

Report Parameters

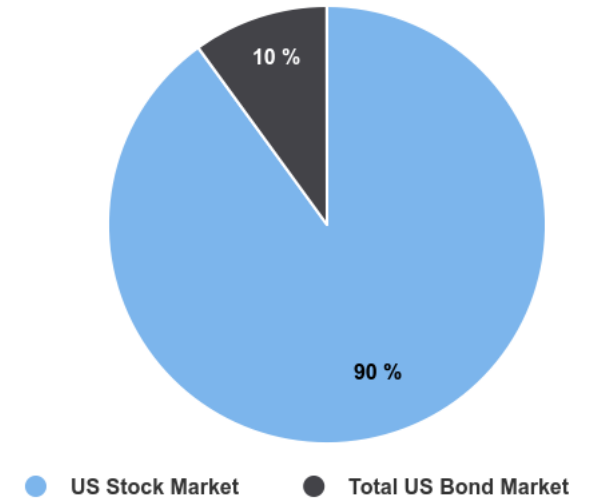
Initial Amount	\$12,000
Career Years	41
Simulation Period	70
Simulation Model	Historical Returns
Bootstrap Model	Single Year
Sequence of Return Risk	No Adjustments
Inflation Model	Historical Inflation

Simulation Description

Monte Carlo simulation results for 10000 portfolios with \$12,000 initial portfolio balance using available historical returns data from Jan 1987 to Dec 2018. 41-year linear glide path was used to transition from starting portfolio to retirement portfolio. The simulated inflation model used historical inflation with 2.61% mean and 1.12% standard deviation based on the Consumer Price Index (CPI-U) data from Jan 1987 to Dec 2018. The generated inflation samples were correlated with simulated asset returns based on historical correlations. The available historical data for the simulation inputs was constrained by Total US Bond Market [Jan 1987 - Apr 2019].

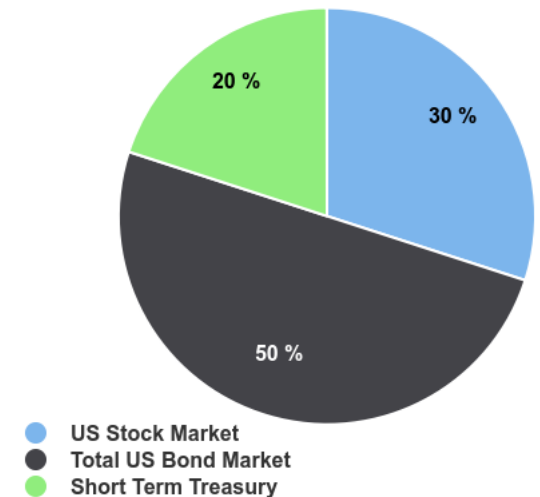
Starting Portfolio

Asset Class	Allocation	CAGR	Expected Annual Return	Annualized Volatility
US Stock Market	90.00%	9.76%	11.02%	14.99%
Total US Bond Market	10.00%	5.78%	5.85%	3.81%



Retirement Portfolio

Asset Class	Allocation	CAGR	Expected Annual Return	Annualized Volatility
US Stock Market	30.00%	9.76%	11.02%	14.99%
Total US Bond Market	50.00%	5.78%	5.85%	3.81%
Short Term Treasury	20.00%	4.53%	4.56%	2.09%



Financial Goals

Purpose	Type	Starts In	Ends In	Frequency	Times	Total	Success
Saving	Contribute \$12,000	1 year	41 years	Annually	41	\$492,000	100.00%
Retirement	Withdraw \$80,000	41 years	69 years	Annually	29	-\$2,320,000	75.96%

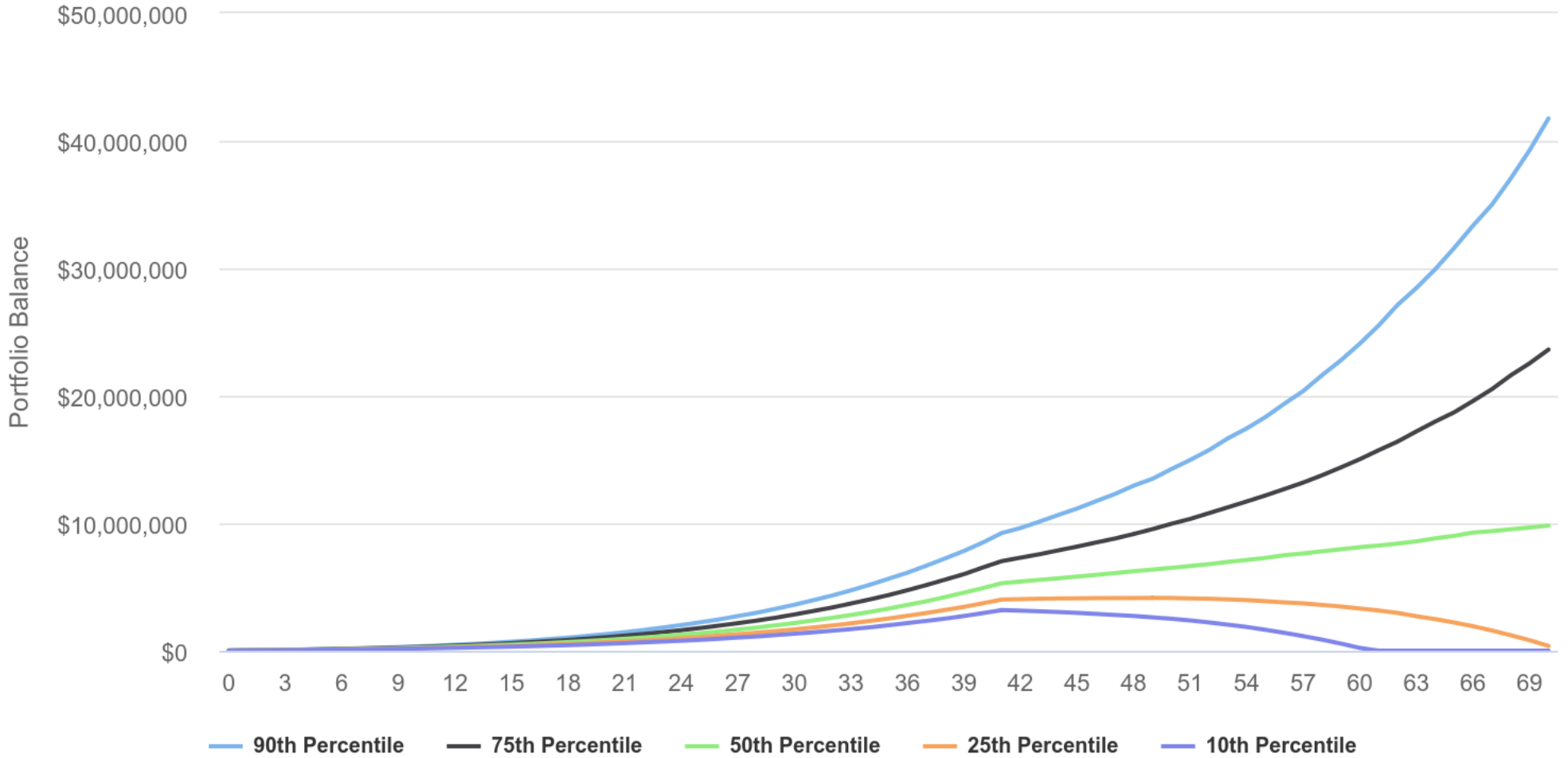
Total is the sum of expected cashflows in present dollars

Summary Statistics

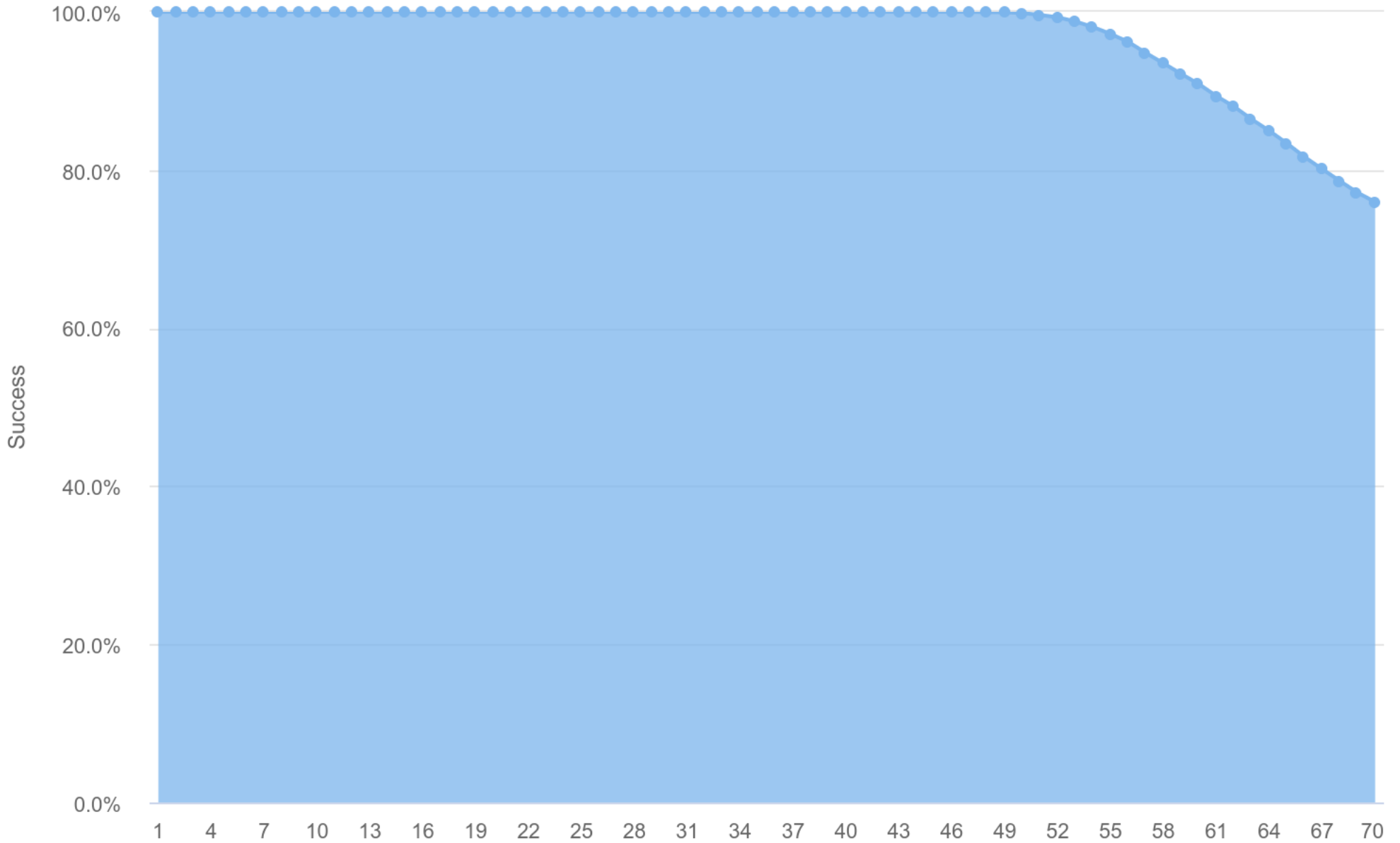
	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
Time Weighted Rate of Return (nominal)	6.38%	7.08%	7.85%	8.61%	9.29%
Time Weighted Rate of Return (real)	3.69%	4.37%	5.11%	5.85%	6.51%
Portfolio End Balance (nominal)	\$0.00	\$372,261	\$9,809,991	\$23,622,347	\$41,751,910
Portfolio End Balance (inflation adjusted)	\$0.00	\$61,557	\$1,641,542	\$3,899,430	\$6,926,934
Maximum Drawdown	-100.00%	-92.81%	-31.19%	-24.02%	-20.05%
Maximum Drawdown Excluding Cashflows	-42.13%	-34.60%	-28.18%	-23.53%	-19.69%
Safe Withdrawal Rate	3.41%	4.53%	6.02%	7.73%	9.49%
Perpetual Withdrawal Rate	3.57%	4.20%	4.87%	5.53%	6.11%

7596 portfolios out of 10000 simulated portfolios (75.96%) survived all withdrawals.

Simulated Portfolio Balances



Portfolio Success



Portfolio Balances (nominal)

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
1	\$23,401	\$24,550	\$25,633	\$26,809	\$27,755	100.00%
2	\$35,451	\$38,170	\$41,141	\$44,047	\$46,140	100.00%
3	\$47,790	\$52,969	\$58,331	\$63,652	\$67,849	100.00%
4	\$61,585	\$69,182	\$77,543	\$85,650	\$92,491	100.00%
5	\$76,670	\$87,212	\$99,000	\$110,838	\$121,486	100.00%
6	\$92,963	\$106,827	\$122,727	\$139,567	\$154,861	100.00%
7	\$109,581	\$127,949	\$148,919	\$171,426	\$192,307	100.00%
8	\$129,874	\$150,849	\$177,683	\$206,426	\$233,463	100.00%
9	\$150,323	\$176,169	\$208,832	\$245,814	\$280,298	100.00%
10	\$173,029	\$203,544	\$243,868	\$288,658	\$333,801	100.00%
11	\$197,993	\$233,985	\$282,122	\$337,549	\$393,716	100.00%
12	\$223,417	\$267,606	\$325,466	\$390,789	\$458,214	100.00%
13	\$252,034	\$303,527	\$371,667	\$451,879	\$531,782	100.00%
14	\$283,413	\$343,074	\$422,762	\$517,542	\$614,517	100.00%
15	\$316,586	\$386,079	\$476,821	\$590,673	\$703,794	100.00%
16	\$354,241	\$431,512	\$537,105	\$665,056	\$798,172	100.00%
17	\$395,549	\$483,519	\$602,804	\$751,437	\$909,095	100.00%
18	\$437,917	\$537,459	\$674,286	\$842,594	\$1,024,324	100.00%
19	\$483,453	\$599,236	\$751,987	\$943,785	\$1,154,739	100.00%
20	\$535,799	\$662,809	\$838,737	\$1,056,634	\$1,297,488	100.00%
21	\$593,905	\$733,896	\$931,527	\$1,175,974	\$1,447,383	100.00%
22	\$655,265	\$810,196	\$1,031,286	\$1,311,872	\$1,622,229	100.00%
23	\$714,528	\$887,276	\$1,139,658	\$1,454,584	\$1,812,642	100.00%
24	\$775,874	\$975,445	\$1,255,829	\$1,608,517	\$2,010,444	100.00%
25	\$851,216	\$1,075,228	\$1,378,340	\$1,778,748	\$2,224,991	100.00%
26	\$937,802	\$1,184,564	\$1,511,152	\$1,965,186	\$2,449,506	100.00%
27	\$1,029,260	\$1,292,984	\$1,660,009	\$2,157,302	\$2,713,995	100.00%
28	\$1,114,230	\$1,408,908	\$1,813,834	\$2,360,649	\$2,974,846	100.00%
29	\$1,223,853	\$1,536,429	\$1,988,636	\$2,583,042	\$3,281,955	100.00%
30	\$1,331,884	\$1,668,250	\$2,169,927	\$2,840,612	\$3,603,686	100.00%
31	\$1,443,678	\$1,819,453	\$2,374,282	\$3,111,570	\$3,957,426	100.00%
32	\$1,563,888	\$1,973,045	\$2,580,232	\$3,386,824	\$4,325,233	100.00%

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
33	\$1,692,557	\$2,146,002	\$2,797,441	\$3,701,260	\$4,733,444	100.00%
34	\$1,834,069	\$2,330,818	\$3,039,600	\$4,020,650	\$5,172,126	100.00%
35	\$1,994,479	\$2,523,785	\$3,302,568	\$4,363,815	\$5,643,633	100.00%
36	\$2,167,981	\$2,738,923	\$3,593,655	\$4,745,890	\$6,121,589	100.00%
37	\$2,337,310	\$2,955,422	\$3,877,253	\$5,147,277	\$6,668,075	100.00%
38	\$2,516,160	\$3,198,662	\$4,206,027	\$5,576,857	\$7,239,334	100.00%
39	\$2,719,650	\$3,438,287	\$4,556,375	\$6,007,687	\$7,828,125	100.00%
40	\$2,947,527	\$3,719,079	\$4,911,764	\$6,529,271	\$8,487,571	100.00%
41	\$3,183,774	\$4,010,224	\$5,292,714	\$7,025,817	\$9,230,016	100.00%
42	\$3,141,308	\$4,038,731	\$5,427,435	\$7,297,802	\$9,625,311	100.00%
43	\$3,091,385	\$4,076,572	\$5,557,016	\$7,564,966	\$10,125,305	100.00%
44	\$3,032,527	\$4,098,857	\$5,676,400	\$7,869,779	\$10,649,402	100.00%
45	\$2,964,933	\$4,105,436	\$5,813,892	\$8,166,827	\$11,151,579	100.00%
46	\$2,887,507	\$4,123,160	\$5,943,912	\$8,487,504	\$11,729,916	100.00%
47	\$2,802,287	\$4,128,333	\$6,087,862	\$8,797,097	\$12,289,718	100.00%
48	\$2,722,563	\$4,130,353	\$6,232,791	\$9,154,496	\$12,949,377	99.97%
49	\$2,615,466	\$4,141,736	\$6,365,764	\$9,537,283	\$13,488,074	99.94%
50	\$2,502,941	\$4,136,186	\$6,497,509	\$9,956,893	\$14,249,070	99.85%
51	\$2,373,368	\$4,098,729	\$6,643,056	\$10,337,841	\$14,966,326	99.61%
52	\$2,214,336	\$4,075,829	\$6,791,445	\$10,794,438	\$15,742,819	99.31%
53	\$2,040,242	\$4,021,560	\$6,964,651	\$11,249,810	\$16,664,621	98.79%
54	\$1,858,975	\$3,966,175	\$7,119,409	\$11,711,150	\$17,442,153	98.08%
55	\$1,636,334	\$3,880,152	\$7,279,188	\$12,181,939	\$18,340,856	97.21%
56	\$1,398,062	\$3,787,684	\$7,489,830	\$12,685,901	\$19,384,591	96.20%
57	\$1,138,892	\$3,707,809	\$7,628,548	\$13,195,210	\$20,377,756	94.80%
58	\$864,242	\$3,588,942	\$7,796,259	\$13,767,684	\$21,625,024	93.49%
59	\$553,004	\$3,461,180	\$7,959,362	\$14,385,210	\$22,792,643	92.16%
60	\$212,509	\$3,308,619	\$8,121,944	\$15,026,088	\$24,097,307	90.87%
61	\$0.00	\$3,150,235	\$8,247,900	\$15,731,785	\$25,523,305	89.35%
62	\$0.00	\$2,962,357	\$8,401,714	\$16,407,288	\$27,133,222	88.01%
63	\$0.00	\$2,700,810	\$8,576,080	\$17,207,853	\$28,460,656	86.41%
64	\$0.00	\$2,471,995	\$8,817,123	\$17,981,576	\$29,938,841	84.95%
65	\$0.00	\$2,210,613	\$9,006,050	\$18,701,459	\$31,593,793	83.36%
66	\$0.00	\$1,919,937	\$9,267,525	\$19,593,250	\$33,347,929	81.64%

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
67	\$0.00	\$1,583,631	\$9,378,322	\$20,515,377	\$34,988,327	80.11%
68	\$0.00	\$1,212,096	\$9,523,889	\$21,601,824	\$37,047,878	78.61%
69	\$0.00	\$821,215	\$9,664,122	\$22,545,704	\$39,261,534	77.13%
70	\$0.00	\$372,261	\$9,809,991	\$23,622,347	\$41,751,910	75.96%

Portfolio Balances (inflation adjusted)

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
1	\$22,750	\$23,844	\$25,112	\$26,182	\$27,202	100.00%
2	\$33,520	\$36,245	\$39,081	\$41,847	\$43,982	100.00%
3	\$44,275	\$48,896	\$53,910	\$58,917	\$62,881	100.00%
4	\$55,643	\$62,245	\$69,809	\$77,321	\$83,658	100.00%
5	\$67,755	\$76,529	\$86,815	\$97,292	\$106,943	100.00%
6	\$79,969	\$91,325	\$104,804	\$119,364	\$132,437	100.00%
7	\$92,084	\$106,780	\$124,033	\$142,931	\$160,331	100.00%
8	\$106,231	\$122,877	\$143,877	\$167,575	\$190,231	100.00%
9	\$120,044	\$139,696	\$165,199	\$194,100	\$222,112	100.00%
10	\$134,419	\$157,784	\$188,115	\$222,730	\$257,302	100.00%
11	\$150,094	\$176,616	\$211,937	\$253,521	\$295,508	100.00%
12	\$164,732	\$197,161	\$238,604	\$286,599	\$335,287	100.00%
13	\$181,507	\$217,573	\$265,170	\$322,240	\$379,276	100.00%
14	\$199,448	\$239,619	\$294,777	\$359,721	\$427,945	100.00%
15	\$215,619	\$262,608	\$324,081	\$398,797	\$477,474	100.00%
16	\$236,911	\$286,631	\$355,847	\$440,374	\$530,049	100.00%
17	\$256,468	\$313,397	\$387,777	\$483,708	\$583,656	100.00%
18	\$278,211	\$339,751	\$423,946	\$529,829	\$644,336	100.00%
19	\$298,587	\$368,248	\$461,742	\$578,169	\$707,850	100.00%
20	\$322,210	\$397,793	\$500,916	\$628,182	\$777,036	100.00%
21	\$348,792	\$427,608	\$544,336	\$685,367	\$841,016	100.00%
22	\$376,078	\$462,737	\$586,068	\$742,499	\$917,166	100.00%
23	\$399,597	\$492,584	\$631,740	\$804,954	\$1,001,991	100.00%
24	\$424,379	\$527,718	\$676,702	\$866,965	\$1,081,887	100.00%
25	\$454,643	\$565,940	\$724,729	\$935,726	\$1,164,904	100.00%
26	\$486,696	\$607,463	\$775,977	\$1,004,404	\$1,254,234	100.00%
27	\$516,731	\$647,533	\$827,187	\$1,074,742	\$1,350,028	100.00%
28	\$549,553	\$687,393	\$883,043	\$1,146,207	\$1,443,388	100.00%
29	\$587,554	\$732,058	\$941,683	\$1,223,109	\$1,554,999	100.00%
30	\$620,281	\$777,338	\$1,000,744	\$1,301,752	\$1,663,025	100.00%
31	\$658,473	\$823,753	\$1,067,951	\$1,395,193	\$1,779,892	100.00%
32	\$695,211	\$874,398	\$1,132,165	\$1,478,677	\$1,897,859	100.00%

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
33	\$736,935	\$923,408	\$1,196,474	\$1,576,638	\$2,015,925	100.00%
34	\$779,928	\$975,855	\$1,269,296	\$1,667,952	\$2,148,120	100.00%
35	\$821,891	\$1,032,041	\$1,341,787	\$1,767,520	\$2,280,982	100.00%
36	\$874,243	\$1,091,846	\$1,419,845	\$1,874,200	\$2,418,371	100.00%
37	\$914,516	\$1,148,486	\$1,498,900	\$1,985,725	\$2,560,412	100.00%
38	\$962,186	\$1,212,135	\$1,584,226	\$2,087,635	\$2,698,614	100.00%
39	\$1,015,286	\$1,274,457	\$1,666,411	\$2,196,659	\$2,852,172	100.00%
40	\$1,066,676	\$1,339,160	\$1,754,441	\$2,310,044	\$3,010,035	100.00%
41	\$1,121,229	\$1,409,564	\$1,847,733	\$2,439,404	\$3,163,804	100.00%
42	\$1,081,303	\$1,387,510	\$1,845,782	\$2,482,151	\$3,227,158	100.00%
43	\$1,037,496	\$1,363,190	\$1,841,804	\$2,512,561	\$3,317,861	100.00%
44	\$991,433	\$1,334,597	\$1,829,328	\$2,527,046	\$3,394,875	100.00%
45	\$950,638	\$1,302,833	\$1,822,183	\$2,560,061	\$3,467,259	100.00%
46	\$901,068	\$1,274,827	\$1,819,218	\$2,599,093	\$3,553,500	100.00%
47	\$847,740	\$1,249,572	\$1,818,739	\$2,634,202	\$3,635,370	100.00%
48	\$803,665	\$1,214,972	\$1,808,812	\$2,672,451	\$3,728,545	99.97%
49	\$752,376	\$1,179,138	\$1,803,312	\$2,710,033	\$3,821,398	99.94%
50	\$700,511	\$1,146,306	\$1,799,388	\$2,737,362	\$3,935,652	99.85%
51	\$651,802	\$1,107,871	\$1,802,045	\$2,774,746	\$4,026,102	99.61%
52	\$591,051	\$1,076,586	\$1,796,140	\$2,815,068	\$4,094,114	99.31%
53	\$527,789	\$1,032,001	\$1,795,049	\$2,874,233	\$4,205,487	98.79%
54	\$467,443	\$988,306	\$1,788,538	\$2,915,436	\$4,314,286	98.08%
55	\$408,623	\$942,901	\$1,787,692	\$2,952,071	\$4,425,183	97.21%
56	\$340,293	\$901,490	\$1,778,542	\$2,988,170	\$4,567,742	96.20%
57	\$267,962	\$854,460	\$1,769,889	\$3,045,507	\$4,663,387	94.80%
58	\$198,962	\$807,369	\$1,769,036	\$3,094,514	\$4,836,481	93.49%
59	\$124,597	\$761,431	\$1,758,257	\$3,149,382	\$4,963,159	92.16%
60	\$46,183	\$707,276	\$1,748,450	\$3,207,336	\$5,110,905	90.87%
61	\$0.00	\$657,997	\$1,737,776	\$3,245,550	\$5,263,724	89.35%
62	\$0.00	\$602,896	\$1,727,706	\$3,311,864	\$5,411,666	88.01%
63	\$0.00	\$545,384	\$1,721,503	\$3,372,456	\$5,611,150	86.41%
64	\$0.00	\$485,416	\$1,717,852	\$3,443,433	\$5,730,841	84.95%
65	\$0.00	\$419,927	\$1,701,572	\$3,489,315	\$5,905,907	83.36%
66	\$0.00	\$353,438	\$1,705,076	\$3,580,610	\$6,100,087	81.64%

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance	Portfolio Success
67	\$0.00	\$287,496	\$1,692,168	\$3,654,374	\$6,267,979	80.11%
68	\$0.00	\$214,682	\$1,663,607	\$3,725,071	\$6,446,921	78.61%
69	\$0.00	\$137,827	\$1,658,102	\$3,800,420	\$6,673,197	77.13%
70	\$0.00	\$61,557	\$1,641,542	\$3,899,430	\$6,926,934	75.96%

Portfolio Cashflows (nominal)

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
1	-\$12,530	-\$12,399	-\$12,305	-\$12,209	-\$12,179
2	-\$12,916	-\$12,753	-\$12,618	-\$12,493	-\$12,377
3	-\$13,315	-\$13,129	-\$12,944	-\$12,777	-\$12,628
4	-\$13,712	-\$13,502	-\$13,283	-\$13,078	-\$12,901
5	-\$14,131	-\$13,881	-\$13,626	-\$13,391	-\$13,195
6	-\$14,546	-\$14,270	-\$13,982	-\$13,719	-\$13,491
7	-\$14,976	-\$14,666	-\$14,346	-\$14,052	-\$13,807
8	-\$15,410	-\$15,071	-\$14,721	-\$14,398	-\$14,125
9	-\$15,858	-\$15,483	-\$15,101	-\$14,745	-\$14,444
10	-\$16,291	-\$15,906	-\$15,496	-\$15,117	-\$14,791
11	-\$16,745	-\$16,343	-\$15,893	-\$15,488	-\$15,142
12	-\$17,221	-\$16,780	-\$16,310	-\$15,869	-\$15,497
13	-\$17,714	-\$17,232	-\$16,738	-\$16,260	-\$15,868
14	-\$18,219	-\$17,701	-\$17,178	-\$16,664	-\$16,240
15	-\$18,727	-\$18,176	-\$17,620	-\$17,087	-\$16,631
16	-\$19,261	-\$18,673	-\$18,070	-\$17,506	-\$17,020
17	-\$19,790	-\$19,178	-\$18,542	-\$17,950	-\$17,437
18	-\$20,338	-\$19,705	-\$19,022	-\$18,397	-\$17,847
19	-\$20,905	-\$20,228	-\$19,522	-\$18,855	-\$18,275
20	-\$21,465	-\$20,769	-\$20,025	-\$19,312	-\$18,714
21	-\$22,054	-\$21,329	-\$20,539	-\$19,799	-\$19,174
22	-\$22,684	-\$21,905	-\$21,068	-\$20,291	-\$19,656
23	-\$23,302	-\$22,498	-\$21,611	-\$20,806	-\$20,136
24	-\$23,942	-\$23,098	-\$22,170	-\$21,321	-\$20,613
25	-\$24,600	-\$23,710	-\$22,750	-\$21,849	-\$21,104
26	-\$25,278	-\$24,362	-\$23,336	-\$22,423	-\$21,593
27	-\$25,967	-\$25,010	-\$23,946	-\$22,982	-\$22,105
28	-\$26,687	-\$25,654	-\$24,581	-\$23,566	-\$22,641
29	-\$27,415	-\$26,342	-\$25,202	-\$24,167	-\$23,222
30	-\$28,173	-\$27,066	-\$25,870	-\$24,779	-\$23,791
31	-\$28,959	-\$27,790	-\$26,543	-\$25,408	-\$24,390
32	-\$29,749	-\$28,514	-\$27,247	-\$26,081	-\$24,974
33	-\$30,565	-\$29,293	-\$27,947	-\$26,708	-\$25,587

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
34	-\$31,364	-\$30,077	-\$28,673	-\$27,395	-\$26,201
35	-\$32,230	-\$30,855	-\$29,424	-\$28,089	-\$26,855
36	-\$33,114	-\$31,656	-\$30,176	-\$28,803	-\$27,541
37	-\$34,026	-\$32,510	-\$30,966	-\$29,544	-\$28,212
38	-\$34,954	-\$33,375	-\$31,746	-\$30,296	-\$28,915
39	-\$35,880	-\$34,274	-\$32,580	-\$31,068	-\$29,618
40	-\$36,873	-\$35,192	-\$33,446	-\$31,827	-\$30,356
41	-\$37,854	-\$36,147	-\$34,305	-\$32,627	-\$31,127
42	\$207,514	\$217,517	\$228,701	\$240,981	\$252,361
43	\$212,795	\$222,963	\$234,596	\$247,505	\$259,205
44	\$218,052	\$228,516	\$240,832	\$254,052	\$266,390
45	\$223,422	\$234,212	\$247,143	\$260,984	\$273,638
46	\$228,932	\$240,028	\$253,562	\$267,816	\$280,950
47	\$234,668	\$246,140	\$260,098	\$274,801	\$288,686
48	\$240,642	\$252,342	\$266,920	\$282,063	\$296,785
49	\$246,512	\$258,936	\$273,873	\$289,547	\$304,659
50	\$252,541	\$265,511	\$280,801	\$297,154	\$313,115
51	\$258,678	\$272,036	\$288,248	\$305,147	\$321,446
52	\$264,729	\$278,847	\$295,721	\$313,205	\$329,934
53	\$270,681	\$285,718	\$303,228	\$321,393	\$339,112
54	\$276,397	\$292,640	\$310,844	\$329,900	\$348,152
55	\$281,969	\$299,522	\$318,674	\$338,333	\$357,393
56	\$286,981	\$306,360	\$326,536	\$346,856	\$366,652
57	\$291,237	\$313,217	\$334,360	\$356,013	\$376,445
58	\$295,023	\$319,824	\$342,453	\$365,304	\$386,340
59	\$296,427	\$326,546	\$350,990	\$374,168	\$396,617
60	\$295,594	\$333,396	\$359,207	\$384,101	\$406,975
61	\$212,509	\$340,202	\$367,843	\$393,474	\$417,244
62	-\$0.00	\$347,118	\$376,462	\$403,591	\$428,217
63	-\$0.00	\$354,066	\$385,434	\$413,583	\$439,547
64	-\$0.00	\$360,615	\$394,426	\$423,814	\$450,875
65	-\$0.00	\$366,460	\$403,694	\$434,653	\$462,353
66	-\$0.00	\$371,606	\$412,558	\$445,225	\$474,625
67	-\$0.00	\$376,853	\$422,096	\$456,382	\$486,679
68	-\$0.00	\$380,669	\$431,414	\$467,710	\$499,121

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
69	-\$0.00	\$383,046	\$441,067	\$478,787	\$511,758
70	-\$0.00	\$381,988	\$450,734	\$490,889	\$524,897

Portfolio Cashflows (inflation adjusted)

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
1	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
2	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
3	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
4	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
5	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
6	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
7	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
8	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
9	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
10	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
11	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
12	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
13	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
14	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
15	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
16	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
17	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
18	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
19	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
20	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
21	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
22	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
23	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
24	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
25	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
26	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
27	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
28	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
29	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
30	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
31	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
32	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
33	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
34	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
35	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
36	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
37	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
38	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
39	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
40	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
41	-\$12,000	-\$12,000	-\$12,000	-\$12,000	-\$12,000
42	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
43	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
44	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
45	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
46	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
47	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
48	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
49	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
50	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
51	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
52	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
53	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
54	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
55	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
56	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
57	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
58	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
59	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
60	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
61	\$46,183	\$80,000	\$80,000	\$80,000	\$80,000
62	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000
63	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000
64	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000
65	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000
66	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000
67	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000
68	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
69	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000
70	-\$0.00	\$80,000	\$80,000	\$80,000	\$80,000

Simulated Assets - Correlations and Returns

Name	US Stock Market	Total US Bond Market	Short Term Treasury	Inflation	CAGR	Expected Annual Return	Annualized Volatility
US Stock Market	1.00	0.07	-0.11	0.01	9.76%	11.02%	14.99%
Total US Bond Market	0.07	1.00	0.84	-0.11	5.78%	5.85%	3.81%
Short Term Treasury	-0.11	0.84	1.00	-0.00	4.53%	4.56%	2.09%
Inflation	0.01	-0.11	-0.00	1.00	2.60%	2.61%	1.12%

Asset correlations and return vs. risk statistics are based on monthly returns from Jan 1987 to Dec 2018

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	-8.38%	-2.49%	0.58%	3.15%	4.36%	5.07%	5.51%	5.80%	6.09%	6.21%
25th Percentile	1.62%	4.17%	5.14%	6.32%	6.79%	7.00%	7.16%	7.25%	7.25%	7.18%
50th Percentile	11.69%	10.43%	9.91%	9.50%	9.31%	9.12%	8.96%	8.78%	8.44%	8.17%
75th Percentile	21.36%	16.24%	14.48%	12.74%	11.76%	11.17%	10.72%	10.29%	9.67%	9.18%
90th Percentile	28.84%	20.69%	18.05%	15.27%	13.93%	12.95%	12.21%	11.66%	10.72%	10.06%

Annual Return Probabilities

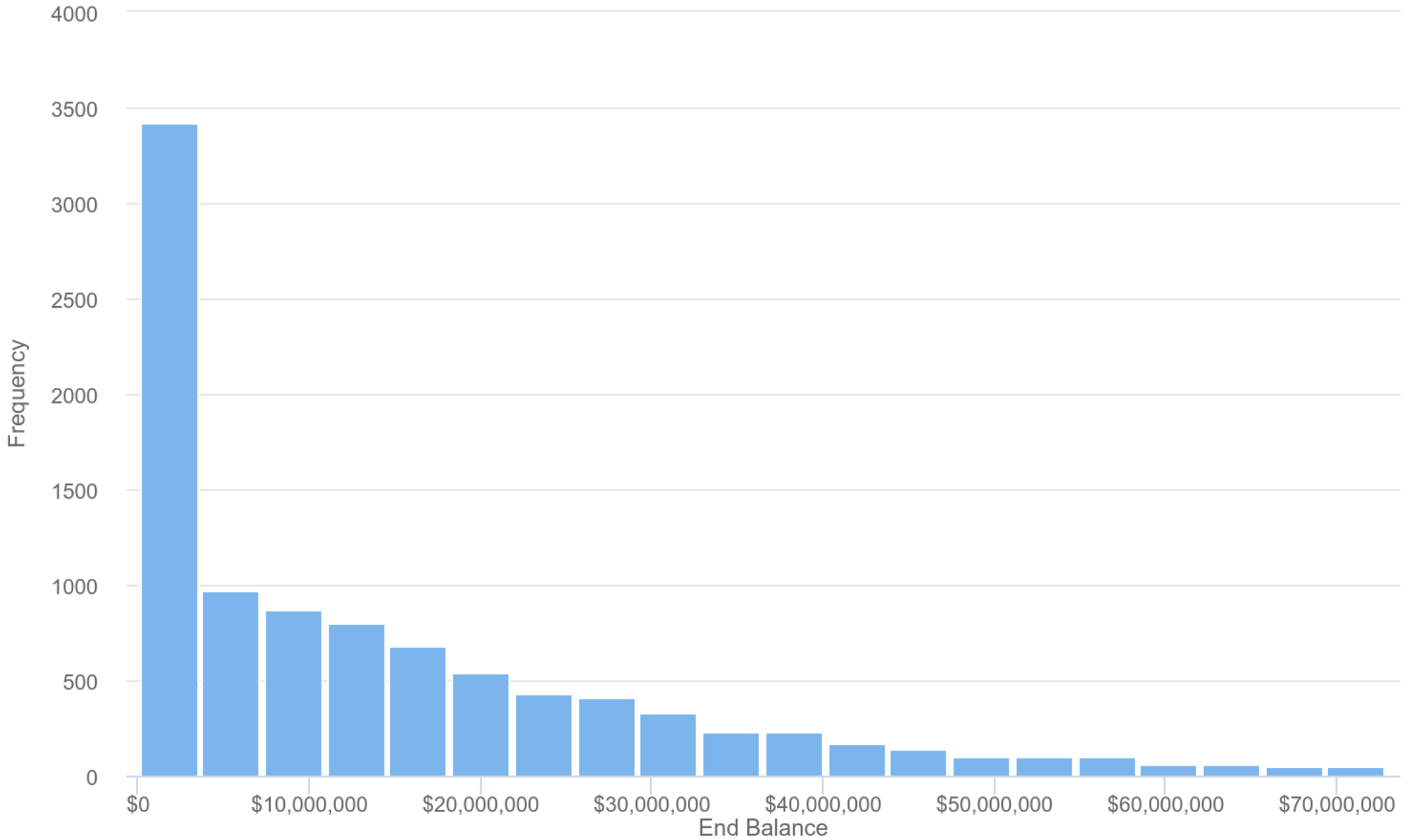
Return	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years	40 Years	50 Years
>= 0.00%	78.45%	85.38%	91.27%	97.11%	99.12%	99.73%	99.93%	99.99%	100.00%	100.00%
>= 2.50%	72.04%	79.41%	84.77%	92.10%	95.97%	98.08%	99.04%	99.53%	99.93%	100.00%
>= 5.00%	69.03%	72.62%	75.52%	82.12%	86.77%	90.31%	92.84%	94.51%	96.93%	98.05%
>= 7.50%	62.52%	62.74%	63.50%	66.28%	68.96%	69.81%	70.92%	71.23%	70.56%	67.84%
>= 10.00%	59.12%	51.83%	49.56%	45.67%	42.85%	38.83%	34.45%	29.20%	19.35%	10.67%
>= 12.50%	46.52%	40.88%	35.78%	26.45%	19.03%	12.90%	8.13%	4.65%	1.04%	0.09%

Loss Probabilities

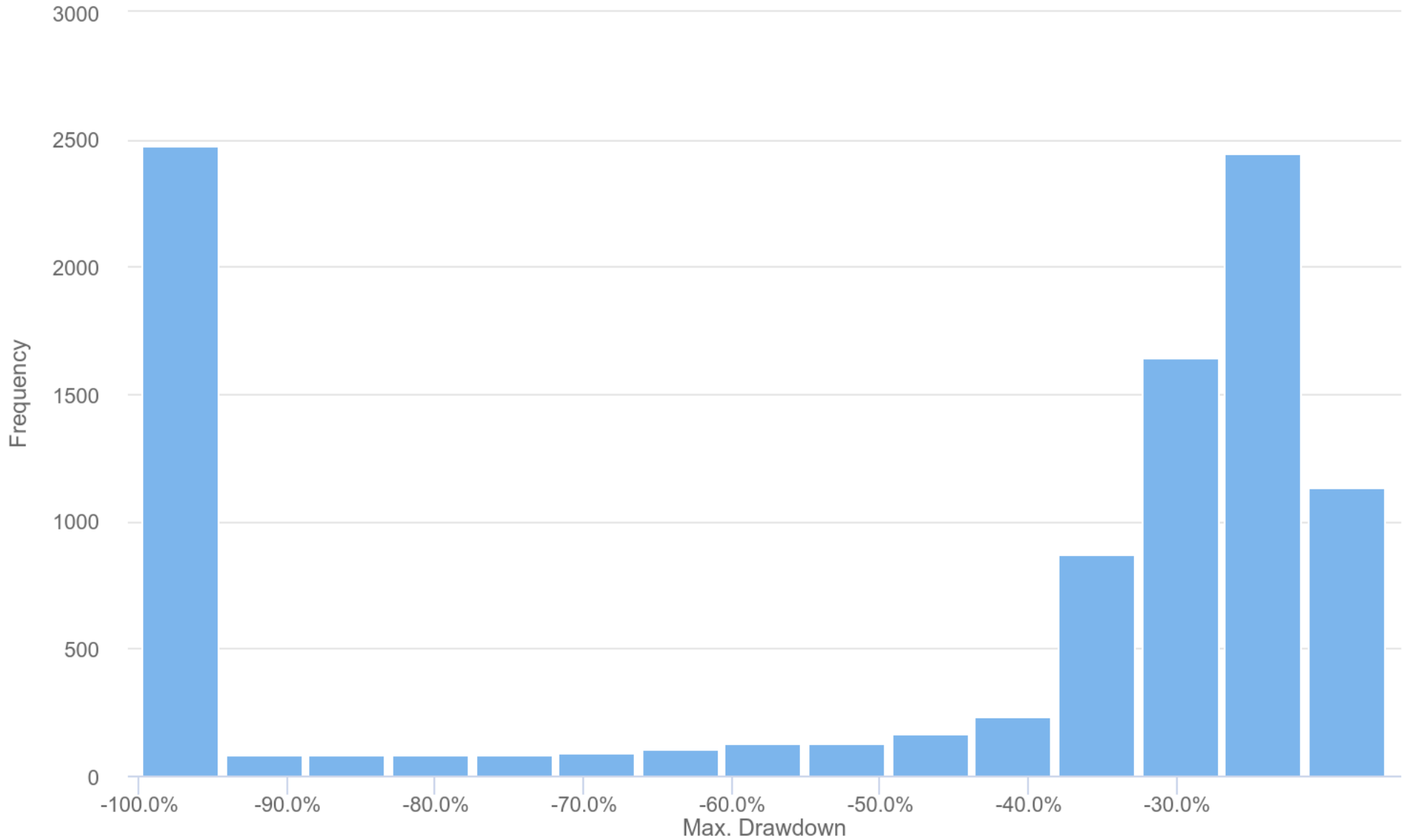
Loss	Loss Probability Excluding Cashflows		Loss Probability Including Cashflows	
	Within Time Period	End of Time Period	Within Time Period	End of Time Period
>= 2.50%	62.12%	0.00%	61.88%	24.09%
>= 5.00%	38.97%	0.00%	40.12%	24.08%
>= 7.50%	36.18%	0.00%	40.12%	24.08%
>= 10.00%	30.13%	0.00%	35.25%	24.08%
>= 12.50%	25.37%	0.00%	32.99%	24.08%
>= 15.00%	22.96%	0.00%	32.99%	24.08%
>= 17.50%	18.64%	0.00%	30.84%	24.08%
>= 20.00%	14.72%	0.00%	28.66%	24.08%
>= 22.50%	13.22%	0.00%	28.66%	24.07%
>= 25.00%	9.59%	0.00%	26.23%	24.07%
>= 27.50%	8.09%	0.00%	26.22%	24.07%
>= 30.00%	6.91%	0.00%	26.22%	24.07%
>= 32.50%	6.11%	0.00%	26.22%	24.06%
>= 35.00%	4.29%	0.00%	24.06%	24.06%
>= 37.50%	2.95%	0.00%	24.06%	24.06%
>= 40.00%	2.27%	0.00%	24.06%	24.06%

Loss is measured against the original portfolio balance.

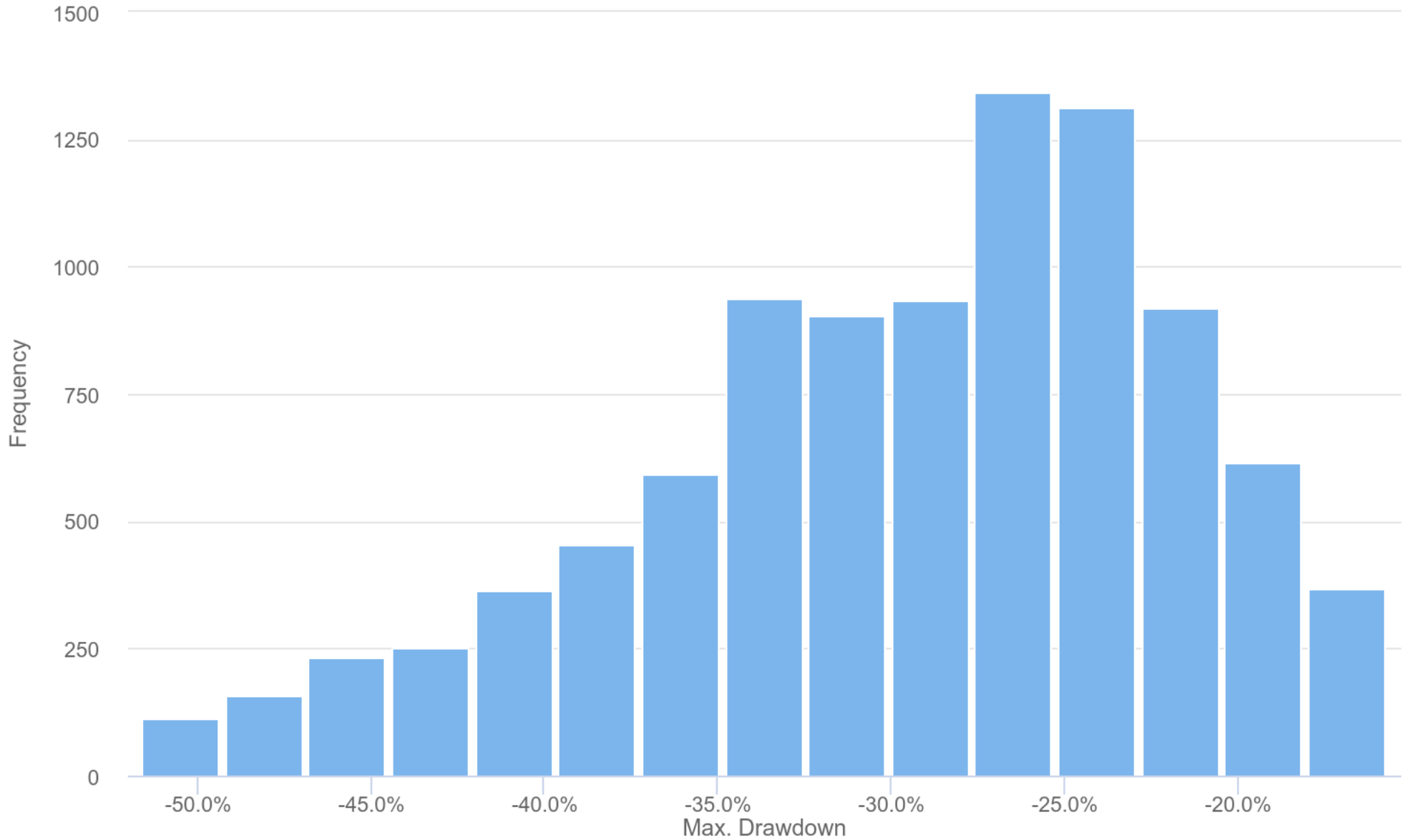
Portfolio End Balance Histogram (95% of results)



Maximum Drawdown Histogram Including Cashflows (95% of results)



Maximum Drawdown Histogram Excluding Cashflows (95% of results)



Notes:

- Monte Carlo simulation uses historical data and thus assumes that the future will, to some extent, mimic the past. The actual future results may vary.
- 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. Taxes and transaction fees are not taken into account.
- Past performance is not a guarantee of future returns and data and other errors may exist. See Disclaimer and Terms of Use
- Glide path based portfolio allocation changes are done as part of annual rebalancing
- 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