

### Report Parameters

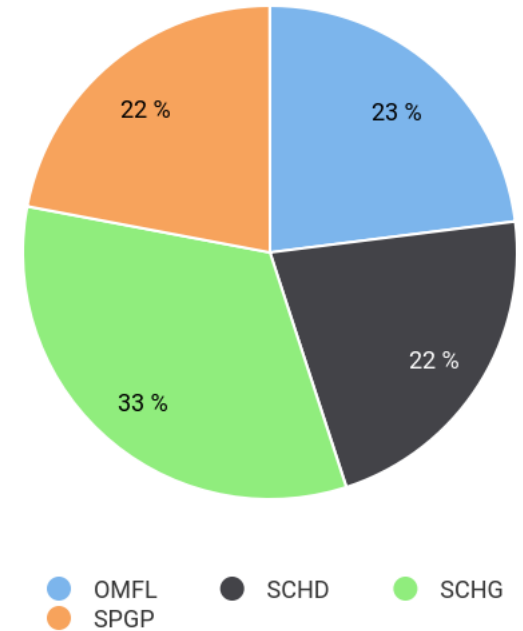
<b>Initial Amount</b>	\$15,000
<b>External Cashflows</b>	Contribute fixed amount periodically
<b>Contribution Amount</b>	\$2,000
<b>Frequency</b>	Annually
<b>Inflation Adjusted</b>	No
<b>Simulation Period</b>	30
<b>Simulation Model</b>	Statistical Returns
<b>Use Full History</b>	Yes
<b>Tax Treatment</b>	Pre-tax Returns
<b>Sequence of Return Risk</b>	No Adjustments
<b>Inflation Model</b>	Historical Inflation

**Simulation Description**

Monte Carlo simulation results for 5000 portfolios with \$15,000 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 (\$2,000 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**

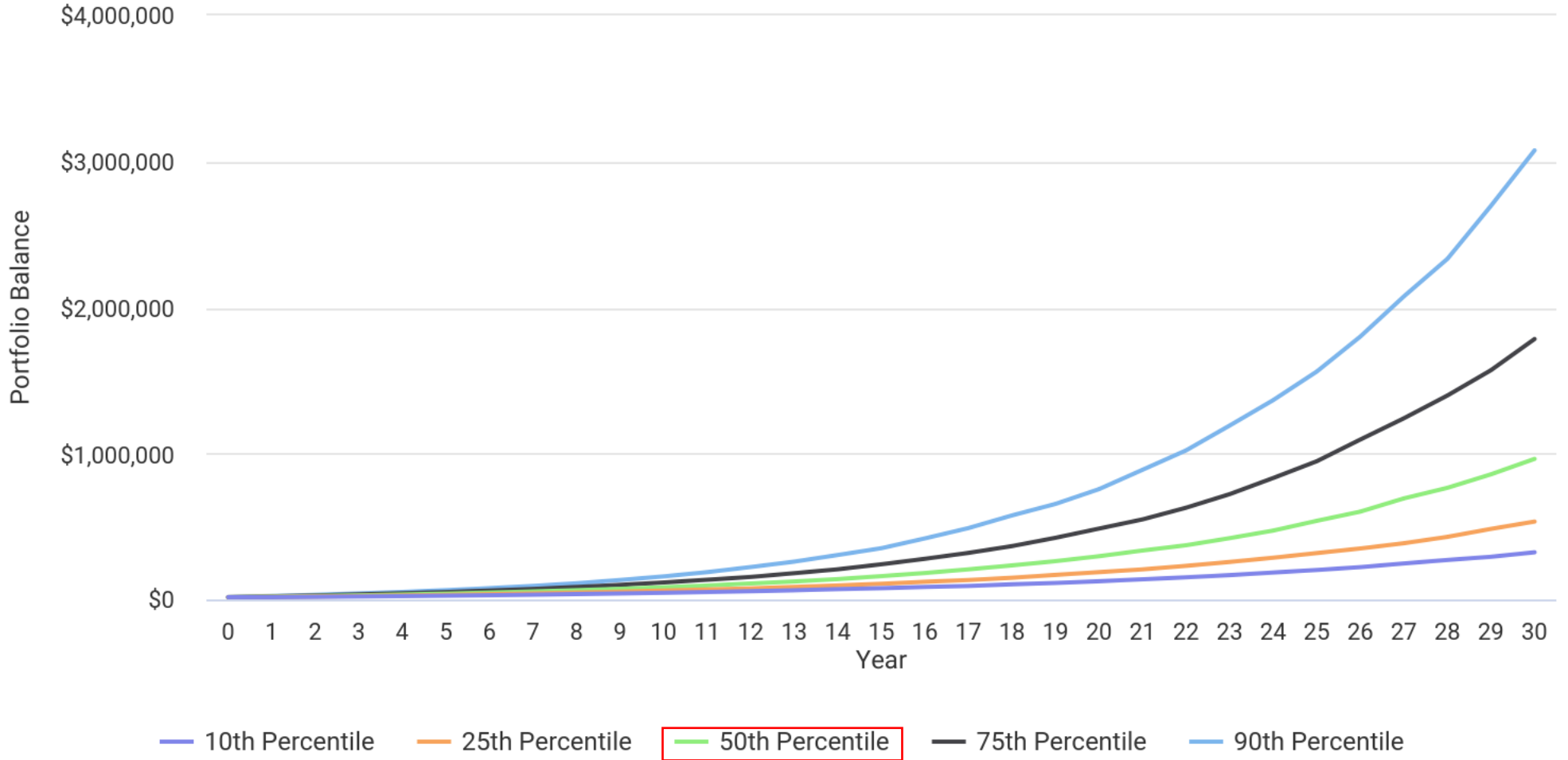
Ticker	Name	Allocation	Expected Annual Return	Annualized Volatility
OMFL	Invesco Russell 1000 Dynamic Mltfct ETF	23.00%	14.19%	19.51%
SCHD	Schwab US Dividend Equity ETF	22.00%	13.48%	18.04%
SCHG	Schwab US Large-Cap Growth ETF	33.00%	12.72%	21.14%
SPGP	Invesco S&P 500 GARP ETF	22.00%	16.50%	21.77%



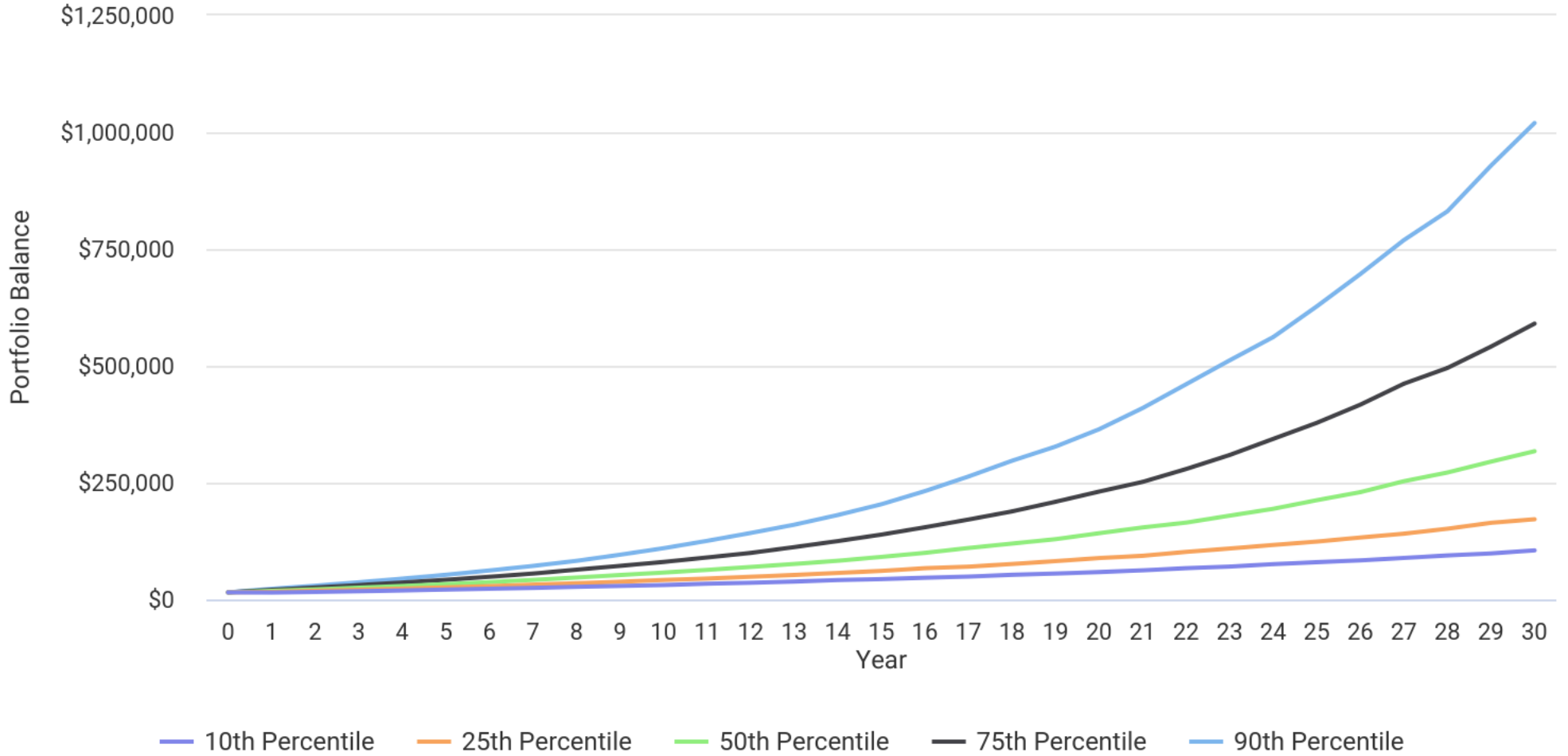
Summary Statistics

	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
Time Weighted Rate of Return (nominal)	7.30%	9.41%	11.99%	14.67%	17.05%
Time Weighted Rate of Return (real)	3.28%	5.37%	7.90%	10.47%	12.85%
Portfolio End Balance (nominal)	\$322,581	\$533,139	\$962,509	\$1,783,511	\$3,075,833
Portfolio End Balance (real)	\$104,901	\$171,499	\$317,175	\$590,301	\$1,019,719
Maximum Drawdown	-49.76%	-42.96%	-36.96%	-31.70%	-27.84%
Maximum Drawdown Excluding Cashflows	-54.31%	-47.07%	-40.28%	-34.20%	-29.84%
Safe Withdrawal Rate	4.42%	5.99%	8.39%	11.42%	14.76%
Perpetual Withdrawal Rate	3.22%	5.12%	7.35%	9.49%	11.40%

### 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	\$15,125	\$16,807	\$18,875	\$21,084	\$23,455
2	\$17,195	\$19,757	\$23,085	\$27,160	\$31,309
3	\$19,509	\$23,007	\$27,852	\$34,169	\$40,792
4	\$22,204	\$26,794	\$33,246	\$41,795	\$50,991
5	\$25,369	\$30,841	\$39,258	\$50,096	\$62,978
6	\$28,576	\$35,582	\$46,345	\$60,242	\$76,848
7	\$32,188	\$40,839	\$54,192	\$71,376	\$92,249
8	\$36,425	\$46,701	\$62,762	\$85,057	\$110,327
9	\$40,474	\$52,801	\$72,659	\$99,348	\$132,871
10	\$44,939	\$60,608	\$82,870	\$116,076	\$157,429
11	\$50,557	\$67,710	\$95,175	\$134,556	\$186,610
12	\$56,131	\$75,516	\$109,027	\$153,697	\$221,595
13	\$62,325	\$85,456	\$122,794	\$179,449	\$258,679
14	\$70,290	\$95,603	\$138,983	\$206,186	\$304,042
15	\$76,687	\$106,779	\$159,372	\$240,424	\$350,603
16	\$85,103	\$120,765	\$180,679	\$278,018	\$417,789
17	\$92,077	\$132,521	\$205,695	\$318,530	\$488,465
18	\$103,364	\$148,203	\$232,940	\$365,075	\$575,223
19	\$112,548	\$167,852	\$261,913	\$422,032	\$654,030
20	\$124,290	\$186,741	\$295,787	\$485,166	\$755,450
21	\$137,701	\$205,627	\$334,885	\$548,115	\$888,064
22	\$151,189	\$229,785	\$370,996	\$628,171	\$1,021,022
23	\$166,253	\$256,561	\$419,527	\$721,076	\$1,191,090
24	\$184,087	\$285,432	\$471,509	\$831,675	\$1,365,191
25	\$201,416	\$317,212	\$538,244	\$946,406	\$1,560,964
26	\$220,949	\$348,779	\$601,262	\$1,095,121	\$1,800,553
27	\$246,160	\$384,788	\$691,824	\$1,240,609	\$2,075,656
28	\$270,117	\$428,375	\$764,244	\$1,396,778	\$2,332,968
29	\$291,855	\$483,020	\$856,824	\$1,570,112	\$2,696,322
30	\$322,581	\$533,139	\$962,509	\$1,783,511	\$3,075,833

**Portfolio Balances (inflation adjusted)**

Year	10th Percentile Balance	25th Percentile Balance	50th Percentile Balance	75th Percentile Balance	90th Percentile Balance
1	\$14,549	\$16,168	\$18,191	\$20,384	\$22,608
2	\$15,915	\$18,330	\$21,422	\$25,274	\$29,261
3	\$17,431	\$20,535	\$24,935	\$30,580	\$36,647
4	\$19,061	\$23,002	\$28,684	\$36,076	\$44,421
5	\$20,934	\$25,616	\$32,629	\$41,897	\$52,612
6	\$22,763	\$28,372	\$36,991	\$48,349	\$61,870
7	\$24,577	\$31,560	\$41,705	\$55,193	\$71,610
8	\$26,809	\$34,602	\$46,757	\$63,571	\$82,500
9	\$28,778	\$37,725	\$52,115	\$71,737	\$95,570
10	\$30,708	\$41,539	\$57,406	\$80,135	\$109,531
11	\$33,541	\$44,559	\$63,125	\$89,724	\$125,330
12	\$35,591	\$48,390	\$69,405	\$99,459	\$142,161
13	\$38,161	\$52,248	\$75,822	\$111,889	\$159,856
14	\$41,343	\$56,590	\$82,628	\$124,788	\$180,598
15	\$43,421	\$60,921	\$90,936	\$138,670	\$203,617
16	\$46,300	\$66,750	\$99,545	\$154,347	\$231,782
17	\$48,761	\$70,036	\$110,015	\$170,909	\$263,017
18	\$52,600	\$75,723	\$119,439	\$188,309	\$296,761
19	\$55,241	\$81,880	\$128,874	\$208,964	\$327,130
20	\$58,440	\$88,427	\$141,616	\$230,717	\$364,167
21	\$62,167	\$93,286	\$153,973	\$251,508	\$409,496
22	\$66,762	\$101,646	\$164,311	\$279,084	\$460,573
23	\$70,219	\$108,878	\$179,280	\$309,120	\$511,766
24	\$75,402	\$116,486	\$193,912	\$343,590	\$561,544
25	\$79,629	\$123,703	\$212,315	\$377,902	\$627,251
26	\$83,500	\$132,432	\$229,559	\$416,841	\$696,410
27	\$88,658	\$140,607	\$252,973	\$461,721	\$769,126
28	\$94,042	\$151,235	\$271,569	\$495,377	\$830,745
29	\$98,330	\$163,891	\$294,872	\$541,094	\$928,541
30	\$104,901	\$171,499	\$317,175	\$590,301	\$1,019,719

**Portfolio Cashflows (nominal)**

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



**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	-12.50%	-2.92%	0.34%	3.55%	5.28%	6.06%	6.82%	7.30%
25th Percentile	-1.29%	3.74%	5.50%	7.58%	8.31%	8.80%	9.20%	9.41%
50th Percentile	12.50%	11.94%	11.96%	12.04%	12.00%	11.99%	11.97%	11.99%
75th Percentile	27.22%	21.12%	18.69%	16.75%	15.69%	15.30%	14.99%	14.67%
90th Percentile	43.03%	29.54%	25.12%	20.97%	19.26%	18.28%	17.64%	17.05%

**Annual Return Probabilities**

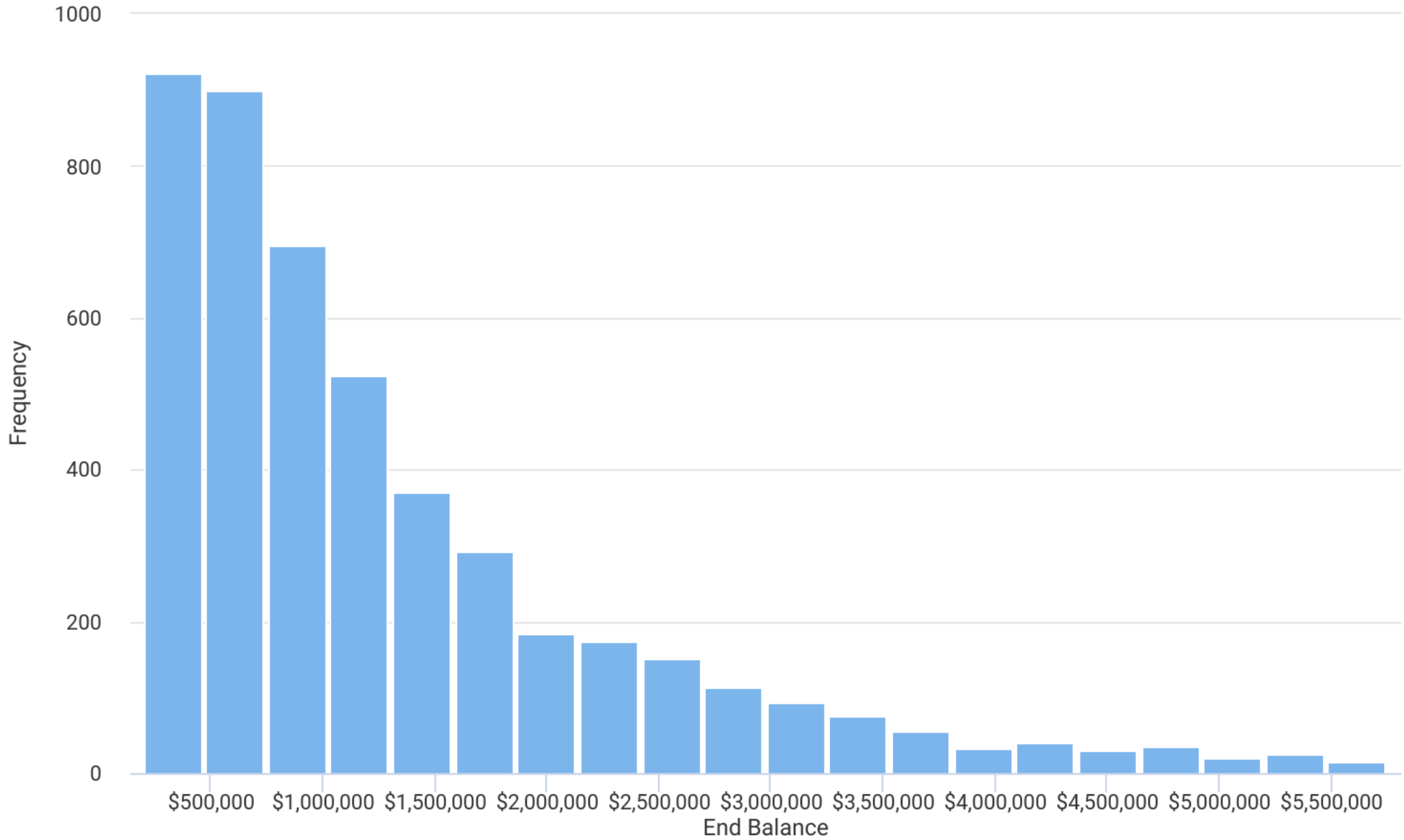
Return	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
>= 0.00%	72.72%	84.74%	90.84%	96.84%	98.96%	99.48%	99.80%	99.90%
>= 2.50%	68.82%	78.36%	84.32%	92.54%	96.66%	98.08%	98.90%	99.42%
>= 5.00%	63.68%	71.46%	76.62%	85.66%	90.74%	93.70%	95.70%	97.14%
>= 7.50%	59.40%	64.20%	67.64%	75.36%	79.88%	83.42%	86.78%	88.62%
>= 10.00%	55.28%	55.84%	57.78%	62.16%	63.98%	66.66%	67.78%	69.26%
>= 12.50%	50.00%	48.28%	47.92%	46.82%	45.88%	46.00%	45.66%	45.08%

**Loss Probabilities**

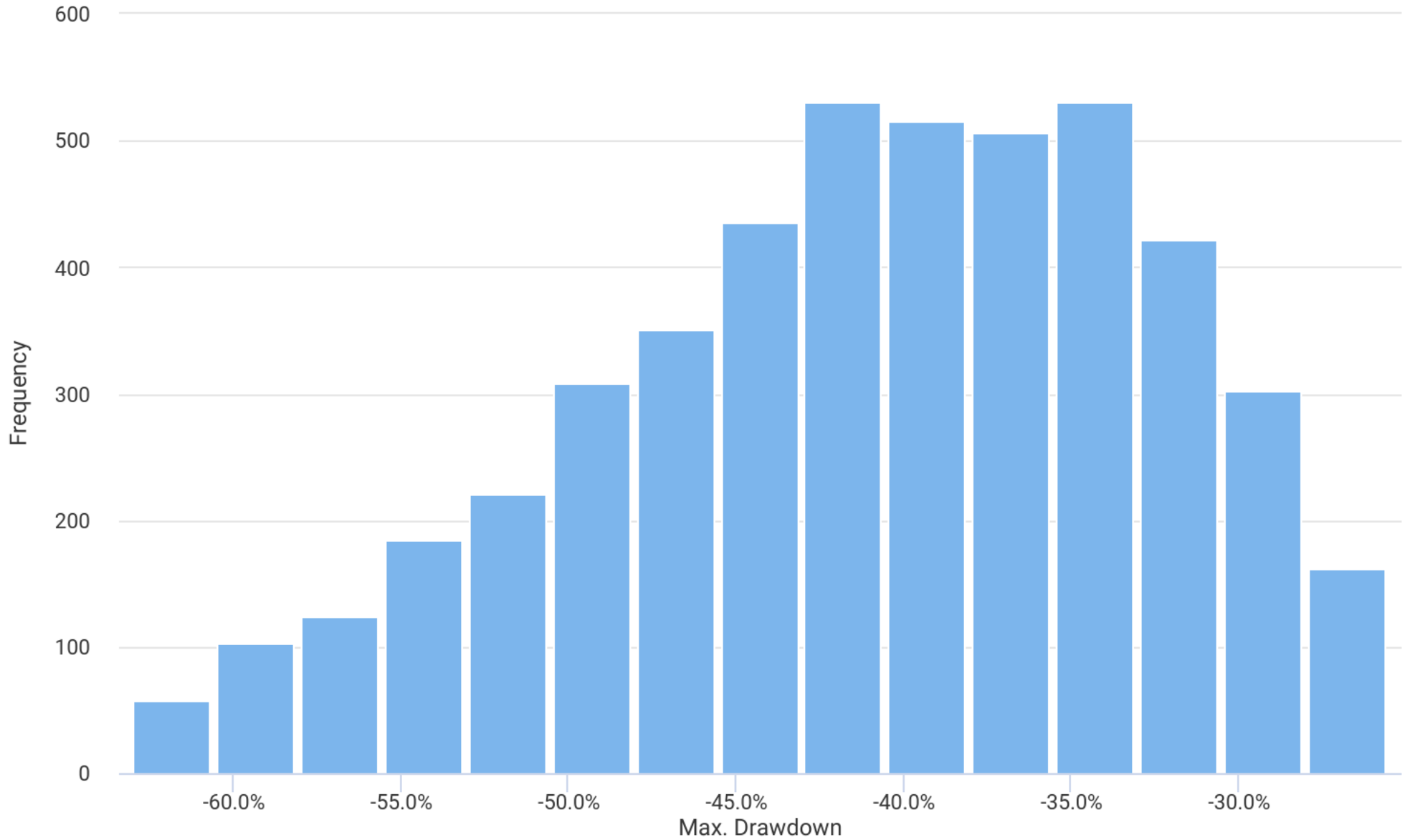
Loss	Loss Probability Excluding Cashflows		Loss Probability Including Cashflows	
	Within Time Period	End of Time Period	Within Time Period	End of Time Period
>= 2.50%	67.96%	0.10%	60.52%	0.00%
>= 5.00%	59.76%	0.10%	49.98%	0.00%
>= 7.50%	50.14%	0.08%	39.30%	0.00%
>= 10.00%	42.28%	0.08%	30.02%	0.00%
>= 12.50%	35.66%	0.04%	23.02%	0.00%
>= 15.00%	29.58%	0.02%	16.96%	0.00%
>= 17.50%	24.94%	0.00%	12.34%	0.00%
>= 20.00%	20.94%	0.00%	9.14%	0.00%
>= 22.50%	17.30%	0.00%	6.52%	0.00%
>= 25.00%	13.88%	0.00%	4.60%	0.00%
>= 27.50%	11.50%	0.00%	2.94%	0.00%
>= 30.00%	9.26%	0.00%	1.84%	0.00%
>= 32.50%	7.56%	0.00%	1.02%	0.00%
>= 35.00%	5.82%	0.00%	0.58%	0.00%
>= 37.50%	4.44%	0.00%	0.42%	0.00%
>= 40.00%	3.68%	0.00%	0.26%	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.