

Report Parameters

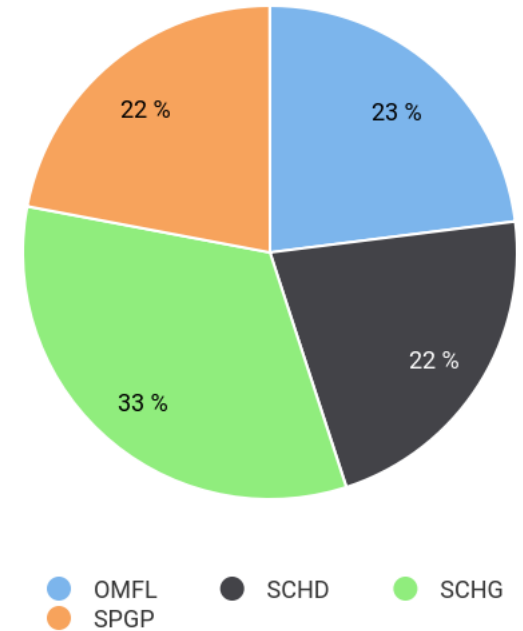
Initial Amount	\$5,000
External Cashflows	Contribute fixed amount periodically
Contribution Amount	\$1,500
Frequency	Annually
Inflation Adjusted	No
Simulation Period	30
Simulation Model	Statistical Returns
Use Full History	Yes
Tax Treatment	Pre-tax Returns
Sequence of Return Risk	No Adjustments
Inflation Model	Historical Inflation

Simulation Description

Monte Carlo simulation results for 5000 portfolios with \$5,000 initial portfolio balance using available statistical model data from Jan 2018 to Dec 2022. Returns were modeled as correlated random samples from a multivariate normal distribution. The historical pre-tax return for the selected portfolio for this period was 14.02% mean return (12.08% CAGR) with 19.18% standard deviation of annual returns. The simulation results are based on generated nominal returns and specified contributions (\$1,500 per year not adjusted for inflation). The simulated inflation model used historical inflation with 3.79% mean and 1.38% standard deviation based on the Consumer Price Index (CPI-U) data from Jan 2018 to Dec 2022. 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 Invesco Russell 1000 Dynamic Mltfct ETF (OMFL) [Dec 2017 - Feb 2023].

Portfolio

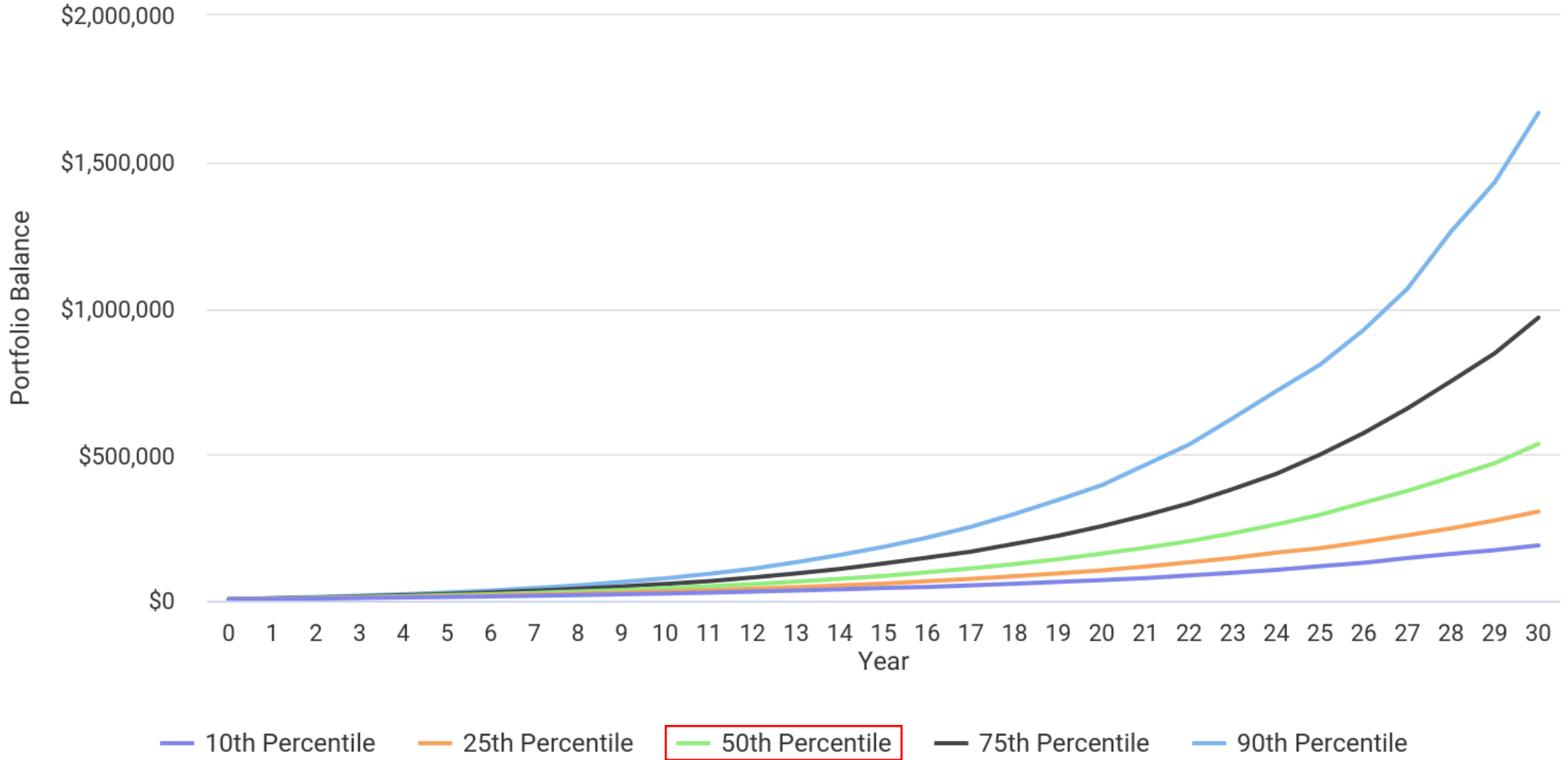
Ticker	Name	Allocation	Expected Annual Return	Annualized Volatility
OMFL	Invesco Russell 1000 Dynamic Mltfct ETF	23.00%	14.19%	19.51%
SCHD	Schwab US Dividend Equity ETF	22.00%	13.48%	18.04%
SCHG	Schwab US Large-Cap Growth ETF	33.00%	12.72%	21.14%
SPGP	Invesco S&P 500 GARP ETF	22.00%	16.50%	21.77%



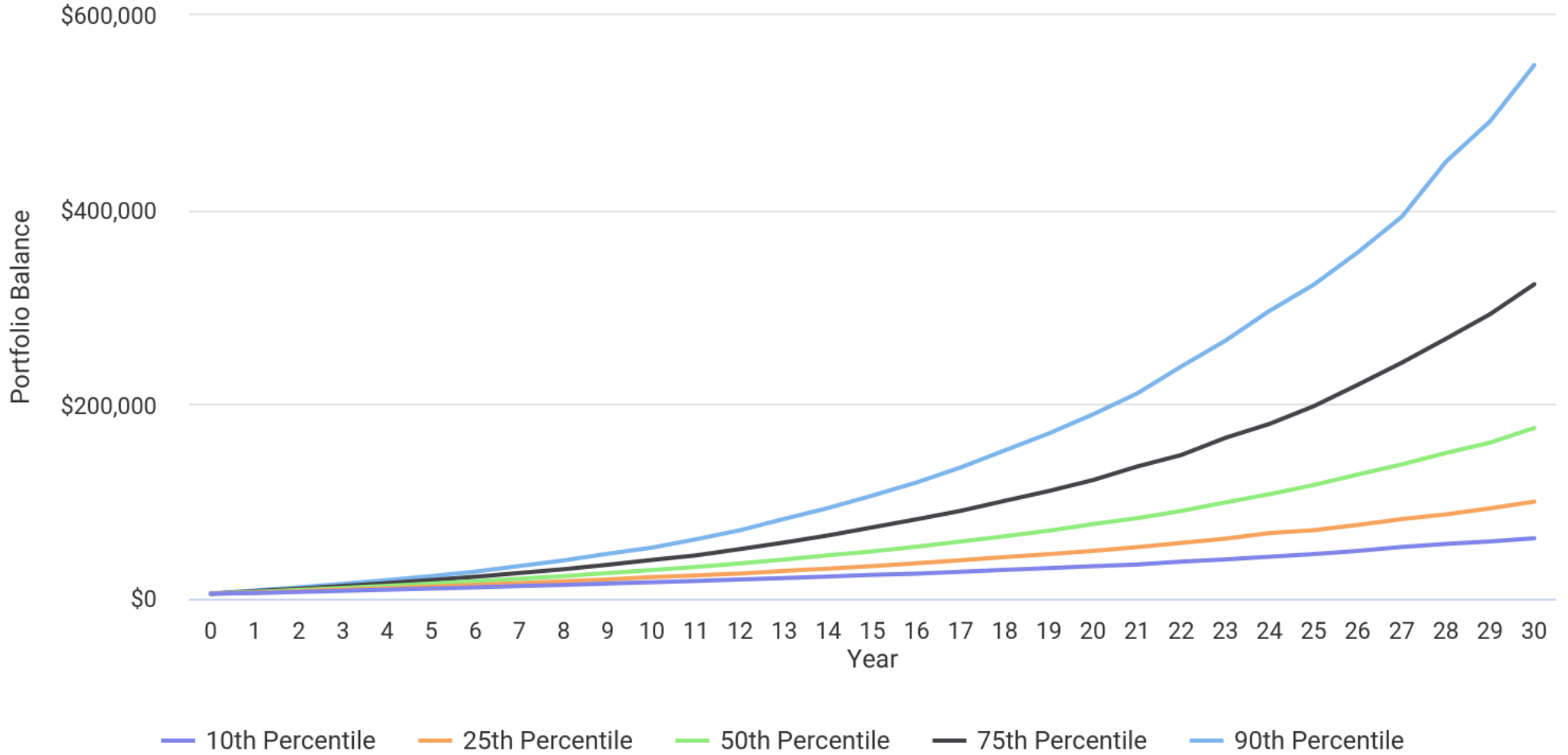
Summary Statistics

	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
Time Weighted Rate of Return (nominal)	7.20%	9.39%	12.03%	14.72%	17.04%
Time Weighted Rate of Return (real)	3.24%	5.37%	7.97%	10.55%	12.82%
Portfolio End Balance (nominal)	\$188,875	\$304,487	\$535,924	\$967,303	\$1,667,263
Portfolio End Balance (real)	\$62,014	\$99,782	\$175,597	\$323,362	\$548,896
Maximum Drawdown	-48.48%	-42.56%	-36.25%	-31.10%	-27.27%
Maximum Drawdown Excluding Cashflows	-54.54%	-47.49%	-40.21%	-34.14%	-29.88%
Safe Withdrawal Rate	4.34%	6.04%	8.36%	11.39%	14.82%
Perpetual Withdrawal Rate	3.18%	5.12%	7.41%	9.56%	11.39%

Portfolio Balance (nominal)



Portfolio Balance (inflation adjusted)



Portfolio Balances (nominal)

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance
1	\$5,897	\$6,427	\$7,124	\$7,902	\$8,657
2	\$7,383	\$8,317	\$9,501	\$10,926	\$12,404
3	\$8,982	\$10,281	\$12,215	\$14,408	\$16,879
4	\$10,669	\$12,508	\$15,143	\$18,349	\$21,925
5	\$12,429	\$14,971	\$18,556	\$22,795	\$27,691
6	\$14,391	\$17,682	\$22,181	\$27,867	\$34,559
7	\$16,784	\$20,625	\$26,389	\$34,084	\$43,042
8	\$19,090	\$23,946	\$31,017	\$40,554	\$52,091
9	\$21,714	\$27,532	\$36,397	\$48,501	\$64,108
10	\$24,454	\$32,113	\$42,823	\$57,184	\$76,246
11	\$27,415	\$35,940	\$49,010	\$66,597	\$91,630
12	\$30,951	\$40,508	\$56,396	\$79,238	\$109,024
13	\$34,645	\$46,216	\$65,238	\$93,060	\$131,437
14	\$38,700	\$51,802	\$74,599	\$108,277	\$156,251
15	\$43,198	\$58,231	\$84,372	\$127,054	\$183,788
16	\$46,724	\$66,308	\$96,922	\$147,040	\$215,612
17	\$52,247	\$74,466	\$110,141	\$167,423	\$252,254
18	\$57,850	\$83,581	\$125,075	\$194,271	\$296,213
19	\$64,071	\$93,156	\$141,511	\$221,842	\$344,469
20	\$70,272	\$103,448	\$160,867	\$254,686	\$394,705
21	\$76,967	\$116,583	\$180,891	\$291,745	\$464,316
22	\$86,159	\$130,942	\$203,203	\$332,709	\$533,791
23	\$95,205	\$145,878	\$230,511	\$381,524	\$623,712
24	\$105,227	\$164,369	\$260,791	\$433,680	\$716,525
25	\$117,773	\$179,335	\$293,472	\$499,379	\$806,878
26	\$129,399	\$200,791	\$334,841	\$573,164	\$925,756
27	\$145,687	\$223,488	\$375,177	\$657,046	\$1,066,607
28	\$159,713	\$247,146	\$421,934	\$750,179	\$1,262,073
29	\$172,554	\$274,091	\$469,988	\$845,579	\$1,429,982
30	\$188,875	\$304,487	\$535,924	\$967,303	\$1,667,263

Portfolio Balances (inflation adjusted)

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance
1	\$5,668	\$6,188	\$6,861	\$7,638	\$8,357
2	\$6,818	\$7,720	\$8,826	\$10,153	\$11,542
3	\$7,997	\$9,199	\$10,916	\$12,904	\$15,154
4	\$9,153	\$10,759	\$13,007	\$15,919	\$19,023
5	\$10,276	\$12,389	\$15,393	\$19,092	\$23,105
6	\$11,500	\$14,101	\$17,794	\$22,430	\$27,752
7	\$12,889	\$15,849	\$20,373	\$26,337	\$33,490
8	\$14,045	\$17,775	\$23,069	\$30,204	\$39,267
9	\$15,504	\$19,666	\$26,263	\$34,794	\$46,130
10	\$16,798	\$22,071	\$29,371	\$39,761	\$52,412
11	\$18,152	\$23,839	\$32,534	\$44,442	\$61,005
12	\$19,650	\$25,747	\$36,161	\$50,961	\$70,367
13	\$21,102	\$28,491	\$40,187	\$57,680	\$82,014
14	\$22,709	\$30,811	\$44,565	\$65,031	\$93,262
15	\$24,406	\$33,392	\$48,578	\$73,314	\$106,008
16	\$25,641	\$36,346	\$53,394	\$81,590	\$119,497
17	\$27,602	\$39,464	\$58,700	\$90,301	\$134,955
18	\$29,506	\$42,723	\$64,131	\$100,615	\$152,510
19	\$31,372	\$45,721	\$69,862	\$110,711	\$169,982
20	\$33,295	\$49,061	\$76,719	\$121,978	\$189,604
21	\$35,044	\$52,902	\$82,698	\$135,902	\$211,089
22	\$38,035	\$57,276	\$90,185	\$147,735	\$238,877
23	\$40,295	\$61,648	\$98,947	\$165,404	\$265,414
24	\$43,062	\$67,414	\$107,434	\$179,749	\$296,078
25	\$45,766	\$70,361	\$116,841	\$197,908	\$322,891
26	\$49,040	\$75,791	\$127,679	\$219,969	\$356,224
27	\$53,111	\$81,797	\$138,069	\$242,775	\$393,003
28	\$56,270	\$86,628	\$149,873	\$267,400	\$449,538
29	\$58,810	\$92,851	\$160,457	\$292,679	\$491,142
30	\$62,014	\$99,782	\$175,597	\$323,362	\$548,896

Portfolio Cashflows (nominal)

Year	10th Percentile Cashflow	25th Percentile Cashflow	50th Percentile Cashflow	75th Percentile Cashflow	90th Percentile Cashflow
1	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
2	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
3	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
4	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
5	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
6	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
7	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
8	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
9	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
10	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
11	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
12	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
13	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
14	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
15	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
16	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
17	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
18	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
19	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
20	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
21	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
22	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
23	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
24	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
25	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
26	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
27	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
28	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
29	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
30	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500

Asset Correlations

Name	Ticker	OMFL	SCHD	SCHG	SPGP	^CPIU
Invesco Russell 1000 Dynamic Mltfct ETF	OMFL	1.00	0.94	0.82	0.92	-0.16
Schwab US Dividend Equity ETF	SCHD	0.94	1.00	0.80	0.93	-0.07
Schwab US Large-Cap Growth ETF	SCHG	0.82	0.80	1.00	0.88	-0.07
Invesco S&P 500 GARP ETF	SPGP	0.92	0.93	0.88	1.00	-0.06
Inflation	^CPIU	-0.16	-0.07	-0.07	-0.06	1.00

Asset correlations are based on monthly returns from Jan 2018 to Dec 2022

Expected Annual Return

Percentile	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
10th Percentile	-12.06%	-2.59%	0.14%	3.63%	5.05%	5.96%	6.66%	7.20%
25th Percentile	-1.45%	4.00%	5.69%	7.64%	8.34%	8.83%	9.15%	9.39%
50th Percentile	12.47%	12.08%	12.04%	12.04%	12.02%	11.95%	11.98%	12.03%
75th Percentile	28.05%	20.99%	18.73%	16.48%	15.80%	15.23%	14.83%	14.72%
90th Percentile	43.15%	29.19%	25.01%	20.99%	19.47%	18.31%	17.62%	17.04%

Annual Return Probabilities

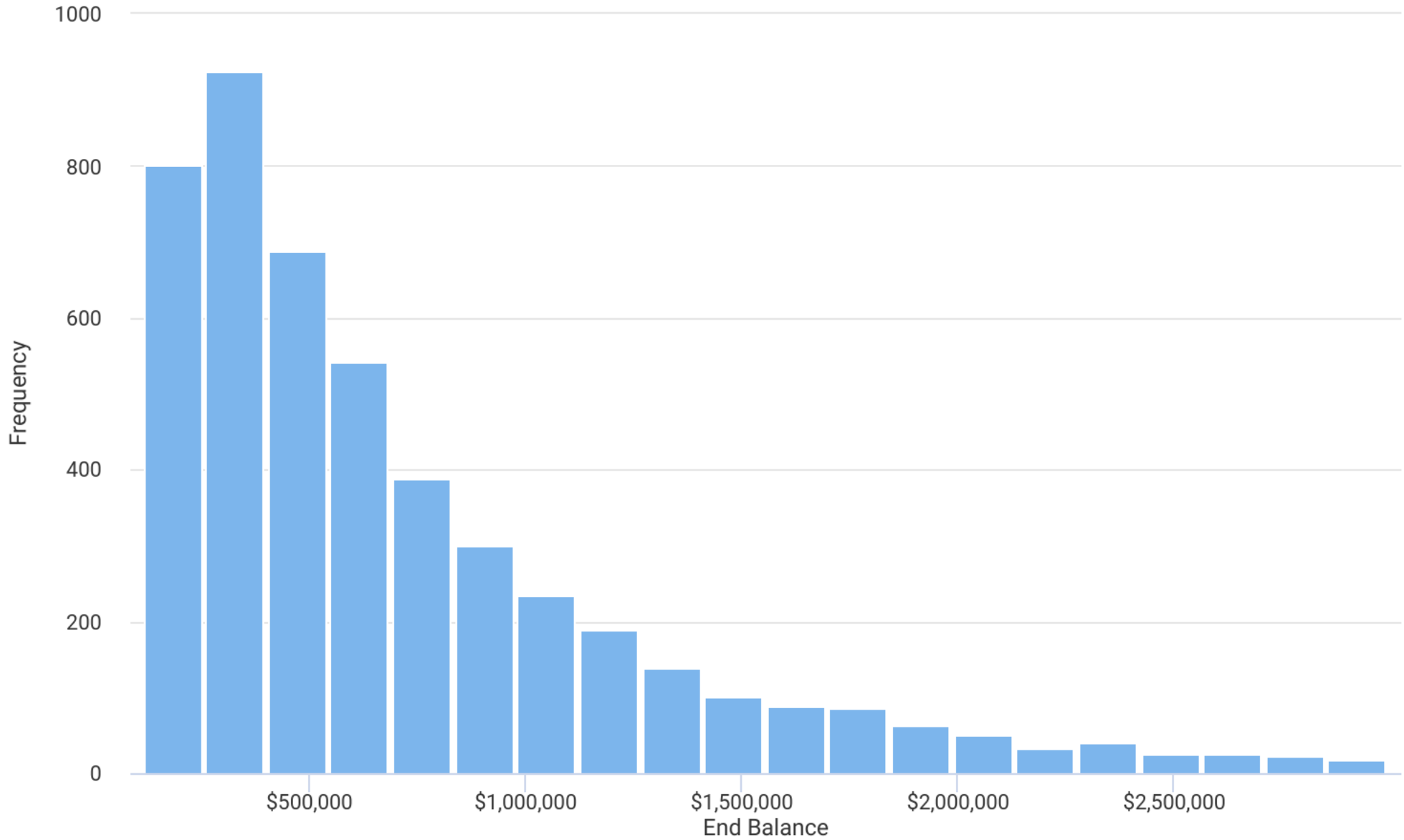
Return	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
>= 0.00%	72.64%	85.02%	90.40%	96.52%	98.98%	99.74%	99.90%	99.90%
>= 2.50%	68.60%	79.30%	84.54%	92.38%	96.42%	97.86%	99.12%	99.46%
>= 5.00%	63.42%	72.20%	77.36%	85.60%	90.10%	92.96%	95.68%	97.42%
>= 7.50%	59.02%	64.40%	68.76%	75.70%	79.78%	82.90%	85.68%	88.40%
>= 10.00%	54.68%	56.52%	58.72%	61.82%	63.80%	65.98%	68.34%	69.24%
>= 12.50%	49.94%	48.92%	48.20%	47.10%	46.28%	45.44%	45.44%	44.62%

Loss Probabilities

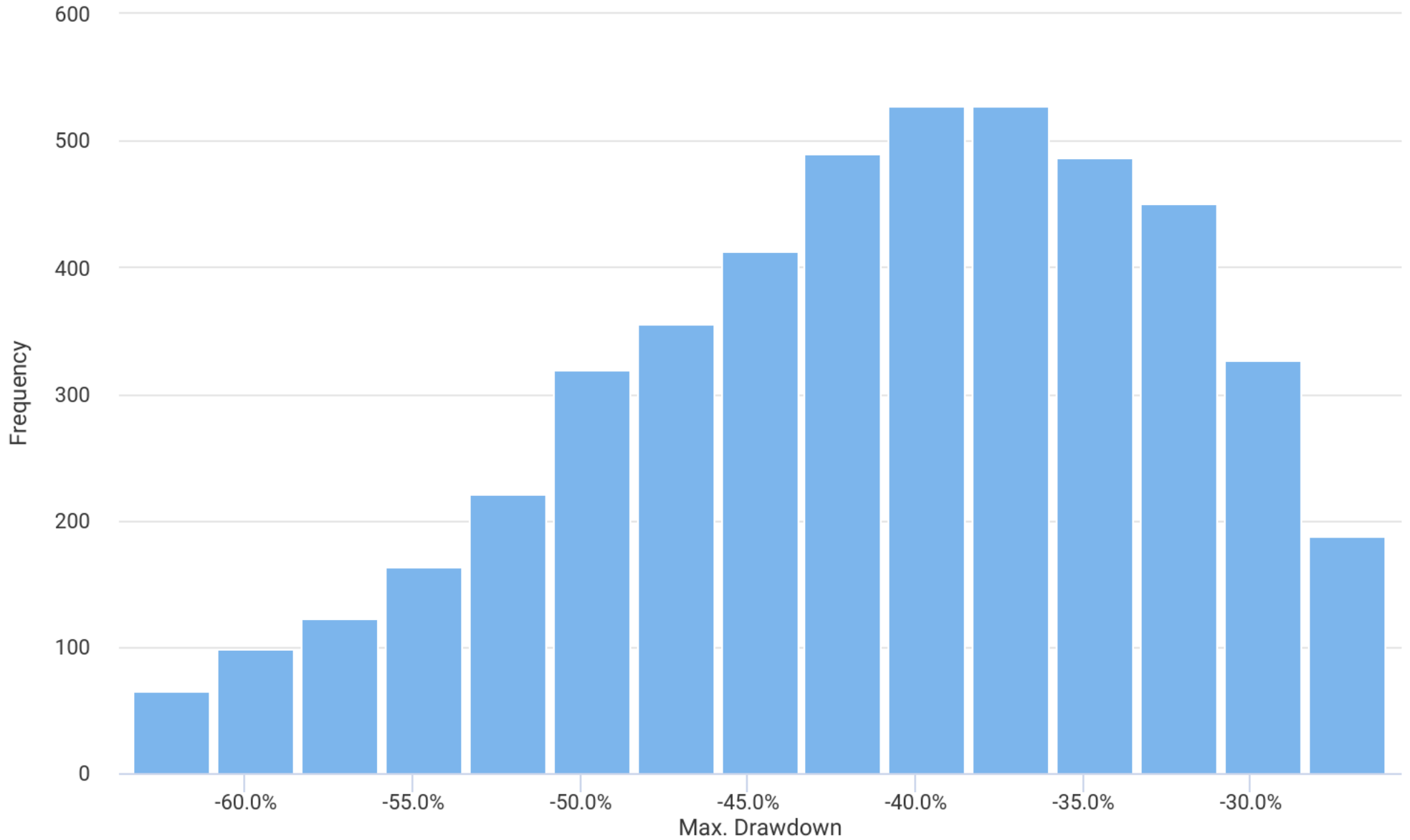
Loss	Loss Probability Excluding Cashflows		Loss Probability Including Cashflows	
	Within Time Period	End of Time Period	Within Time Period	End of Time Period
>= 2.50%	68.76%	0.10%	60.08%	0.00%
>= 5.00%	59.30%	0.10%	48.04%	0.00%
>= 7.50%	50.64%	0.08%	37.52%	0.00%
>= 10.00%	43.36%	0.08%	27.98%	0.00%
>= 12.50%	36.20%	0.06%	20.76%	0.00%
>= 15.00%	30.44%	0.04%	15.18%	0.00%
>= 17.50%	25.40%	0.04%	10.76%	0.00%
>= 20.00%	21.04%	0.04%	7.10%	0.00%
>= 22.50%	17.22%	0.04%	4.22%	0.00%
>= 25.00%	13.98%	0.04%	2.60%	0.00%
>= 27.50%	11.18%	0.04%	1.56%	0.00%
>= 30.00%	9.30%	0.04%	0.82%	0.00%
>= 32.50%	7.40%	0.04%	0.50%	0.00%
>= 35.00%	5.70%	0.02%	0.26%	0.00%
>= 37.50%	4.44%	0.02%	0.12%	0.00%
>= 40.00%	3.64%	0.02%	0.10%	0.00%

Loss is measured against the original portfolio balance.

Portfolio End Balance Histogram (95% of results)



Maximum Drawdown Histogram Excluding Cashflows (95% of results)



Notes:

- **IMPORTANT:** The projections or other information generated by Portfolio Visualizer 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.
- 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. All use is subject to terms of service.
- Investing involves risk, including possible loss of principal. Past performance is not a guarantee of future results.
- Asset allocation and diversification strategies do not guarantee a profit or protect against a loss.
- Hypothetical returns do not reflect trading costs, transaction fees, commissions, or actual taxes due on investment returns.
- 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.
- Refer to the related documentation sections for more details on terms and definitions, methodology, and data sources.
- A Monte Carlo simulation is a mathematical technique used to provide a range of possible outcomes and to approximate the probability of certain outcomes by running multiple trial runs, called simulations, using random variables. The simulation results are displayed by percentile, a 5th percentile result means that 5% of the simulated portfolios did worse and 95% of simulated portfolios did better for the given return or risk metric. At the median point (50th percentile), half of the simulated portfolios did better and half did worse.
- The results are based on the total return of assets and assume that all received dividends and distributions are reinvested.
- Compound annualized growth rate (CAGR) is the annualized geometric mean return of the portfolio. It is calculated from the portfolio start and end balance and is thus impacted by any cashflows.
- The time-weighted rate of return (TWRR) is a measure of the compound rate of growth in a portfolio. This is calculated from the holding period returns (e.g. monthly returns), and TWRR will thus not be impacted by cashflows. If there are no external cashflows, TWRR will equal CAGR.
- The money-weighted rate of return (MWRR) is the internal rate of return (IRR) taking into account cashflows. This is the discount rate at which the present value of cash inflows equals the present value of cash outflows.
- Real return and balance are inflation adjusted values and show the growth of the purchasing power of the portfolio. Nominal return and balance show the portfolio gains without accounting for inflation.
- Standard deviation (Stdev) is used to measure the dispersion of returns around the mean and is often used as a measure of risk. A higher standard deviation implies greater the dispersion of data points around the mean.
- Correlation measures to what degree the returns of the two assets move in relation to each other. Correlation coefficient is a numerical value between -1 and +1. If one variable goes up by a certain amount, the correlation coefficient indicates which way the other variable moves and by how much. Asset correlations are calculated based on monthly returns.
- A drawdown refers to the decline in value of a single investment or an investment portfolio from a relative peak value to a relative trough. A maximum drawdown (Max Drawdown) is the maximum observed loss from a peak to a trough of a portfolio before a new peak is attained. Drawdown statistics are calculated from simulated monthly returns.
- All risk measures for the portfolio and portfolio assets are calculated based on monthly returns.
- The results are based on simulating 5000 portfolio return paths.
- The probability of success is based on the number of simulations the portfolio survives with a positive end balance.
- 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.
- Contributions and withdrawals are done at the end of each specified time period.