# DUAL MOMENTUM SYSTEMS

Process driven investment decisions driving better long term results with more shallow drawdowns and better risk adjusted performance.



## **Disclosure**

Nothing in this report should be construed as investment advice, an offer, recommendation, or solicitation to buy or sell any investment. All investing involves risk, including the possible loss of money you invest, and past performance does not guarantee future performance.

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### What is Dual Momentum Investing?

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• Dual Momentum strategies are evidence based, rules based, objective, tactical investment methodologies with the goal of maximizing participation in upside market momentum and sidestepping long market downturns by going into Treasuries until the markets are again in an upward trending.



Dual Momentum investing has two primary components. The first is absolute momentum: is there positive
return over your look back period? The second momentum is relative momentum: which investment option
has the highest return over the look back period. If there is positive momentum then we invest in the
highest relative momentum option, otherwise we stay out of harm's way in Treasuries which tend to
perform well when the markets are underperforming.

markets. These strategies are in leveraged equities about 10% to 15% of the time on average which is about





4 months every 3 years.
Why use Dual Momentum Strategies? Most professional managers fail to beat the market indices over time and retail investors do even worse. Buy and Hold investors can match the indices performance but have to suffer tremendous drawdowns along the way. For these reasons I use these Dual Momentum strategies for my investing. You will rarely get out of equities at the very top, and back in at the very bottom, but there are

incredible improvements, as the pages that follow will illustrate.

• Smart Leverage is now a part of these strategies in order to take advantage after outsized losses in the



 Is Dual Momentum easy to invest in? Investing in Dual Momentum strategies can take some getting used to, you will experience whipsaw in choppy markets, there may be a change of investment at the end of any given month, the strategy may dictate you be fully invested at a time when you may otherwise not be, it can be hard to reconcile when your investments are performing different than the overall market, there will be periods of a year or longer when you underperform the overall market. However, you are paid off with less drawdowns and far better overall returns over the long run.

#### Investment Strategies Investments for the month of April 2024

#### Strategy Components Invested:

	←Conservative							Aggressive $\rightarrow$
Month	GPMv	Triad	Triad+	Triad++	The Russell	Global Navigator+	LT Gain+	LT Gain++
Apr 2023	28% SGOL 28% QQQ 28% VGK 17% VGSH	1/6 SGOL 2/6 IWB 2/6 VXUS 1/6 VGIT	1/6 SGOL 2/6 SSO 2/6 VXUS 1/6 VGIT	1/6 SGOL 2/6 UPRO 2/6 VXUS 1/6 VGIT	IWP	VXUS	SSO	UPRO
May 2023	22% SGOL 22% QQQ 22% VGK 33% VGSH	1/6 SGOL 2/6 IWB 2/6 VXUS 1/6 VGIT	1/6 SGOL 2/6 SSO 2/6 VXUS 1/6 VGIT	1/6 SGOL 2/6 UPRO 2/6 VXUS 1/6 VGIT	IWB	VXUS	SSO	UPRO
Jun 2023	11% SGOL 11% QQQ 11% IWB 67% VGSH	1/6 SGOL 2/6 IWB 2/6 VXUS 1/6 VGIT	1/6 SGOL 2/6 SSO 2/6 VXUS 1/6 VGIT	1/6 SGOL 2/6 UPRO 2/6 VXUS 1/6 VGIT	IWB	IWB	SSO	UPRO
Jul 2023	28% QQQ 28% IWR 28% IWB 17% VGSH	1/6 SGOL 2/6 IWB 2/6 VXUS 1/6 VCSH	1/6 SGOL 2/6 SSO 2/6 VXUS 1/6 VCSH	1/6 SGOL 2/6 UPRO 2/6 VXUS 1/6 VCSH	IWB	IWB	SSO	UPRO
Aug 2023	22% QQQ 22% SGOL 22% IWR 33% VGSH	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 SSO 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 UPRO 2/6 IWS 1/6 VCSH	IWB	IWB	SSO	UPRO
Sep 2023	28% QQQ 28% SGOL 28% PDBC 17% VGSH	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 SSO 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 UPRO 2/6 IWS 1/6 VCSH	IWB	IWB	SSO	UPRO
Oct 2023	17% PDBC 17% QQQ 17% IWB 50% VGSH	1/6 PDBC 5/6 VGSH	1/6 PDBC 5/6 VGSH	1/6 PDBC 5/6 VGSH	VGSH	VGSH	VGSH	VGSH
Nov 2023	100% VGSH	1/6 PDBC 5/6 VGSH	1/6 PDBC 5/6 VGSH	1/6 PDBC 5/6 VGSH	VGSH	VGSH	VGSH	VGSH
Dec 2023	28% SGOL 28% QQQ 28% VGK 17% VGSH	1/6 PDBC 2/6 IWB 2/6 VXUS 1/6 VCSH	1/6 PDBC 2/6 IWB 2/6 VXUS 1/6 VCSH	1/6 PDBC 2/6 IWB 2/6 VXUS 1/6 VCSH	IWB	IWB	IWB	IWB
Jan 2024	33% SGOL 33% QQQ 33% IWR	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VGIT	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VGIT	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VGIT	IWP	IWB	IWB	IWB
Feb 2024	33% QQQ 33% SGOL 33% IWR	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VGIT	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VGIT	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VGIT	IWB	IWB	IWB	IWB
Mar 2024	28% QQQ 28% SGOL 28% IWR 17% VGSH	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	IWP	IWB	IWB	IWB
Apr 2024	33% SGOL 33% QQQ 33% PDBC	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH	IWP	IWB	IWB	IWB

#### For April, here are the investments by strategy:

#### **GPMv**

Scales into and out of it's Risk On universe of ETF's and Safety ETF's. See Fact Sheet for more information.

For the month of April 2024 invest In: 33% SGOL 33% QQQ 33% PDBC

#### Triad

May invest 2/6 Russell 1000, 2/6 into best of Russell MidCap Value or Foreign, 1/4th into Gold or Commodities. Otherwise into the best of: Short Term Investment Grade Bonds, Short Term Treasuries, or Intermediate Term Treasuries.

For the month of April 2024 invest In: 1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH

#### Triad+

May invest 2/6 Russell 1000, 2/6 into best of Russell MidCap Value or Foreign, 1/6th into Gold or Commodities. Otherwise into best of: Short Term Invst Grade Bonds, Short Term Treas., or Intm Term Treas. Plus 2X Smart Leverage on IWB portion. For the month of April 2024 invest In: 1/6 SGOL 2/6 IWB 2/6 IWB 1/6 VCSH

#### Triad++

May invest 2/6 Russell 1000, 2/6 into best of Russell MidCap Value or Foreign, 1/6th into Gold or Commodities. Otherwise into best of: Short Term Invst Grade Bonds, Short Term Treas., or Intm Term Treas. Plus 3X Smart Leverage on IWB portion. For the month of April 2024 invest In: 1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH

#### The Russell

Goes into either Russell: 1000, MidCap Growth, or Russell MidCap Value, Long Term Treasuries when markets are going down, Treasury Duration Limiter may limit treasuries to Short Term. For the month of April 2024 invest In: [IWP] Russell Mid-Cap Growth

#### Global Navigator+

Invests in US or Foreign, with limited Smart Leverage in USA only, Long Term Treasuries when markets are going down, Treasury Duration Limiter may limit treasuries to Short Term. For the month of April 2024 invest in: [IWB] Russell 1000

#### LT Gain+

Invests into the Russell: 1000 with positive momentum, with Smart Leverage into 2X S&P 500, Long Term Treasuries when markets are going down For the month of April 2024 invest In: [IWB] Russell 1000

#### LT Gain++

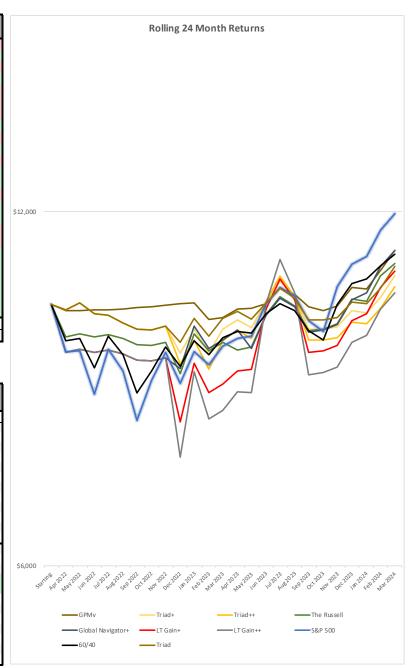
Invests into the Russell: 1000 with positive momentum, with Smart Leverage into 3X S&P 500, Extended Duration Treasuries when markets are going down, Treasury Duration Limiter may limit treasuries to Short Term. For the month of April 2024 invest In: [IWB] Russell 1000

#### **Investment Strategies Rolling 24 Month Returns** Through March 31, 2024

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Returns and I	Maximum Dr	awdown:	←Conserva	tive						Aggressive $\rightarrow$
	US Market	Balanced						Global		
Month	S&P 500	60/40	GPMv	Triad	Triad+	Triad++	The Russell	Navigator+	LT Gain+	LT Gain++
Apr 2022	-8.78%	-6.86%	-1.12%	-1.03%	-1.03%	-1.03%	-6.04%	-8.86%	-8.86%	-8.86%
May 2022	0.23%	0.47%	0.03%	1.47%	1.47%	1.47%	0.56%	0.56%	0.56%	0.56%
Jun 2022	-8.25%	-5.61%	0.08%	-2.20%	-2.20%	-2.20%	-0.59%	-0.59%	-0.59%	-0.59%
Jul 2022	9.21%	6.48%	0.04%	-0.21%	-0.21%	-0.21%	0.39%	0.39%	0.39%	0.39%
Aug 2022	-4.08%	-3.57%	0.19%	-1.54%	-1.54%	-1.54%	-0.75%	-0.75%	-0.75%	-0.75%
Sep 2022	-9.24%	-7.22%	0.21%	-1.18%	-1.18%	-1.18%	-1.18%	-1.18%	-1.18%	-1.18%
Oct 2022	8.13%	4.41%	0.16%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%
Nov 2022	5.56%	4.80%	0.32%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%
Dec 2022	-5.76%	-3.78%	0.23%	-3.11%	-5.13%	-7.09%	-6.03%	-2.14%	-11.83%	-17.71%
Jan 2023	6.29%	5.10%	0.28%	4.76%	4.78%	4.79%	8.08%	8.68%	12.22%	18.13%
Feb 2023	-2.51%	-2.57%	-3.24%	-3.42%	-4.52%	-5.57%	-3.24%	-4.27%	-5.63%	-8.73%
Mar 2023	3.71%	3.30%	0.40%	3.63%	4.82%	5.72%	1.69%	1.69%	1.69%	1.69%
Apr 2023	1.60%	1.20%	1.59%	1.33%	1.78%	2.12%	-1.44%	1.88%	2.57%	3.60%
May 2023	0.46%	-0.19%	0.18%	-1.44%	-1.49%	-1.64%	0.47%	-3.50%	0.29%	-0.15%
Jun 2023	6.48%	3.80%	0.88%	3.13%	5.24%	7.47%	6.70%	6.70%	12.61%	19.13%
Jul 2023	3.27%	1.91%	3.18%	2.97%	4.01%	5.15%	3.46%	3.46%	6.09%	8.95%
Aug 2023	-1.63%	-1.24%	-1.22%	-1.98%	-2.91%	-3.91%	-1.74%	-1.74%	-4.02%	-6.37%
Sep 2023	-4.74%	-3.84%	-2.37%	-4.17%	-6.22%	-8.23%	-4.79%	-4.79%	-9.85%	-14.71%
Oct 2023	-2.17%	-1.91%	-0.87%	-0.01%	-0.01%	-0.01%	0.35%	0.35%	0.35%	0.35%
Nov 2023	9.13%	7.29%	1.05%	0.50%	0.50%	0.50%	1.05%	1.05%	1.05%	1.05%
Dec 2023	4.57%	4.16%	3.63%	3.14%	3.14%	3.14%	5.00%	5.00%	5.00%	5.00%
Jan 2024	1.59%	0.89%	-0.36%	-0.36%	-0.36%	-0.36%	-0.57%	1.34%	1.34%	1.34%
Feb 2024	5.22%	2.59%	3.71%	3.11%	3.11%	3.11%	5.27%	5.27%	5.27%	5.27%
Mar 2024	3.27%	2.30%	4.04%	4.32%	4.32%	4.32%	2.37%	3.26%	3.26%	3.26%
12 Mo Rtrn:	19.50%	10.38%	11.23%	7.80%	5.87%	3.62%	8.40%	11.19%	6.80%	2.32%
Max DD:	-8.33%	-6.84%	-4.40%	-6.08%	-8.96%	-11.83%	-6.45%	-6.45%	-13.47%	-20.14%
b/(w) S&P 500:	0.0%	-9.1%	-8.3%	-11.7%	-13.6%	-15.9%	-11.1%	-8.3%	-12.7%	-17.2%

\$10.000 turns into: ←Conservative Aggressive  $\rightarrow$ Global Balanced S&P 500 60/40 GPMv Month Triad The Russel avigator-LT Gain+ Starting: \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000 10,000 \$ 10,000 10,000 \$ S Apr 2022 \$ 9,122 9,314 \$ 9,888 \$ 9,897 \$ 9,897 9,897 9,396 \$ 9,114 S 9,114 \$ May 2022 \$ 9,143 \$ 9,358 \$ 9,891 \$ 10,043 \$ 10,043 \$ 10,043 \$ 9,449 S 9,165 \$ 9,165 \$ Jun 2022 \$ 8,389 \$ 8,833 \$ 9,899 \$ 9,822 \$ 9,822 \$ 9,822 \$ 9,393 \$ 9,111 \$ 9,111 \$ Jul 2022 \$ 9,161 S 9,405 \$ 9,903 \$ 9,802 \$ 9,802 \$ 9,802 \$ 9,430 \$ 9,146 \$ 9,146 \$ Aug 2022 \$ 8,788 \$ 9,069 \$ 9,922 \$ 9,651 \$ 9,651 \$ 9,651 \$ 9,359 \$ 9,078 \$ 9,078 \$ Sep 2022 7,976 8,415 \$ 9,942 \$ 9,537 \$ 9,537 \$ 9,537 \$ 9,248 8,971 \$ 8,971 \$ \$ \$ \$ Oct 2022 S 8,624 \$ 8,786 \$ 9,958 \$ 9,524 \$ 9,524 \$ 9,524 \$ 9,235 \$ 8,958 \$ 8,958 \$ Nov 2022 \$ 9,103 9,208 \$ 9,990 \$ 9,588 \$ 9,588 \$ 9,588 \$ 9,297 \$ 9,018 \$ 9,018 \$ \$ Dec 2022 8,579 \$ 8,860 \$ 10,013 \$ 9,290 \$ 9,096 \$ 8,908 \$ 8,737 \$ 8,825 \$ 7,951 \$ \$ Jan 2023 S 9,119 S 9.312 \$ 10,041 \$ 9,732 \$ 9,530 \$ 9,334 \$ 9,443 \$ 9,591 \$ 8.923 S Feb 2023 \$ 8,890 \$ 9,072 \$ 9,716 \$ 9,399 \$ 9,099 \$ 8,815 \$ 9,137 \$ 9,182 \$ 8,421 \$ Mar 2023 9.220 9.371 \$ 9.754 \$ 9,741 \$ 9.537 \$ 9,319 9.291 9 3 3 7 ¢ 8,563 S. \$ S. S. S. Apr 2023 \$ 9,517 9,367 9,483 \$ 9,910 \$ \$ \$ 9,870 \$ 9,707 9,157 \$ 9,512 8,783 May 2023 9,410 9,466 \$ 9,928 \$ 9,728 \$ 9.562 \$ 9,361 9,200 9,180 8,809 \$ \$ \$ \$ S \$ \$ Jun 2023 \$ 10,020 S 9,825 \$ 10,015 \$ 10,033 \$ 10,064 \$ 10,060 \$ 9,817 \$ 9,795 9,919 \$ \$ Jul 2023 \$ 10,348 \$ 10,013 \$ 10,333 \$ 10,331 \$ 10,467 \$ 10,578 \$ 10,156 \$ 10,133 \$ 10,523 Aug 2023 \$ 10,179 \$ 9,889 \$ 10,207 \$ 10,126 \$ 10,162 \$ 10,163 \$ 9,980 \$ 9,957 \$ 10,100 S Sep 2023 9,510 \$ 9,965 \$ 9,704 \$ 9,530 \$ 9,327 9,502 9,480 9,105 \$ 9,697 S \$ \$ \$ \$ Oct 2023 \$ 9,486 \$ 9,328 \$ 9,878 \$ 9,703 \$ 9,529 \$ 9,326 \$ 9,535 \$ 9,513 \$ 9,137 \$ \$ 9,373 \$ 10,352 \$ 10,008 9,613 Nov 2023 \$ 9,982 \$ 9,751 \$ 9,577 \$ 9,635 \$ \$ 9,233 S \$ 9,667 \$ Dec 2023 \$ 10,825 \$ 10,425 \$ 10,345 \$ 10,057 \$ 9,878 10,117 \$ 10,094 \$ 9,695 \$ Jan 2024 \$ 10,997 \$ 10,518 \$ 10,308 \$ 10,021 \$ 9,842 \$ 9,632 \$ 10,059 \$ 10,229 \$ 9,825 \$ \$ 9,932 \$ \$ \$ 11,571 \$ 10,790 \$ 10,691 \$ 10,333 \$ 10,148 10,589 \$ 10,768 \$ 10,343 Feb 2024 \$ 11,950 \$ 11.038 \$ 11.123 \$ 10,780 \$ 10.587 \$ 10.362 Mar 2024 10.840 \$ 11.119 10.680



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# Investment Strategies 1980 through March 31, 2024

Annual retu	rns:		$\leftarrow Conservative \qquad Aggressive \rightarrow$							
	Bench	nmarks				Dua	I Momentum			
	US Market	Balanced						Global		
Year End	S&P 500	60/40	GPMv	Triad	Triad+	Triad++	The Russell	Navigator+	LT Gain+	LT Gain++
1980	32.49%	21.02%	12.65%	15.31%	15.31%	15.31%	37.62%	10.46%	30.75%	30.75%
1981	-4.90%	0.07%	14.01%	8.01%	8.01%	8.01%	8.79%	5.88%	5.88%	5.88%
1982	21.55%	25.68%	31.37%	25.52%	32.89%	41.26%	46.30%	58.83%	58.83%	85.40%
1983	22.55%	16.21%	7.49%	20.34%	28.99%	40.64%	28.73%	37.20%	43.75%	68.57%
1984	6.25%	9.84%	18.76%	8.49%	8.49%	8.49%	6.35%	8.50%	8.50%	8.50%
1985	31.23%	27.65%	30.22%	29.46%	29.46%	29.46%	24.32%	39.52%	30.44%	32.07%
1986	18.05%	17.65%	46.84%	24.57%	24.57%	24.57%	15.91%	64.21%	16.54%	16.71%
1987	4.68%	4.81%	21.42%	5.18%	5.18%	5.18%	-6.94%	8.59%	-4.84%	-3.59%
1988	16.22%	12.64%	9.15%	13.66%	14.67%	15.67%	9.84%	-5.63%	13.87%	19.27%
1989	31.38%	24.20%	18.20%	23.27%	34.68%	49.68%	26.51%	19.41%	64.31%	107.68%
1990 1991	-3.32% 30.22%	1.56%	3.24%	-5.44% 14.97%	-5.44% 20.97%	-5.44%	-13.84%	-7.82%	-10.96%	-10.72%
1991	30.22% 7.40%	24.30% 7.35%	13.22% 11.06%	9.32%	20.97% 9.32%	27.79% 9.32%	27.22% 15.78%	38.50% 8.98%	34.64% 8.98%	51.88% 11.21%
1992	9.58%	9.66%	11.06%	9.32%	9.32%	9.32%	15.78%	8.98% 17.02%	8.98% 10.18%	10.18%
1993	0.38%	-0.77%	-1.98%	-1.43%	-1.43%	-1.43%	-2.85%	3.85%	-3.35%	-3.35%
1994	38.05%	29.81%	25.49%	30.61%	30.61%	30.61%	36.48%	37.77%	37.77%	37.77%
1996	22.51%	14.70%	13.58%	17.42%	17.42%	17.42%	6.66%	10.21%	14.28%	14.28%
1997	33.49%	23.58%	10.89%	19.75%	19.75%	19.75%	24.03%	32.85%	32.85%	32.85%
1998	28.69%	21.01%	17.43%	3.77%	8.23%	13.11%	3.13%	12.47%	12.47%	19.90%
1999	20.39%	11.65%	22.57%	17.32%	17.49%	17.18%	42.48%	31.50%	19.71%	24.16%
2000	-9.74%	-1.49%	13.90%	15.67%	15.68%	15.69%	13.76%	9.56%	13.85%	17.60%
2001	-11.75%	-3.81%	7.04%	2.82%	2.80%	2.77%	3.56%	3.56%	3.56%	3.07%
2002	-21.59%	-9.80%	15.38%	8.79%	4.95%	0.89%	9.12%	16.83%	2.44%	1.38%
2003	28.16%	18.19%	13.95%	23.85%	32.41%	42.86%	43.24%	70.84%	74.69%	126.58%
2004	10.71%	8.00%	12.60%	13.40%	16.58%	19.92%	23.22%	21.32%	25.59%	40.20%
2005	4.83%	3.87%	12.64%	7.36%	7.17%	7.07%	5.95%	4.18%	-2.76%	-5.30%
2006	15.84%	10.95%	14.52%	16.36%	16.97%	17.63%	17.37%	21.72%	14.25%	14.25%
2007	5.14%	5.94%	12.34%	12.89%	12.89%	12.89%	9.31%	21.66%	6.43%	6.90%
2008	-36.81%	-21.86%	13.84%	-1.18%	-1.18%	-1.18%	3.16%	3.16%	3.16%	2.49%
2009	26.38%	18.66%	7.60%	24.23%	34.73%	46.58%	31.19%	41.50%	63.01%	99.25%
2010	15.06%	12.04%	17.42%	14.04%	20.81%	29.11%	16.24%	5.23%	18.12%	29.53%
2011	1.88%	4.38%	28.81%	8.52%	9.18%	9.86%	32.68%	28.96%	33.18%	57.58%
2012	16.00%	11.39%	0.02%	7.19%	8.68%	9.92%	19.12%	36.13%	31.05%	46.82%
2013	32.31%	17.44%	11.81%	16.74%	16.74%	16.74%	35.27%	21.76%	32.78%	32.78%
2014	13.48%	10.56%	9.03%	7.59%	7.59%	7.59%	10.30%	9.91%	13.07%	13.07%
2015	1.26%	1.11%	-7.24%	-2.46%	-2.46%	-2.46%	-2.85%	-9.14%	-3.96%	-3.96%
2016	12.00%	8.34%	4.33%	9.49%	9.49%	9.49%	12.30%	9.65%	7.86%	8.78%
2017	21.71%	14.26%	14.84%	14.18%	14.18%	14.18%	21.78%	20.03%	21.53%	21.53%
2018	-4.56%	-2.47%	2.78%	0.67%	0.67%	0.67%	6.48%	3.71%	3.71%	3.71%
2019 2020	31.23% 18.39%	21.98% 14.93%	8.81% 13.95%	9.32% 20.11%	9.32% 28.01%	9.32% 37.47%	8.37% 26.71%	9.67% 44.50%	9.67% 46.54%	9.45% 76.21%
2020	28.76%	14.93%	9.36%	20.11% 18.84%	28.01%	37.47%	25.38%	21.12%	40.54%	55.90%
2021	-18.16%	-15.86%	-1.90%	-7.74%	-9.67%	-11.54%	-19.05%	-18.23%	-26.32%	-31.24%
2022	-18.16% 26.18%	-15.86%	-1.90%	-7.74%	-9.67%	-11.54% 8.53%	-19.05%	-18.23%	-20.32%	25.16%
2023	10.39%	4.32%	7.52%	7.18%	7.18%	7.18%	7.15%	14.38%	10.16%	10.16%
+/- S&P YTD:	0.0%	-6.1%	-2.9%	-3.2%	-3.2%	-3.2%	-3.2%	-0.2%	-0.2%	-0.2%
CAGR	11.8%	-0.1%	-2.9%	-3.2%	-3.2%	-5.2%	-5.2%	-0.2%	-0.2%	-0.2%
CAUK	11.0/0	10.070	12.970	12.070	15.070	13.7/0	13.470	1/.9/0	10.570	27.070



# **Strategy Fact Sheets**

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#### Dual Momentum Strategies: Generalized Protective Momentum variant aka GPMv

A variation on Generalized Protective Momentum [GPM] by JW Keuning and Wouter Keller. Details: https://tinyurl.com/28ukds2s

Results through 03/31/2024

#### Investment selection for April 2024:

33% SGOL 33% QQQ 33% PDBC

#### Tax friendliness:

**GPMv** is assumed to be mostly short term gains.

#### Months between change of holdings:

**GPMv** has change of investments most months.

#### Portfolio size appropriateness:

Whale, **GPMv** can be used for any sized portfolio.

#### Characteristics:

Drawdowns: **GPMv** has far more conservative drawdowns than a 60/40. Volatility: **GPMv** is much usually less volatile than a 60/40. Returns: **GPMv** has superior historical returns compared to a 60/40. Leverage: **GPMv** never uses any leverage.

#### Annualized Returns , actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
GPMv	7.52%	14.03%	5.40%	7.72%	6.07%	9.95%	12.86%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown , single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
GPMv	-0.36%	-4.40%	-5.93%	-5.93%	-10.75%	-10.75%	-10.75%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

Ulce	r Inde	ex, i	higher the 1	number the more	painful downsi	de volatility. Co	onsiders all dov	wnside not just n	naximum.
-	-	-							

Investment	YID	1 Year	3 year	5 Year	10 year	2000+	1980+
GPMv	0.18	1.86	3.01	2.66	4.06	3.02	2.49
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

#### Sortino Ratio, risk adjusted performance measure - bigger number is better. Investment YTD 1 Year 3 Year 5 Year

GPMv	15.35	2.28	0.06	0.60	0.20	0.99	1.64
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69

10 Year

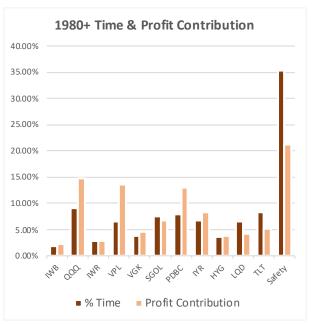
2000 +

## Strategy Description: GPMv uses fast acting weighted lookbacks and ETF performance correlations to scale into and out of it's Risk Off (Safety) holdings (VGSH, VGIT, and BIL) and into a universe of 11 Risk On ETF's. This is a very protective strategy with very low maximum drawdowns, however, it is also a strategy which can provide market like returns over a full market cycle. It has extremely low volatility (UlcerIndex) and very high risk adjusted metrics.

#### Strategy Components

Can be seen in the 1980+ Time & Profit Contribution chart below.

Metric	2000+	1980+
Beta	0.06	0.13
Alpha	9.10%	10.92%

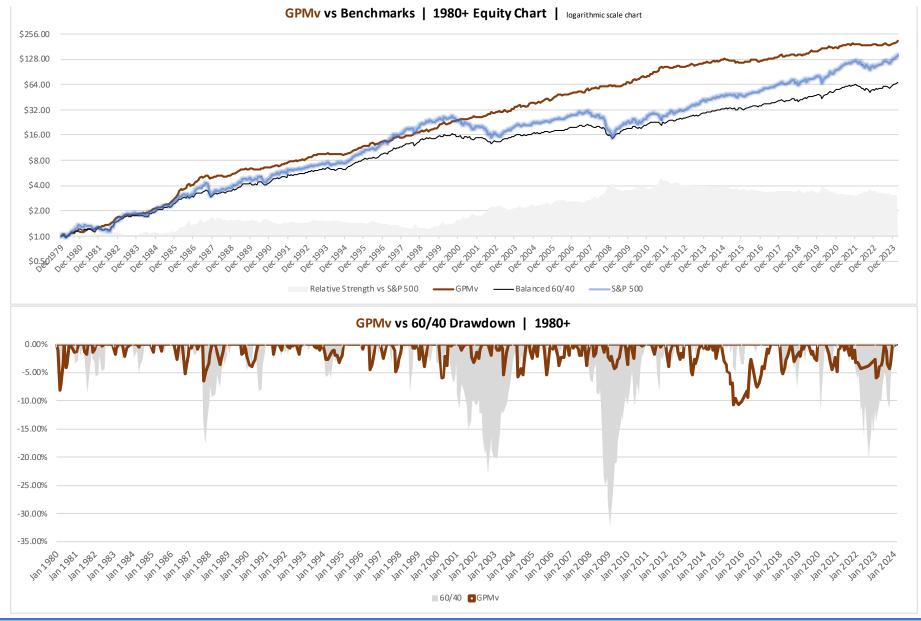


Generalized Protective Momentum [GPM] inception date June 30, 2016; GPMvariant aka GPMv inception date 05/15/2022

- -

1980 +

GPMv based on TrendXplorer's Generalized Protective Momentum



Generalized Protective Momentum [GPM] inception date June 30, 2016; GPMvariant aka GPMv inception date 05/15/2022

US Markets and Gold Rotational Strategy with mutliple out of market options

#### Investment selection for April 2024:

1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH

#### Tax friendliness:

Triad is tax friendly, mostly Long Term Cap Gains.

#### Months between change of holdings:

Triad has a change to one of it's holdings every 1.67 months on average.

#### Portfolio size appropriateness:

Whale, Triad can be used for any sized portfolio.

#### Characteristics:

Drawdowns: Triad has more conservative drawdowns than a Balanced 60/40 strategy Volatility: Triad is noticeably less volatile than a Balanced 60/40 approach Returns: Triad has similar historical returns depending on the time frame, and should do better going forward.

#### **Strategy Description:**

Triad was created as a better option than a 60/40 portfolio for the future. Triad may invest: 1/6 into Gold or Commodities, 2/6 into the Russell 1000, 2/6 into the Russell Mid-Cap Value or International, a minimum of 1/6 (and any amounts not invested into the previous mentioned buckets) will be invested into the best performer of; Short Term Treasuries, Intermediate Term Treasuries, and Short Term Corporate Investment Grade Bonds. Triad has average leverage of 100%, and maximum leverage of 100%.

1980+

1.19

0.73

0.69

#### **Strategy Components**

IWB Russell 1000, IWS Rusell MidCap Value, SGOL Gold, PDBC Commodities VCSH Short Term Corporate Investment Grade Bonds VGSH Short Term Treasuries VGIT Intermediate Term Treasuries

Metric	2000+	1980+
Beta	0.26	0.36
Alpha	8.06%	7.55%

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad	7.18%	10.67%	5.39%	10.54%	7.96%	10.29%	12.04%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

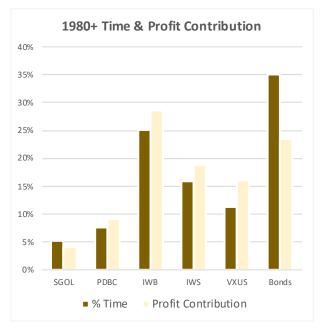
Dual Momentum Systems: Triad

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad	-0.36%	-6.08%	-9.57%	-9.57%	-9.57%	-9.57%	-15.47%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

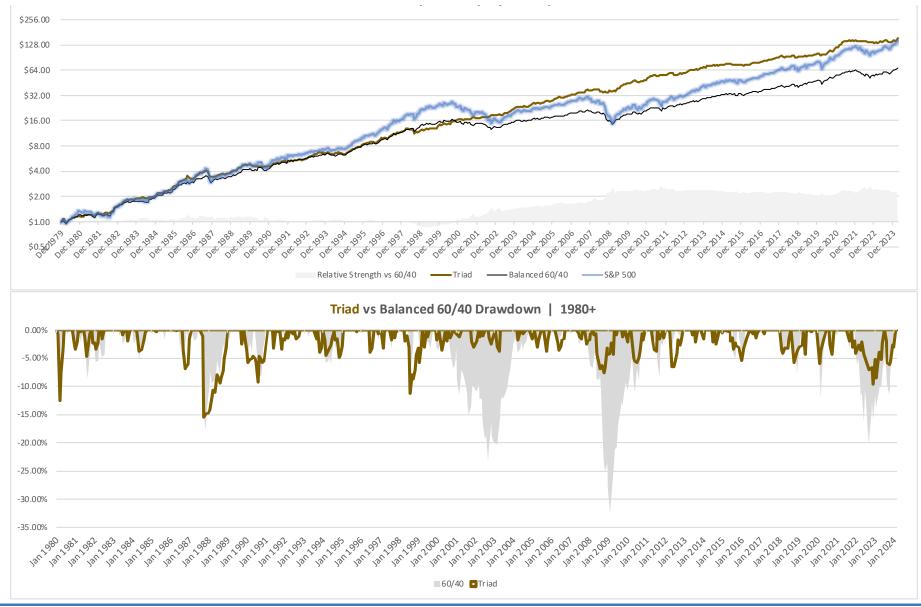
#### Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad	0.18	3.13	4.32	3.59	3.01	2.58	3.18
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

#### Sortino Ratio, risk adjusted performance measure - bigger number is better. Investment 1 Year 3 Year 5 Year 2000+ YTD 10 Year Triad 14.48 0.95 0.90 1.02 0.06 0.53 2.26 0.49 0.18 Balanced 60/40 N/A 0.14 0.51 S&P 500 N/A 3.54 0.59 0.86 0.79 0.27



Triad inception date April 2021, out of sample since then and before 2000



#### Triad inception date April 2021, out of sample since then and before 2000.

#### Dual Momentum Strategies: Triad+

US Markets and Gold Rotational Strategy with mutliple out of market options

#### Investment selection for April 2024:

1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH

#### Tax friendliness:

Triad+ is tax friendly, mostly Long Term Cap Gains.

#### Months between change of holdings:

Triad has a change to one of it's holdings every 1.67 months on average.

#### Portfolio size appropriateness:

Whale, Triad can be used for any sized portfolio.

#### Characteristics:

Drawdowns: Triad+ has more conservative drawdowns than a Balanced 60/40 strategy Volatility: Triad+ is noticeably less volatile than a Balanced 60/40 approach Returns: Triad+ has similar historical returns depending on the time frame, and should do better going forward. Leverage: Triad has average leverage of 108%, and maximum leverage of 133%.

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad+	7.18%	11.00%	5.50%	12.50%	8.91%	11.70%	13.63%
Triad	7.18%	10.67%	5.39%	10.54%	7.96%	10.29%	12.04%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
Maximum Drawdrown.sin	ngle largest drawdown						
Maximum Drawdrown, sin	0 0		2 Voor	E Voor	10 Voor	2000.	1090.
Investment	YTD	1 Year	<b>3 Year</b>	<b>5 Year</b>	<b>10 Year</b>	<b>2000+</b>	<b>1980+</b>
Investment Triad+	YTD -0.36%	<b>1 Year</b> -8.96%	-11.33%	-11.33%	-11.33%	-11.33%	-15.47%
Investment	YTD	1 Year					

Strategy Description:

leverage of 108%, and maximum leverage of 133%.

Triad+ was created as a better option than a 60/40 portfolio for the future. Triad+ is more moderate by adding Smart Leverage to Triad, if there is a month end drawdown of 15% or greater, when going back into 2/6 position of Russell 1000

IWB Russell 1000, SSO 2X Smart Leverage

Strategy Components

VGSH Short Term Treasuries

VGIT Intermediate Term Treasuries

Triad+ will instead go into 2X S&P, SSO, until there is a natural change of investment up to 12 months. Triad has average

IWS Rusell MidCap Value, SGOL Gold, PDBC Commodities

VCSH Short Term Corporate Investment Grade Bonds

#### Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad+	0.18	4.96	5.28	4.39	3.50	3.05	3.38
Triad	0.18	3.13	4.32	3.59	3.01	2.58	3.18
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23

#### Sortino Ratio, risk adjusted performance measure - bigger number is better.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad+	14.48	0.76	0.09	1.04	0.64	1.15	1.35
Triad	14.48	0.95	0.06	0.90	0.53	1.02	1.19
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73

#### Dual Momentum Systems: Triad+

¢ E 1 2 00

Triad+ inception date March 2022 [Triad inception date April 2021]

Triad+ vs Benchmarks | 1980+ Equity Chart | logarithmic scale chart

1980+ Time & Profit Contribution 50% 45% 40% 35% 30% 25% 20% 15% 10% 5% 0% SGOL PDBC IWB SSO IWS VXUS Bonds

2000 +

0.33

9.01%

1980+

0.42

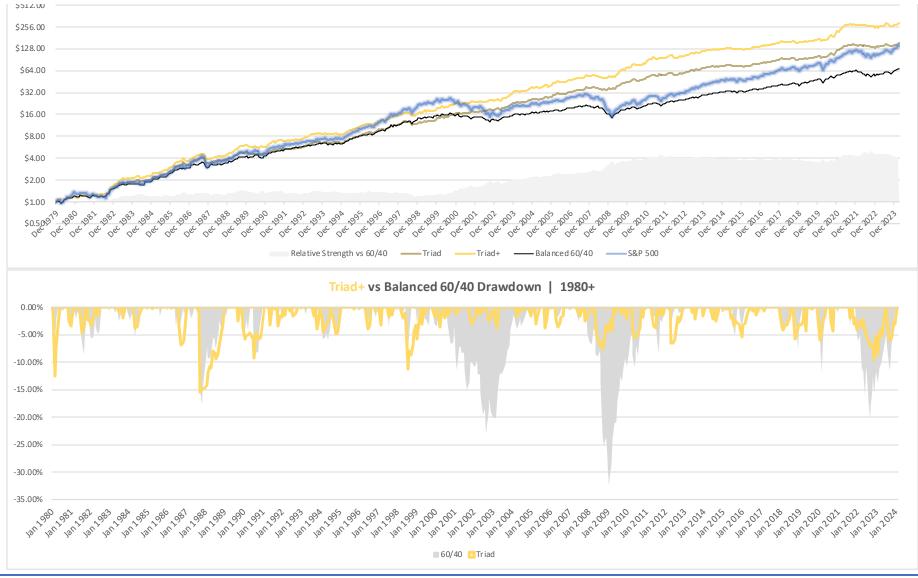
8.41%

Metric

Beta

Alpha

% Time Profit Contribution



Triad+ inception date March 2022 [Triad inception date April 2021]

#### Dual Momentum Strategies: Triad++

US Markets and Gold Rotational Strategy with mutliple out of market options

#### Investment selection for April 2024:

1/6 SGOL 2/6 IWB 2/6 IWS 1/6 VCSH

#### Tax friendliness:

Triad++ is tax friendly, mostly Long Term Cap Gains.

#### Months between change of holdings:

Triad has a change to one of it's holdings every 1.67 months on average.

#### Portfolio size appropriateness:

Whale, Triad can be used for any sized portfolio.

#### Characteristics:

Drawdowns: Triad++ has more conservative drawdowns than a Balanced 60/40 strategy Volatility: Triad++ is noticeably less volatile than a Balanced 60/40 approach Returns: Triad++ has similar historical returns depending on the time frame, and should do better going forward. Leverage: Triad has average leverage of 117%, and maximum leverage of 167%.

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad++	7.18%	11.19%	5.65%	14.72%	9.98%	13.26%	15.43%
Triad+	7.18%	11.00%	5.50%	12.50%	8.91%	11.70%	13.63%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%

#### Maximum Drawdrown, single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad++	-0.36%	-11.83%	-13.94%	-13.94%	-13.94%	-13.94%	-15.47%
Triad+	-0.36%	-8.96%	-11.33%	-11.33%	-11.33%	-11.33%	-15.47%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%

#### Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Triad++	0.18	6.92	6.45	5.36	4.13	3.75	3.81
Triad+	0.18	4.96	5.28	4.39	3.50	3.05	3.38
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23

0.14

0.51

Sortino Ratio, risk adjusted performance measure - bigger number is better.											
Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+					
Triad++	14.48	0.64	0.12	1.15	0.74	1.23					
Triad+	14.48	0.76	0.09	1.04	0.64	1.15					

2.26

N/A

#### Strategy Description:

Triad++ was created as a better option than a 60/40 portfolio for the future. Triad++ is more aggressive by adding Smart Leverage to Triad, if there is a month end drawdown of 15% or greater, when going back into 2/6 position of Russell 1000 Triad++ will instead go into 3X S&P, UPRO, until there is a natural change of investment up to 12 months. Triad has average leverage of 117%, and maximum leverage of 167%.

#### Strategy Components

IWB Russell 1000, UPRO 3X Smart Leverage IWS Rusell MidCap Value, SGOL Gold, PDBC Commodities VCSH Short Term Corporate Investment Grade Bonds VGSH Short Term Treasuries VGIT Intermediate Term Treasuries

1980+

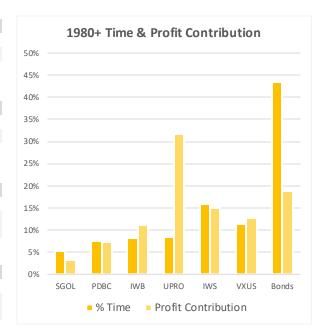
0.18

1.47

1.35

0.73

Metric	2000+	1980+
Beta	0.33	0.42
Alpha	9.01%	8.41%



Triad++ inception date March 2022 [Triad inception date April 2021]

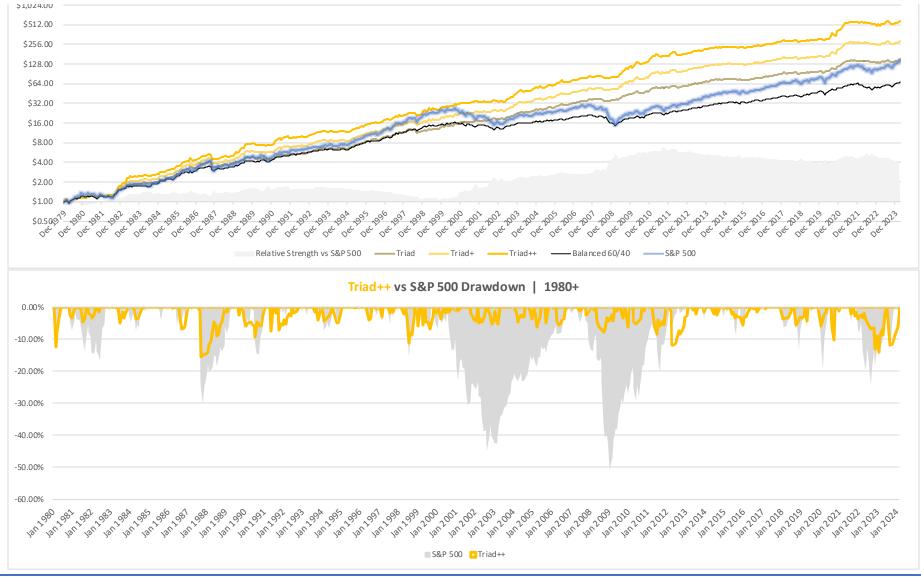
Dual Momentum Systems: Triad++

Triad++ vs Benchmarks | 1980+ Equity Chart | logarithmic scale chart

0.49

¢1 ∩ 2 / ∩ 0

Balanced 60/40



Triad++ inception date March 2022 [Triad inception date April 2021]

USA Momentum Rotational

#### Investment selection for April 2024:

IWP, Russell Mid-Cap Growth

#### Tax friendliness:

The Russell has mostly Short Term Cap Gains.

#### Months between change of holdings:

The Russell changes it's holdings every 3.2 months on average.

#### Portfolio size appropriateness:

Whale, The Russell can be used for any sized portfolio.

#### Characteristics:

Drawdowns: The Russell has more conservative drawdowns than the S&P. Volatility: The Russell is usually less volatile than the S&P over time. Returns: The Russell has much better historical returns compared to the S&P 500. Leverage: The Russell never uses any leverage.

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
The Russell	7.15%	16.67%	3.69%	11.38%	10.22%	14.73%	15.40%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

Dual Momentum Systems: The Russell

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
The Russell	-0.57%	-6.45%	-19.45%	-19.45%	-19.45%	-19.45%	-23.41%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
The Russell	0.29	2.94	10.27	8.23	6.56	5.32	5.95
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

#### Sortino Ratio, risk adjusted performance measure - bigger number is better. Investment YTD 1 Year 3 Year 5 Year

The Russell	11.45	1.80	(0.09)	0.76	0.69	1.31	1.20
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69

10 Year

2000 +

1980+

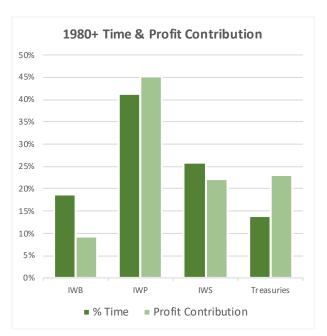
#### Strategy Description:

The Russell invests in the United States, going into the best performer of the Russell 1000, Russell MidCap Growth, or Russell MidCap Value. When these markets aren't experiencing positive momentum the strategy goes into Long Term Treasuries, or into Short Duration Treasuries if the Treasury Duration Limiter kicks in. The Russell has an average leverage of 100%, and a maximum leverage of 100% (meaning no leverage at all, 100% being the nominal position.)

#### Strategy Components

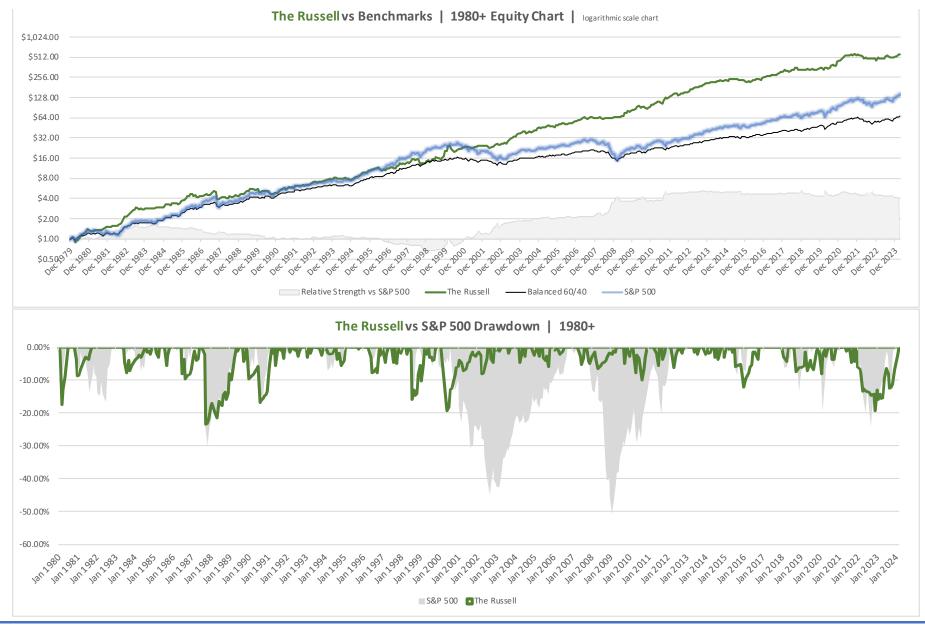
IWB Russell 1000 IWP Russell MidCap Growth IWS Russell MidCap Value TLT Long Term Treasuries, or VGSH with Treasury Duration Limiter

Metric	2000+	1980+
Beta	0.30	0.50
Alpha	12.25%	9.23%



The Russell inception date May 2017, out of sample since and before 2000

Results through 03/31/2024



The Russell inception date May 2017, out of sample since and before 2000.

Global Momentum Rotational Strategy using Smart Leverage

#### Results through 03/31/2024

#### Investment selection for April 2024:

IWB, Russell 1000

#### Tax friendliness:

Global Navigator+ has mostly Short Term Cap Gains.

#### Months between change of holdings:

Global Navigator+ changes it's holdings every 3.8 months on average.

#### Portfolio size appropriateness:

Whale, Global Navigator+ can be used for any sized portfolio.

#### Characteristics:

Drawdowns: **Global Navigator+** has more conservative drawdowns than the S&P. Volatility: **Global Navigator+** is usually less volatile than the S&P over time. Returns: **Global Navigator+** has superior historical returns compared to the S&P 500. Leverage: Global Navigator+ has a maximum leverage of 200% and average leverage of: 109%

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Global Navigator+	10.16%	19.09%	6.10%	14.41%	10.21%	16.12%	17.91%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Global Navigator+	0	-6.45%	-18.23%	-18.23%	-18.23%	-18.23%	-22.80%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

#### Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Global Navigator+	-	3.05	10.49	8.61	7.57	5.39	5.78
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

#### Sortino Ratio, risk adjusted performance measure - bigger number is better. Investment YTD 1 Year 3 Year 5 Year

Global Navigator+	N/A	1.89	0.17	1.01	0.67	1.46	1.57
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69

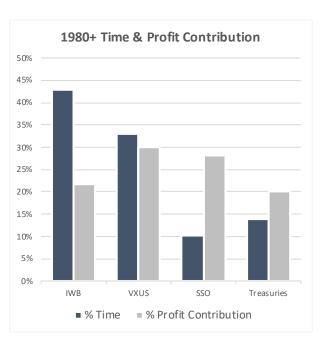
#### Strategy Description:

**Global Navigator+** is a global strategy, investing in the USA when it is outperforming, and in Foreign markets when they outperform. This strategy uses Smart Leverage, after an outsized drawdown in the markets, could go into 2X Leveraged equities if the USA Markets are the investment, not if going into Foreign Markets. When it goes into 2X leveraged position, it holds it until there is a natural change of investment by the strategy. The strategy holds long term treasuries when out of equities.

#### Strategy Components

IWB Russell 1000 → Smart Leverage: SSO 2X S&P 500 VXUS All World Country ex-USA TLT Long Term Treasuries, or VGSH with Treasury Duration Limiter

Metric	2000+	1980+
Beta	0.37	0.50
Alpha	13.11%	11.76%



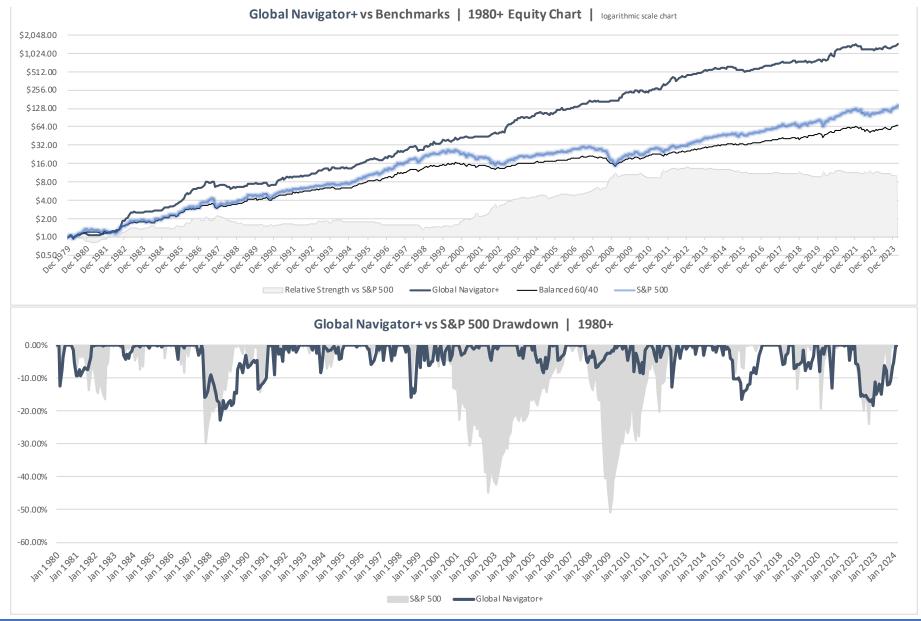
Global Navigator inception date May 2017. Smart Leverage added in October 2020 aka Global Navigator++, out of sample then and before 2000.

1980+

2000 +

10 Year

Dual Momentum Systems: Global Navigator+



Global Navigator inception date May 2017. Smart Leverage added in October 2020 aka Global Navigator++, out of sample then and before 2000.

Single Momentum Strategy using Smart Leverage

#### Investment selection for April 2024:

IWB, Russell 1000

#### Tax friendliness:

**LT Gain+** has mostly Long Term Cap Gains.

#### Months between change of holdings:

LT Gain+ changes it's holdings every 5.8 months on average.

#### Portfolio size appropriateness:

Whale, LT Gain+ can be used for any sized portfolio.

#### Characteristics:

Drawdowns: LT Gain+ has more conservative drawdowns than the S&P. Volatility: LT Gain+ is usually less volatile than the S&P over time. Returns: LT Gain+ has superior historical returns compared to the S&P 500. Leverage: LT Gain+ has a maximum leverage of 200% and average leverage of: 123%

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
LT Gain+	10.16%	24.72%	7.61%	17.34%	12.51%	17.29%	18.33%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

Dual Momentum Systems: LT Gain+

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
LT Gain+	0	-13.47%	-26.32%	-26.32%	-26.32%	-26.32%	-26.32%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

Ulcer Index, the higher the num	ber the more	painful downsid	le volatility. C	onsiders all dov	vnside not just n	naximum.	
Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	

LT Gain+	-	6.96	12.50	10.10	7.85	5.81	5.87
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

#### **Sortino Ratio**, risk adjusted performance measure - bigger number is better.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
LT Gain+	N/A	1.67	0.30	1.09	0.82	1.37	1.42
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69

#### Strategy Description:

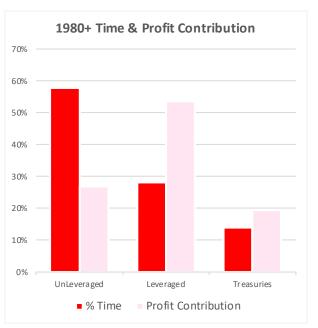
LT Gain+ invests in the United States, when the Russell 1000 shows positive momentum it invests in it. When these markets aren't experiencing positive momentum the strategy goes into Long Term Treasuries. This strategy uses Smart Leverage and goes into 2X S&P 500 after an outsized drawdown in the markets and will hold that position for up to 1 full year at whick point it would go back into the Russell 1000 with positive momentum.

#### **Strategy Components**

1980+

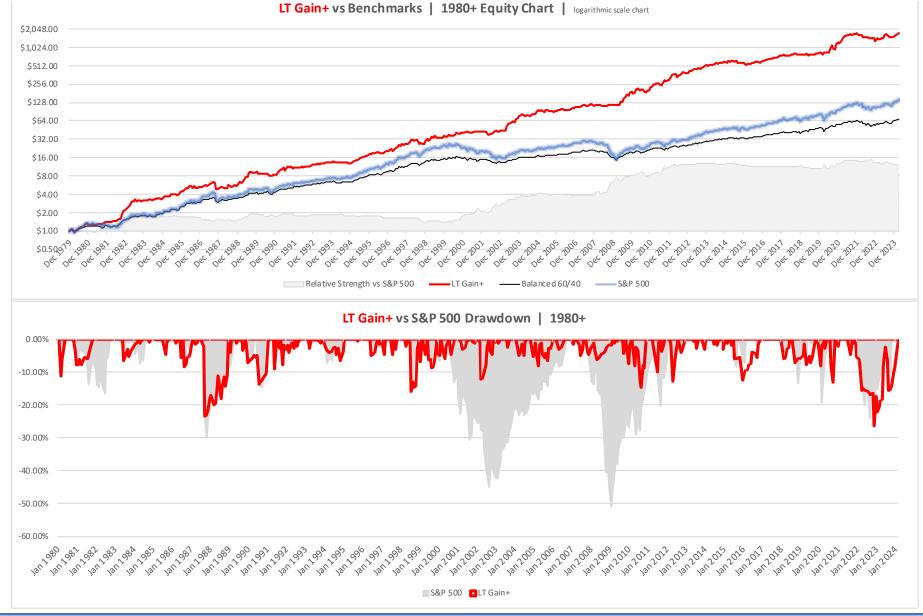
IWB Russell 1000 → Smart Leverage: SSO 2X S&P 500 TLT Long Term Treasuries, or VGSH with Treasury Duration Limiter

Metric	2000+	1980+
Beta	0.51	0.67
Alpha	13.33%	10.28%



LT Gain+ inception date January 2022.

Results through 03/31/2024



LT Gain+ inception date January 2022.

Single Momentum Strategy using Smart Leverage

#### Investment selection for April 2024:

IWB, Russell 1000

#### Tax friendliness:

LT Gain++ has mostly Long Term Cap Gains.

#### Months between change of holdings:

LT Gain++ changes it's holdings every 5.8 months on average.

#### Portfolio size appropriateness:

Whale, LT Gain++ can be used for any sized portfolio.

#### Characteristics:

Drawdowns: LT Gain++ has more conservative drawdowns than the S&P. Volatility: LT Gain++ is usually less volatile than the S&P over time. Returns: LT Gain++ has superior historical returns compared to the S&P 500. Leverage: LT Gain++ has a maximum leverage of 300% and average leverage of: 145%

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
LT Gain++	10.16%	25.76%	7.93%	23.09%	15.33%	23.14%	23.97%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
LT Gain++	0	-20.14%	-31.24%	-31.24%	-31.24%	-31.24%	-31.24%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.										
Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+			
LT Gain++	-	11.58	14.28	11.68	8.84	6.92	6.49			
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23			
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83			

#### **Sortino Ratio**, risk adjusted performance measure - bigger number is better.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
LT Gain++	N/A	1.29	0.34	1.27	0.96	1.58	1.67
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69

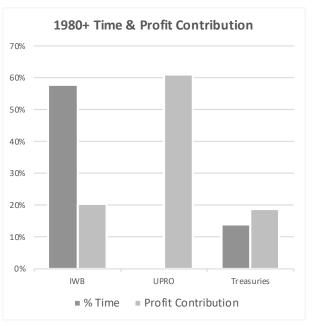
#### Strategy Description:

LT Gain++ invests in the United States, when the Russell 1000 shows positive momentum it invests in it. When these markets aren't experiencing positive momentum the strategy goes into Long Term Treasuries. This strategy uses Smart Leverage and goes into 3X S&P 500 after an outsized drawdown in the markets and will hold that position for up to 1 full year at which time it would go back into the Russell 1000 with positive momentum.

#### Strategy Components

IWB Russell 1000 → Smart Leverage: UPRO 3X S&P 500 TLT Long Term Treasuries, or VGSH with Treasury Duration Limiter

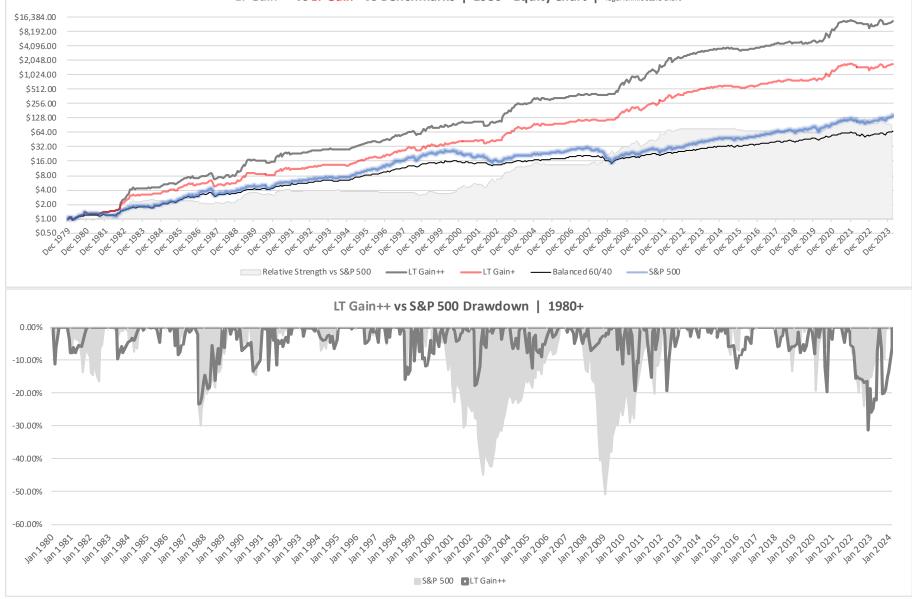
Metric	2000+	1980+
Beta	0.65	0.82
Alpha	14.20%	18.21%



LT Gain++ inception date January 2022.

randy@dualmomentumsystems.com

Dual Momentum Systems: LT Gain++



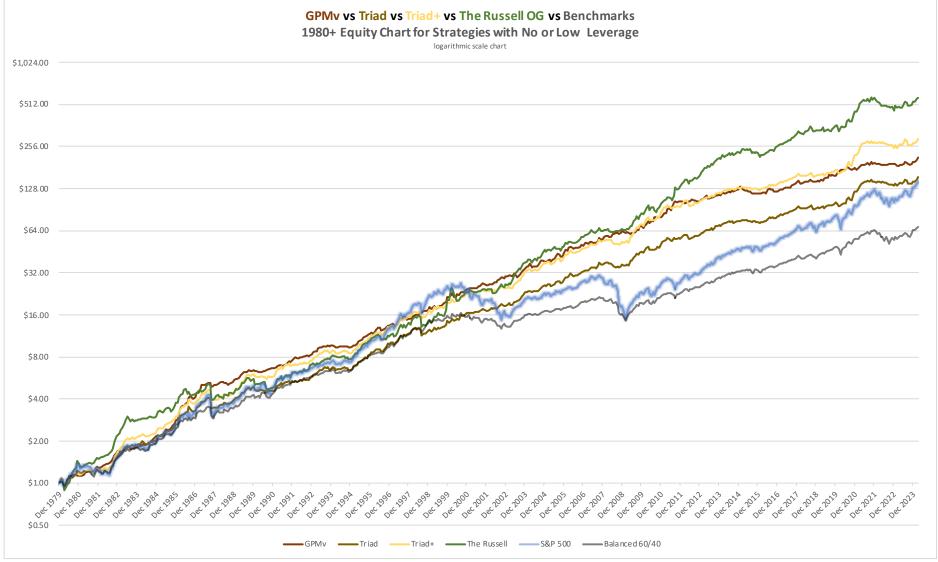
LT Gain++ vs LT Gain+ vs Benchmarks | 1980+ Equity Chart | logarithmic scale chart

LT Gain++ inception date January 2022.

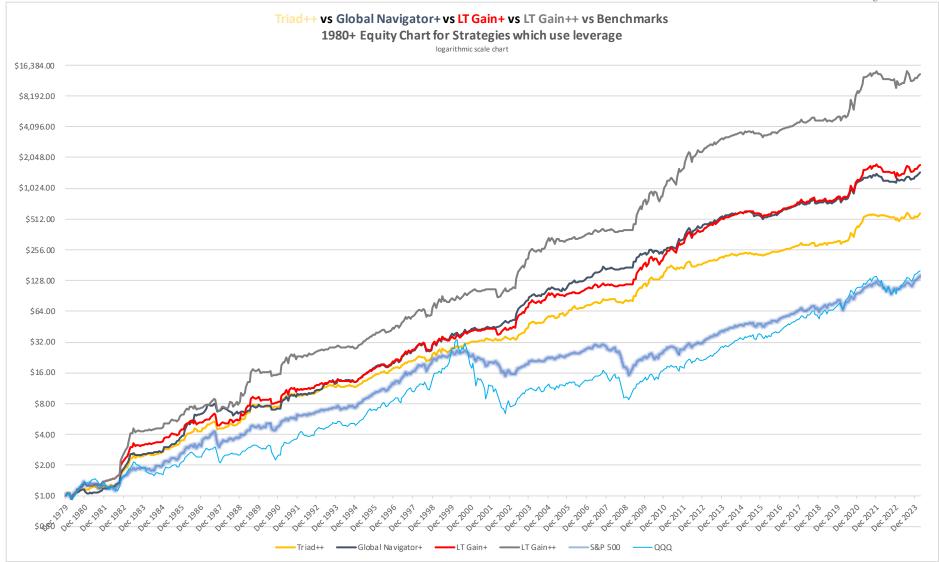


# **Equity Charts**

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\* Limited use of Leverage with Triad, but showing it with the other unleveraged strategies because it is still very conservative and belongs with this group.



## DUAL MOMENTUM SYSTEMS

# Metrics, Annual Returns and Correlations

**CAGR:** Compound Annual Growth Rate, on average how much the strategy has returned per year

Ulcer Performance Index: A risk adjusted performance ratio which uses the Ulcer Index in it's calculations

Sortino Ratio: A risk adjusted performance ratio commonly used

Gain to Pain: Used by the famous Jack Schwager, simply the total net gain divided by net loses along the way

Maximum Drawdown: The largest negative drawdown for the strategy, on a month end basis

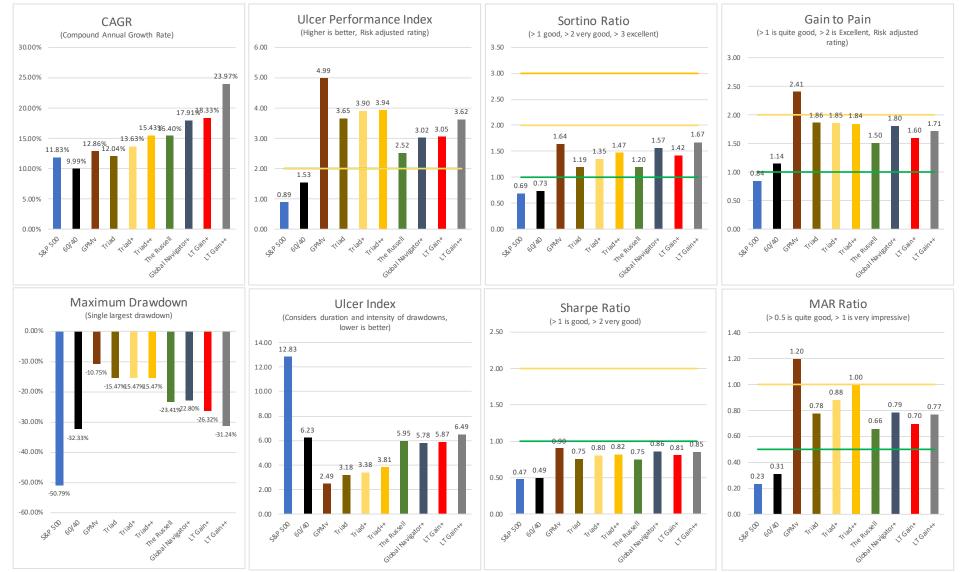
**Ulcer Index:** Measures how bad drawdowns are for an investment, not related to gains, just drawdowns

Sharpe Ratio: A commonly used risk adjusted performance measure, however, it penalizes for upside volatility

MAR Ratio: A risk adjusted performance ratio, uses maximum drawdown in it's calculations

Results through 03/31/2024

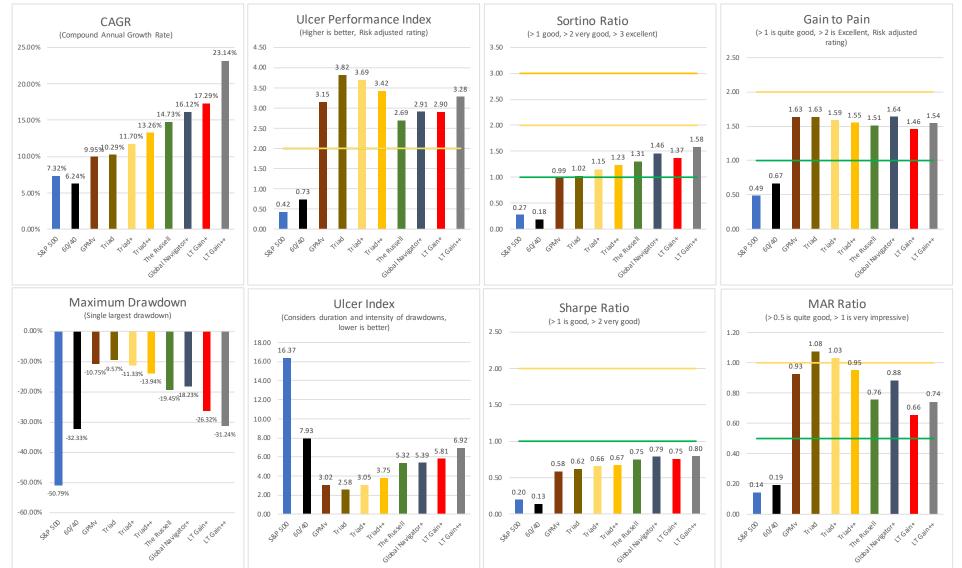
#### "Long Term" Metrics Comparisons: Strategies vs S&P 500 & 60/40 1980 to current



All Metrics are calculated from Monthly returns

Results through 03/31/2024

#### "Modern Era" Metrics Comparisons: Strategies vs S&P 500 & 60/40 2000 to current



All Metrics are calculated from Monthly returns

#### 36 Month Strategy Return Correlations

				←Conservative		1			1		Aggressive $\rightarrow$
	S&P 500	Balanced 60/40	QQQ	GPMv	Triad	Triad+	Triad++	The Russell	Global Navigator+	LT Gain+	LT Gain++
S&P 500	1.00										
Balanced 60/40	0.99	1.00									
QQQ	0.92	0.93	1.00								
GPMv	0.53	0.52	0.40	1.00							
Triad	0.67	0.67	0.59	0.78	1.00						
Tried+	0.64	0.65	0.58	0.74	0.98	1.00					
Triad++	0.61	0.61	0.55	0.69	0.94	0.99	1.00				
The Russell	0.71	0.69	0.67	0.74	0.85	0.85	1.00	1.00			
Global Navigator+	0.71	0.71	0.65	0.74	0.83	0.83	0.93	0.93	1.00		
LT Gain+	0.69	0.68	0.67	0.64	0.85	0.85	0.92	0.92	0.90	1.00	
LT Gain++	0.63	0.63	0.61	0.58	0.83	0.83	0.87	0.87	0.84	0.99	1.00



# **Model Portfolios**

### **Model Portfolios**

#### 1980 through March 31, 2024

#### Annual returns:

Annual retu		Benchmark	s		Model Portfolios						
	US Market	Balanced	Nasdaq 100								
Year End	S&P 500	60/40	QQQ	R	etire	Moderate	Aggressive				
1980	32.49%	21.02%	33.38%		18.59%	15.34%	30.58%				
1981	-4.90%	0.07%	-0.63%		6.62%	5.90%	8.90%				
1982	21.55%	25.68%	18.20%		28.43%	46.71%	65.81%				
1983	22.55%	16.21%	19.58%		15.97%	27.97%	54.24%				
1984	6.25%	9.84%	-13.19%		9.98%	9.62%	8.43%				
1985	31.23%	27.65%	32.38%		27.63%	33.12%	31.13%				
1986	18.05%	17.65%	10.83%		28.79%	47.56%	20.71%				
1987	4.68%	4.81%	-11.38%		14.51%	13.88%	7.38%				
1987	16.22%	12.64%	19.47%		11.09%	2.38%	16.36%				
1989	31.38%	24.20%	19.49%		23.23%	25.65%	74.25%				
1990	-3.32%	1.56%	-17.55%		0.37%	-2.27%	-5.13%				
1991	30.22%	24.30%	46.97%		16.31%	29.25%	39.66%				
1992	7.40%	7.35%	21.54%		8.02%	8.17%	8.89%				
1992	9.58%	9.66%	15.37%		13.00%	14.98%	11.21%				
1994	0.38%	-0.77%	-3.66%		-1.45%	1.20%	-1.93%				
1995	38.05%	29.81%	42.46%		25.85%	30.62%	32.91%				
1996	22.51%	14.70%	23.41%		13.82%	11.11%	13.46%				
1997	33.49%	23.58%	21.27%		14.46%	22.34%	27.46%				
1998	28.69%	21.01%	32.17%		12.58%	15.49%	16.12%				
1999	20.39%	11.65%	101.07%		16.70%	24.42%	20.06%				
2000	-9.74%	-1.49%	-36.11%	-	10.07%	8.42%	15.30%				
2000	-11.75%	-3.81%	-33.34%		2.41%	2.88%	2.99%				
2001	-21.59%	-9.80%	-37.37%		7.61%	11.48%	4.58%				
2002	28.16%	18.19%	49.67%		24.24%	52.52%	91.83%				
2004	10.71%	8.00%	10.54%		12.13%	17.46%	29.46%				
2005	4.83%	3.87%	1.57%		8.85%	6.75%	-1.22%				
2005	15.84%	10.95%	7.14%		14.54%	17.67%	14.23%				
2007	5.14%	5.94%	19.02%		12.24%	16.78%	9.44%				
2008	-36.81%	-21.86%	-41.73%		0.75%	2.44%	3.59%				
2009	26.38%	18.66%	54.68%		20.36%	33.52%	70.04%				
2010	15.06%	12.04%	20.14%		17.13%	13.31%	23.99%				
2010	1.88%	4.38%	3.47%		13.68%	22.77%	38.26%				
2012	16.00%	11.39%	18.12%		7.09%	23.16%	32.76%				
2012	32.31%	17.44%	36.63%		11.90%	15.62%	24.46%				
2014	13.48%	10.56%	19.18%		8.59%	9.50%	12.32%				
2015	1.26%	1.11%	9.45%		-3.82%	-6.82%	-3.65%				
2016	12.00%	8.34%	7.10%		6.73%	7.50%	7.23%				
2017	21.71%	14.26%	32.66%		13.82%	16.84%	17.42%				
2018	-4.56%	-2.47%	-0.12%		-0.02%	1.67%	1.82%				
2019	31.23%	21.98%	38.96%		12.75%	12.07%	9.79%				
2020	18.39%	14.93%	48.40%		19.37%	34.45%	56.05%				
2021	28.76%	15.74%	27.42%		15.26%	18.77%	41.87%				
2022	-18.16%	-15.86%	-32.59%		-5.94%	-12.14%	-19.07%				
2023	26.18%	17.66%	54.84%		8.53%	11.87%	16.47%				
+/- S&P YTD:	0.0%	-8.5%	28.7%		-17.7%	-14.3%	-9.7%				
CAGR	11.8%	10.0%	12.1%		12.1%		20.4%				

#### Combination of Strategies

#### Investment selection for April 2024:

Look at individual strategies for selections

#### Tax friendliness:

Undetermined

#### Months between change of holdings:

Undetermined, look at the individual strategies for a better idea.

#### Portfolio size appropriateness:

Undetermined, look at the individual strategies for a better idea.

#### Characteristics:

Drawdowns: Far less than a Balanced 60/40 portfolio. Volatility: Far less overall downside volatility over the long term. Returns: Significantly higher returns than a 60/40.

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Retire	7.51%	14.29%	6.52%	10.52%	7.77%	9.91%	12.12%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Retire	-0.01%	-5.93%	-6.54%	-6.54%	-6.54%	-6.54%	-10.10%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Retire	0.01	2.62	3.34	2.73	2.64	2.08	2.04
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

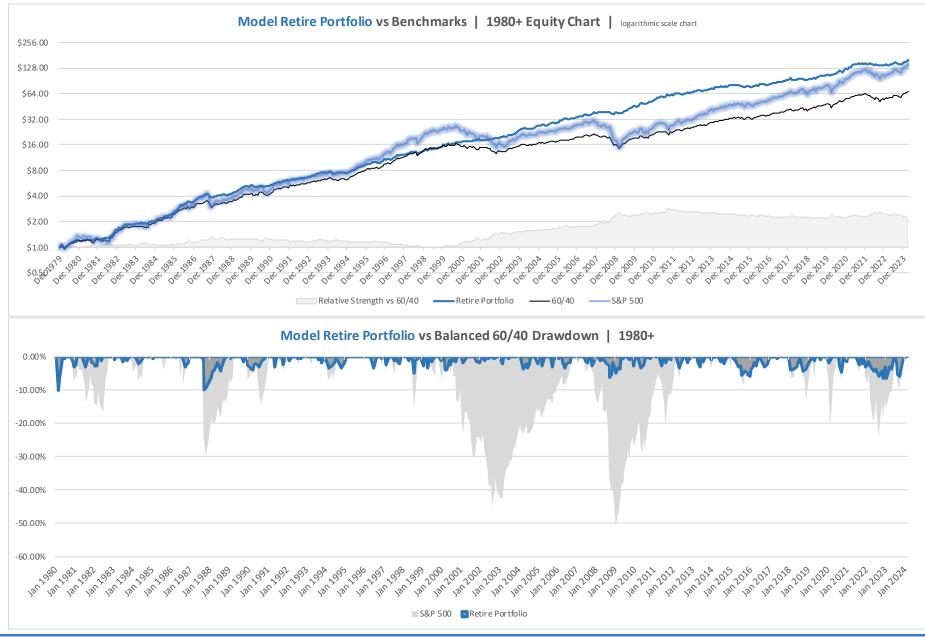
#### Sortino Ratio, risk adjusted performance measure - bigger number is better.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Retire	27.47	1.68	0.26	1.07	0.56	1.07	1.50
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69

#### Strategy Description:

This Model Retire Portfolio is based on the allocation: 33% GPMv 33% Bamboo+ Portfolio 33% Triad It has an average leverage of 103% and a maximum leverage of 113%. The goal of this strategy is a balance of: 1) Near market returns 2) with a very low long term Ulcer Index and 3) low Max DD and 4) low average and modestly low maximum leverage. 5) ok to use a little leverage once in a while.

Metric	2000+	1980+
Beta	0.26	0.32
Alpha	7.69%	8.00%



#### Combination of Strategies

#### Investment selection for April 2024:

Look at individual strategies for selections

#### Tax friendliness:

Undetermined

#### Months between change of holdings:

Undetermined, look at the individual strategies for a better idea.

#### Portfolio size appropriateness:

Undetermined, look at the individual strategies for a better idea.

#### Characteristics:

Strategy Description:

This Model Moderate Portfolio is based on the allocation: 25% GPMv 25% Bamboo++ Portfolio 50% Global Navigator+ It has an average leverage of 104% and a maximum leverage of 150%. This strategy has an allocation for somebody who is willing to use modest leverage at times when the odds are in our favor, somebody who is looking for growth, but doesn't want S&P type maximum drawdowns and high volatility.

Drawdowns: Noticeably lower Max DD compared to S&P 500.	Metric	2000+	1980+
Volatility: More volatile than a 60/40 recently, much less over the long term.	Beta	0.34	0.43
Returns: Similar returns to S&P 500 ovr the past 1 to 10 years, and superior returns over the long run.	Alpha	10.84%	10.42%

#### Annualized Returns , actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Moderate	8.92%	17.77%	6.89%	13.31%	9.36%	13.62%	15.72%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

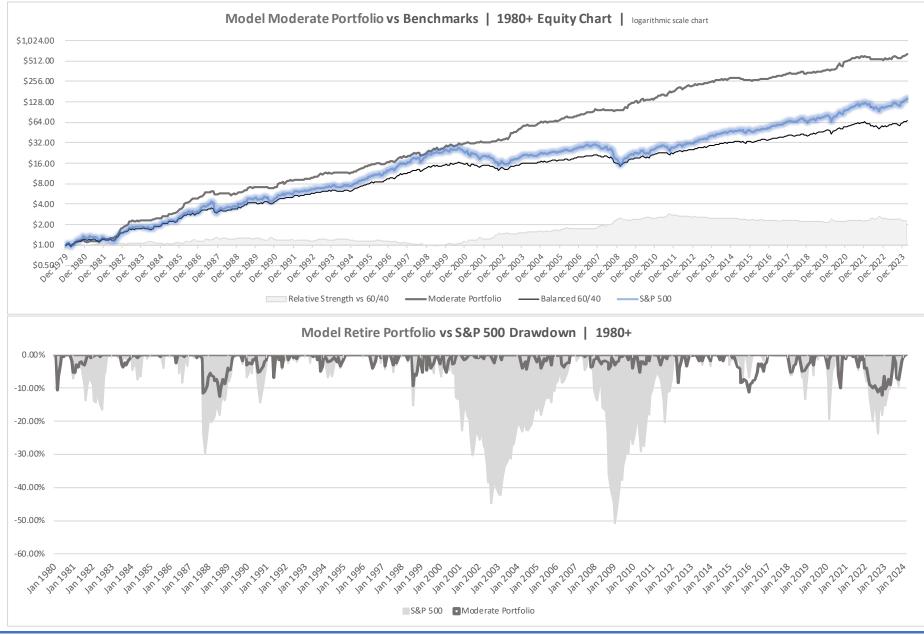
Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Moderate	0	-6.97%	-12.14%	-12.14%	-12.14%	-12.14%	-12.56%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Moderate	-	3.21	6.44	5.28	4.77	3.37	3.22
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

#### Sortino Ratio, risk adjusted performance measure - bigger number is better.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Moderate	N/A	1.84	0.28	1.15	0.70	1.48	1.74
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69



#### Combination of Strategies

#### Investment selection for April 2024:

Look at individual strategies for selections

#### Tax friendliness:

Undetermined

#### Months between change of holdings:

Undetermined, look at the individual strategies for a better idea.

#### Portfolio size appropriateness:

Undetermined, look at the individual strategies for a better idea.

#### Characteristics:

#### Strategy Description:

This Model Aggressive Portfolio is based on the allocation: 15% Triad++ 10% Global Navigator+ 60% LT Gain++ 15% DBMF [the Managed Futures ETF]. It has an average leverage of 131% and a maximum leverage of 240%. This strategy is for a person more comfortable with higher leverage and the volatility it brings while holding it; in exchange for terrific long term growth.

Drawdowns: Far less Max DD than the S&P 500.	Metric	2000+	1980+
Volatility: Slightly higher downside volatility than the S&P over the past 10 years, far lower over the long run.	Beta	0.48	0.62
Returns: Similar returns to the S&P over the past 10 years, significantly higher over the long run.	Alpha	15.12%	12.97%
	-		

#### Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Aggressive	9.93%	21.30%	8.83%	20.04%	13.17%	18.89%	20.44%
Balanced 60/40	4.32%	17.79%	5.85%	9.25%	8.46%	6.24%	9.99%
S&P 500	10.39%	29.61%	11.34%	14.97%	12.86%	7.32%	11.83%

#### Maximum Drawdrown, single largest drawdown.

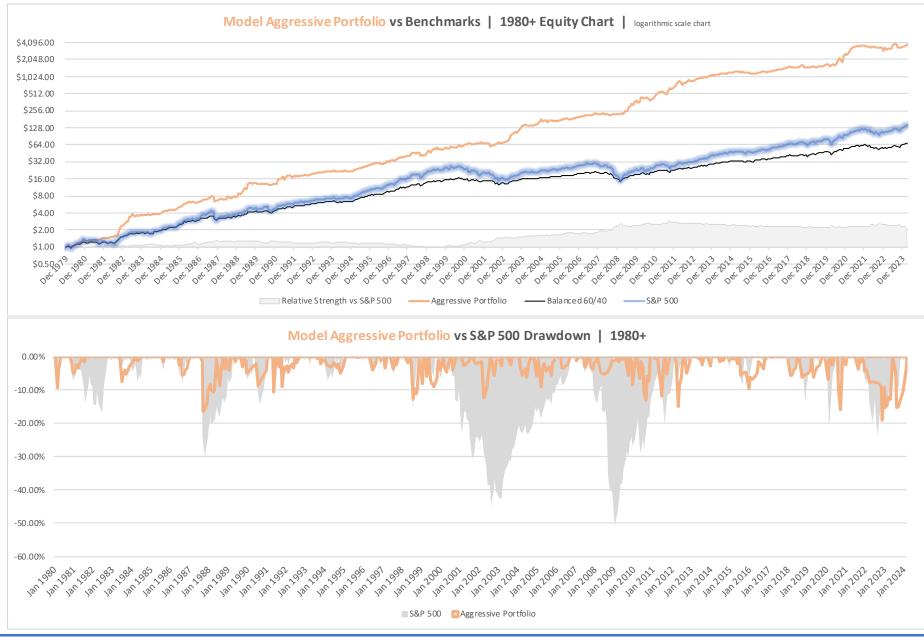
Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Aggressive	0	-15.12%	-19.07%	-19.07%	-19.07%	-19.07%	-19.07%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%	-50.79%

#### Ulcer Index, the higher the number the more painful downside volatility. Considers all downside not just maximum.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Aggressive	-	8.73	8.63	7.28	5.75	4.68	4.31
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.93	6.23
S&P 500	-	2.93	9.89	8.37	6.39	16.37	12.83

#### Sortino Ratio, risk adjusted performance measure - bigger number is better.

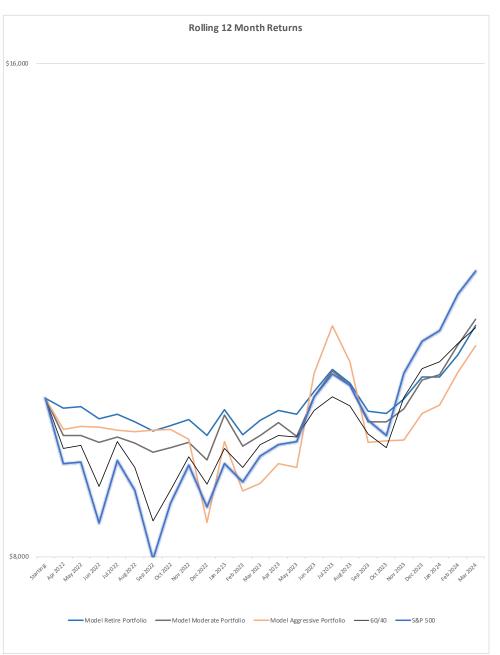
Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+	1980+
Model Aggressive	N/A	1.31	0.42	1.35	0.95	1.56	1.75
Balanced 60/40	N/A	2.26	0.14	0.51	0.49	0.18	0.73
S&P 500	N/A	3.54	0.59	0.86	0.79	0.27	0.69



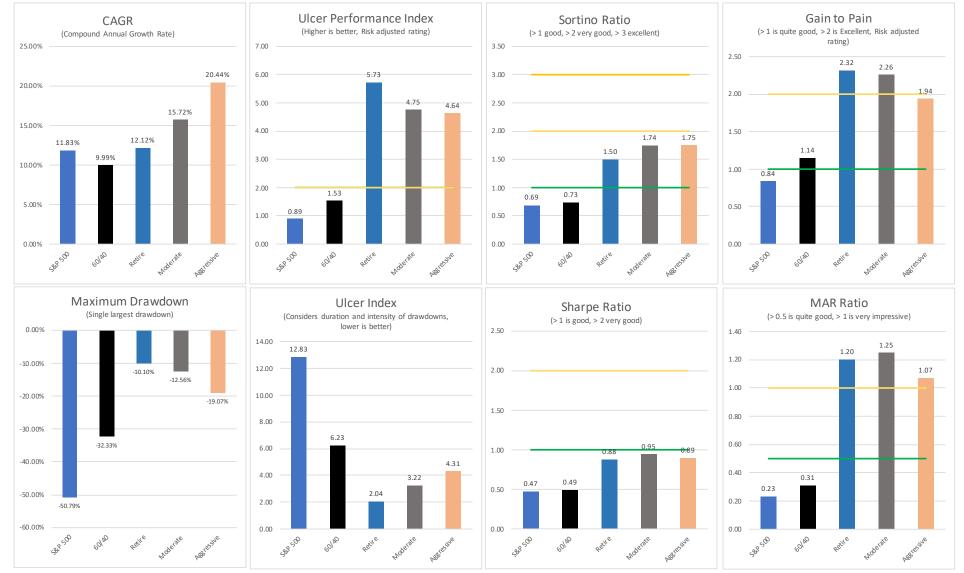
#### Investment Strategies Rolling 24 Month Returns Through March 31, 2024

Returns and Maximum Drawdown:					←Conservative		Aggressive $\rightarrow$
	US Market	Balanced	Nasdaq 100				
Month	S&P 500	60/40	QQQ		Retire	Moderate	Aggressive
Apr 2022	-8.78%	-6.86%	-13.60%		-1.46%	-5.15%	-4.29%
May 2022	0.23%	0.47%	-1.59%		0.22%	0.04%	0.40%
Jun 2022	-8.25%	-5.61%	-8.91%		-1.62%	-0.98%	-0.05%
Jul 2022	9.21%	6.48%	12.55%		0.62%	0.73%	-0.51%
Aug 2022	-4.08%	-3.57%	-5.13%		-1.05%	-0.78%	-0.19%
Sep 2022	-9.24%	-7.22%	-10.54%		-1.32%	-1.29%	0.23%
Oct 2022	8.13%	4.41%	4.00%		0.75%	0.57%	0.10%
Nov 2022	5.56%	4.80%	5.54%		0.86%	0.82%	-1.39%
Dec 2022	-5.76%	-3.78%	-9.01%		-2.17%	-2.47%	-11.00%
Jan 2023	6.29%	5.10%	10.64%		3.70%	6.52%	11.98%
Feb 2023	-2.51%	-2.57%	-0.36%		-3.51%	-4.27%	-6.62%
Mar 2023	3.71%	3.30%	9.49%		2.03%	1.46%	1.00%
Apr 2023	1.60%	1.20%	0.51%		1.49%	1.85%	2.87%
May 2023	0.46%	-0.19%	7.88%		-0.53%	-1.87%	-0.61%
Jun 2023	6.48%	3.80%	6.30%		3.21%	5.73%	14.23%
Jul 2023	3.27%	1.91%	3.86%		3.09%	3.70%	6.86%
Aug 2023	-1.63%	-1.24%	-1.48%		-1.81%	-2.07%	-4.91%
Sep 2023	-4.74%	-3.84%	-5.08%		-3.92%	-4.97%	-10.74%
Oct 2023	-2.17%	-1.91%	-2.07%		-0.28%	-0.04%	0.20%
Nov 2023	9.13%	7.29%	10.82%		2.01%	1.91%	0.14%
Dec 2023	4.57%	4.16%	5.59%		3.14%	4.08%	3.75%
Jan 2024	1.59%	0.89%	1.82%		-0.01%	0.76%	1.25%
Feb 2024	5.22%	2.59%	5.28%		3.16%	4.24%	4.70%
Mar 2024	3.27%	2.30%	1.27%		4.22%	3.71%	3.74%
12 Mo Rtrn:	19.50%	10.38%	24.20%		10.72%	11.69%	7.57%
Max DD:	-8.33%	-6.84%	-8.42%		-5.93%	-6.97%	-15.12%
b/(w) S&P 500:	0.0%	-9.1%	4.7%	-	-8.8%	-7.8%	-11.9%

\$10,000 turns	into:			←Conservative	Aggressive $\rightarrow$
	US Market	Balanced	Nasdaq 100		
Month	S&P 500	60/40	QQQ	Retire Moderate	Aggressive
Starting:	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000 \$ 10,000	\$ 10,000
Apr 2022	\$ 9,122	\$ 9,314	\$ 8,640	\$ 9,854 \$ 9,485	\$ 9,571
May 2022	\$ 9,143	\$ 9,358	\$ 8,503	\$ 9,876 \$ 9,489	\$ 9,609
Jun 2022	\$ 8,389	\$ 8,833	\$ 7,745	\$ 9,716 \$ 9,396	\$ 9,604
Jul 2022	\$ 9,161	\$ 9,405	\$ 8,717	\$ 9,776 \$ 9,465	\$ 9,555
Aug 2022	\$ 8,788	\$ 9,069	\$ 8,270	\$ 9,673 \$ 9,391	\$ 9,537
Sep 2022	\$ 7,976	\$ 8,415	\$ 7,398	\$ 9,545 \$ 9,269	\$ 9,559
Oct 2022	\$ 8,624	\$ 8,786	\$ 7,694	\$ 9,616 \$ 9,322	\$ 9,568
Nov 2022	\$ 9,103	\$ 9,208	\$ 8,120	\$ 9,699 \$ 9,399	\$ 9,435
Dec 2022	\$ 8,579	\$ 8,860	\$ 7,389	\$ 9,489 \$ 9,167	\$ 8,397
Jan 2023	\$ 9,119	\$ 9,312	\$ 8,175	\$ 9,840 \$ 9,764	\$ 9,403
Feb 2023	\$ 8,890	\$ 9,072	\$ 8,145	\$ 9,495 \$ 9,347	\$ 8,780
Mar 2023	\$ 9,220	\$ 9,371	\$ 8,918	\$ 9,688 \$ 9,484	\$ 8,868
Apr 2023	\$ 9,367	\$ 9,483	\$ 8,964	\$ 9,832 \$ 9,659	\$ 9,123
May 2023	\$ 9,410	\$ 9,466	\$ 9,670	\$ 9,780 \$ 9,478	\$ 9,067
Jun 2023	\$ 10,020	\$ 9,825	\$ 10,280	\$ 10,094 \$ 10,022	\$ 10,357
Jul 2023	\$ 10,348	\$ 10,013	\$ 10,676	\$ 10,406 \$ 10,392	\$ 11,068
Aug 2023	\$ 10,179	\$ 9,889	\$ 10,518	\$ 10,218 \$ 10,177	\$ 10,524
Sep 2023	\$ 9,697	\$ 9,510	\$ 9,984	\$ 9,817 \$ 9,671	\$ 9,394
Oct 2023	\$ 9,486	\$ 9,328	\$ 9,777	\$ 9,789 \$ 9,668	\$ 9,413
Nov 2023	\$ 10,352	\$ 10,008	\$ 10,835	\$ 9,985 \$ 9,852	\$ 9,427
Dec 2023	\$ 10,825	\$ 10,425	\$ 11,441	\$ 10,298 \$ 10,255	\$ 9,780
Jan 2024	\$ 10,997	\$ 10,518	\$ 11,649	\$ 10,298 \$ 10,332	\$ 9,903
Feb 2024	\$ 11,571	\$ 10,790	\$ 12,264	\$ 10,624 \$ 10,770	\$ 10,369
Mar 2024	\$ 11,950	\$ 11,038	\$ 12,420	\$ 11,072 \$ 11,169	\$ 10,757



#### "Long Term" Metrics Comparisons: Model Portfolios vs S&P 500 & 60/40 1980 to current



All Metrics are calculated from Monthly returns

#### Ulcer Performance Index Gain to Pain CAGR Sortino Ratio (Higher is better, Risk adjusted rating) (> 1 is quite good, > 2 is Excellent, Risk adjusted (Compound Annual Growth Rate) (> 1 good, > 2 very good, > 3 excellent) rating) 20.00% 5.00 3.50 18.89% 4.54 2.50 4.50 18.00% 3.00 3.94 3.91 4.00 16.00% 2.00 1.91 13.62% 2.50 1.77 14.00% 3.50 1.64 12.00% 3.00 2.00 1.50 9.91% 10.00% 2.50 1.56 1.48 1.50 7.32% 8.00% 2.00 1.00 6.24% 1.07 6.00% 1.50 0.67 1.00 0.49 4.00% 1.00 0.50 0.73 0.50 0.42 0.27 2.00% 0.50 0.18 0.00 0.00% 0.00 0.00 2.98 500 2.98 500 2.98°500 Sol Sol 60/20 Moderate Moderate ABBIESSIVE Retifie Moderate ABBIESSIVE 60/20 ABBIESSIVE 60/40 60/40 Noderate Retife ABBIESSINE Retife Retif Maximum Drawdown Ulcer Index MAR Ratio Sharpe Ratio (Single largest drawdown) (Considers duration and intensity of drawdowns, (> 0.5 is quite good, > 1 is very impressive) (>1 is good, > 2 very good) lower is better) 0.00% 2.50 1.60 1.51 18.00 16.37 1.40 -6.54% 16.00 -10.00% 2.00 -12.14% 1.20 14.00 1.12 -20.00% 0.99 -19.07% 12.00 1.00 1.50 10.00 -30.00% 0.80 7.93 -32.33% 8.00 1.00 0.60 0.81 0.79 -40.00% 6.00 0.64 4.68 0.40 4.00 3.37 0.50 -50.00% 0.19 2.08 0.20 0.14 -50.79% 0.20 2.00 0.13 -60.00% 0.00 0.00 0.00 328 500 60120 ABETESSIVE 2.98 500 60/40 Sar 200 60140 Moderate ABBIESHVE 60140 Retific Moderate Retifie Retive 2.98 500 Moderate Moderate ABBIESSIVE Retifie

#### "Modern Era" Metrics Comparisons: Model Portfolios vs S&P 500 & 60/40 2000 to current

All Metrics are calculated from Monthly returns

## DUAL MOMENTUM SYSTEMS

# Thank you for your time, my hope is that these strategies may help you grow your investments more than a market index fund, with less drawdowns along the way.

Countless hours of thought, development, and modeling have gone into these strategies which were inspired from the work of Gary Antonacci at www.OptimalMomentum.com. I have entrusted my invested net worth into these strategies, I am not looking to gain from anybody else who choose to use them, I simply want to share what I think are fantastic ways to invest money for the long run. Receive the strategy information free by emailin me and getting on the distribution list, your information is kept private.





# Appendix: How to invest in Dual Momentum and

## How it works

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## How would a person invest in these Strategies?



 At the end of the month notice of which investments the strategies should be invested in for the next month are distributed. You can make any necessary trades the first day or two of the month. This is a free service, these models are run for my own investment portfolio, I like to share with interested people who want more than a buy and hold strategy.

Determine your allocation, you'll need to decide if you want to go with Global Navigator, The

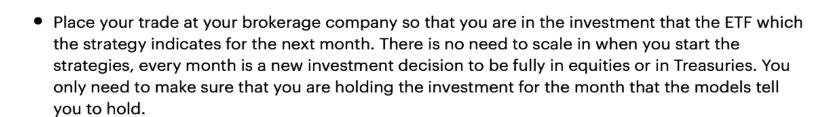
because this is what I do personally: 30% Global Navigator and 70% The Russell.

Russell, or some combination of both. In the reporting you'll see a "30/70 Model Portfolio", that is



•





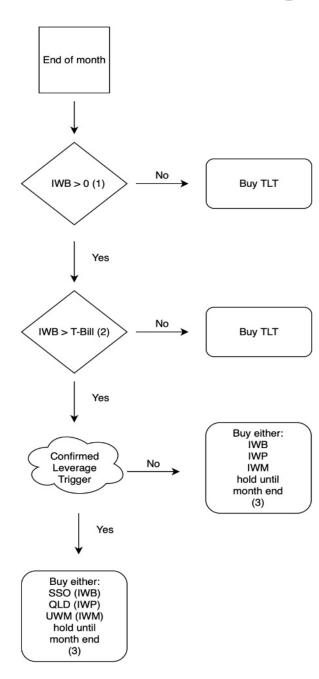


 When the models are in Risk OFF mode they are out of equities and in Treasuries. When in Risk OFF mode the models set to go into UST which is a 2X Intermediate Treasuries ETF. For most of us, this is a great choice. If you are a whale investor then you should probably be considering going into either ZROZ or EDV instead for maximum gain prospects, a whale could instead buy VGLT if they want less volatility when are out of equities.



• These strategies move differently than a market index fund, and on any given day, week, month, or year could underperform the market index, however, this does not mean that the strategies are no longer working - they are best evaluated over a longer time period. Please look closely at the annual performance compared to the S&P on the Bar Chart, it shows very clearly on an annual basis how great these strategies perform to the market, but not every year. Also look closely at the Maximum Drawdown chart, yes, there are some big dips on the dual momentum strategies, but the drawdowns are both more shallow and fewer in number than the market.

### How do the strategies select where to invest?



This example to the left shows the decision process for The Russell.

**Decision 1)** When the month is over the full month results are used to calculate the weighted returns: 25% of the 1 month return plus 25% of the 3 month return plus 50% of the 6 month return. If the weighted return for the Russell 1000 is less than zero, then the strategy goes into Treasuries for the next month.

**Decision 2)** If the Russell 1000 weighted return was positive, check to see if the weighted return is greater than the 90 day T-Bill weighted return, if not the strategy goes into Treasuries for the next month.

**Decision 3 No)** If the Russell 1000 weighted return was higher than the 90 day T-Bill weighted return, do we have a confirmed Leverage Trigger (which can happen after an outsized drawdown in the Russell 1000), if not we invest in either the Russell 1000, Russell Mid-Cap Growth, or Russell 2000, the one of those three selected is the one with the highest relative strength determined by comparing their weighed returns.

**Decision 3 Yes)** If there was a confirmed Leverage Trigger, then we invest in SSO instead of Russell 1000, and QLD instead of Russell Mid-Cap Growth, and UWM instead of Russell 2000.

The investment is held until the end of the month, and the process is done again. On average, investments are held about 4 months before changing.

## DUAL MOMENTUM SYSTEMS

# **Extended Data & Out of Sample**

#### **Extended Data**

The strategies use ETF monthly total return data. Leveraged ETF data is used as far back as it is available, it is simulate using the available daily return total data to extend the leverage returns back in time. At this time, only the leveraged S&P 500 from 1970 through 1979 had to be simulated on monthly data instead of daily, if that information becomes available to me it will be updated. This deck is reporting back to 1980 for all strategies, I do have Global Navigator and LT Gain 3 back to 1970 but as mentioned the extended data for the 1970's should based on daily returns.

The Nasdaq 100 benchmark data is based on Nasdaq 100 back to 1986, however, it didn't exist or data can't be found before that time, so the Nasdaq Composite is used pre-1986 as a proxy. I couldn't reliably emulate Nasdaq 100 from Nasdaq comp.

#### In Sample, and Out of Sample

The strategies were created with available data from 2000 through the time each strategy was created. Because this data was available and used in the modeling of each strategy, it is considered "In Sample". "Out of Sample" is the perio that the strategy is looking at for which returns were not available when the strategies were created. 1980 through 2000, and from when the strategy was finalized forward is all out of sample.

Nothing was changed to any of the strategies after seeing the additional 20 years from 1980 through 2000, nor were any of the strategies changed or modified due to any returns which have resulted after the strategies were created. I use these strategies myself to invest my hard earned dollars in them, I don't want to fool anybody, most especially not myse by tweaking the strategies to handle some big incident better than it was originally designed to do, no data mining!