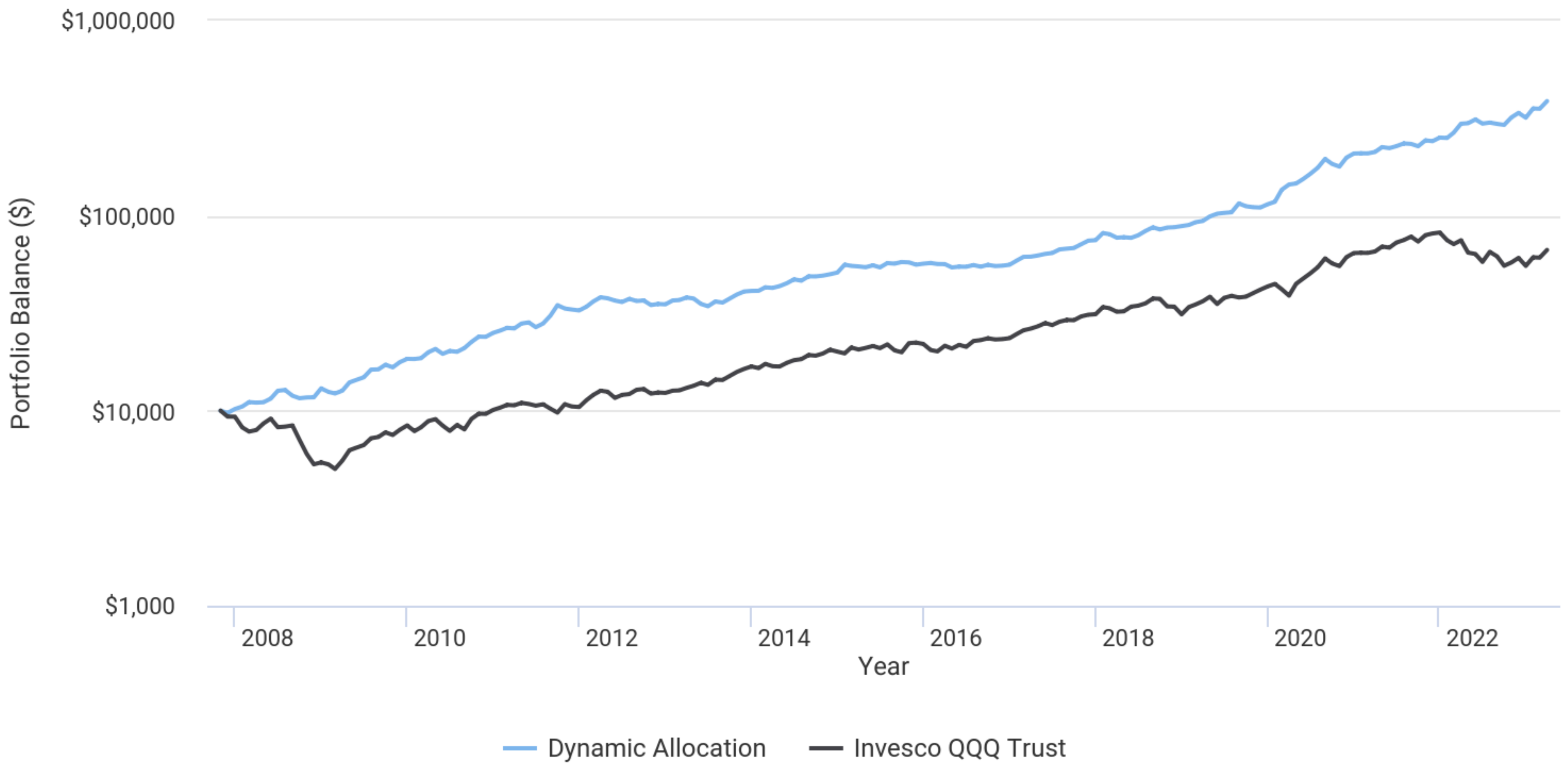
Report Parameters

Start Date	11/01/2007
End Date	03/31/2023
Initial Balance	$10,000
Rebalance Between Trades	No rebalancing
External Cashflows	None
Benchmark	Invesco QQQ Trust

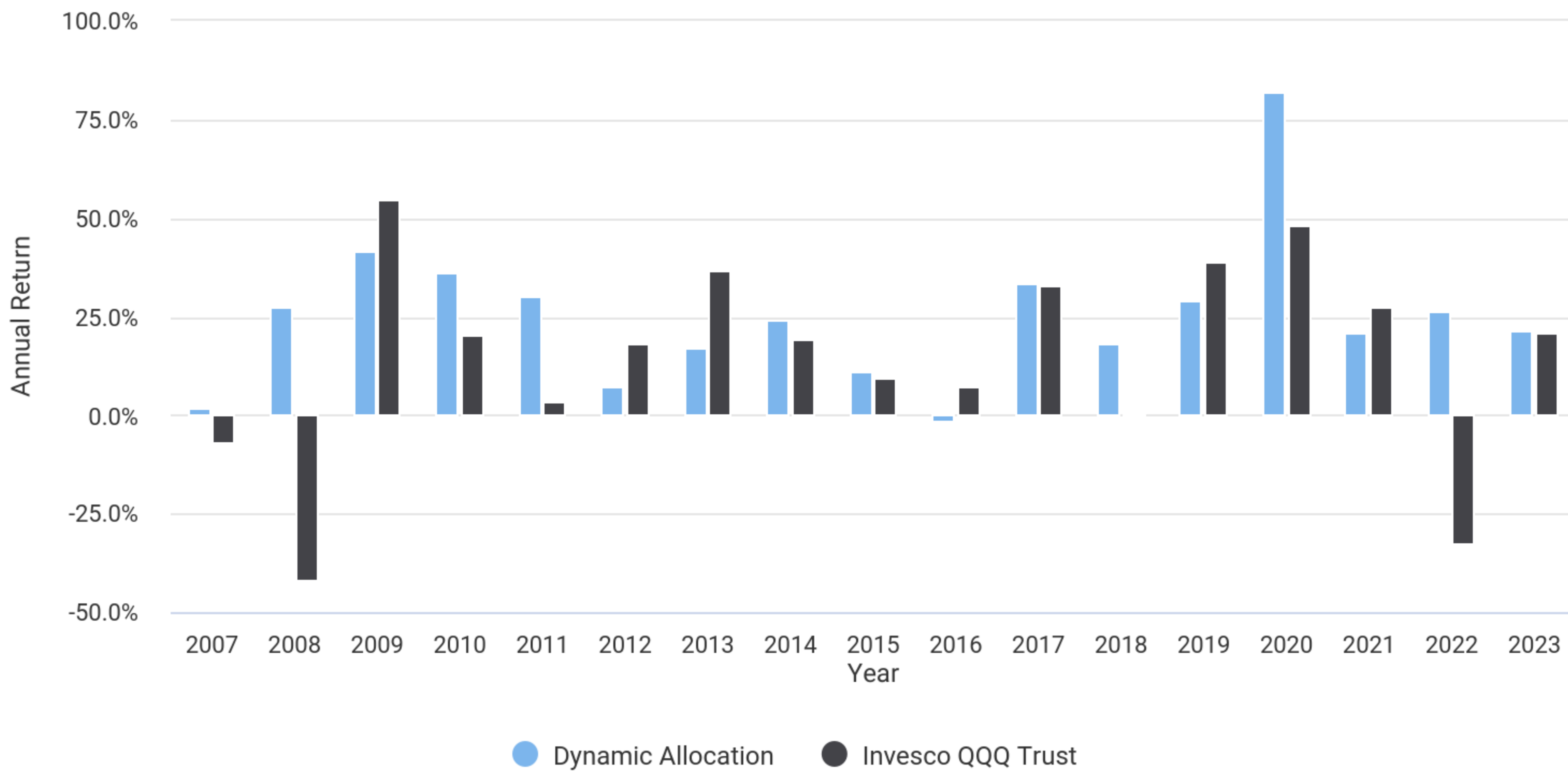
Portfolio Performance (Nov 2007 - Mar 2023)

Metric	Dynamic Allocation	Invesco QQQ Trust
Start Balance	$10,000	$10,000
End Balance	$386,660	$66,701
End Balance (inflation adjusted)	$268,539	$46,324
Annualized Return (CAGR)	26.75%	13.10%
Annualized Return (CAGR, inflation adjusted)	23.79%	10.46%
Standard Deviation	14.15%	19.40%
Best Year	82.15%	54.68%
Worst Year	-1.23%	-41.73%
Maximum Drawdown	-10.02%	-49.74%
Sharpe Ratio	1.71	0.70
Sortino Ratio	4.39	1.07
Stock Market Correlation	0.27	0.92

Portfolio Growth



Annual Returns



Trailing Returns

Name	Total Return			Annualized Return				Annualized Standard Deviation	
	3 Month	Year To Date	1 year	3 year	5 year	10 year	Full	3 year	5 year
Dynamic Allocation	21.63%	21.63%	30.58%	38.85%	38.06%	26.09%	26.75%	17.14%	15.86%
Invesco QQQ Trust	20.71%	20.71%	-10.80%	19.69%	15.71%	17.69%	13.10%	24.69%	22.15%

Trailing return and volatility are as of last full calendar month ending March 2023

Risk and Return Metrics (Nov 2007 - Mar 2023)

Metric	Dynamic Allocation	Invesco QQQ Trust
Arithmetic Mean (monthly)	2.08%	1.19%
Arithmetic Mean (annualized)	27.96%	15.23%
Geometric Mean (monthly)	2.00%	1.03%
Geometric Mean (annualized)	26.75%	13.10%
Standard Deviation (monthly)	4.08%	5.60%
Standard Deviation (annualized)	14.15%	19.40%
Downside Deviation (monthly)	1.56%	3.61%
Maximum Drawdown	-10.02%	-49.74%
Stock Market Correlation	0.27	0.92
Beta (*)	0.26	1.00
Alpha (annualized)	21.26%	-0.00%
R Squared	12.28%	100.00%
Sharpe Ratio	1.71	0.70
Sortino Ratio	4.39	1.07
Treynor Ratio (%)	94.60	13.53
Calmar Ratio	4.49	0.60
Active Return	13.66%	N/A
Tracking Error	19.60%	N/A
Information Ratio	0.70	N/A
Skewness	0.51	-0.43
Excess Kurtosis	0.26	0.34
Historical Value-at-Risk (5%)	-4.01%	-8.73%
Analytical Value-at-Risk (5%)	-4.64%	-8.02%
Conditional Value-at-Risk (5%)	-5.33%	-11.48%
Upside Capture Ratio (%)	60.57	100.00
Downside Capture Ratio (%)	-11.37	100.00
Positive Periods	123 out of 185 (66.49%)	114 out of 185 (61.62%)
Gain/Loss Ratio	2.02	1.06

(*) Invesco QQQ Trust is used as the benchmark for calculations. Value-at-risk metrics are based on monthly values.

Dynamic Allocation Returns

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Inflation	Balance
2007											-2.63%	4.73%	1.98%	4.08%	$10,198
2008	2.92%	5.40%	-0.58%	0.42%	4.36%	9.70%	0.97%	-6.53%	-2.93%	0.91%	0.19%	11.08%	27.56%	0.09%	$13,008
2009	-4.04%	-1.86%	3.36%	10.21%	3.21%	2.95%	9.52%	0.29%	5.65%	-3.05%	6.35%	3.90%	41.69%	2.72%	$18,432
2010	-0.18%	0.98%	7.30%	3.94%	-5.58%	3.40%	-0.95%	4.47%	7.55%	6.42%	-0.17%	4.76%	35.96%	1.50%	$25,059
2011	2.83%	3.16%	-0.66%	5.89%	1.42%	-5.50%	4.42%	9.66%	13.20%	-3.84%	-1.19%	-1.09%	30.28%	2.96%	$32,647
2012	4.50%	6.41%	5.05%	-1.17%	-2.65%	-1.68%	3.82%	-2.53%	0.63%	-5.28%	1.31%	-0.46%	7.47%	1.74%	$35,085
2013	4.71%	0.48%	3.09%	-1.23%	-6.20%	-2.67%	5.75%	-1.24%	4.83%	4.96%	3.55%	0.71%	17.21%	1.50%	$41,121
2014	0.17%	4.12%	-0.63%	2.10%	3.53%	4.65%	-1.60%	5.29%	-0.12%	0.96%	1.65%	1.98%	24.17%	0.76%	$51,061
2015	9.82%	-1.44%	-0.65%	-0.93%	2.25%	-2.39%	5.17%	-0.65%	1.97%	-0.41%	-2.71%	1.19%	11.07%	0.73%	$56,713
2016	0.82%	-1.19%	-0.09%	-3.87%	0.93%	-0.11%	2.01%	-1.88%	2.21%	-1.46%	0.44%	1.13%	-1.23%	2.07%	$56,013
2017	5.14%	4.38%	0.21%	1.42%	1.89%	1.06%	4.35%	0.89%	0.79%	4.55%	4.25%	0.60%	33.63%	2.11%	$74,852
2018	8.76%	-1.29%	-4.08%	0.54%	-0.70%	3.10%	5.24%	4.29%	-2.40%	2.22%	0.39%	1.37%	18.11%	1.91%	$88,409
2019	1.32%	3.29%	1.50%	5.50%	3.28%	0.95%	0.72%	11.04%	-3.29%	-1.11%	-0.39%	3.89%	29.32%	2.29%	$114,326
2020	3.04%	15.25%	6.38%	1.22%	5.59%	6.28%	7.35%	10.94%	-5.78%	-3.04%	11.23%	4.90%	82.15%	1.36%	$208,250
2021	0.26%	-0.13%	1.71%	5.91%	-1.20%	2.37%	3.23%	-0.52%	-2.73%	7.18%	-0.95%	4.34%	20.70%	7.04%	$251,347
2022	-0.44%	6.47%	11.14%	0.56%	4.61%	-4.85%	1.18%	-1.46%	-1.22%	9.31%	5.42%	-5.48%	26.48%	6.45%	$317,908
2023	11.48%	-0.36%	9.49%										21.63%	1.36%	$386,660

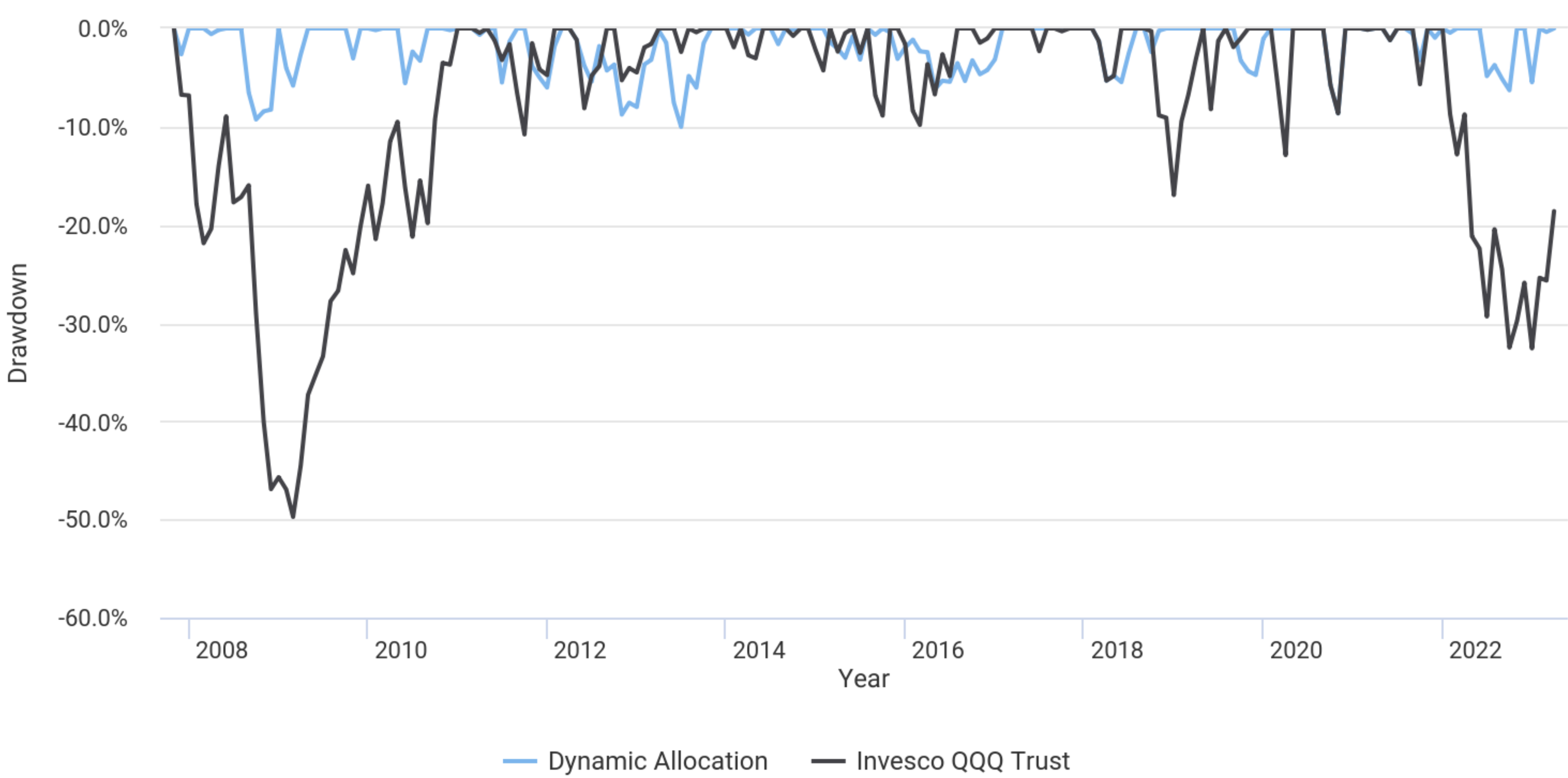
Annual return for 2007 is from 11/01/2007 to 12/31/2007 and annual return for 2023 is from 01/01/2023 to 03/31/2023

Invesco QQQ Trust Returns

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Inflation	Balance
2007											-6.76%	-0.07%	-6.83%	4.08%	$9,317
2008	-11.89%	-4.83%	1.87%	7.98%	5.93%	-9.61%	0.64%	1.45%	-15.58%	-15.47%	-11.46%	2.28%	-41.73%	0.09%	$5,429
2009	-2.29%	-5.26%	10.32%	13.06%	3.21%	2.95%	8.44%	1.47%	5.65%	-3.05%	6.35%	5.20%	54.68%	2.72%	$8,398
2010	-6.47%	4.60%	7.71%	2.24%	-7.39%	-5.98%	7.26%	-5.13%	13.17%	6.34%	-0.17%	4.76%	20.14%	1.50%	$10,090
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%	$10,440
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%	$12,331
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%	$16,849
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%	$20,080
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%	$21,977
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%	$23,538
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%	$31,226
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%	$31,190
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%	$43,342
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%	$64,321
2021	0.26%	-0.13%	1.71%	5.91%	-1.20%	6.26%	2.86%	4.22%	-5.68%	7.86%	2.00%	1.15%	27.42%	7.04%	$81,958
2022	-8.75%	-4.48%	4.67%	-13.60%	-1.59%	-8.91%	12.55%	-5.13%	-10.54%	4.00%	5.54%	-9.01%	-32.58%	6.45%	$55,257
2023	10.64%	-0.36%	9.49%										20.71%	1.36%	$66,701

Annual return for 2007 is from 11/01/2007 to 12/31/2007 and annual return for 2023 is from 01/01/2023 to 03/31/2023

Drawdowns



Drawdowns for Historical Market Stress Periods

Stress Period	Start	End	Dynamic Allocation	Invesco QQQ Trust
Subprime Crisis	Nov 2007	Mar 2009	-9.27%	-49.74%
COVID-19 Start	Jan 2020	Mar 2020	0.00%	-12.90%

Drawdowns for Dynamic Allocation (worst 10)

Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Apr 2012	Jun 2013	1 year 3 months	Oct 2013	4 months	1 year 7 months	-10.02%
2	Aug 2008	Sep 2008	2 months	Dec 2008	3 months	5 months	-9.27%
3	Sep 2020	Oct 2020	2 months	Nov 2020	1 month	3 months	-8.65%
4	Jun 2022	Sep 2022	4 months	Oct 2022	1 month	5 months	-6.30%
5	Oct 2015	Apr 2016	7 months	Jan 2017	9 months	1 year 4 months	-6.20%
6	Oct 2011	Dec 2011	3 months	Feb 2012	2 months	5 months	-6.02%
7	Jan 2009	Feb 2009	2 months	Apr 2009	2 months	4 months	-5.83%
8	May 2010	May 2010	1 month	Aug 2010	3 months	4 months	-5.58%
9	Jun 2011	Jun 2011	1 month	Aug 2011	2 months	3 months	-5.50%
10	Dec 2022	Dec 2022	1 month	Jan 2023	1 month	2 months	-5.48%

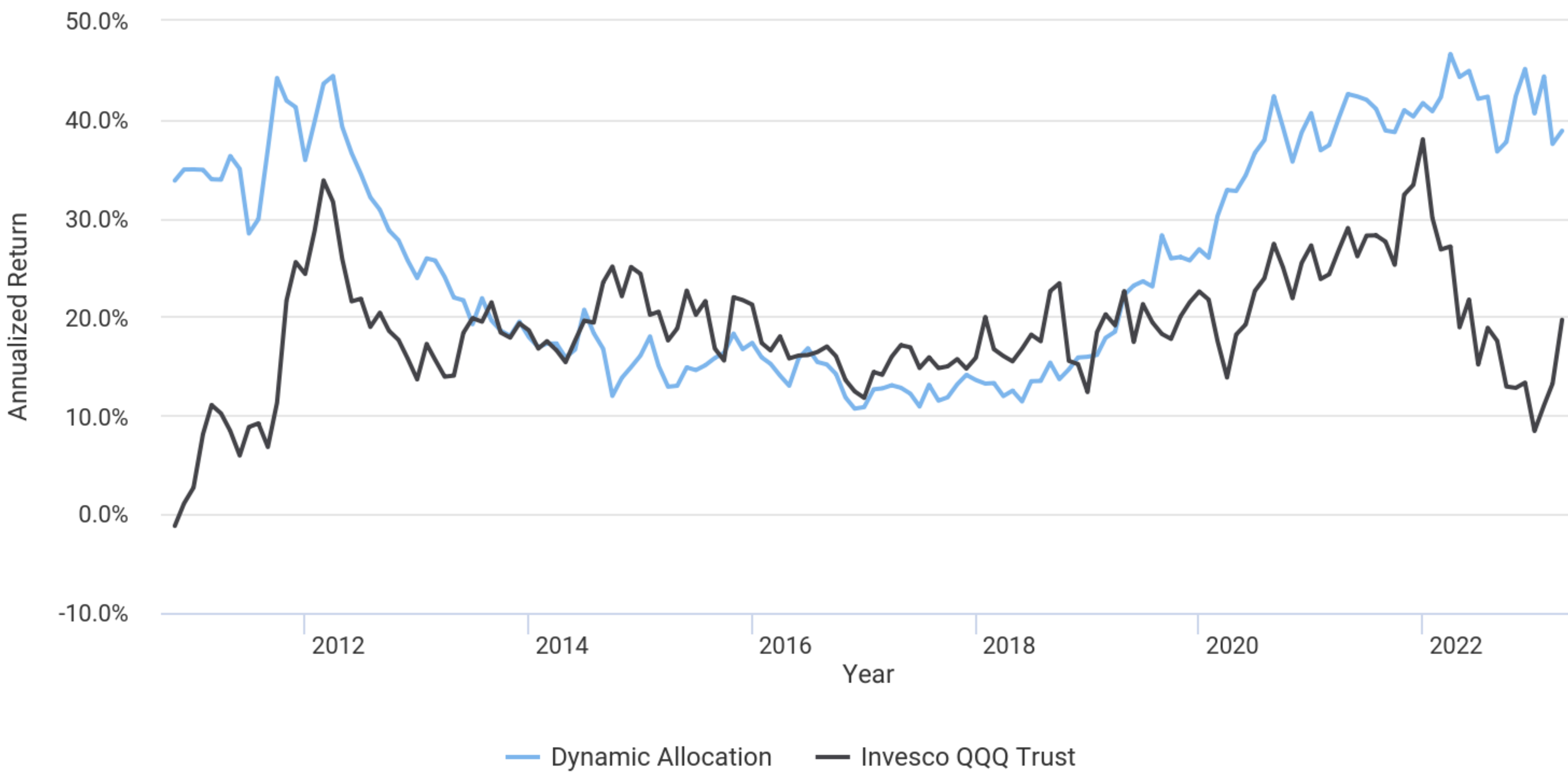
Drawdowns for Invesco QQQ Trust (worst 10)

Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Nov 2007	Feb 2009	1 year 4 months	Dec 2010	1 year 10 months	3 years 2 months	-49.74%
2	Jan 2022	Dec 2022	1 year				-32.58%
3	Sep 2018	Dec 2018	4 months	Apr 2019	4 months	8 months	-16.96%
4	Feb 2020	Mar 2020	2 months	Apr 2020	1 month	3 months	-12.90%
5	May 2011	Sep 2011	5 months	Jan 2012	4 months	9 months	-10.79%
6	Dec 2015	Feb 2016	3 months	Jul 2016	5 months	8 months	-9.82%
7	Aug 2015	Sep 2015	2 months	Oct 2015	1 month	3 months	-8.88%
8	Sep 2020	Oct 2020	2 months	Nov 2020	1 month	3 months	-8.65%
9	May 2019	May 2019	1 month	Jul 2019	2 months	3 months	-8.23%
10	Apr 2012	May 2012	2 months	Aug 2012	3 months	5 months	-8.13%

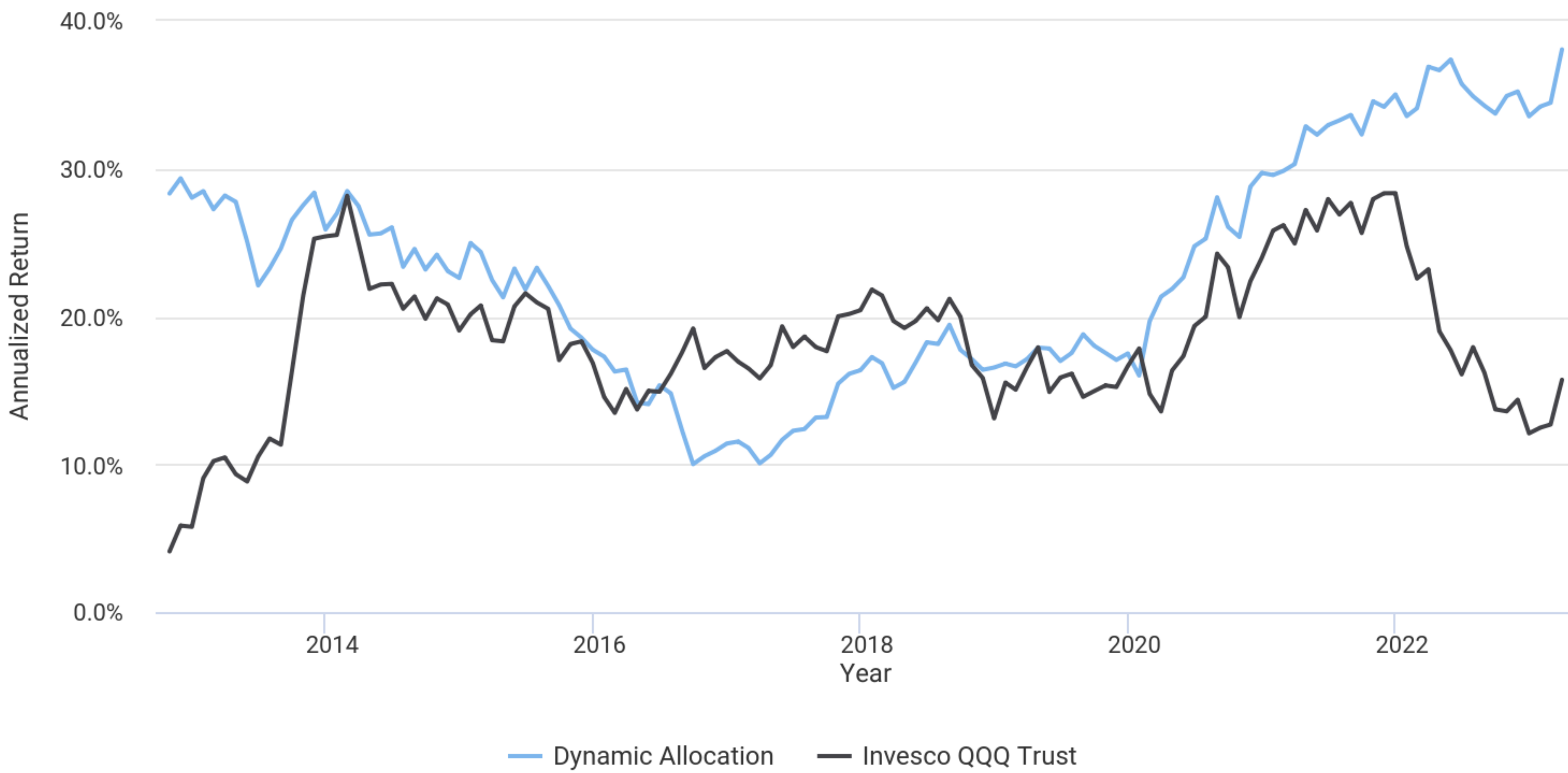
Rolling Returns (Nov 2007 - Mar 2023)

Roll Period	Dynamic Allocation			Invesco QQQ Trust		
	Average	High	Low	Average	High	Low
1 year	27.25%	82.15%	-4.88%	16.73%	68.41%	-43.07%
3 years	25.89%	46.64%	10.70%	18.77%	37.99%	-1.19%
5 years	23.03%	38.06%	10.01%	18.41%	28.34%	4.11%
7 years	21.84%	31.64%	13.64%	18.19%	22.78%	10.13%
10 years	22.50%	26.09%	20.02%	18.43%	22.88%	11.77%
15 years	26.26%	26.79%	25.77%	13.75%	15.23%	12.37%

Annualized Rolling Return (36 months)



Annualized Rolling Return (60 months)



Allocation History

Start Date	Assets
11/01/2007	100.00% Cash (CASHX)
11/24/2007	100.00% Invesco DB Commodity Tracking (DBC)
11/30/2007	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
12/07/2007	100.00% Invesco DB Commodity Tracking (DBC)
02/01/2008	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
02/08/2008	100.00% Invesco DB Commodity Tracking (DBC)
02/22/2008	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
03/21/2008	100.00% Invesco QQQ Trust (QQQ)
03/29/2008	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
04/30/2008	100.00% Invesco QQQ Trust (QQQ)
05/09/2008	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
06/06/2008	100.00% Invesco DB Commodity Tracking (DBC)
07/04/2008	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
07/18/2008	100.00% Invesco DB Commodity Tracking (DBC)
08/30/2008	100.00% Invesco DB US Dollar Bullish (UUP)
09/30/2008	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
10/31/2008	100.00% Invesco DB US Dollar Bullish (UUP)
11/29/2008	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
12/12/2008	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
12/19/2008	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
12/31/2008	100.00% Invesco QQQ Trust (QQQ)
01/23/2009	100.00% iShares 3-7 Year Treasury Bond ETF (IEI)
02/13/2009	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
02/20/2009	100.00% Invesco DB US Dollar Bullish (UUP)
03/13/2009	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
04/03/2009	100.00% Invesco QQQ Trust (QQQ)

Start Date	Assets
07/24/2009	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/07/2009	100.00% Invesco QQQ Trust (QQQ)
12/24/2009	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
02/05/2010	100.00% Invesco DB US Dollar Bullish (UUP)
02/12/2010	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
02/19/2010	100.00% Invesco QQQ Trust (QQQ)
03/26/2010	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
04/02/2010	100.00% Invesco QQQ Trust (QQQ)
04/23/2010	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
06/25/2010	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
08/06/2010	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/13/2010	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
08/27/2010	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
10/08/2010	100.00% Invesco QQQ Trust (QQQ)
03/31/2011	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
05/27/2011	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
06/03/2011	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
06/17/2011	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
11/11/2011	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
11/26/2011	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
11/30/2011	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
12/16/2011	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
12/23/2011	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
01/13/2012	100.00% Invesco QQQ Trust (QQQ)
05/11/2012	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)

Start Date	Assets
05/18/2012	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
08/31/2012	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
09/07/2012	100.00% Invesco QQQ Trust (QQQ)
01/11/2013	100.00% Invesco DB US Dollar Bullish (UUP)
01/18/2013	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
01/31/2013	100.00% Invesco QQQ Trust (QQQ)
02/28/2013	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
03/22/2013	100.00% Invesco DB US Dollar Bullish (UUP)
04/30/2013	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
05/31/2013	100.00% Invesco DB US Dollar Bullish (UUP)
06/07/2013	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/09/2013	100.00% Invesco QQQ Trust (QQQ)
11/30/2013	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
01/10/2014	100.00% Invesco QQQ Trust (QQQ)
01/17/2014	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
01/31/2014	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
02/07/2014	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
02/28/2014	100.00% Invesco QQQ Trust (QQQ)
03/14/2014	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
05/30/2014	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
06/06/2014	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
06/13/2014	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
06/20/2014	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
06/27/2014	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/08/2014	100.00% Invesco QQQ Trust (QQQ)
09/12/2014	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
09/18/2014	100.00% Invesco QQQ Trust (QQQ)

Start Date	Assets
09/26/2014	100.00% Invesco DB US Dollar Bullish (UUP)
12/31/2014	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
02/06/2015	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
05/01/2015	100.00% Invesco QQQ Trust (QQQ)
05/30/2015	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
06/12/2015	100.00% Invesco QQQ Trust (QQQ)
07/17/2015	100.00% iShares 3-7 Year Treasury Bond ETF (IEI)
08/29/2015	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
11/06/2015	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
11/20/2015	100.00% Invesco DB US Dollar Bullish (UUP)
11/28/2015	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
12/18/2015	100.00% Invesco DB US Dollar Bullish (UUP)
02/27/2016	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
04/15/2016	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
04/22/2016	100.00% Invesco QQQ Trust (QQQ)
05/06/2016	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
05/27/2016	100.00% Invesco QQQ Trust (QQQ)
06/17/2016	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/26/2016	100.00% Invesco QQQ Trust (QQQ)
03/17/2017	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
04/28/2017	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
06/30/2017	100.00% Invesco QQQ Trust (QQQ)
07/28/2017	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/18/2017	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
08/25/2017	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
09/22/2017	100.00% Invesco QQQ Trust (QQQ)
10/31/2017	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)

Start Date	Assets
11/30/2017	100.00% Invesco QQQ Trust (QQQ)
04/27/2018	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/17/2018	100.00% Invesco DB US Dollar Bullish (UUP)
08/24/2018	100.00% Invesco QQQ Trust (QQQ)
09/07/2018	100.00% Invesco DB US Dollar Bullish (UUP)
12/21/2018	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
12/28/2018	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
01/18/2019	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
02/08/2019	100.00% Invesco QQQ Trust (QQQ)
02/15/2019	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
02/22/2019	100.00% Invesco QQQ Trust (QQQ)
03/15/2019	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
03/22/2019	100.00% Invesco QQQ Trust (QQQ)
05/10/2019	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
05/17/2019	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
07/26/2019	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
07/31/2019	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
09/13/2019	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
09/20/2019	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
11/08/2019	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
11/30/2019	100.00% Invesco QQQ Trust (QQQ)
02/14/2020	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
05/15/2020	100.00% Invesco QQQ Trust (QQQ)
06/11/2021	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
06/25/2021	100.00% Invesco QQQ Trust (QQQ)
07/09/2021	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
07/16/2021	100.00% Invesco QQQ Trust (QQQ)

Start Date	Assets
08/20/2021	100.00% iShares 20+ Year Treasury Bond ETF (TLT)
08/31/2021	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
09/30/2021	100.00% Invesco DB Commodity Tracking (DBC)
10/08/2021	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
11/05/2021	100.00% Invesco QQQ Trust (QQQ)
11/19/2021	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
12/10/2021	100.00% Invesco QQQ Trust (QQQ)
12/17/2021	100.00% Invesco DB Commodity Tracking (DBC)
01/07/2022	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
01/29/2022	100.00% Invesco DB Commodity Tracking (DBC)
03/04/2022	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
04/29/2022	100.00% Invesco DB Commodity Tracking (DBC)
06/30/2022	100.00% Invesco DB US Dollar Bullish (UUP)
08/26/2022	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
08/31/2022	100.00% Invesco DB US Dollar Bullish (UUP)
09/16/2022	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
09/23/2022	100.00% Invesco DB US Dollar Bullish (UUP)
09/30/2022	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
12/02/2022	100.00% Invesco QQQ Trust (QQQ)
12/09/2022	50.00% Consumer Staples Select Sector SPDR ETF (XLP) 50.00% Health Care Select Sector SPDR ETF (XLV)
01/06/2023	100.00% Invesco QQQ Trust (QQQ)
01/08/2023	100.00% Invesco QQQ Trust (QQQ)
03/24/2023	100.00% Invesco QQQ Trust (QQQ)

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.
- Portfolio model information represents a blended portfolio consisting of the model's underlying positions and assigned weights provided by the user and rebalanced at the specified schedule. The results were constructed using net of fee mutual fund performance. Portfolio Visualizer does not provide preferential treatment to any specific security or investment.
- 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.
- 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.
- Sharpe Ratio is a measure of risk-adjusted performance of the portfolio, and it is calculated by dividing the mean monthly excess return of the portfolio over the risk-free rate by the standard deviation of excess return, and the displayed value is annualized.
- Sortino Ratio is a measure of risk-adjusted return which is a modification of the Sharpe Ratio. While the latter is the ratio of average returns in excess of a risk-free rate divided by the standard deviation of those excess returns, the Sortino Ratio has the same denominator divided by the standard deviation of returns below the risk-free rate.
- Treynor Ratio is a measure of risk-adjusted performance of the portfolio. It is similar to the Sharpe Ratio, but it uses portfolio beta (systematic risk) as the risk metric in the denominator.
- Calmar Ratio is a measure of risk-adjusted performance of the portfolio. It is calculated as the annualized return over the past 36 months divided by the maximum drawdown over the past 36 months based on monthly returns.
- Risk-free returns are calculated based on the Federal Reserve 3-Month Treasury Bill (secondary market) rates.
- Downside deviation measures the downside volatility of the portfolio returns unlike standard deviation, which includes both upside and downside deviations. Downside deviation is calculated based on negative returns that hurt the portfolio performance.
- 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.
- Skewness is a measure of the asymmetry of the probability distribution or returns from a normal Gaussian distribution shape about its mean. Negative skewness is associated with the left (typically negative returns) tail of the distribution extending further than the right tail; and positive skewness is associated with the right (typically positive returns) tail of the distribution extending further than the left tail.
- Excess kurtosis is a measure of whether a data distribution is peaked or flat relative to a normal distribution. Distributions with high kurtosis tend to have a distinct peak near the mean, decline rather rapidly, and have heavy or fat tails.
- 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 values are calculated based on monthly returns.
- Value at Risk (VaR) measures the scale of loss at a given confidence level. If the 5% VaR is -3% the portfolio return is expected to be greater than -3% 95% of the time and less than -3% 5% of the time. Value at Risk can be calculated directly based on historical returns based on a given percentile or analytically based on the mean and standard deviation of the returns.
- Conditional Value at Risk (CVaR) measures the scale of the expected loss once the specific Value at Risk (VaR) breakpoint has been breached, i.e., it calculates the average tail loss by taking a weighted average between the value at risk and losses exceeding the value at risk.
- Beta is a measure of systematic risk and measures the volatility of a particular investment relative to the market or its benchmark. Alpha measures the active return of the investment compared to the market benchmark return. R-squared is the percentage of a portfolio's movements that can be explained by movements in the selected benchmark index.
- Active return is the investment return minus the return of its benchmark. For periods longer than 12 months this is displayed as annualized value, i.e., annualized investment return minus annualized benchmark return.
- Tracking error, also known as active risk, is the standard deviation of active return. This is displayed as annualized value based on the standard deviation of monthly active returns.
- Information ratio is the active return divided by the tracking error. It measures whether the investment outperformed its benchmark consistently.
- Gain/Loss ratio is a measure of downside risk, and it is calculated as the average positive return in up periods divided by the average negative return in down periods.
- Upside Capture Ratio measures how well the fund performed relative to the benchmark when the market was up, and Downside Capture Ratio measures how well the fund performed relative to the benchmark when the market was down. An upside capture ratio greater than 100 would indicate that the fund outperformed its benchmark when the market was up, and a downside capture ratio below 100 would indicate that the fund lost less than its benchmark when the market was down. To calculate upside capture ratio a new series from the portfolio returns is constructed by dropping all time periods where the benchmark return is less than equal to zero. The up capture is then the quotient of the annualized return of the resulting manager series, divided by the annualized return of the resulting benchmark series. The downside capture ratio is calculated analogously.
- All risk measures for the portfolio and portfolio assets are calculated based on monthly returns.
- The annual results for 2007 are based on monthly returns from November to December.
- The annual results for 2023 are based on monthly returns from January to March.

• Portfolio cashflows and rebalancing for quarterly and annual periods are aligned with calendar periods.