# 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.

# **Fair Use**

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# **DMS Allocation Strategies**

Dual Momentum Systems, aka DMS, was the brought about because I think it's a much better approach than buy and hold. It can lag the market in a hot market, althought it has great potential with reasonable risk to outperform when Smart Leverage kicks in. And where it really shines is keeping you out of protracted down markets. But dual momentum investment requires attention and possible changes of investment with each new month. There are people who would rather set it and forget it. There may also be people, like myself, who wish to set and forget certain accounts while still using dual momentum in other accounts.

The DMS-4ETF allocation strategies are going to be inherently more volatile than the dual momentum strategies because they are always invested. The DMS-4ETF+ and DMS-4ETF++ strategies use 2X and 3X leverage with the US Large Cap allocation by using the same Smart Leverage as the dual momentum strategies.

These allocation strategies do not trade each month, they just require a re-balancing at the start of every year. The exception is if you are in the + or ++ version, there could be additional trades going into and out of Smart Leverage. But the leveraged versions have averaged less than 2 trades per year from 2000 forward, so it isn't excessive at all.

# Investment Strategies Investments for the month of March 2024

# **Strategy Components Invested:**

←Conservative Aggressive →

Month	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
Mar 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Apr 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	SSO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	UPRO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
May 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	SSO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	UPRO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Jun 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	SSO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	UPRO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Jul 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	SSO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	UPRO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Aug 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	SSO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	UPRO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Sep 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	SSO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	UPRO: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Oct 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Nov 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Dec 2023	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Jan 2024	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Feb 2024	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%
Mar 2024	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%	IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%

# For March, here are the investments by strategy:

# **DMS-4ETF**

This is an allocation strategy, rebalanced annually.

# DMS-4ETF+

This is an allocation strategy, which rebalanced annually and will put the IWB portion into leveraged 2X SSO using Smart Leverage.

# DMS-4ETF++

This is an allocation strategy, which rebalanced annually and will put the IWB portion into leveraged 3X UPRO using Smart Leverage.

<sup>\*\*</sup> When you rebalance, if you have gains, rebalance 1 year + 1 day so that you get long term capital gains if not in a taxed advantaged account.

# **DMS Allocation Investment Strategies**

# **Rolling 12 Month Returns** Through February 29, 2024

Returns and Maximum Drawdown:						
	US Market	Balanced				
Month	IWB	60/40				
Mar 2023	3.17%	3.30%				
Apr 2023	1.23%	1.20%				
May 2023	0.47%	-0.19%				
Jun 2023	6.70%	3.80%				
Jul 2023	3.46%	1.91%				
Aug 2023	-1.74%	-1.24%				
Sep 2023	-4.79%	-3.84%				
Oct 2023	-2.38%	-1.91%				
Nov 2023	9.33%	7.29%				
Dec 2023	5.00%	4.16%				
Jan 2024	1.34%	0.89%				
Feb 2024	5.27%	2.59%				
12 Mo Rtrn:	29.55%	18.93%				
Max DD:	-8.67%	-6.84%				

-Conservative A	ggressive
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b	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
	2.09%	2.10%	2.11%
	1.36%	2.12%	2.71%
	-0.10%	-0.19%	-0.43%
	4.51%	7.92%	11.75%
	2.52%	4.13%	5.98%
	-1.44%	-2.84%	-4.40%
	-3.00%	-6.12%	-9.31%
	-0.73%	-0.76%	-0.79%
	5.73%	5.79%	5.84%
	3.18%	3.21%	3.24%
	1.24%	1.24%	1.24%
	4.10%	4.10%	4.10%
,	20.84%	21.80%	22.48%
	-5.10%	-9.49%	-13.99%
	-8.7%	-7.8%	-7.1%

\$10,000 turns into:

b/(w) S&P 500:

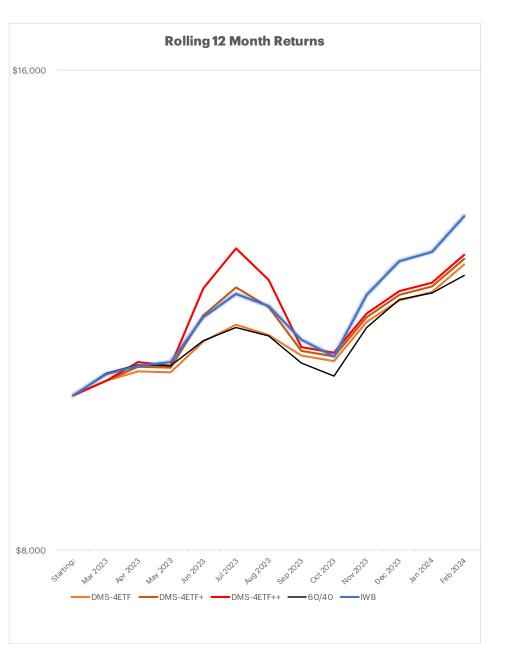
Month	US Market IWB	Balanced <b>60/40</b>
Starting:	\$ 10,000	\$ 10,000
Mar 2023	\$ 10,317	\$ 10,330
Apr 2023	\$ 10,444	\$ 10,453
May 2023	\$ 10,493	\$ 10,434
Jun 2023	\$ 11,196	\$ 10,830
Jul 2023	\$ 11,583	\$ 11,037
Aug 2023	\$ 11,382	\$ 10,900
Sep 2023	\$ 10,837	\$ 10,482
Oct 2023	\$ 10,579	\$ 10,282
Nov 2023	\$ 11,566	\$ 11,032
Dec 2023	\$ 12,144	\$ 11,491
Jan 2024	\$ 12,307	\$ 11,593
Feb 2024	\$ 12,955	\$ 11,893

0.0%

-10.6%

←Conservative	$Aggressive \to$

\$ 10,209 \$ 10,210 \$ 1 \$ 10,347 \$ 10,426 \$ 10	,000 0,211
53 \$ 10,347 \$ 10,426 \$ 10	0,211
34 \$ 10,338 \$ 10,406 \$ 10	,487
	,442
30 \$ 10,804 \$ 11,231 \$ 11	,668
37 \$ 11,077 \$ 11,695 \$ 12	,366
00 \$ 10,917 \$ 11,362 \$ 1	1,822
82 \$ 10,589 \$ 10,666 \$ 16	0,721
82 \$ 10,511 \$ 10,585 \$ 10	,636
32 \$ 11,113 \$ 11,198 \$ 1	1,258
91 \$ 11,466 \$ 11,557 \$ 1	1,622
93 \$ 11,608 \$ 11,700 \$ 11	,766
93 \$ 12,084 \$ 12,180 \$ 12	,248



# **DMS Allocation Investment Strategies** 2000 through February 29, 2024

Annual returns:			←Conservative	Aggressive $\rightarrow$		
	Benchmarks		Allocation Strategies			
	US Market	Balanced				
Year End	IWB	60/40	DMS-4ETF	DMS-4ETF+	DMS-4ETF++	
2000	-6.15%	-1.49%	-0.90%	-0.90%	-0.90%	
2001	-12.15%	-3.81%	-6.90%	-6.90%	-6.90%	
2002	-22.31%	-9.80%	-8.32%	-11.03%	-13.51%	
2003	30.05%	18.19%	25.61%	46.15%	73.03%	
2004	11.02%	8.00%	9.97%	15.46%	21.29%	
2005	6.34%	3.87%	8.94%	8.08%	7.35%	
2006	15.41%	10.95%	15.84%	15.84%	15.84%	
2007	5.32%	5.94%	10.06%	10.06%	10.06%	
2008	-37.40%	-21.86%	-23.71%	-23.71%	-23.71%	
2009	28.33%	18.66%	24.26%	41.57%	61.11%	
2010	16.08%	12.04%	16.69%	22.92%	30.38%	
2011	1.23%	4.38%	0.82%	1.80%	2.68%	
2012	16.51%	11.39%	12.75%	20.75%	29.42%	
2013	32.78%	17.44%	17.85%	17.85%	17.85%	
2014	13.07%	10.56%	9.74%	9.74%	9.74%	
2015	0.79%	1.11%	-0.55%	-0.55%	-0.55%	
2016	12.04%	8.34%	8.33%	8.33%	8.33%	
2017	21.53%	14.26%	16.66%	16.66%	16.66%	
2018	-4.89%	-2.47%	-5.28%	-5.28%	-5.28%	
2019	31.04%	21.98%	25.30%	25.30%	25.30%	
2020	20.77%	14.93%	15.75%	27.92%	42.75%	
2021	26.32%	15.74%	18.53%	26.67%	34.80%	
2022	-19.19%	-15.86%	-8.16%	-11.03%	-13.81%	
2023	26.42%	17.66%	18.17%	20.25%	22.15%	
2024	6.68%	6.73%	10.84%	10.84%	10.84%	
+/- S&P YTD:	0.0%	0.0%	4.2%	4.2%	4.2%	
CAGR	7.4%	6.2%	7.8%	10.4%	13.2%	



# **Strategy Fact Sheets**

# **Dual Momentum Strategies: DMS-4ETF**

A fixed allocation strategy rebalanced annually

Results through 02/29/2024

2000+

0.63

3.10%

# **Investment selection for March 2024:**

IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%

## **Tax friendliness:**

**DMS-4ETF** has mostly Long Term Cap Gains.

# Average number of trades per year (including Rebalancing)

1.00

# Portfolio size appropriateness:

Whale, **DMS-4ETF**can be used for any sized portfolio.

## **Characteristics:**

Drawdowns: DMS-4ETFhas more conservative drawdowns than the S&P and very similar to 60/40.

Volatility: **DMS-4ETF**is usually less volatile than the S&P and 60/40over time.

Returns: DMS-4ETF will perform more similar to a 60/40, but can outperform it and the S&P over longer cycles.

Leverage: **DMS-4ETF**never uses any leverage.

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The DMS-4ETF allocations strategies are for somebody who doesn't want straight up S&P, or a 60/40, but they want something not as volatile and with as much downside as holding the S&P, but also something that is more suited to the changing market conditions than is a 60/40. The base DMS-4ETF never uses any leverage, the DMS-4ETF+ uses 2X Leverage only for the 55% US Large Cap position using the Smart Leverage rules of the Dual Momentum Strategies, and the DMS-4ETF++ uses 3X Leverage using Smart Leverage.

# Annualized Returns actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF	10.84%	20.84%	10.37%	12.70%	9.68%	7.83%
Balanced 60/40	6.73%	18.93%	5.82%	9.16%	8.26%	6.16%
S&P 500	6.89%	30.17%	11.79%	14.64%	12.59%	7.20%

# Maximum Drawdrown single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF	0	-5.10%	-12.21%	-12.21%	-14.19%	-32.85%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%

**Ulcer Index** the higher the number the more painful downside volatility. Considers all downside.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF	-	1.91	4.33	4.13	3.56	7.94
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.94
S&P 500	-	2.93	9.89	8.37	6.39	16.40

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

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF	N/A	3.44	0.74	0.94	0.66	0.39
Balanced 60/40	N/A	2.45	0.13	0.49	0.46	0.17
S&P 500	N/A	3.61	0.62	0.83	0.77	0.26

# Mininum, Average, and Maximum monthly performance.

	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
MIN	-12.9%	-12.90%	-12.90%
AVE	0.3%	0.44%	0.56%
MAX	9.2%	13.41%	20.88%

Metric

Beta

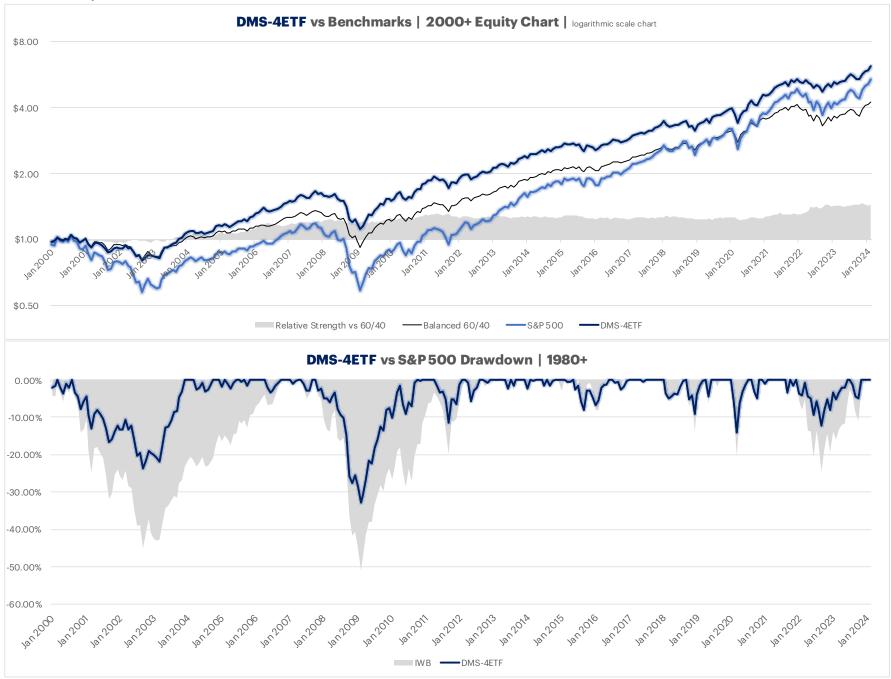
Alpha

## Allocation Stats from 2000+

	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
<b>Winning Months</b>	179	176	176
<b>Ave Winning Month</b>	2.52%	3.15%	3.78%
Total Gain	452%	555%	666%
Net Gain	196%	260%	331%
Win to Loss Ratio	1.76	1.88	1.99
<b>Gain to Pain Ratio</b>	0.76	0.88	0.99
<b>Losing Months</b>	111	114	114
<b>Ave Losing Month</b>	<b>-2.31</b> %	-2.59%	-2.93%
Total Loss	<b>-256</b> %	-295%	-334%

DMS-4ETF inception date June 2023.

# **Dual Momentum Systems: LT Gain+**



# **Dual Momentum Strategies: DMS-4ETF+**

A fixed allocation strategy rebalanced annually

Results through 02/29/2024

2000+

0.74

4.97%

# **Investment selection for March 2024:**

IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%

## **Tax friendliness:**

DMS-4ETF+ has mostly Long Term Cap Gains.

# Average number of trades per year (including Rebalancing)

1.87

# Portfolio size appropriateness:

Whale, DMS-4ETF+can be used for any sized portfolio.

## **Characteristics:**

Drawdowns: DMS-4ETF+ has more conservative drawdowns than the S&P and very similar to 60/40.

Volatility: DMS-4ETF+ is usually less volatile than the S&P and 60/40over time.

Returns: DMS-4ETF+ will perform more similar to a 60/40, but can outperform it and the S&P over longer cycles.

Leverage: **DMS-4ETF+** never uses any leverage.

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ne DMS-4ETF	allocations strategies are for somebod

Th dy who doesn't want straight up S&P, or a 60/40, but they want something not as volatile and with as much downside as holding the S&P, but also something that is more suited to the changing market conditions than is a 60/40. The base DMS-4ETF never uses any leverage, the DMS-4ETF+ uses 2X Leverage only for the 55% US Large Cap position using the Smart Leverage rules of the Dual Momentum Strategies, and the DMS-4ETF++ uses 3X Leverage using Smart Leverage.

# Annualized Returnsactual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF+	10.84%	21.80%	12.14%	16.18%	11.37%	10.42%
Balanced 60/40	6.73%	18.93%	5.82%	9.16%	8.26%	6.16%
S&P 500	6.89%	30.17%	11.79%	14.64%	12.59%	7.20%

# Maximum Drawdrown single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF+	0	-9.49%	-12.21%	-12.21%	-14.19%	-32.85%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%

Ulcer Index the higher the number the more painful downside volatility. Considers all downside.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF+	-	3.87	5.09	4.77	3.94	8.04
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.94
S&P 500	-	2.93	9.89	8.37	6.39	16.40

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

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF+	N/A	2.07	0.82	1.18	0.82	0.68
Balanced 60/40	N/A	2.45	0.13	0.49	0.46	0.17
S&P 500	N/A	3.61	0.62	0.83	0.77	0.26

# Mininum, Average, and Maximum monthly performance.

	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
MIN	-12.9%	-12.90%	-12.90%
AVE	0.3%	0.44%	0.56%
MAX	9.2%	13.41%	20.88%

Metric

Beta

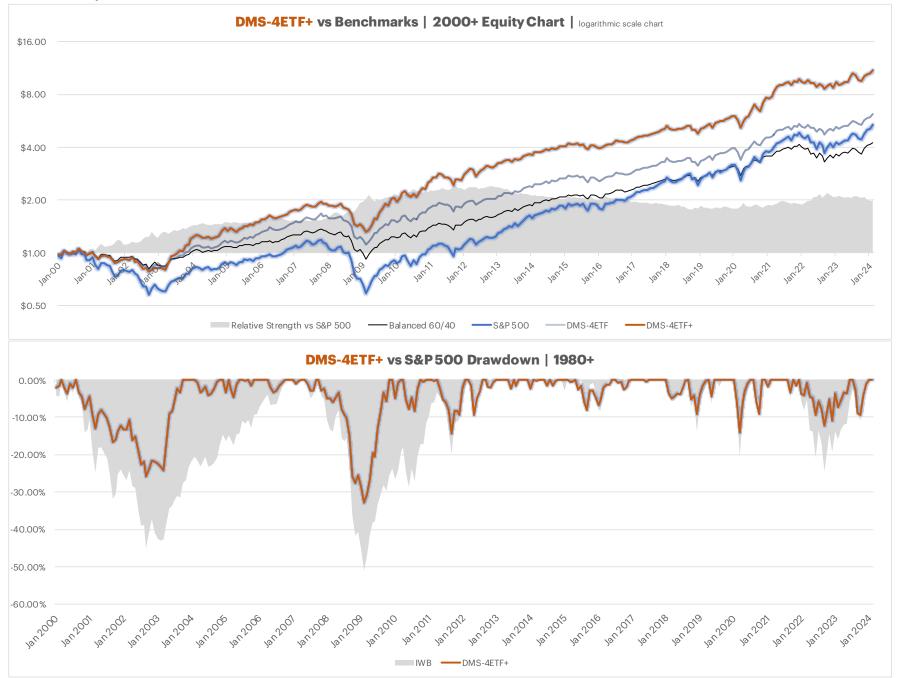
Alpha

## Allocation Stats from 2000+

	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
<b>Winning Months</b>	179	176	176
<b>Ave Winning Month</b>	2.52%	3.15%	3.78%
Total Gain	452%	555%	666%
Net Gain	196%	260%	331%
Win to Loss Ratio	1.76	1.88	1.99
<b>Gain to Pain Ratio</b>	0.76	0.88	0.99
<b>Losing Months</b>	111	114	114
<b>Ave Losing Month</b>	-2.31%	-2.59%	<b>-2.93</b> %
Total Loss	-256%	-295%	-334%

DMS-4ETF+ inception date June 2023.

# **Dual Momentum Systems: LT Gain+**



# **Dual Momentum Strategies: DMS-4ETF++**

A fixed allocation strategy rebalanced annually

Results through 02/29/2024

2000+

0.74

4.97%

# **Investment selection for March 2024:**

IWB: 55%, DBEF: 15%, DBMF: 15%, SGOL: 15%

## **Tax friendliness:**

**DMS-4ETF++** has mostly Long Term Cap Gains.

# Average number of trades per year (including Rebalancing)

1.87

# Portfolio size appropriateness:

Whale, DMS-4ETF++can be used for any sized portfolio.

## **Characteristics:**

Drawdowns: DMS-4ETF++ has more conservative drawdowns than the S&P and very similar to 60/40.

Volatility: DMS-4ETF++ is usually less volatile than the S&P and 60/40over time.

Returns: DMS-4ETF++ will perform more similar to a 60/40, but can outperform it and the S&P over longer cycles.

Leverage: **DMS-4ETF++** never uses any leverage.

# **Strategy Description:**

The DMS-4ETF allocations strategies are for somebody who doesn't want straight up S&P, or a 60/40, but they want something not as volatile and with as much downside as holding the S&P, but also something that is more suited to the changing market conditions than is a 60/40. The base DMS-4ETF never uses any leverage, the DMS-4ETF+ uses 2X Leverage only for the 55% US Large Cap position using the Smart Leverage rules of the Dual Momentum Strategies, and the DMS-4ETF++ uses 3X Leverage using Smart Leverage.

# Annualized Returns, actual YTD for current year.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF++	10.84%	22.48%	13.70%	19.86%	13.12%	13.22%
Balanced 60/40	6.73%	18.93%	5.82%	9.16%	8.26%	6.16%
S&P 500	6.89%	30.17%	11.79%	14.64%	12.59%	7.20%

# Maximum Drawdrown, single largest drawdown.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF++	0	-13.99%	-13.99%	-13.99%	-14.19%	-32.85%
Balanced 60/40	0	-6.84%	-20.09%	-20.09%	-20.09%	-32.33%
S&P 500	0	-8.33%	-23.92%	-23.92%	-23.92%	-50.79%

# Ulcer Index, the higher the number the more painful downside volatility. Considers all downside.

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF++	-	6.40	6.28	5.77	4.57	8.49
Balanced 60/40	-	2.38	9.01	7.26	5.32	7.94
S&P 500	-	2.93	9.89	8.37	6.39	16.40

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

Investment	YTD	1 Year	3 Year	5 Year	10 Year	2000+
DMS-4ETF++	N/A	1.53	0.84	1.33	0.93	0.92
Balanced 60/40	N/A	2.45	0.13	0.49	0.46	0.17
S&P 500	N/A	3.61	0.62	0.83	0.77	0.26

# ${\bf Mininum, Average, and \, Maximum \, monthly \, performance.}$

	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
MIN	-12.9%	-12.90%	-12.90%
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Beta

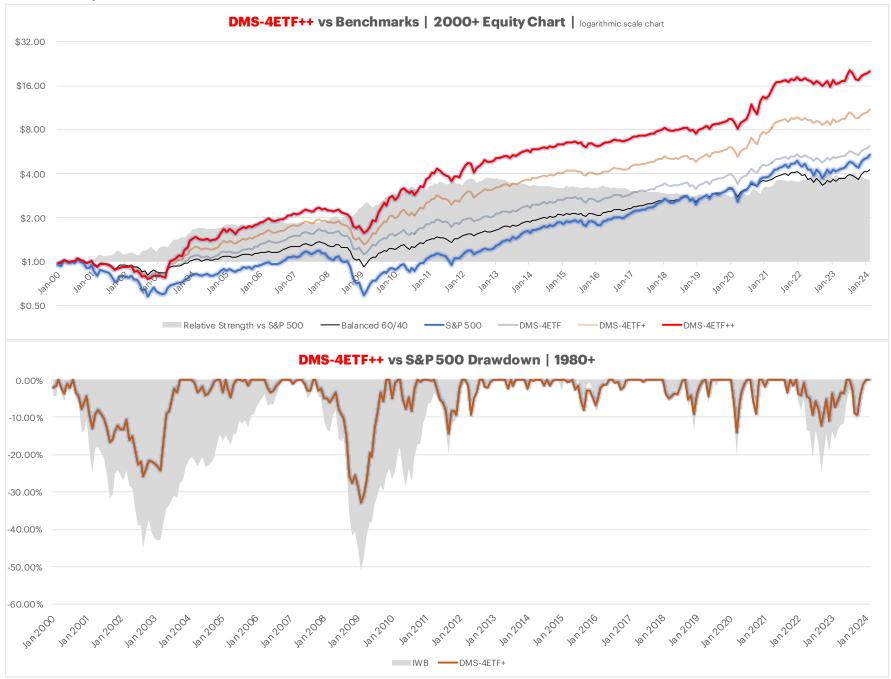
Alpha

## Allocation Stats from 2000+

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Ave Winning Month	2.52%	3.15%	3.78%
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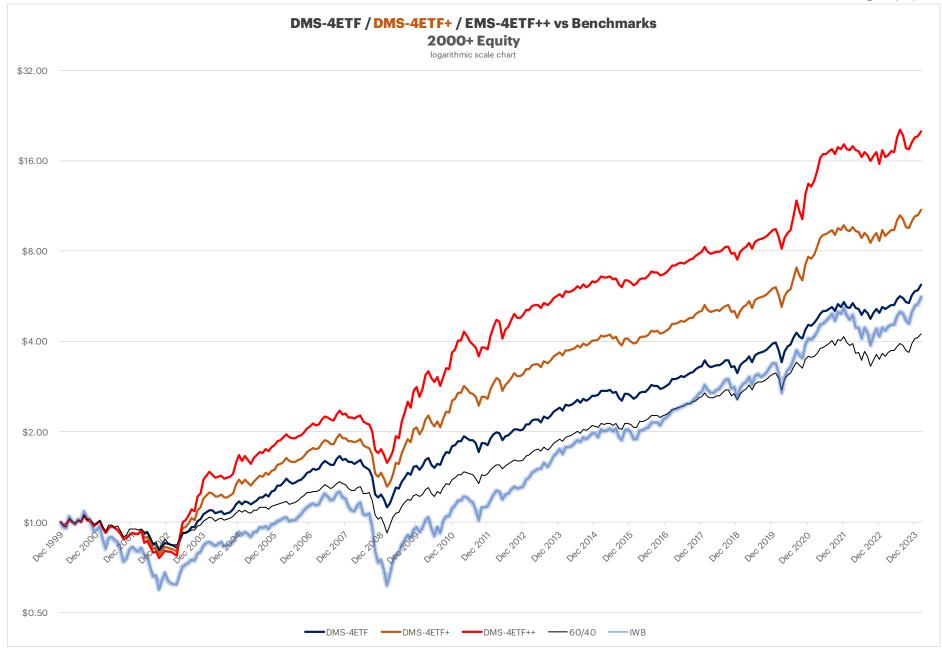
DMS-4ETF++ inception date June 2023.

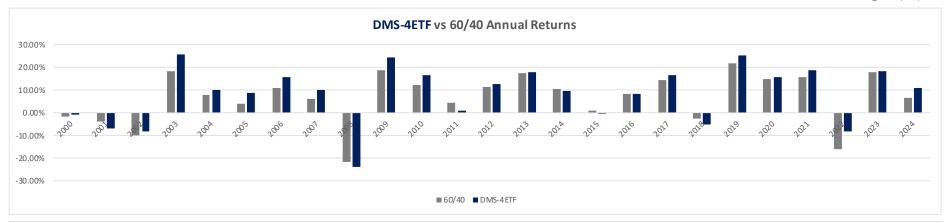
# **Dual Momentum Systems: LT Gain+**

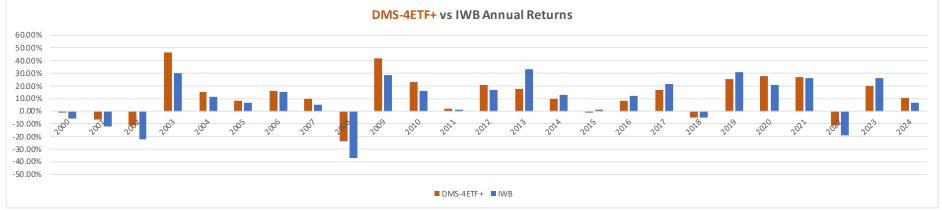


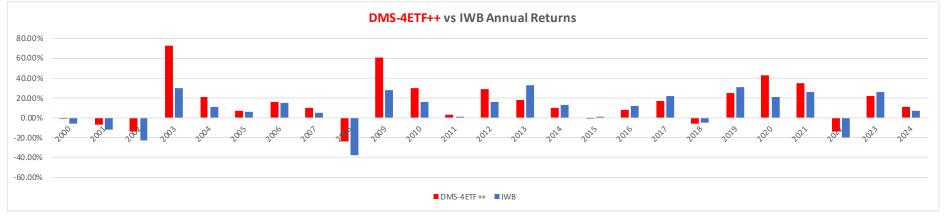


# **Equity & Return Charts**











# 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

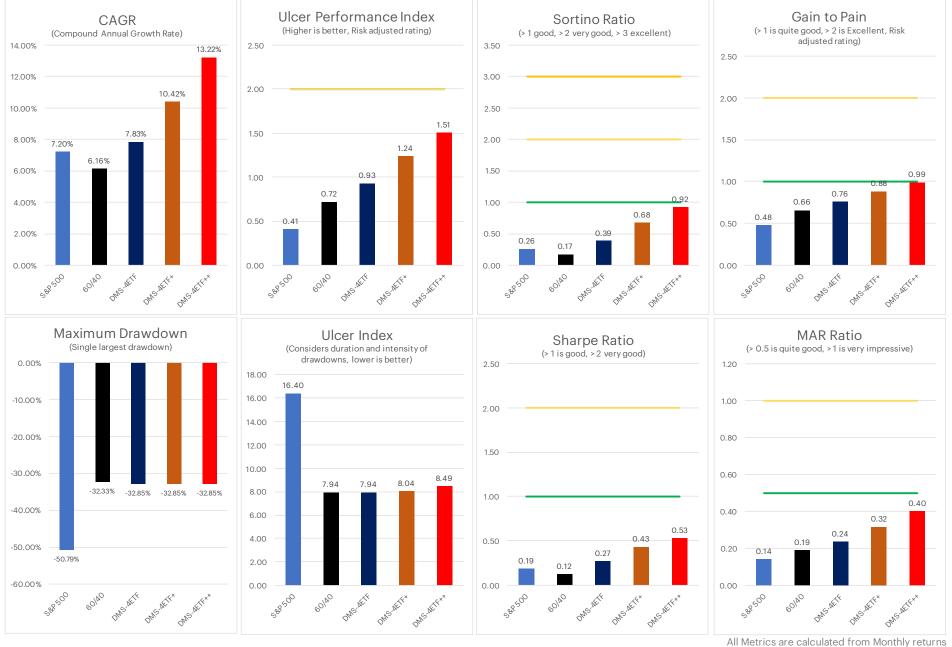
Maximum Drawdown: The largest negative drawdown for the strategy, on a month end basis

**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

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



# **36 Month Strategy Return Correlations**

			Aggressive $\rightarrow$		
	S&P 500	Balanced 60/40	DMS-4ETF	DMS-4ETF+	DMS-4ETF++
S&P 500	1.00				
Balanced 60/40	0.99	1.00			
DMS-4ETF	0.97	0.95	1.00		
DMS-4ETF+	0.91	0.89	0.96	1.00	
DMS-4ETF++	0.83	0.81	0.89	0.98	1.00



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 the DMS 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 chooses 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 emailing me and getting on the distribution list, your information is kept private.





# **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 simulated 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 periods 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 myself by tweaking the strategies to handle some big incident better than it was originally designed to do, no data mining!