%	6.22	6.57	6.28	6.25	6.15	5.95	5.65	5.05	4.47	3.97	3.51
95%	7.50	8.05	7.93	7.99	8.16	7.46	6.64	5.80	5.27	4.76	4.10
99%	10.81	10.88	10.70	10.30	9.72	9.01	8.31	7.90	7.43	6.96	6.42
$P_{C<1}$	3.3%	1.1%	2.2%	7.7%	14.3%	30.8%	41.8%	53.8%	57.1%	59.3%	64.8%