

Report Parameters

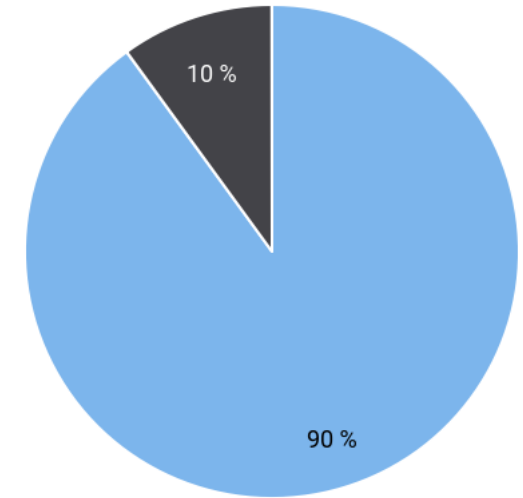
Initial Amount	\$10,000
Career Years	17
Simulation Period	50
Simulation Model	Historical Returns
Bootstrap Model	Single Year
Tax Treatment	Pre-tax Returns
Sequence of Return Risk	No Adjustments
Inflation Model	Historical Inflation

Simulation Description

Monte Carlo simulation results for 10000 portfolios with \$10,000 initial portfolio balance using available historical returns data from Jan 1997 to Dec 2020 with annual sampling. 17-year linear glide path was used to transition from starting portfolio to retirement portfolio. The simulated inflation model used historical inflation with 2.10% mean and 1.22% standard deviation based on the Consumer Price Index (CPI-U) data from Jan 1997 to Dec 2020. The generated inflation samples were correlated with simulated asset returns based on historical correlations.

Starting Portfolio

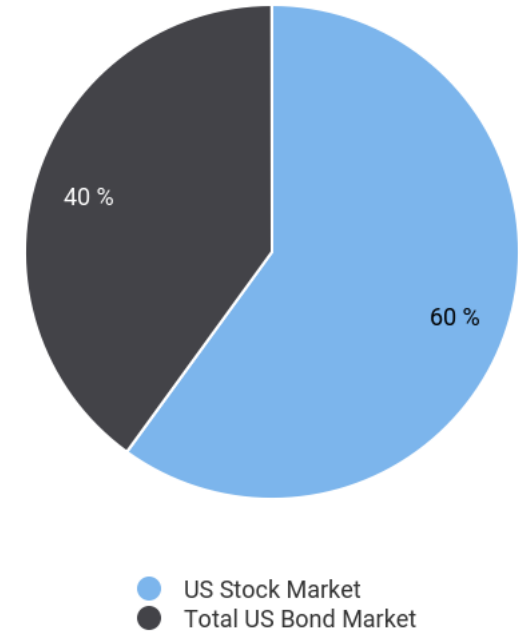
Asset Class	Allocation	CAGR	Expected Annual Return	Annualized Volatility
US Stock Market	90.00%	9.16%	10.56%	15.93%
Total US Bond Market	10.00%	5.03%	5.09%	3.42%



● US Stock Market
● Total US Bond Market

Retirement Portfolio

Asset Class	Allocation	CAGR	Expected Annual Return	Annualized Volatility
US Stock Market	60.00%	9.16%	10.56%	15.93%
Total US Bond Market	40.00%	5.03%	5.09%	3.42%



Financial Goals

Purpose	Type	Starts In	Ends In	Frequency	Times	Total	Success
Accumulation	Contribute \$75.00	1 month	17 years	Monthly	204	\$15,300	100.00%
Distribution years 2039-2046	Withdraw \$175	17 years	24 years and 11 months	Monthly	96	-\$16,800	99.94%

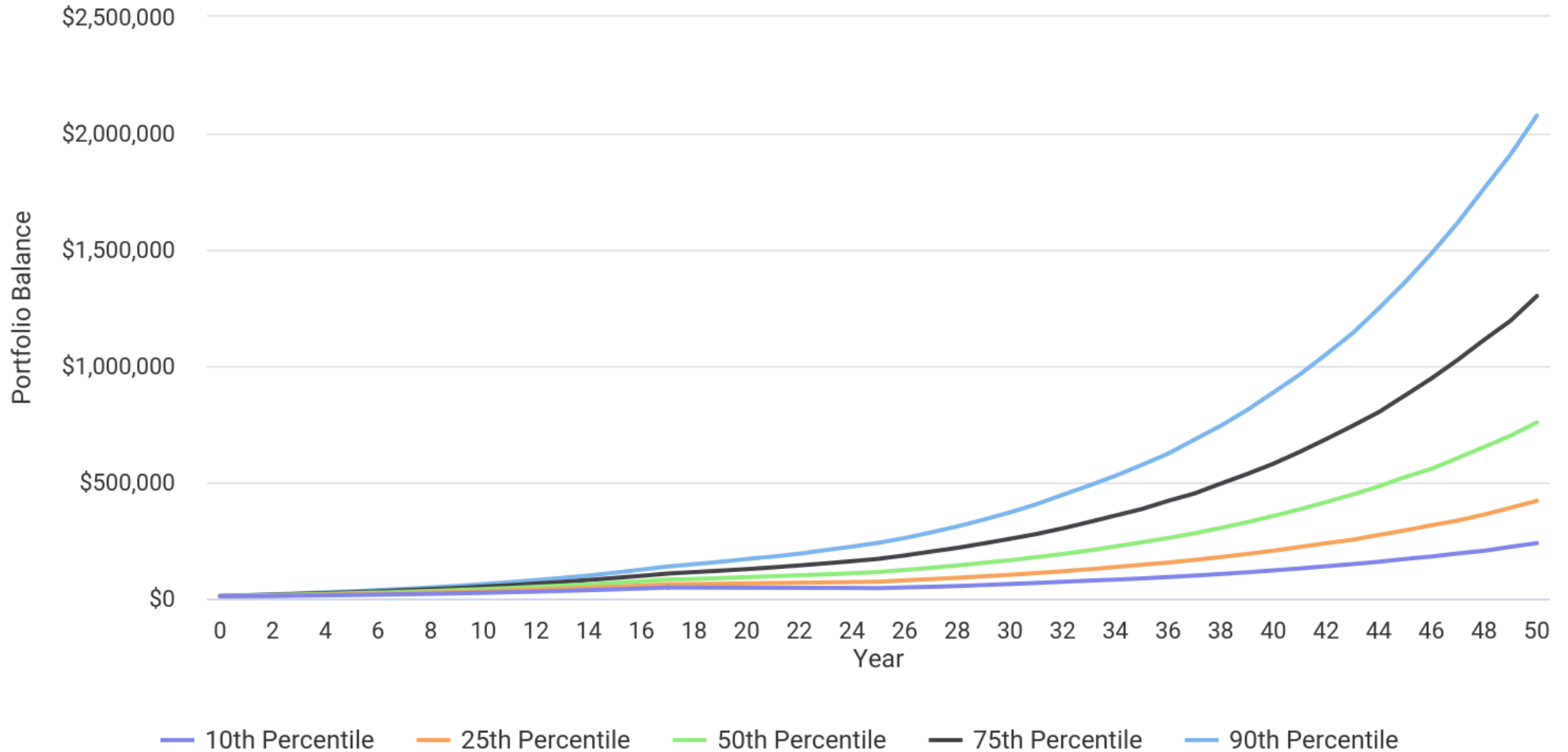
Total is the sum of expected cashflows in present dollars

Summary Statistics

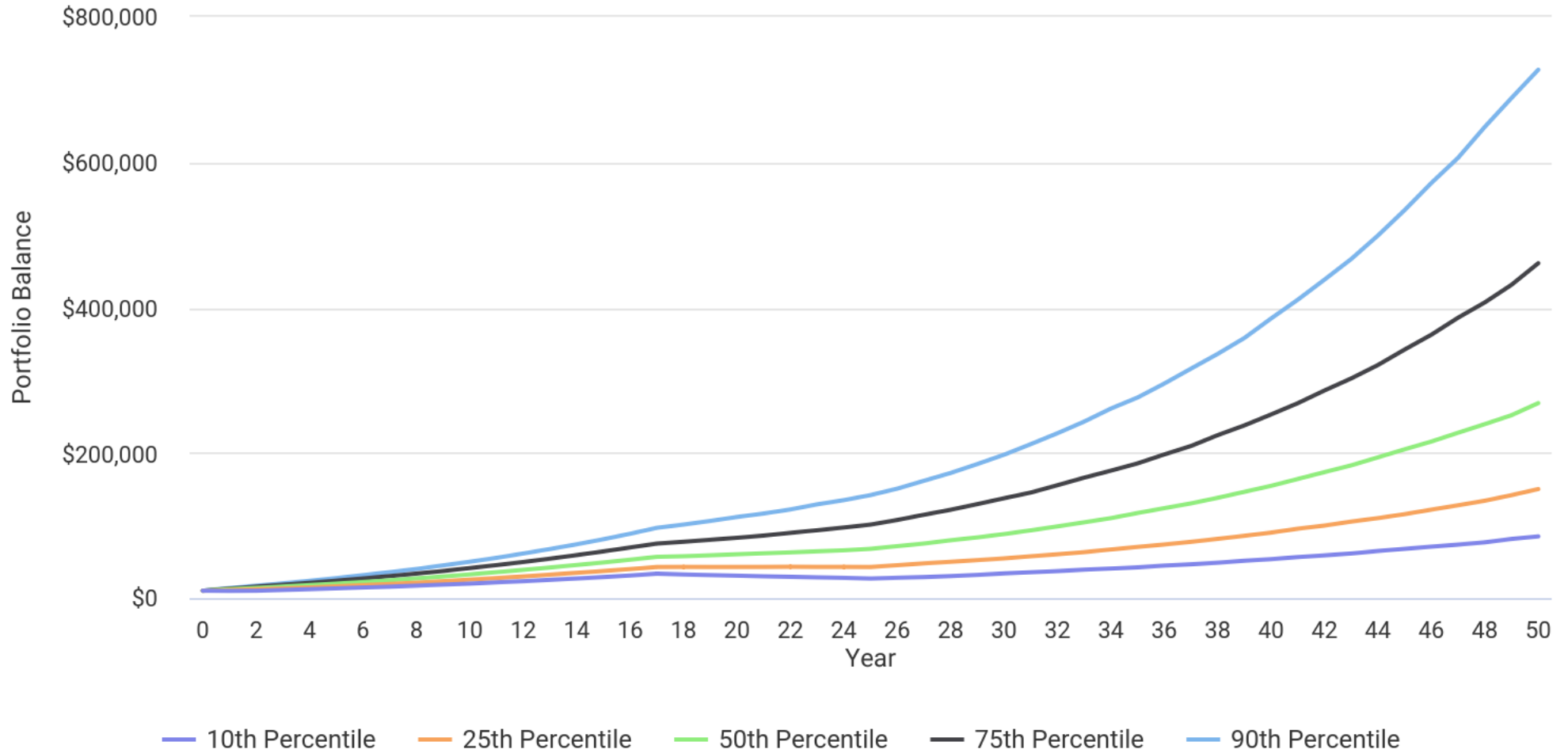
	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
Time Weighted Rate of Return (nominal)	5.91%	7.01%	8.20%	9.35%	10.37%
Time Weighted Rate of Return (real)	3.76%	4.81%	5.98%	7.10%	8.07%
Portfolio End Balance (nominal)	\$237,770	\$419,723	\$756,358	\$1,300,161	\$2,075,913
Portfolio End Balance (real)	\$84,789	\$149,919	\$268,306	\$460,922	\$727,340
Maximum Drawdown	-44.92%	-36.87%	-29.88%	-25.54%	-22.24%
Maximum Drawdown Excluding Cashflows	-45.14%	-38.07%	-31.49%	-26.46%	-22.24%
Safe Withdrawal Rate	3.70%	4.90%	6.48%	8.37%	10.18%
Perpetual Withdrawal Rate	3.62%	4.59%	5.64%	6.63%	7.47%

9994 portfolios out of 10000 simulated portfolios (99.94%) survived all withdrawals.

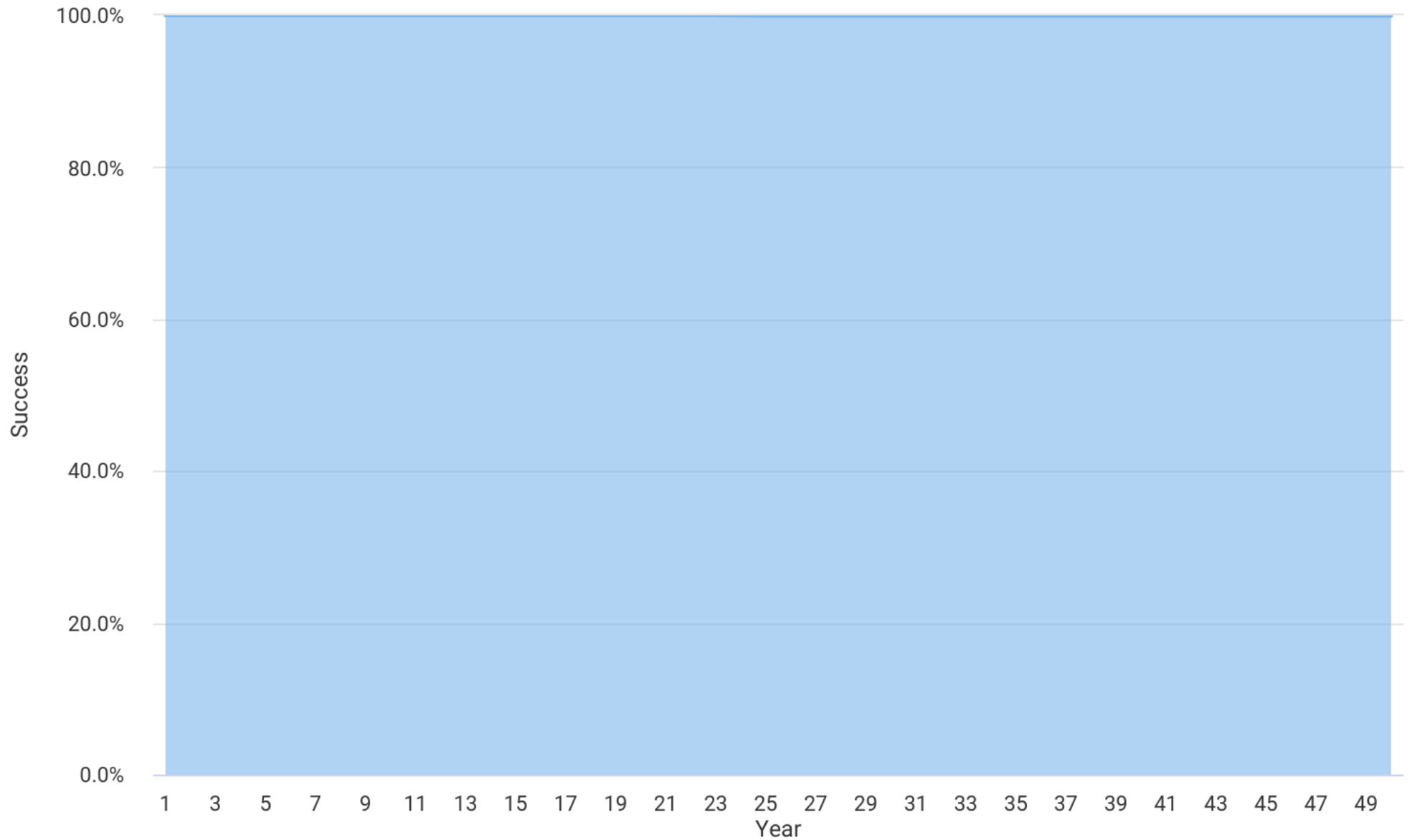
Portfolio Balance (nominal)



Portfolio Balance (inflation adjusted)



Portfolio Success



Portfolio Balances (nominal)

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
1	\$10,005	\$10,934	\$12,167	\$13,168	\$13,902	100.00%
2	\$10,400	\$12,488	\$14,376	\$16,170	\$17,579	100.00%
3	\$11,680	\$14,110	\$16,799	\$19,333	\$21,354	100.00%
4	\$12,972	\$15,898	\$19,338	\$22,664	\$25,615	100.00%
5	\$14,487	\$17,792	\$21,967	\$26,408	\$30,373	100.00%
6	\$16,240	\$19,997	\$24,944	\$30,508	\$35,573	100.00%
7	\$17,803	\$22,254	\$28,126	\$34,906	\$41,075	100.00%
8	\$19,790	\$24,870	\$31,937	\$39,736	\$47,175	100.00%
9	\$22,065	\$27,856	\$35,760	\$44,849	\$54,048	100.00%
10	\$24,153	\$31,061	\$40,003	\$50,850	\$61,418	100.00%
11	\$26,852	\$34,461	\$44,666	\$56,925	\$69,791	100.00%
12	\$29,313	\$38,031	\$49,749	\$63,771	\$79,069	100.00%
13	\$32,412	\$41,995	\$55,123	\$71,189	\$88,375	100.00%
14	\$35,492	\$46,368	\$60,922	\$79,309	\$98,337	100.00%
15	\$38,911	\$50,481	\$67,080	\$88,170	\$110,857	100.00%
16	\$42,656	\$55,249	\$73,894	\$97,160	\$123,632	100.00%
17	\$46,958	\$60,621	\$81,040	\$106,875	\$137,342	100.00%
18	\$46,574	\$61,753	\$83,843	\$113,202	\$147,198	100.00%
19	\$46,340	\$62,809	\$87,343	\$119,329	\$157,426	100.00%
20	\$45,977	\$64,254	\$91,179	\$126,014	\$169,449	100.00%
21	\$45,859	\$65,900	\$95,329	\$133,492	\$180,040	100.00%
22	\$45,659	\$67,425	\$99,506	\$141,955	\$192,312	100.00%
23	\$45,334	\$68,617	\$103,577	\$150,712	\$207,992	100.00%
24	\$45,071	\$70,251	\$107,964	\$160,159	\$222,703	99.97%
25	\$44,101	\$71,658	\$113,576	\$170,292	\$239,139	99.94%
26	\$47,220	\$77,532	\$122,366	\$184,834	\$259,768	99.94%
27	\$49,953	\$83,061	\$131,594	\$201,488	\$283,756	99.94%
28	\$53,122	\$88,696	\$141,881	\$217,513	\$309,766	99.94%
29	\$57,490	\$95,020	\$152,888	\$236,650	\$338,793	99.94%
30	\$62,079	\$101,587	\$164,349	\$256,384	\$370,217	99.94%
31	\$66,258	\$109,164	\$177,541	\$276,899	\$404,973	99.94%
32	\$71,495	\$116,687	\$190,930	\$301,478	\$445,693	99.94%



Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
33	\$76,553	\$125,322	\$206,154	\$328,506	\$485,274	99.94%
34	\$80,846	\$134,824	\$223,432	\$356,422	\$527,472	99.94%
35	\$85,898	\$144,830	\$241,483	\$384,226	\$573,991	99.94%
36	\$91,994	\$153,997	\$259,884	\$419,605	\$622,637	99.94%
37	\$98,090	\$165,684	\$280,003	\$451,195	\$682,925	99.94%
38	\$104,929	\$177,856	\$303,461	\$493,842	\$742,600	99.94%
39	\$112,277	\$191,225	\$327,439	\$534,971	\$810,184	99.94%
40	\$120,553	\$205,270	\$354,941	\$579,388	\$886,085	99.94%
41	\$128,898	\$221,208	\$383,050	\$630,274	\$962,766	99.94%
42	\$138,159	\$237,215	\$414,323	\$685,185	\$1,049,808	99.94%
43	\$147,558	\$252,390	\$446,362	\$741,922	\$1,139,935	99.94%
44	\$157,550	\$272,663	\$481,621	\$801,173	\$1,247,116	99.94%
45	\$169,735	\$292,583	\$522,120	\$873,189	\$1,360,183	99.94%
46	\$180,184	\$314,563	\$557,281	\$946,129	\$1,483,213	99.94%
47	\$193,413	\$335,108	\$603,949	\$1,026,086	\$1,616,291	99.94%
48	\$204,750	\$360,654	\$651,282	\$1,111,926	\$1,763,361	99.94%
49	\$221,760	\$389,447	\$699,536	\$1,193,939	\$1,908,652	99.94%
50	\$237,770	\$419,723	\$756,358	\$1,300,161	\$2,075,913	99.94%



Portfolio Balances (inflation adjusted)

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
1	\$9,696	\$10,855	\$12,054	\$12,861	\$13,669	100.00%
2	\$9,950	\$11,915	\$13,805	\$15,593	\$16,844	100.00%
3	\$11,039	\$13,185	\$15,732	\$18,175	\$20,139	100.00%
4	\$12,071	\$14,603	\$17,704	\$20,827	\$23,622	100.00%
5	\$13,148	\$16,034	\$19,736	\$23,789	\$27,310	100.00%
6	\$14,412	\$17,645	\$21,924	\$26,845	\$31,428	100.00%
7	\$15,545	\$19,281	\$24,256	\$30,111	\$35,563	100.00%
8	\$16,923	\$21,042	\$26,965	\$33,554	\$39,875	100.00%
9	\$18,370	\$23,142	\$29,580	\$37,148	\$44,881	100.00%
10	\$19,757	\$25,218	\$32,459	\$41,192	\$49,885	100.00%
11	\$21,524	\$27,432	\$35,510	\$45,222	\$55,254	100.00%
12	\$23,039	\$29,610	\$38,677	\$49,516	\$61,223	100.00%
13	\$24,951	\$32,116	\$41,970	\$54,122	\$67,396	100.00%
14	\$26,814	\$34,587	\$45,402	\$59,026	\$73,894	100.00%
15	\$28,767	\$37,111	\$48,870	\$64,134	\$80,877	100.00%
16	\$30,927	\$39,728	\$52,692	\$69,513	\$88,423	100.00%
17	\$33,413	\$42,638	\$56,622	\$74,860	\$96,571	100.00%
18	\$32,342	\$42,750	\$57,479	\$77,372	\$101,054	100.00%
19	\$31,510	\$42,670	\$58,748	\$80,125	\$106,062	100.00%
20	\$30,682	\$42,685	\$60,106	\$82,858	\$111,489	100.00%
21	\$29,784	\$42,725	\$61,469	\$85,869	\$116,263	100.00%
22	\$29,123	\$42,958	\$62,768	\$89,644	\$121,852	100.00%
23	\$28,325	\$42,754	\$64,176	\$93,206	\$128,901	100.00%
24	\$27,706	\$42,763	\$65,534	\$96,974	\$134,679	99.97%
25	\$26,751	\$42,612	\$67,671	\$101,003	\$141,647	99.94%
26	\$27,830	\$45,081	\$71,318	\$107,373	\$150,486	99.94%
27	\$28,733	\$47,630	\$74,911	\$114,575	\$161,368	99.94%
28	\$30,086	\$49,793	\$79,456	\$121,444	\$172,115	99.94%
29	\$31,786	\$52,097	\$83,380	\$129,236	\$184,409	99.94%
30	\$33,759	\$54,457	\$87,957	\$137,308	\$197,238	99.94%
31	\$35,382	\$57,417	\$93,092	\$145,129	\$211,831	99.94%
32	\$37,002	\$60,106	\$98,546	\$155,286	\$226,852	99.94%



Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
33	\$38,903	\$63,098	\$104,162	\$165,659	\$242,853	99.94%
34	\$40,489	\$66,748	\$109,921	\$175,283	\$260,827	99.94%
35	\$42,147	\$70,254	\$116,965	\$185,328	\$276,021	99.94%
36	\$44,543	\$73,618	\$123,637	\$197,614	\$295,263	99.94%
37	\$46,333	\$77,285	\$130,228	\$209,291	\$315,802	99.94%
38	\$48,518	\$81,392	\$137,892	\$224,208	\$336,120	99.94%
39	\$51,261	\$85,592	\$146,158	\$237,647	\$358,026	99.94%
40	\$53,437	\$90,007	\$154,412	\$252,715	\$384,925	99.94%
41	\$56,295	\$95,340	\$163,854	\$268,248	\$410,758	99.94%
42	\$58,644	\$99,693	\$173,290	\$285,766	\$438,433	99.94%
43	\$61,209	\$105,176	\$182,613	\$302,323	\$466,801	99.94%
44	\$64,659	\$109,945	\$193,621	\$320,806	\$499,161	99.94%
45	\$67,640	\$115,411	\$204,718	\$342,108	\$534,180	99.94%
46	\$70,612	\$121,604	\$215,406	\$362,515	\$571,503	99.94%
47	\$73,457	\$127,615	\$227,505	\$385,957	\$606,143	99.94%
48	\$76,587	\$133,876	\$239,363	\$406,951	\$648,735	99.94%
49	\$81,265	\$141,578	\$251,650	\$431,234	\$688,453	99.94%
50	\$84,789	\$149,919	\$268,306	\$460,922	\$727,340	99.94%



Portfolio Cashflows (nominal)

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
1	\$924	\$921	\$916	\$913	\$909
2	\$948	\$942	\$935	\$929	\$923
3	\$972	\$964	\$955	\$946	\$938
4	\$996	\$986	\$975	\$964	\$954
5	\$1,020	\$1,008	\$995	\$983	\$971
6	\$1,044	\$1,030	\$1,016	\$1,002	\$989
7	\$1,068	\$1,053	\$1,037	\$1,022	\$1,007
8	\$1,092	\$1,076	\$1,059	\$1,042	\$1,026
9	\$1,117	\$1,100	\$1,081	\$1,062	\$1,045
10	\$1,143	\$1,124	\$1,104	\$1,083	\$1,065
11	\$1,169	\$1,149	\$1,127	\$1,105	\$1,085
12	\$1,195	\$1,174	\$1,151	\$1,127	\$1,106
13	\$1,222	\$1,199	\$1,174	\$1,149	\$1,127
14	\$1,251	\$1,226	\$1,199	\$1,172	\$1,149
15	\$1,280	\$1,253	\$1,224	\$1,195	\$1,171
16	\$1,307	\$1,280	\$1,249	\$1,220	\$1,194
17	\$1,336	\$1,308	\$1,275	\$1,244	\$1,218
18	-\$2,893	-\$2,957	-\$3,033	-\$3,113	-\$3,181
19	-\$2,948	-\$3,018	-\$3,096	-\$3,180	-\$3,254
20	-\$3,007	-\$3,079	-\$3,160	-\$3,247	-\$3,327
21	-\$3,063	-\$3,141	-\$3,228	-\$3,318	-\$3,399
22	-\$3,124	-\$3,204	-\$3,294	-\$3,391	-\$3,475
23	-\$3,188	-\$3,269	-\$3,364	-\$3,465	-\$3,553
24	-\$3,249	-\$3,336	-\$3,435	-\$3,540	-\$3,633
25	-\$3,314	-\$3,404	-\$3,505	-\$3,614	-\$3,714
26	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
29	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
30	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00



Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
34	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
37	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
39	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
41	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
43	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
44	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
46	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
47	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00



Portfolio Cashflows (inflation adjusted)

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
1	\$900	\$900	\$900	\$900	\$900
2	\$900	\$900	\$900	\$900	\$900
3	\$900	\$900	\$900	\$900	\$900
4	\$900	\$900	\$900	\$900	\$900
5	\$900	\$900	\$900	\$900	\$900
6	\$900	\$900	\$900	\$900	\$900
7	\$900	\$900	\$900	\$900	\$900
8	\$900	\$900	\$900	\$900	\$900
9	\$900	\$900	\$900	\$900	\$900
10	\$900	\$900	\$900	\$900	\$900
11	\$900	\$900	\$900	\$900	\$900
12	\$900	\$900	\$900	\$900	\$900
13	\$900	\$900	\$900	\$900	\$900
14	\$900	\$900	\$900	\$900	\$900
15	\$900	\$900	\$900	\$900	\$900
16	\$900	\$900	\$900	\$900	\$900
17	\$900	\$900	\$900	\$900	\$900
18	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
19	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
20	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
21	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
22	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
23	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
24	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
25	-\$2,100	-\$2,100	-\$2,100	-\$2,100	-\$2,100
26	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
29	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
30	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00



Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
34	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
37	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
39	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
41	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
43	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
44	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
46	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
47	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Asset Correlations

Name	US Stock Market	Total US Bond Market	Inflation
US Stock Market	1.00	-0.04	0.02
Total US Bond Market	-0.04	1.00	-0.14
Inflation	0.02	-0.14	1.00

Asset correlations are based on monthly returns from Jan 1997 to Dec 2020

Expected Annual Return

Percentile	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years	40 Years	50 Years
10th Percentile	-9.03%	-3.52%	-0.48%	2.37%	3.66%	4.45%	4.94%	5.25%	5.67%	5.91%
25th Percentile	0.29%	3.64%	4.50%	5.73%	6.22%	6.47%	6.66%	6.75%	6.90%	7.01%
50th Percentile	11.76%	10.55%	9.67%	9.11%	8.83%	8.60%	8.48%	8.37%	8.28%	8.20%
75th Percentile	21.36%	16.29%	14.37%	12.31%	11.33%	10.59%	10.20%	9.94%	9.58%	9.35%
90th Percentile	28.62%	20.58%	18.01%	14.96%	13.43%	12.39%	11.74%	11.30%	10.74%	10.37%

Annual Return Probabilities

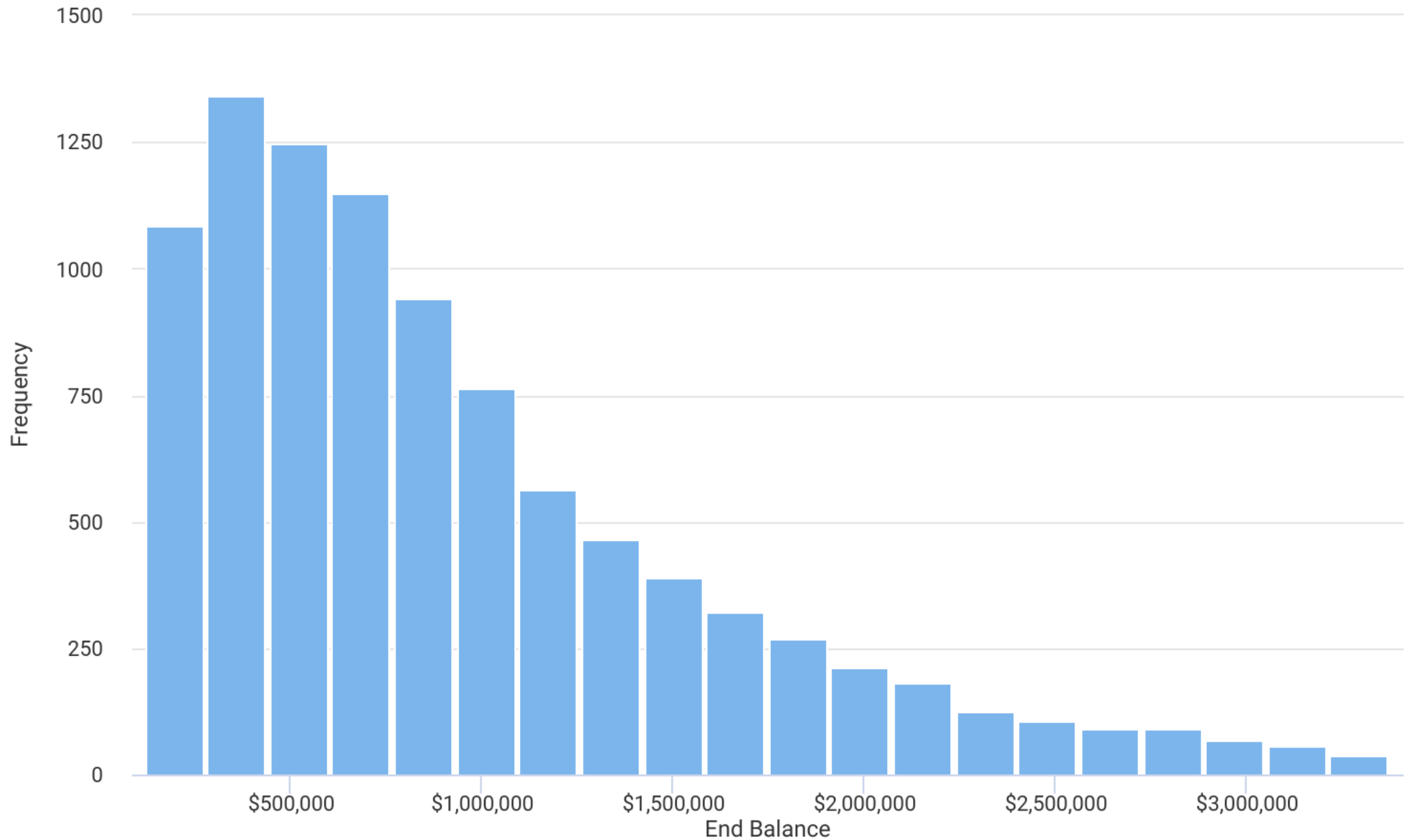
Return	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years	40 Years	50 Years
>= 0.00%	79.23%	83.61%	89.09%	95.68%	98.62%	99.50%	99.89%	99.97%	100.00%	100.00%
>= 2.50%	70.94%	77.85%	82.29%	89.66%	94.32%	96.79%	98.24%	99.03%	99.73%	99.92%
>= 5.00%	70.94%	71.16%	72.79%	78.96%	83.37%	86.91%	89.51%	91.73%	94.66%	96.14%
>= 7.50%	62.36%	62.06%	61.48%	62.52%	63.48%	63.46%	63.87%	64.61%	65.16%	65.52%
>= 10.00%	62.36%	52.27%	48.22%	43.07%	37.59%	31.93%	27.66%	24.08%	18.57%	14.77%
>= 12.50%	49.16%	41.22%	34.74%	23.89%	15.51%	9.28%	5.14%	3.32%	1.22%	0.32%

Loss Probabilities

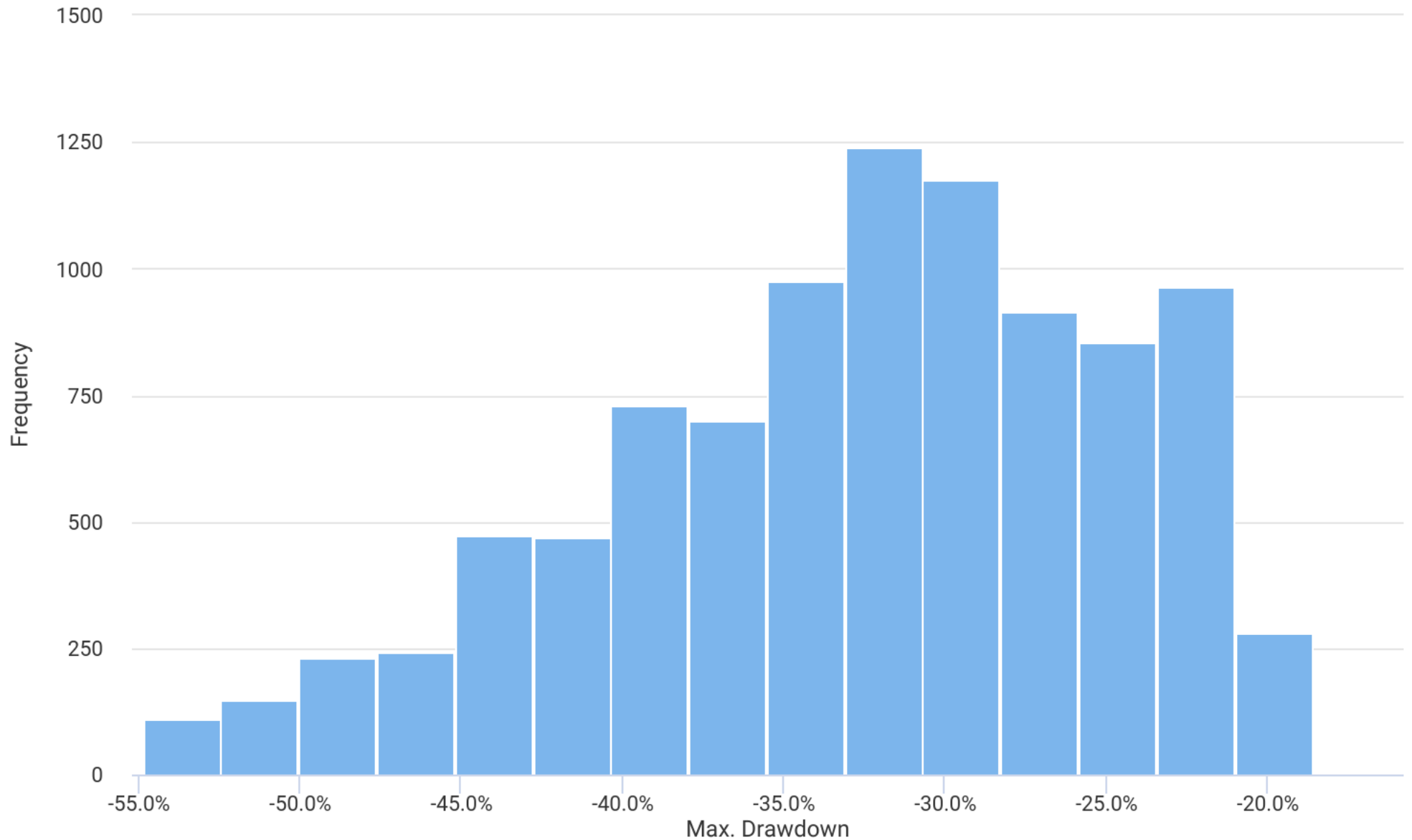
Loss	Loss Probability Excluding Cashflows		Loss Probability Including Cashflows	
	Within Time Period	End of Time Period	Within Time Period	End of Time Period
>= 2.50%	72.43%	0.00%	36.30%	0.11%
>= 5.00%	48.93%	0.00%	27.82%	0.11%
>= 7.50%	46.57%	0.00%	26.51%	0.11%
>= 10.00%	39.47%	0.00%	25.18%	0.11%
>= 12.50%	36.87%	0.00%	20.99%	0.11%
>= 15.00%	33.64%	0.00%	15.54%	0.11%
>= 17.50%	27.86%	0.00%	10.44%	0.11%
>= 20.00%	19.28%	0.00%	6.97%	0.11%
>= 22.50%	17.60%	0.00%	6.25%	0.11%
>= 25.00%	13.38%	0.00%	5.65%	0.11%
>= 27.50%	11.69%	0.00%	5.18%	0.11%
>= 30.00%	10.43%	0.00%	2.15%	0.10%
>= 32.50%	9.06%	0.00%	1.74%	0.10%
>= 35.00%	6.71%	0.00%	1.36%	0.10%
>= 37.50%	5.27%	0.00%	0.74%	0.10%
>= 40.00%	4.24%	0.00%	0.65%	0.10%

Loss is measured against the original portfolio balance.

Portfolio End Balance Histogram (95% of results)



Maximum Drawdown Histogram Excluding Cashflows (95% of results)



Notes:

- Past performance is no guarantee of future results, which may vary. All use is subject to terms of service.
- Investing involves risk, including possible loss of principal. The value of the investments and the income derived from them may fluctuate over time.
- The projections and other information generated by the Monte Carlo simulation tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results. Results may vary with each use and over time, and hypothetical returns do not reflect trading costs, transaction fees, or taxes.
- A Monte Carlo simulation is a mathematical technique designed to provide a range of possible outcomes to determine the probability of a particular result or set of results. The simulation provides a distribution of possible results, which are used to derive the probability of different outcomes.
- The results are based on information from a variety of sources we consider reliable, but we do not represent that the information is accurate or complete.
- The results do not constitute investment advice or recommendation, are provided solely for informational purposes, and are not an offer to buy or sell any securities.
- The results are based on the total return of assets and assume that all received dividends and distributions are reinvested.
- The probability of success is based on the number of simulations the portfolio survives with a positive end balance.
- Maximum drawdown statistics are calculated from simulated monthly balances.
- Safe withdrawal rate is the percentage of the original portfolio balance that can be withdrawn at the end of each year with inflation adjustment without the portfolio running out of money.
- Perpetual withdrawal rate is the percentage of portfolio balance that can be withdrawn at the end of each year while retaining the inflation adjusted portfolio balance.
- The results assume annual rebalancing of portfolio assets at the end of each year.
- Glide path based portfolio allocation changes are done at the start of each year
- Withdrawals are done at the start of each specified time period (fixed amounts before percentage based)
- Contributions are done at the end of each specified time period