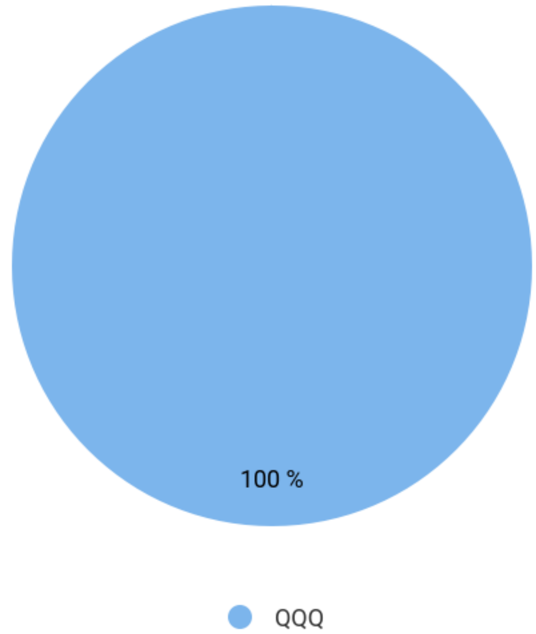
Report Parameters

Start Date	01/01/2011
End Date	12/10/2021
Initial Balance	$1,200
External Cashflows	Contribute $100 monthly
Rebalancing	No rebalancing
Reinvest Dividends	Yes

Portfolio 1

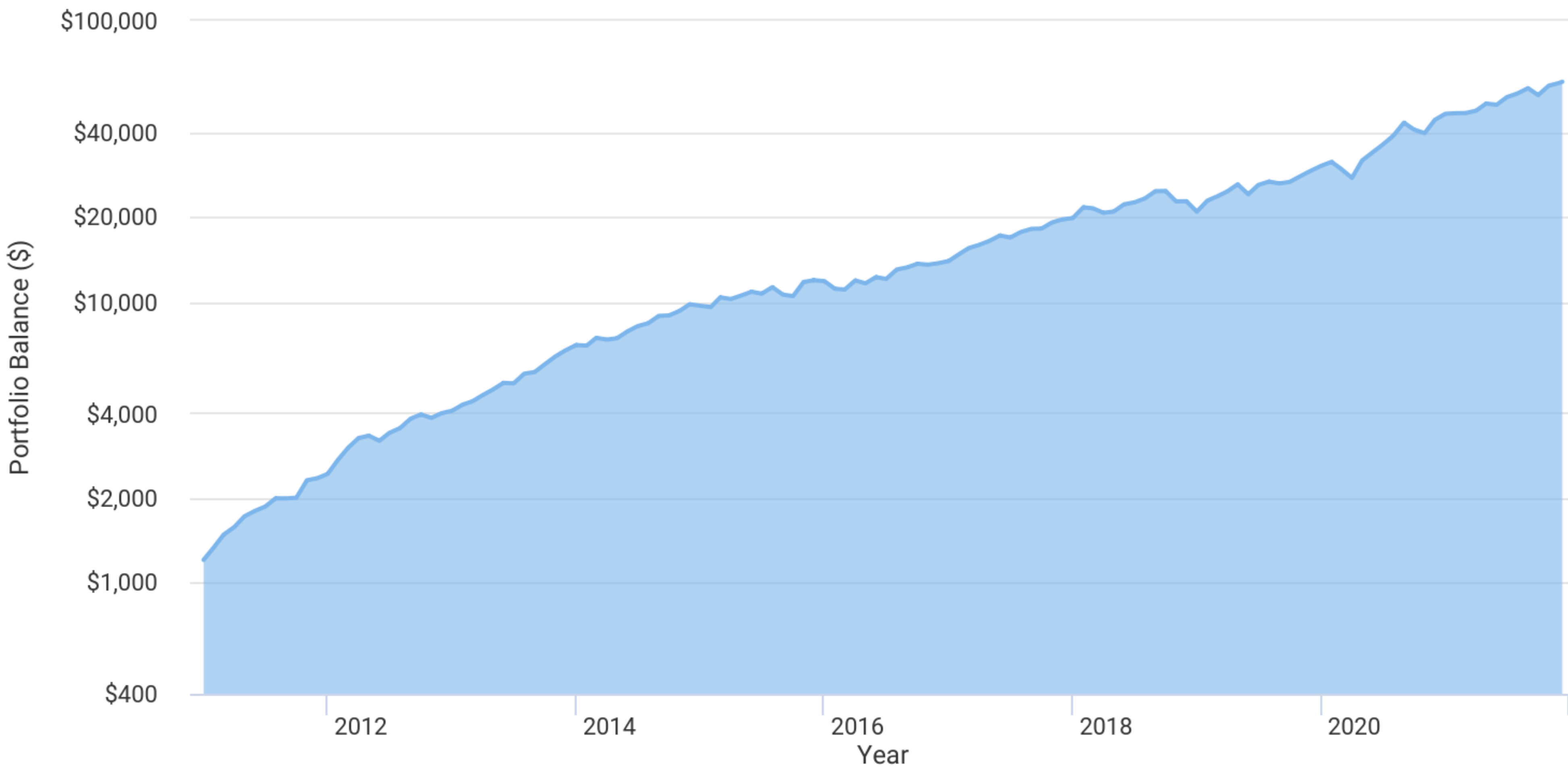
Ticker	Name	Allocation
QQQ	Invesco QQQ Trust	100.00%



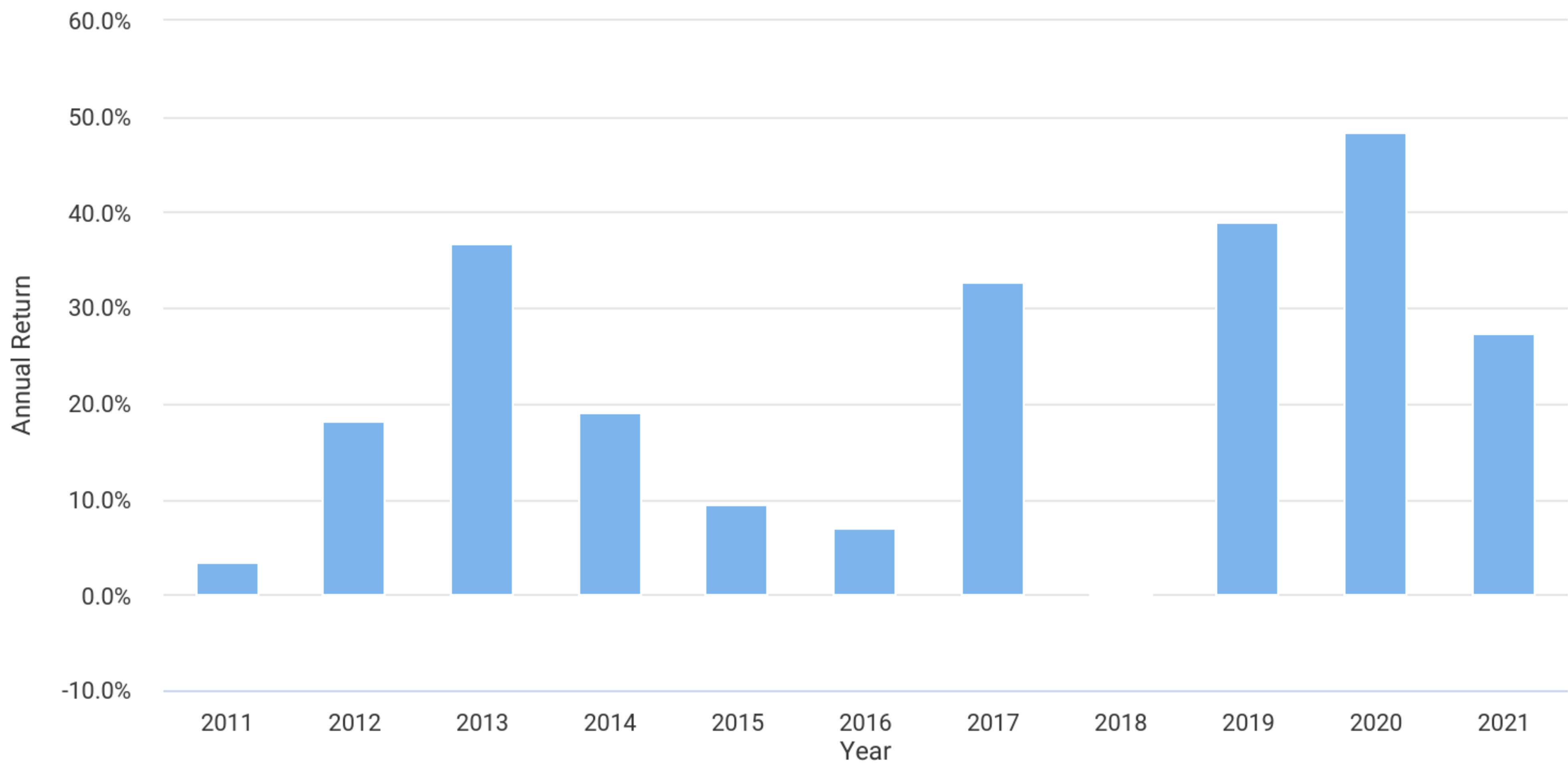
Portfolio Performance (01/01/2011 - 12/10/2021)

Metric	Portfolio 1
Start Balance	$1,200
End Balance	$60,654
End Balance (inflation adjusted)	$48,065
Annualized Return (CAGR)	42.85%
Annualized Return (CAGR, inflation adjusted)	39.86%
Time-Weighted Rate of Return (TWRR)	20.97%
Money-Weighted Rate of Return (MWRR)	22.70%
Standard Deviation	15.34%
Best Year	48.40%
Worst Year	-0.12%
Max. Drawdown	-15.59%
Max. Drawdown (excluding cashflows)	-16.96%
Sharpe Ratio	1.29
Sortino Ratio	2.44
US Stock Market Correlation	0.90

Portfolio Growth



Annual Returns



Trailing Returns

Name	Total Return			Annualized Return				Annualized Standard Deviation	
	3 Month	YTD	1 year	3 year	5 year	10 year	Full	3 year	5 year
Portfolio 1	1.11%	14.50%	29.53%	25.28%	25.65%	22.37%	20.31%	20.51%	17.05%

Trailing return and volatility are as of last full calendar quarter ending September 2021


Portfolio Income
All dividends and distributions were reinvested
$250
$200
$150
$100
$50
$0
Portfolio Income ($)
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Year

Risk and Return Metrics (01/01/2011 - 12/10/2021)

Metric	Portfolio 1
Arithmetic Mean (monthly)	1.69%
Arithmetic Mean (annualized)	22.35%
Geometric Mean (monthly)	1.60%
Geometric Mean (annualized)	20.97%
Standard Deviation (monthly)	4.43%
Standard Deviation (annualized)	15.34%
Downside Deviation (monthly)	2.32%
Max. Drawdown	-16.96%
US Market Correlation	0.90
Beta (*)	1.00
Alpha (annualized)	5.94%
R Squared	81.20%
Sharpe Ratio	1.29
Sortino Ratio	2.44
Treynor Ratio (%)	19.78
Calmar Ratio	2.94
Active Return	6.66%
Tracking Error	6.65%
Information Ratio	1.00
Skewness	-0.04
Excess Kurtosis	0.20
Historical Value-at-Risk (5%)	-6.40%
Analytical Value-at-Risk (5%)	-5.59%
Conditional Value-at-Risk (5%)	-7.65%
Upside Capture Ratio (%)	120.19
Downside Capture Ratio (%)	91.10
Positive Periods	86 out of 132 (65.15%)
Gain/Loss Ratio	1.39

(*) US stock market is used as the benchmark for calculations. Value-at-risk metrics are based on monthly values.

Portfolio 1 Returns

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Inflation	Cashflow	Balance
2011	2.83%	3.16%	-0.45%	2.87%	-1.22%	-2.02%	1.67%	-5.07%	-4.49%	10.40%	-2.69%	-0.62%	3.47%	2.96%	$1,200	$2,430
2012	8.42%	6.41%	5.05%	-1.17%	-7.04%	3.62%	1.00%	5.19%	0.89%	-5.28%	1.31%	-0.46%	18.12%	1.74%	$1,200	$4,079
2013	2.67%	0.34%	3.03%	2.54%	3.58%	-2.39%	6.31%	-0.40%	4.83%	4.96%	3.55%	2.92%	36.63%	1.50%	$1,200	$6,994
2014	-1.92%	5.15%	-2.73%	-0.32%	4.49%	3.12%	1.18%	5.01%	-0.76%	2.64%	4.55%	-2.24%	19.18%	0.76%	$1,200	$9,654
2015	-2.08%	7.22%	-2.36%	1.92%	2.25%	-2.48%	4.56%	-6.82%	-2.20%	11.37%	0.61%	-1.59%	9.45%	0.73%	$1,200	$11,817
2016	-6.91%	-1.57%	6.85%	-3.19%	4.37%	-2.27%	7.15%	1.05%	2.21%	-1.46%	0.44%	1.13%	7.10%	2.07%	$1,200	$13,938
2017	5.14%	4.38%	2.03%	2.73%	3.90%	-2.32%	4.06%	2.07%	-0.29%	4.61%	1.97%	0.60%	32.66%	2.11%	$1,200	$19,823
2018	8.76%	-1.29%	-4.08%	0.51%	5.67%	1.15%	2.80%	5.78%	-0.28%	-8.60%	-0.26%	-8.65%	-0.12%	1.91%	$1,200	$20,896
2019	9.01%	2.99%	3.92%	5.50%	-8.23%	7.59%	2.33%	-1.90%	0.92%	4.38%	4.07%	3.89%	38.96%	2.29%	$1,200	$30,409
2020	3.04%	-6.06%	-7.29%	14.97%	6.60%	6.28%	7.35%	10.94%	-5.78%	-3.04%	11.23%	4.90%	48.40%	1.36%	$1,200	$46,655
2021	0.26%	-0.13%	1.71%	5.91%	-1.20%	6.26%	2.86%	4.22%	-5.68%	7.86%	2.00%	1.06%	27.31%	6.19%	$1,100	$60,654

The cashflow column shows the total annual portfolio contributions (positive) and withdrawals (negative)

Portfolio Returns Based Style Analysis

Style Category	Portfolio 1
Large-cap Value	0.00%
Large-cap Growth	100.00%
Mid-cap Value	0.00%
Mid-cap Growth	0.00%
Small-cap Value	0.00%
Small-cap Growth	0.00%
Global ex-US Developed Markets	0.00%
Emerging Markets	0.00%
Corporate Bonds	0.00%
Long-Term Treasuries	0.00%
Intermediate-Term Treasuries	0.00%
Short-Term Treasuries	0.00%
R Squared	**91.34%**

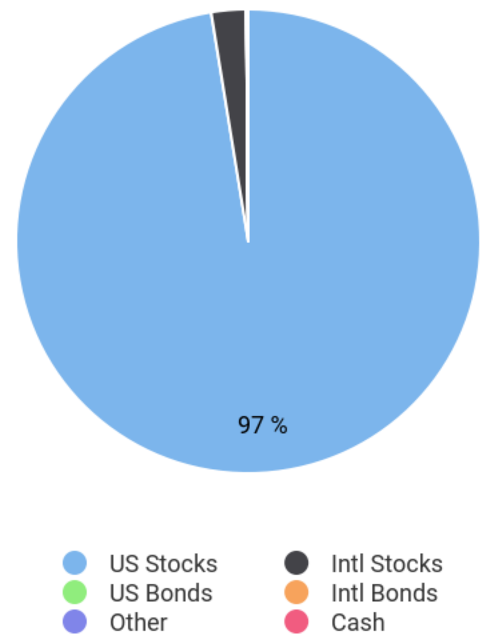
Style analysis is based on monthly returns from January 2011 to November 2021 and uses total portfolio return with monthly rebalancing. Returns based style analysis aims to explain the portfolio returns based on asset class exposures, it does not identify the actual portfolio holdings.

Holdings Based Style Analysis for Portfolio 1

Ticker	Name	Category	Weight	SEC Yield	Expense Ratio		P/E
					Net	Gross	
QQQ	Invesco QQQ Trust	Large Growth	100.00%	0.44%	0.20%	0.20%	32.10

Asset Allocation for Portfolio 1

Category	Weight
US Stocks	97.45%
Intl Stocks	2.44%
US Bonds	0.00%
Intl Bonds	0.00%
Other	0.00%
Cash	0.11%



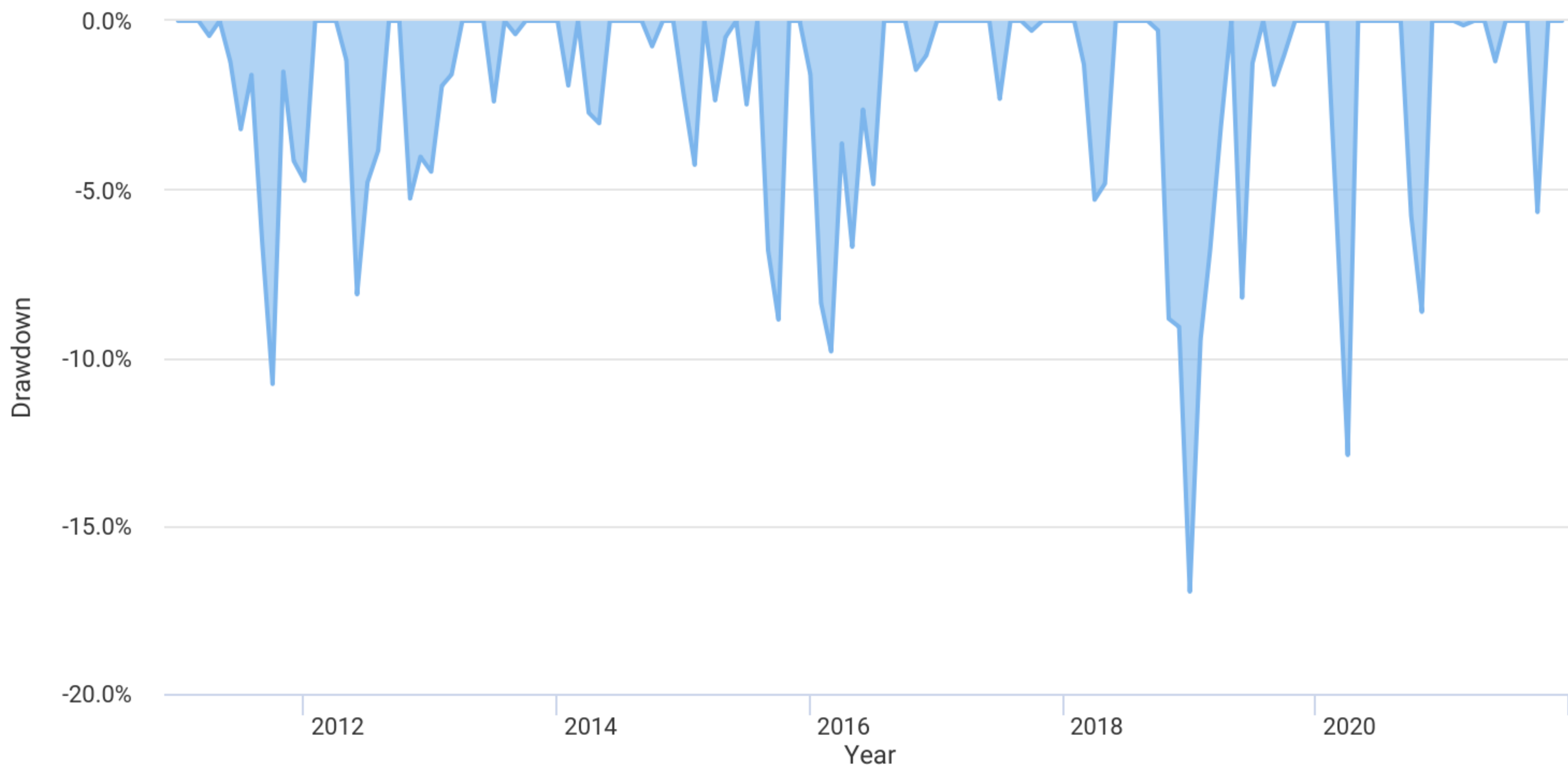
Equity Market Capitalization for Portfolio 1

Category	Weight
Large Cap	95.39%
Mid Cap	4.61%
Small Cap	0.00%

Stock Sectors for Portfolio 1

Category	Weight
Basic Materials	0.00%
Consumer Cyclical	17.78%
Financial Services	1.42%
Real Estate	0.00%
Consumer Defensive	4.60%
Healthcare	6.03%
Utilities	0.82%
Communication Services	17.41%
Energy	0.00%
Industrials	3.49%
Technology	48.45%

Drawdowns



Drawdowns for Historical Market Stress Periods

Stress Period	Start	End	Portfolio 1
COVID-19 Start	Jan 2020	Mar 2020	-12.90%

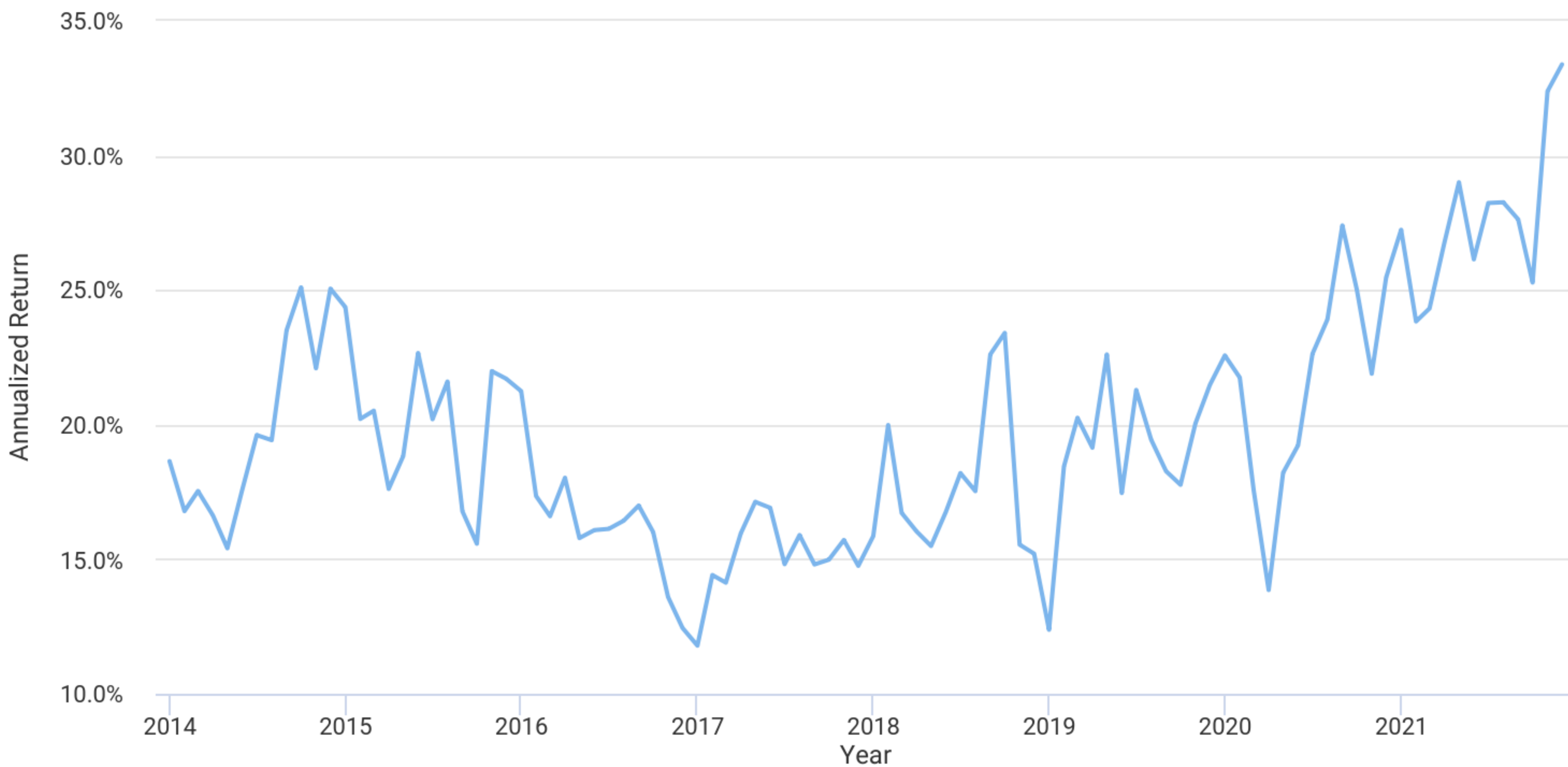
Drawdowns for Portfolio 1 (worst 10)

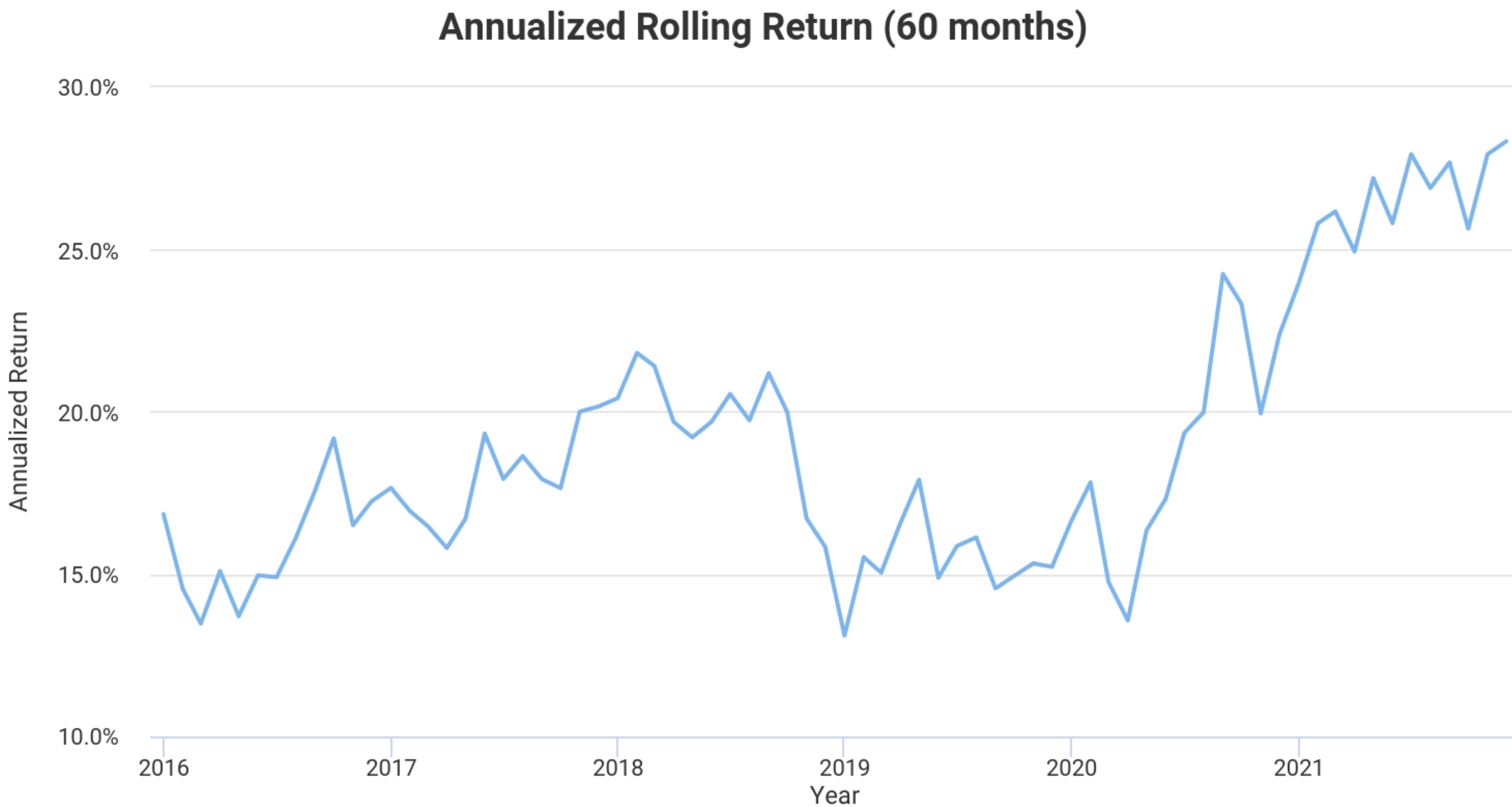
Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Sep 2018	Dec 2018	4 months	Apr 2019	4 months	8 months	-16.96%
2	Feb 2020	Mar 2020	2 months	Apr 2020	1 month	3 months	-12.90%
3	May 2011	Sep 2011	5 months	Jan 2012	4 months	9 months	-10.79%
4	Dec 2015	Feb 2016	3 months	Jul 2016	5 months	8 months	-9.82%
5	Aug 2015	Sep 2015	2 months	Oct 2015	1 month	3 months	-8.88%
6	Sep 2020	Oct 2020	2 months	Nov 2020	1 month	3 months	-8.65%
7	May 2019	May 2019	1 month	Jul 2019	2 months	3 months	-8.23%
8	Apr 2012	May 2012	2 months	Aug 2012	3 months	5 months	-8.13%
9	Sep 2021	Sep 2021	1 month	Oct 2021	1 month	2 months	-5.68%
10	Feb 2018	Mar 2018	2 months	May 2018	2 months	4 months	-5.32%

Rolling Returns (01/01/2011 - 12/10/2021)

Roll Period	Average	High	Low
1 year	21.87%	68.41%	-4.48%
3 years	19.70%	33.38%	11.79%
5 years	19.04%	28.34%	13.11%
7 years	19.30%	22.75%	16.29%
10 years	21.07%	22.67%	19.66%

Annualized Rolling Return (36 months)




Annualized Rolling Return (60 months)
30.0%
25.0%
20.0%
15.0%
10.0%
Annualized Return
2016
2017
2018
2019
2020
2021
Year

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.
- All portfolio returns presented are hypothetical and backtested. Hypothetical returns do not reflect trading costs, transaction fees, or taxes.
- 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 month-to-date return for December 2021 includes daily returns from 12/01/2021 to 12/10/2021
- CAGR = Compound Annual Growth Rate
- TWRR = Annualized time weighted rate of return
- MWRR = Annualized money weighted rate of return (internal rate of return) taking into account the periodic cashflows
- Stdev = Annualized standard deviation of monthly returns
- Sharpe and Sortino ratios are calculated and annualized from monthly excess returns over risk free rate (3-month treasury bill)
- Stock market correlation is based on the correlation of monthly returns
- Drawdown analysis is calculated based on monthly returns excluding cashflows
- The results assume no rebalancing of portfolio assets per parameterization. See the allocation drift section for details
- Monthly contribution of $100 was applied at the end of each period. This is reflected in the CAGR and maximum drawdown shown above.
- The monthly contribution was allocated based on each month's asset allocation (no rebalancing)
- The annual income is calculated from the difference between monthly total returns and split adjusted monthly price changes and thus includes both dividends and capital gains distributions.
- The annual yield as a percentage is based on the portfolio asset allocation and is not impacted by cashflows.
- Fund fundamentals data as of 12/10/2021. The fund fundamentals information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information.