

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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Investment Strategies

Investments for the month of November 30, 2024

Strategy Components Invested:

Aggressive →

| Month | HedgeFundie | MAX PAIN | Profit Farmer |
|-----------------|------------------|------------------------------|---|
| Nov 2023 | 55% UPRO 45% TMF | Extended Duration Treasuries | 73.74% EDC 11.96% TQQQ 14.3% DRN |
| Dec 2023 | 55% UPRO 45% TMF | 3X S&P 500 | 68.3% EDC 31.7% TQQQ |
| Jan 2024 | 55% UPRO 45% TMF | 3X Russell 2000 | 22.1% URTY 68.18% TMF 9.72% DRN |
| Feb 2024 | 55% UPRO 45% TMF | 3X S&P 500 | 57.76% TQQQ 42.24% TMF |
| Mar 2024 | 55% UPRO 45% TMF | 3X S&P 500 | 58.03% EDC 41.97% TQQQ |
| Apr 2024 | 55% UPRO 45% TMF | 3X S&P MidCap 400 | 70.42% EDC 29.58% TQQQ |
| May 2024 | 55% UPRO 45% TMF | 3X S&P 500 | 89.52% EDC 6.19% URTY 4.29% TQQQ |
| Jun 2024 | 55% UPRO 45% TMF | 3X S&P MidCap 400 | 69.34% EDC 1.45% URTY 29.21% TQQQ |
| Jul 2024 | 55% UPRO 45% TMF | 3X S&P 500 | 23.24% EDC 44.42% TQQQ 32.34% DRN |
| Aug 2024 | 55% UPRO 45% TMF | 3X Russell 2000 | 1.7% URTY 35.28% TMF 63.02% DRN |
| Sep 2024 | 55% UPRO 45% TMF | 3X S&P 500 | 7.9% URTY 53.07% TMF 39.03% DRN |
| Oct 2024 | 55% UPRO 45% TMF | 3X S&P 500 | 19.37% EDC 45.63% TMF 35.% DRN |
| Nov 2024 | 55% UPRO 45% TMF | 3X S&P 500 | 30.19% EDC 36.19% URTY 33.62% TQQQ |

For November, here are the investments by strategy:

Investment Strategies

Rolling 12 Month Returns Through October 31, 2024

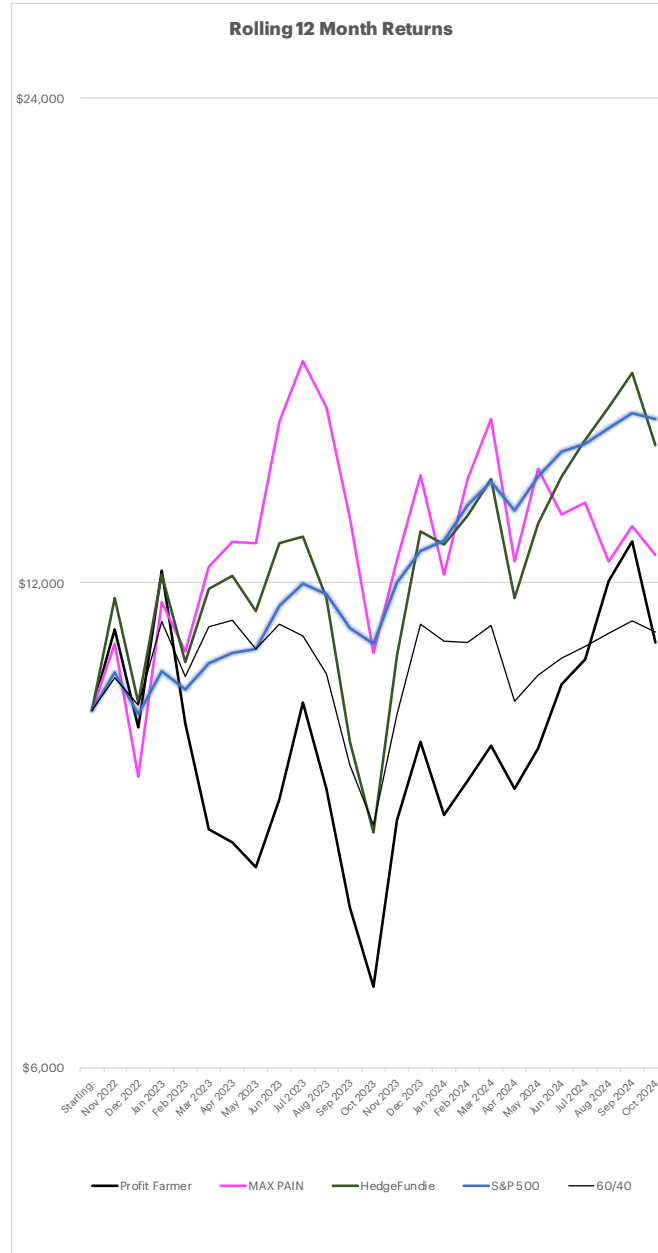
Returns and Maximum Drawdown:

| Month | US Market S&P 500 | Balanced 60/40 | HedgeFundie | Profit Farmer | MAX PAIN |
|--------------------|----------------------|-------------------|----------------|----------------|----------------|
| Nov 2022 | 5.56% | 4.80% | 17.55% | 12.27% | 10.08% |
| Dec 2022 | -5.76% | -3.78% | -13.94% | -13.08% | -17.36% |
| Jan 2023 | 6.29% | 12.70% | 20.01% | 25.22% | 28.28% |
| Feb 2023 | -2.51% | -7.60% | -11.66% | -19.65% | -6.80% |
| Mar 2023 | 3.71% | 7.37% | 10.98% | -14.03% | 12.86% |
| Apr 2023 | 1.60% | 0.82% | 1.83% | -1.93% | 3.60% |
| May 2023 | 0.46% | -3.93% | -4.81% | -3.44% | -0.15% |
| Jun 2023 | 6.48% | 3.52% | 10.10% | 10.22% | 19.13% |
| Jul 2023 | 3.27% | -1.53% | 1.00% | 14.82% | 8.95% |
| Aug 2023 | -1.63% | -5.36% | -8.44% | -11.67% | -6.37% |
| Sep 2023 | -4.74% | -12.16% | -18.57% | -15.63% | -14.71% |
| Oct 2023 | -2.17% | -8.27% | -12.18% | -10.62% | -17.43% |
| Nov 2023 | 9.13% | 17.24% | 28.69% | 26.78% | 14.03% |
| Dec 2023 | 4.57% | 13.67% | 19.41% | 11.99% | 12.94% |
| Jan 2024 | 1.59% | -2.34% | -1.81% | -10.00% | -13.18% |
| Feb 2024 | 5.22% | -0.22% | 4.29% | 4.93% | 14.67% |
| Mar 2024 | 3.27% | 2.37% | 5.31% | 5.17% | 8.83% |
| Apr 2024 | -4.03% | -10.17% | -15.58% | -5.89% | -18.46% |
| May 2024 | 5.06% | 3.71% | 11.10% | 5.88% | 14.28% |
| Jun 2024 | 3.53% | 2.47% | 7.11% | 9.69% | -6.35% |
| Jul 2024 | 1.21% | 1.67% | 5.23% | 3.63% | 1.81% |
| Aug 2024 | 2.34% | 1.98% | 4.92% | 11.73% | -8.12% |
| Sep 2024 | 2.10% | 1.78% | 4.94% | 5.93% | 5.13% |
| Oct 2024 | -0.89% | -1.52% | -9.84% | -13.42% | -4.10% |
| 24 Mo Rtrn: | 51.60% | 11.95% | 46.08% | 10.27% | 24.80% |
| CAGR | 23.13% | 5.81% | 20.87% | 5.01% | 11.71% |
| Max DD: | -8.33% | -25.32% | -34.52% | -44.86% | -34.06% |

b/(w) S&P 500: 0.0% -39.6% -5.5% -41.3% -26.8%

\$10,000 turns into:

| Month | US Market S&P 500 | Balanced 60/40 | HedgeFundie | Profit Farmer | MAX PAIN |
|------------------|----------------------|-------------------|-------------|---------------|-----------|
| Starting: | \$ 10,000 | \$ 10,000 | \$ 10,000 | \$ 10,000 | \$ 10,000 |
| Nov 2022 | \$ 10,556 | \$ 10,480 | \$ 11,755 | \$ 11,227 | \$ 11,008 |
| Dec 2022 | \$ 9,948 | \$ 10,084 | \$ 10,116 | \$ 9,758 | \$ 9,097 |
| Jan 2023 | \$ 10,574 | \$ 11,365 | \$ 12,141 | \$ 12,219 | \$ 11,670 |
| Feb 2023 | \$ 10,308 | \$ 10,501 | \$ 10,725 | \$ 9,818 | \$ 10,876 |
| Mar 2023 | \$ 10,691 | \$ 11,275 | \$ 11,903 | \$ 8,441 | \$ 12,275 |
| Apr 2023 | \$ 10,862 | \$ 11,368 | \$ 12,120 | \$ 8,278 | \$ 12,717 |
| May 2023 | \$ 10,912 | \$ 10,921 | \$ 11,537 | \$ 7,993 | \$ 12,698 |
| Jun 2023 | \$ 11,619 | \$ 11,305 | \$ 12,703 | \$ 8,810 | \$ 15,127 |
| Jul 2023 | \$ 11,999 | \$ 11,133 | \$ 12,829 | \$ 10,116 | \$ 16,480 |
| Aug 2023 | \$ 11,803 | \$ 10,536 | \$ 11,747 | \$ 8,935 | \$ 15,431 |
| Sep 2023 | \$ 11,244 | \$ 9,254 | \$ 9,566 | \$ 7,539 | \$ 13,161 |
| Oct 2023 | \$ 11,000 | \$ 8,489 | \$ 8,400 | \$ 6,738 | \$ 10,867 |
| Nov 2023 | \$ 12,004 | \$ 9,952 | \$ 10,810 | \$ 8,543 | \$ 12,392 |
| Dec 2023 | \$ 12,553 | \$ 11,313 | \$ 12,909 | \$ 9,567 | \$ 13,995 |
| Jan 2024 | \$ 12,752 | \$ 11,048 | \$ 12,675 | \$ 8,610 | \$ 12,150 |
| Feb 2024 | \$ 13,418 | \$ 11,023 | \$ 13,219 | \$ 9,034 | \$ 13,933 |
| Mar 2024 | \$ 13,857 | \$ 11,284 | \$ 13,921 | \$ 9,501 | \$ 15,163 |
| Apr 2024 | \$ 13,298 | \$ 10,136 | \$ 11,752 | \$ 8,941 | \$ 12,364 |
| May 2024 | \$ 13,971 | \$ 10,512 | \$ 13,057 | \$ 9,467 | \$ 14,130 |
| Jun 2024 | \$ 14,464 | \$ 10,772 | \$ 13,985 | \$ 10,384 | \$ 13,233 |
| Jul 2024 | \$ 14,639 | \$ 10,952 | \$ 14,715 | \$ 10,761 | \$ 13,472 |
| Aug 2024 | \$ 14,981 | \$ 11,169 | \$ 15,439 | \$ 12,023 | \$ 12,379 |
| Sep 2024 | \$ 15,296 | \$ 11,368 | \$ 16,202 | \$ 12,735 | \$ 13,014 |
| Oct 2024 | \$ 15,160 | \$ 11,195 | \$ 14,608 | \$ 11,027 | \$ 12,480 |



Investment Strategies

1980 through October 31, 2024

Annual returns:

| Year End | Benchmarks | | | Dual Momentum | | |
|--------------|----------------------|-------------------|-------------------|---------------|----------|---------------|
| | US Market S&P 500 | Balanced 60/40 | Nasdaq 100 QQQ | HedgeFundie | MLA FUND | Profit Farmer |
| 1980 | 32.49% | 21.02% | 0.00% | 45.72% | 112.85% | 0.00% |
| 1981 | -4.90% | 0.07% | 0.00% | -13.21% | 17.16% | 0.00% |
| 1982 | 21.55% | 25.68% | 0.00% | 104.69% | 134.42% | 0.00% |
| 1983 | 22.55% | 16.21% | 0.00% | 33.46% | 107.36% | 0.00% |
| 1984 | 6.25% | 9.84% | 0.00% | 25.80% | 8.11% | 0.00% |
| 1985 | 31.23% | 27.65% | 0.00% | 122.87% | 87.51% | 0.00% |
| 1986 | 18.05% | 17.65% | 0.00% | 68.99% | 37.57% | 0.00% |
| 1987 | 4.68% | 4.81% | 0.00% | -2.02% | -45.08% | -18.83% |
| 1988 | 16.22% | 12.64% | 0.00% | 37.21% | 23.23% | 56.44% |
| 1989 | 31.38% | 24.20% | 0.00% | 86.89% | 73.31% | 30.16% |
| 1990 | -3.32% | 1.56% | 0.00% | -4.70% | -31.86% | -17.86% |
| 1991 | 30.22% | 24.30% | 0.00% | 90.44% | 89.45% | 166.45% |
| 1992 | 7.40% | 7.35% | 0.00% | 23.25% | 23.14% | 53.18% |
| 1993 | 9.58% | 9.66% | 0.00% | 40.42% | 44.23% | 63.89% |
| 1994 | 0.38% | -0.77% | 0.00% | -10.94% | -15.76% | -22.12% |
| 1995 | 38.05% | 29.81% | 0.00% | 133.08% | 96.18% | 120.13% |
| 1996 | 22.51% | 14.70% | 0.00% | 33.24% | 24.90% | 16.68% |
| 1997 | 33.49% | 23.58% | 0.00% | 78.35% | 73.59% | 85.81% |
| 1998 | 28.69% | 21.01% | 0.00% | 71.42% | 4.10% | 25.04% |
| 1999 | 20.39% | 11.65% | 0.00% | 14.82% | 12.88% | 61.90% |
| 2000 | -9.74% | -1.49% | 0.00% | 2.12% | 58.06% | 98.51% |
| 2001 | -11.75% | -3.81% | 0.00% | -18.16% | 5.80% | 22.72% |
| 2002 | -21.59% | -9.80% | 0.00% | -20.45% | 19.08% | -6.68% |
| 2003 | 28.16% | 18.19% | 0.00% | 49.04% | 222.74% | 163.96% |
| 2004 | 10.71% | 8.00% | 0.00% | 29.13% | 39.62% | 44.50% |
| 2005 | 4.83% | 3.87% | 0.00% | 20.71% | -8.55% | 52.20% |
| 2006 | 15.84% | 10.95% | 0.00% | 24.73% | 55.90% | 57.12% |
| 2007 | 5.14% | 5.94% | 0.00% | 19.86% | 9.98% | -19.18% |
| 2008 | -36.81% | -21.86% | 0.00% | -42.86% | 48.69% | 17.52% |
| 2009 | 26.38% | 18.66% | 0.00% | -4.88% | 23.19% | 5.06% |
| 2010 | 15.06% | 12.04% | 0.00% | 43.94% | 38.95% | 21.52% |
| 2011 | 1.88% | 4.38% | 0.00% | 45.73% | 60.10% | 80.37% |
| 2012 | 16.00% | 11.39% | 0.00% | 31.69% | 47.10% | 11.19% |
| 2013 | 32.31% | 17.44% | 0.00% | 29.66% | 149.93% | 114.09% |
| 2014 | 13.48% | 10.56% | 0.00% | 64.08% | 27.61% | 56.48% |
| 2015 | 1.26% | 1.11% | 0.00% | -2.45% | -17.34% | 4.30% |
| 2016 | 12.00% | 8.34% | 0.00% | 19.88% | 58.20% | 50.27% |
| 2017 | 21.71% | 14.26% | 0.00% | 51.13% | 23.68% | 61.33% |
| 2018 | -4.56% | -2.47% | 0.00% | -13.56% | 8.78% | 7.79% |
| 2019 | 31.23% | 21.98% | 0.00% | 81.31% | 27.64% | 21.26% |
| 2020 | 18.39% | 14.93% | 0.00% | 49.80% | 120.14% | 101.69% |
| 2021 | 28.76% | 15.74% | 0.00% | 36.12% | 82.82% | 108.84% |
| 2022 | -18.16% | -15.86% | 0.00% | -63.22% | -63.67% | -80.51% |
| 2023 | 26.18% | 12.18% | 0.00% | 27.60% | 53.84% | -1.96% |
| 2024 | 20.77% | -1.04% | 0.00% | 13.17% | -10.82% | 15.26% |
| +/- S&P YTD: | 0.0% | -21.8% | -20.8% | -7.6% | -31.6% | -5.5% |
| CAGR | 11.9% | 9.5% | 12.2% | 25.6% | 33.7% | 0.0% |



Strategy Fact Sheets

Dual Momentum Strategies: HedgeFundie

Sort of a highly leveraged 60/40 Portfolio as prescribed by HedgeFundie on Bogleheads

Results through 10/31/2024

Investment selection for November 2024:

55% UPRO 45% TMF

Tax friendliness:

HedgeFundie unsure of short/long term taxes

Months between change of holdings

HedgeFundie as tracked here is rebalanced monthly.

Portfolio size appropriateness:

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

Characteristics:

Drawdowns: **HedgeFundie** has frequent and massive drawdowns.

Volatility: **HedgeFundie** is extremely volatile.

Returns: **HedgeFundie** has superior historical returns compared to the S&P 500.

HedgeFundie is always leveraged with 3X ETF's

Strategy Description:

HedgeFundie's Excellent Adventure threads on the Boglehead's forum has been active since 1st posted.

HedgeFundie left after some point, tired of defending the strategy and being attacked, the strategy lives on. I track it out of curiosity, even though I find it to be a terrible strategy given it's performance adjusted metrics.

People can dream.

Strategy Components

UPRO 3X S&P 500

TMF 3X Long Term Treasuries

| Metric | 2000+ | 1980+ |
|--------|-------|-------|
| Beta | 1.53 | 1.74 |
| Alpha | 1.95% | 5.19% |

Annualized Returns actual YTD for current year.

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|--------------------|--------|--------|---------|--------|---------|--------|--------|
| HedgeFundie | 13.17% | 73.90% | -17.42% | 2.76% | 12.90% | 13.28% | 25.58% |
| Balanced 60/40 | -1.04% | 31.88% | -2.93% | 4.32% | 6.07% | 5.41% | 9.46% |
| S&P 500 | 20.77% | 37.82% | 8.98% | 15.18% | 12.91% | 7.53% | 11.90% |

Maximum Drawdown single largest drawdown.

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|--------------------|---------|---------|---------|---------|---------|---------|---------|
| HedgeFundie | -15.58% | -15.58% | -69.46% | -69.46% | -69.46% | -69.46% | -69.46% |
| Balanced 60/40 | -10.40% | -10.40% | -32.17% | -32.17% | -32.17% | -32.33% | -32.33% |
| S&P 500 | -4.03% | -4.03% | -23.92% | -23.92% | -23.92% | -50.79% | -50.79% |

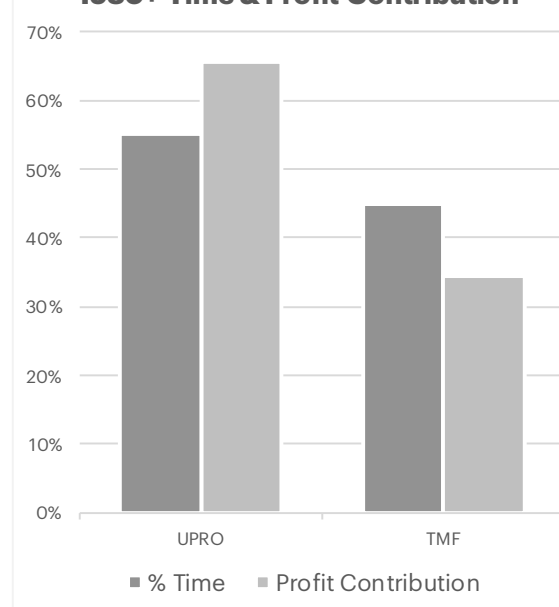
Ulcer Index the higher the number the more painful downside volatility. Considers all downside not just maximum.

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|--------------------|------|--------|--------|--------|---------|-------|-------|
| HedgeFundie | 5.89 | 5.42 | 50.40 | 39.48 | 28.59 | 27.08 | 21.40 |
| Balanced 60/40 | 4.34 | 3.99 | 14.12 | 11.16 | 8.04 | 8.72 | 6.82 |
| S&P 500 | 1.25 | 1.14 | 9.88 | 8.34 | 6.39 | 16.18 | 12.75 |

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

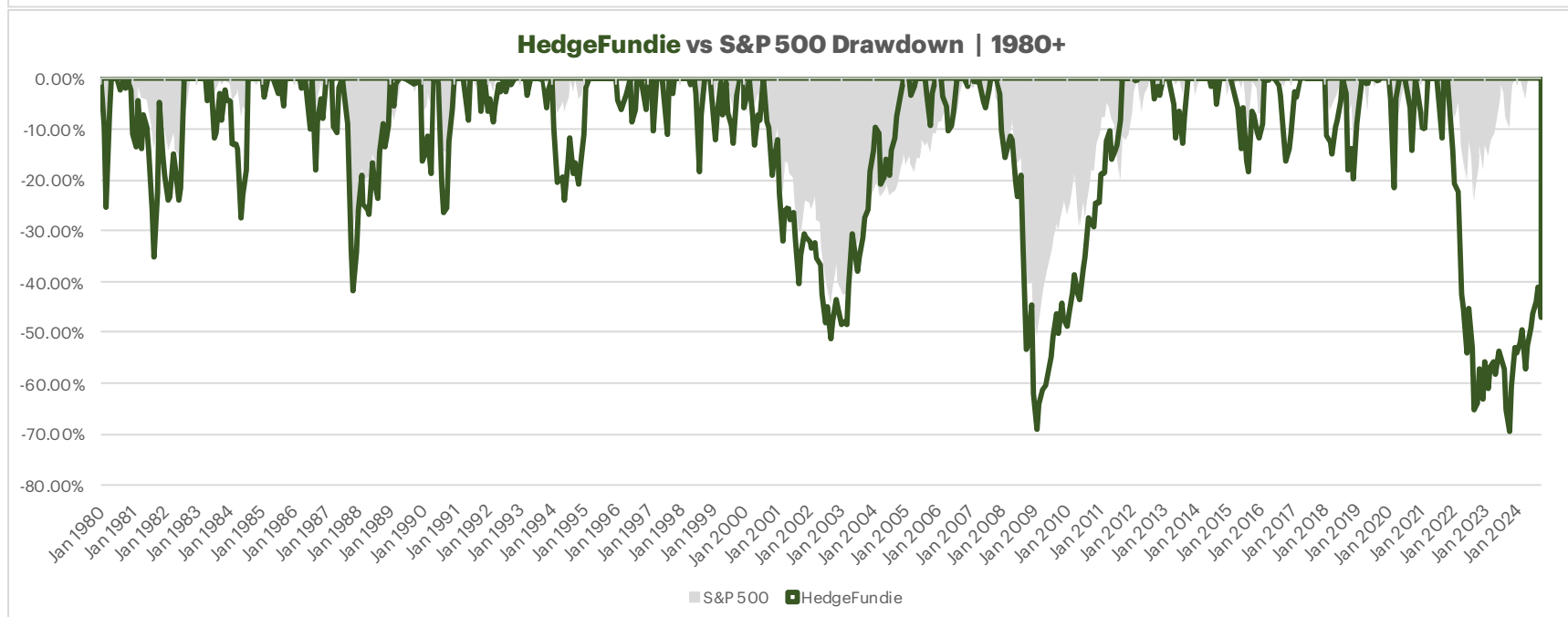
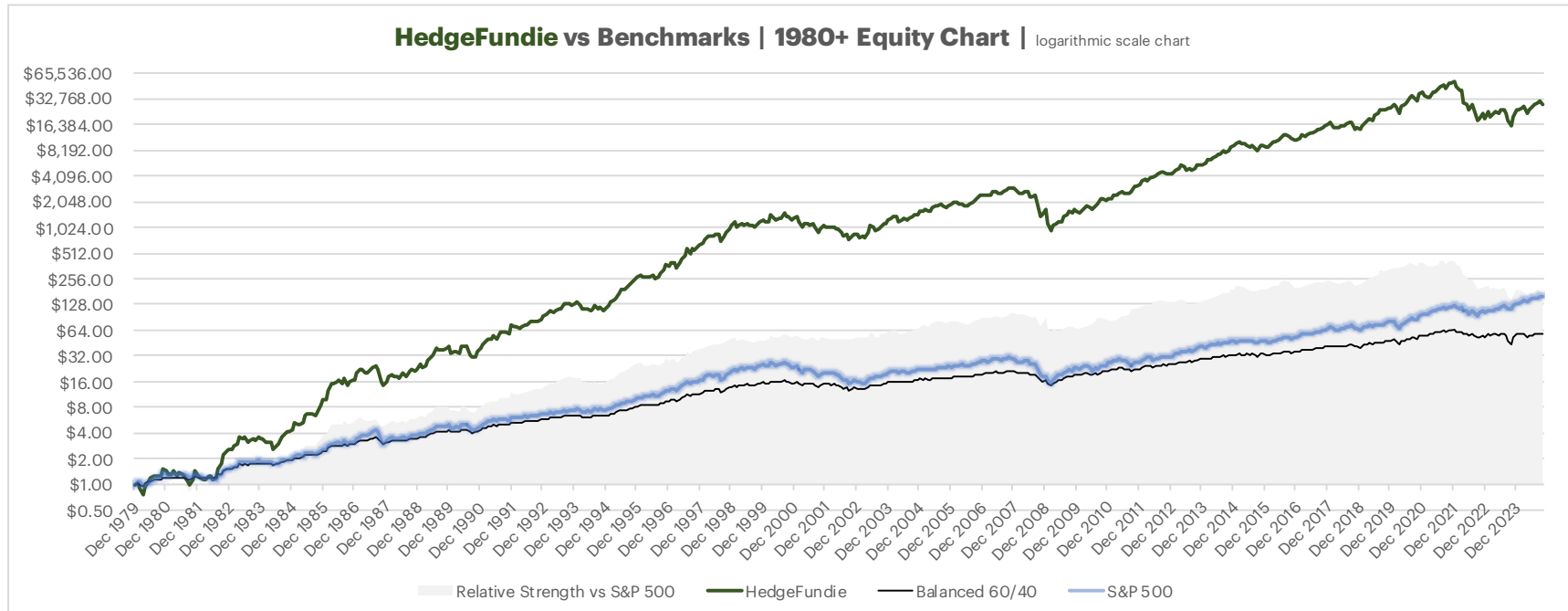
| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|--------------------|--------|--------|--------|--------|---------|-------|-------|
| HedgeFundie | (1.28) | 0.36 | (1.46) | (1.15) | (1.22) | 0.62 | 1.23 |
| Balanced 60/40 | (2.66) | (1.27) | (2.21) | (2.23) | (2.54) | 0.18 | 0.73 |
| S&P 500 | (2.45) | (1.84) | (2.14) | (1.92) | (2.21) | 0.37 | 0.78 |

1980+ Time & Profit Contribution



HedgeFundie's Excellent Adventure [55/45] began in August 2019, out of sample after that time.

HedgeFundie's Excellent Adventure: 55% UPRO / 45% TMF



HedgeFundie's Excellent Adventure [55/45] began in August 2019, out of sample after that time.

Dual Momentum Strategies: MAX PAIN

USA Momentum Rotational always using triple leverage

Results through 10/31/2024

Investment selection for November 2024:

3X S&P 500

Tax friendliness:

MAX PAIN has mostly Short Term Cap Gains.

Months between change of holdings

MAX PAIN changes it's holdings every 2.5 months on average.

Portfolio size appropriateness:

Small Fry, MAX PAIN is only suitable for < \$500,000 allocations.

Characteristics:

Drawdowns: MAX PAIN has frequent and larger drawdowns than the S&P.

Volatility: MAX PAIN is far more volatile than the S&P over time.

Returns: MAX PAIN has incredibly huge historical returns compared to the S&P 500.

Leverage: MAX PAIN has a maximum leverage of 300% and average leverage of: 258%

Strategy Description:

MAX PAIN invests in the United States, going into the 3X leveraged version of the best performer of the Russell 1000, Russell MidCap Growth, or Russell Small Cap. When these markets aren't experiencing positive momentum the strategy goes into 3X Long Term Treasuries. This is an extremely high return strategy with equally high volatility and frequent drawdowns, know what you're getting into.

Strategy Components

URTY 3X Russell 2000, MIDU 3X S&P MidCap 400, UPRO 3X S&P 500

TMF 3X Long Term Treasuries, 1st month in treasuries

EDV Extended Duration Treasuries, subsequent months in treasuries

| Metric | 2000+ | 1980+ |
|--------|--------|--------|
| Beta | 1.11 | 1.61 |
| Alpha | 24.78% | 14.82% |

Annualized Returns actual YTD for current year.

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|----------------|---------|--------|---------|--------|---------|--------|--------|
| MAX PAIN | -10.82% | 14.85% | -18.14% | 19.21% | 17.00% | 33.10% | 33.71% |
| Balanced 60/40 | -1.04% | 31.88% | -2.93% | 4.32% | 6.07% | 5.41% | 9.46% |
| S&P 500 | 20.77% | 37.82% | 8.98% | 15.18% | 12.91% | 7.53% | 11.90% |

Maximum Drawdown single largest drawdown.

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|----------------|---------|---------|---------|---------|---------|---------|---------|
| MAX PAIN | -18.46% | -18.46% | -63.67% | -63.67% | -63.67% | -63.67% | -67.06% |
| Balanced 60/40 | -10.40% | -10.40% | -32.17% | -32.17% | -32.17% | -32.33% | -32.33% |
| S&P 500 | -4.03% | -4.03% | -23.92% | -23.92% | -23.92% | -50.79% | -50.79% |

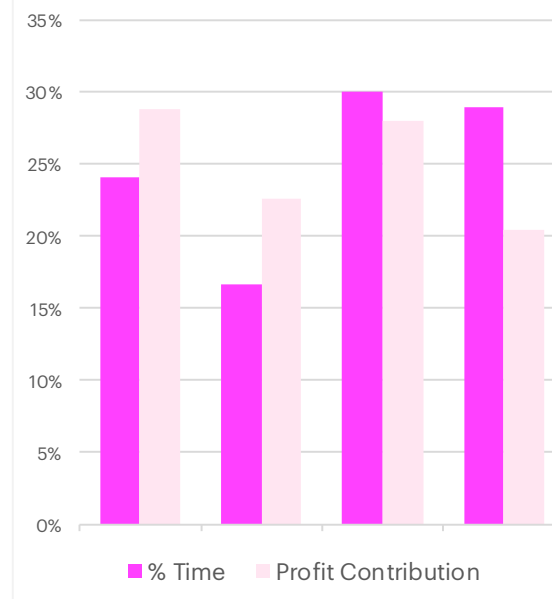
Ulcer Index the higher the number the more painful downside volatility. Considers all downside not just maximum.

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|----------------|-------|--------|--------|--------|---------|-------|-------|
| MAX PAIN | 12.43 | 11.43 | 45.64 | 35.92 | 27.50 | 19.50 | 22.36 |
| Balanced 60/40 | 4.34 | 3.99 | 14.12 | 11.16 | 8.04 | 8.72 | 6.82 |
| S&P 500 | 1.25 | 1.14 | 9.88 | 8.34 | 6.39 | 16.18 | 12.75 |

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

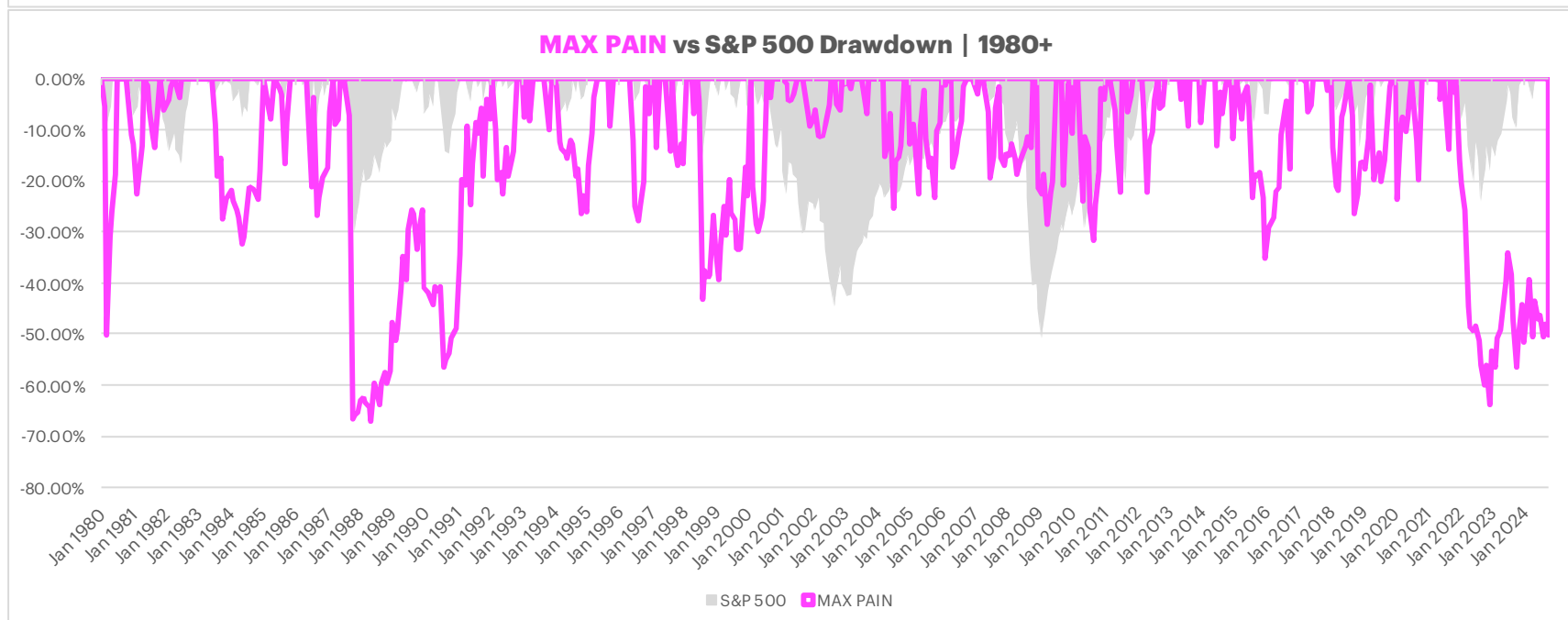
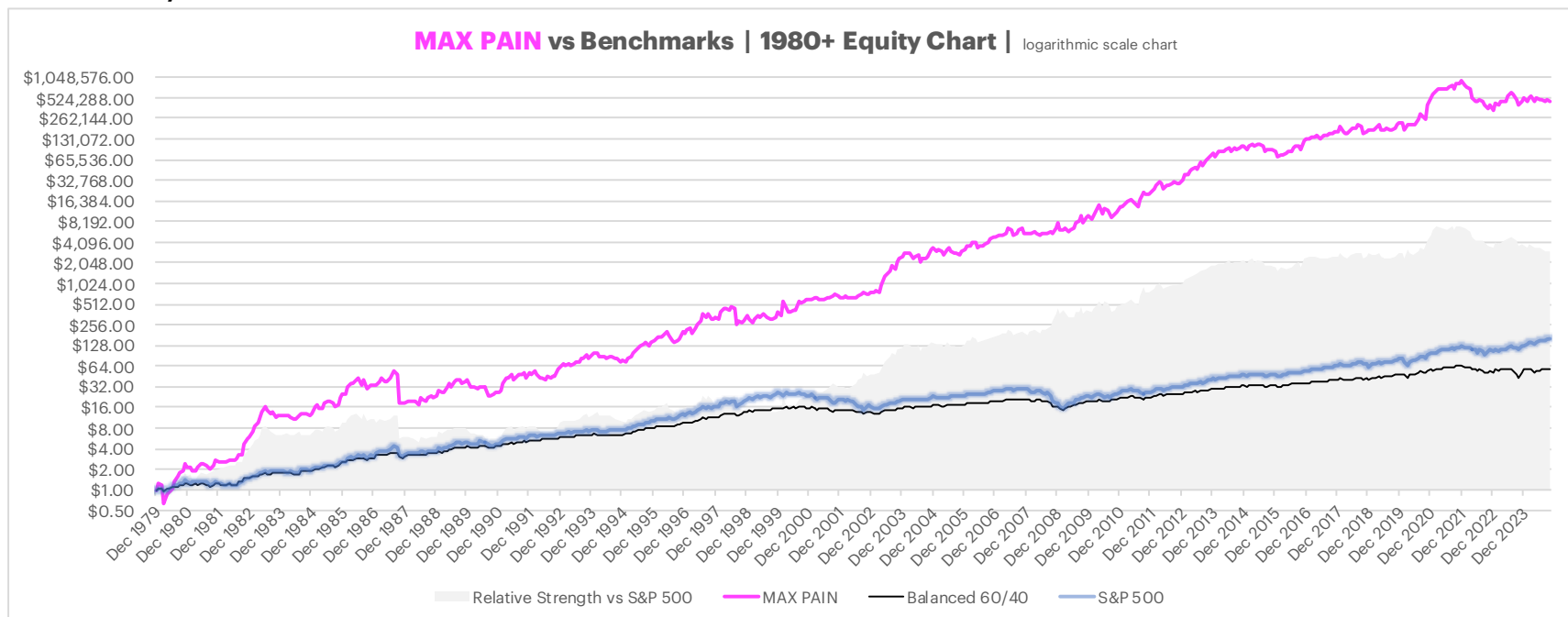
| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 1980+ |
|----------------|--------|--------|--------|--------|---------|-------|-------|
| MAX PAIN | (1.61) | (0.96) | (1.59) | (0.67) | (0.90) | 1.45 | 1.37 |
| Balanced 60/40 | (2.66) | (1.27) | (2.21) | (2.23) | (2.54) | 0.18 | 0.73 |
| S&P 500 | (2.45) | (1.84) | (2.14) | (1.92) | (2.21) | 0.37 | 0.78 |

1980+ Time & Profit Contribution



The MAX PAIN inception date January 2021, out of sample since then and before 2000.

Dual Momentum Systems: MAX PAIN



The MAX PAIN inception date January 2021, out of sample since then and before 2000.

Dual Momentum Strategies: Profit Farmer

A Minimum Variance Adaptive Asset Allocation strategy by Private Farmer

Results through 10/31/2024

Investment selection for November 2024:

30.19% EDC 36.19% URTY 33.62% TQQQ

Strategy Description:

Profit Farmer is a Minimum Variance Adaptive Asset Allocation strategy, it is not a DMS strategy, but created by a friend of DMS. I track it because I have invested in it myself. Profit Farmer is always leveraged to 300%.

Tax friendliness:

Profit Farmer has all Short Term Cap Gains.

Months between change of holdings

Profit Farmer changes it's holdings virtually every month.

Portfolio size appropriateness:

Small Fry, Profit Farmer is only suitable for < \$500,000 allocations.

Characteristics:

Drawdowns: **Profit Farmer** has frequent and larger drawdowns than the S&P.

Volatility: **Profit Farmer** is far more volatile than the S&P over time.

Returns: **Profit Farmer** has incredibly huge historical returns compared to the S&P 500.

Strategy Components

EDC 3X Emerging Markets

URTY 3X Russell 2000

TQQQ 3X Nasdaq 100

TMF 3X Long Term Treasuries

DRN 3X Real Estate

| Metric | 2000+ | 05/1987+ |
|--------|--------|----------|
| Beta | 1.34 | 1.37 |
| Alpha | 18.69% | 22.04% |

Annualized Returns actual YTD for current year.

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 05/1987+ |
|----------------------|---------|--------|---------|--------|---------|--------|----------|
| Profit Farmer | 15.26% | 63.65% | -38.36% | 1.58% | 13.48% | 28.62% | 32.22% |
| MAX PAIN | -10.82% | 14.85% | -18.14% | 19.21% | 17.00% | 33.10% | 28.51% |
| S&P 500 | 20.77% | 37.82% | 8.98% | 15.18% | 12.91% | 7.53% | 10.48% |

Maximum Drawdown single largest drawdown.

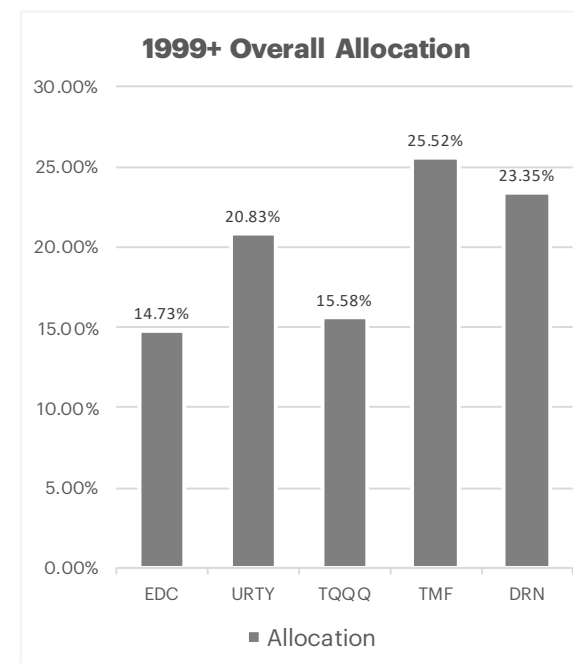
| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 05/1987+ |
|----------------------|---------|---------|---------|---------|---------|---------|----------|
| Profit Farmer | -13.42% | -13.42% | -86.54% | -86.54% | -86.54% | -86.54% | -86.54% |
| MAX PAIN | -18.46% | -18.46% | -63.67% | -63.67% | -63.67% | -63.67% | -67.06% |
| S&P 500 | -4.03% | -4.03% | -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+ | 05/1987+ |
|----------------------|-------|--------|--------|--------|---------|-------|----------|
| Profit Farmer | 5.68 | 5.23 | 71.25 | 55.60 | 39.99 | 28.69 | 24.42 |
| MAX PAIN | 12.43 | 11.43 | 45.64 | 35.92 | 27.50 | 19.50 | 23.56 |
| S&P 500 | 1.25 | 1.14 | 9.88 | 8.34 | 6.39 | 16.18 | 13.76 |

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

| Investment | YTD | 1 Year | 3 Year | 5 Year | 10 Year | 2000+ | 05/1987+ |
|----------------------|--------|--------|--------|--------|---------|-------|----------|
| Profit Farmer | (1.20) | 0.07 | (1.84) | (1.04) | (1.04) | 1.16 | 1.34 |
| MAX PAIN | (1.61) | (0.96) | (1.59) | (0.67) | (0.90) | 1.45 | 1.19 |
| S&P 500 | (2.45) | (1.84) | (2.14) | (1.92) | (2.21) | 0.37 | 0.63 |

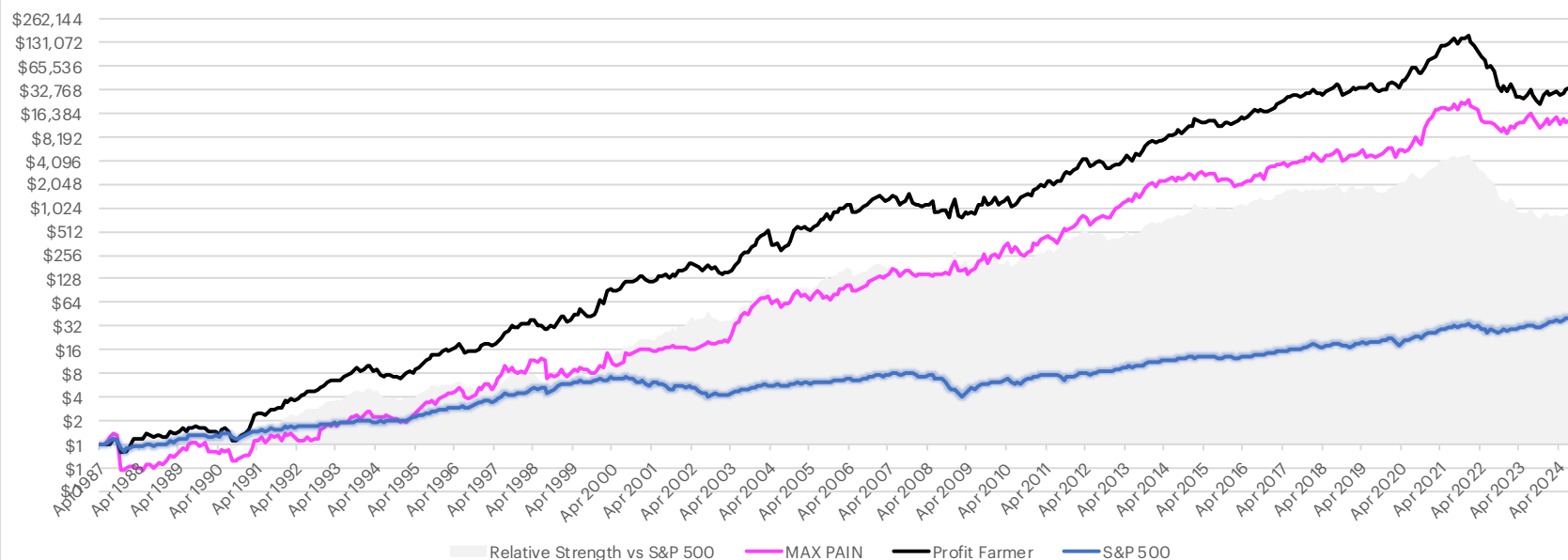


Profit Farmer, an Adaptive Asset Allocation by Private Farmer

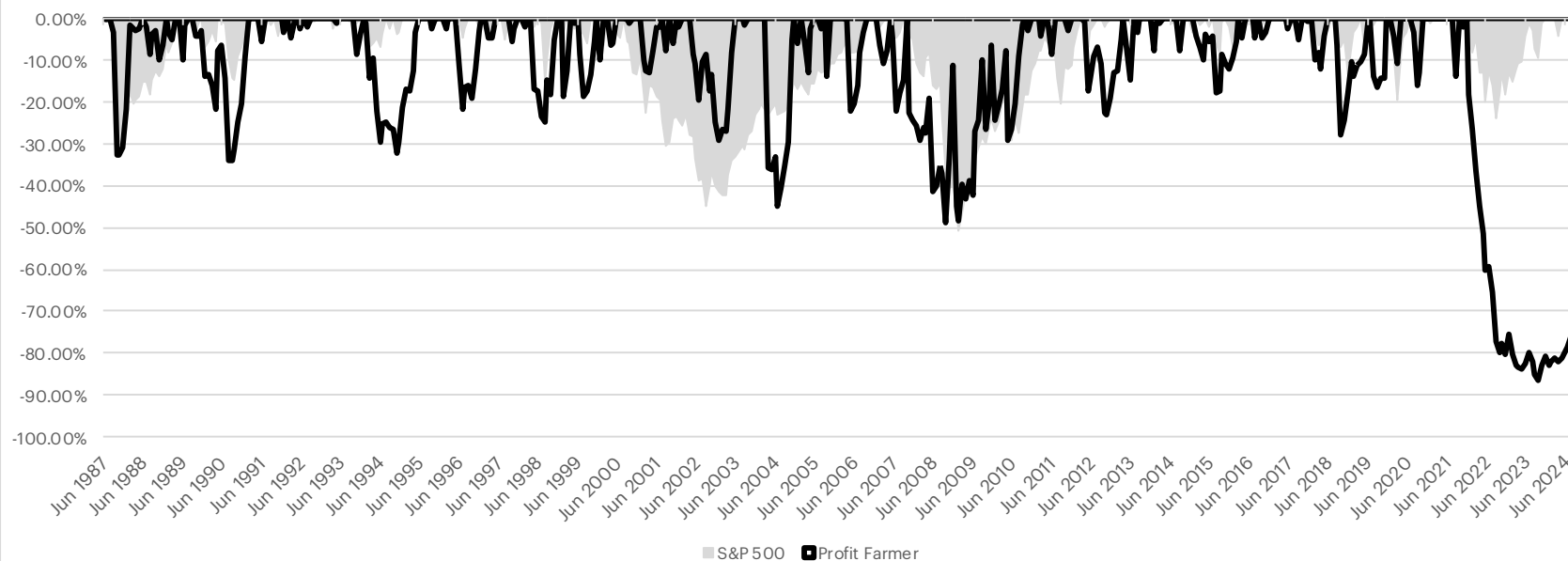
randy@dualmomentumsystems.com

Strategy by Private Farmer

Profit Farmer vs Benchmarks | May 1987+ Equity Chart | logarithmic scale chart



Profit Farmer vs S&P 500 Drawdown | May 1987+



Profit Farmer, an Adaptive Asset Allocation by Private Farmer

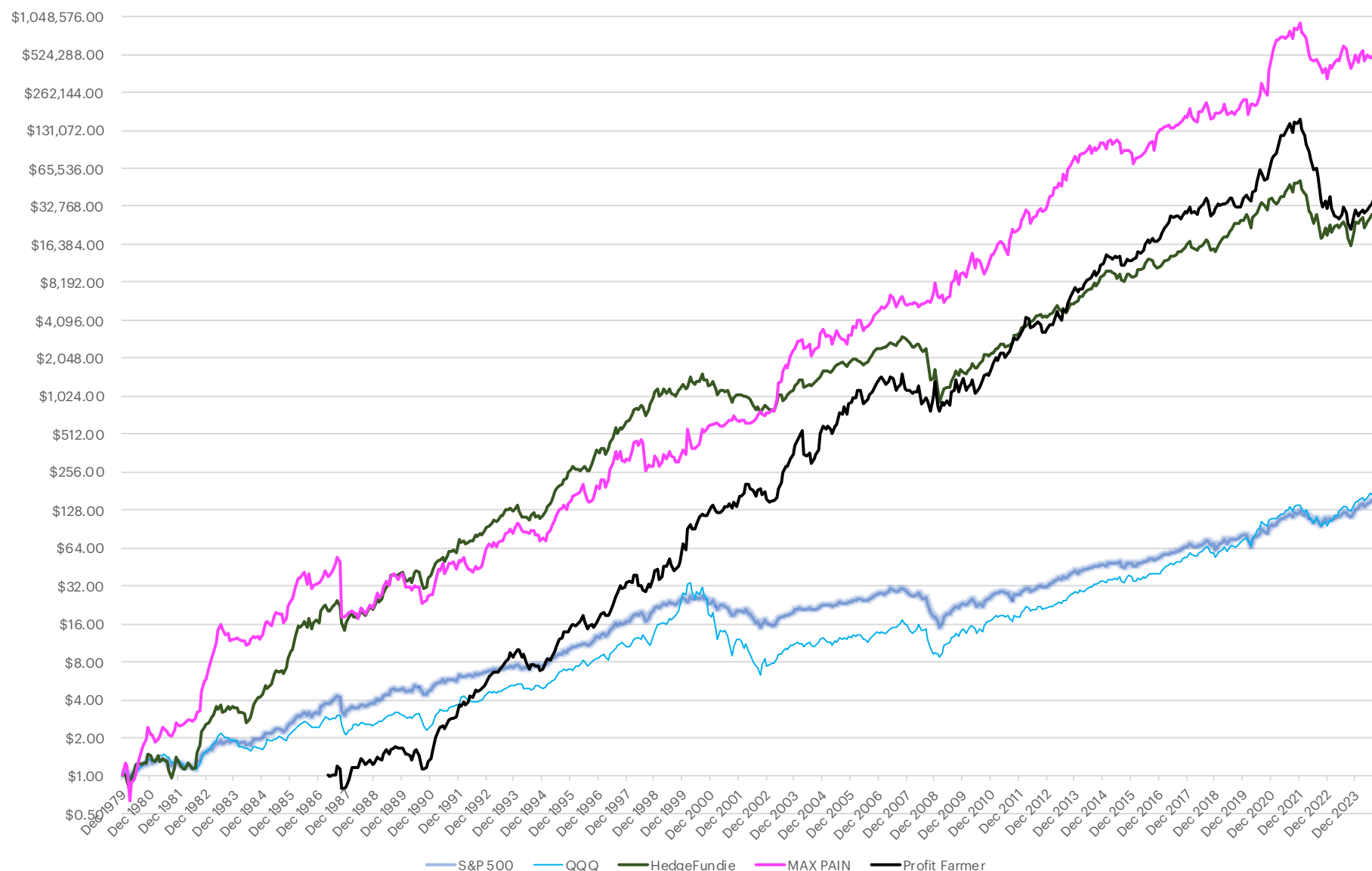
randy@dualmomentumsystems.com



Equity Chart

HedgeFundie vs MAX PAIN vs Profit Farmer vs Benchmarks 1980+ Equity Chart for Strategies which use leverage

logarithmic scale chart



*Profit Farmer returns only back through May 1987

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

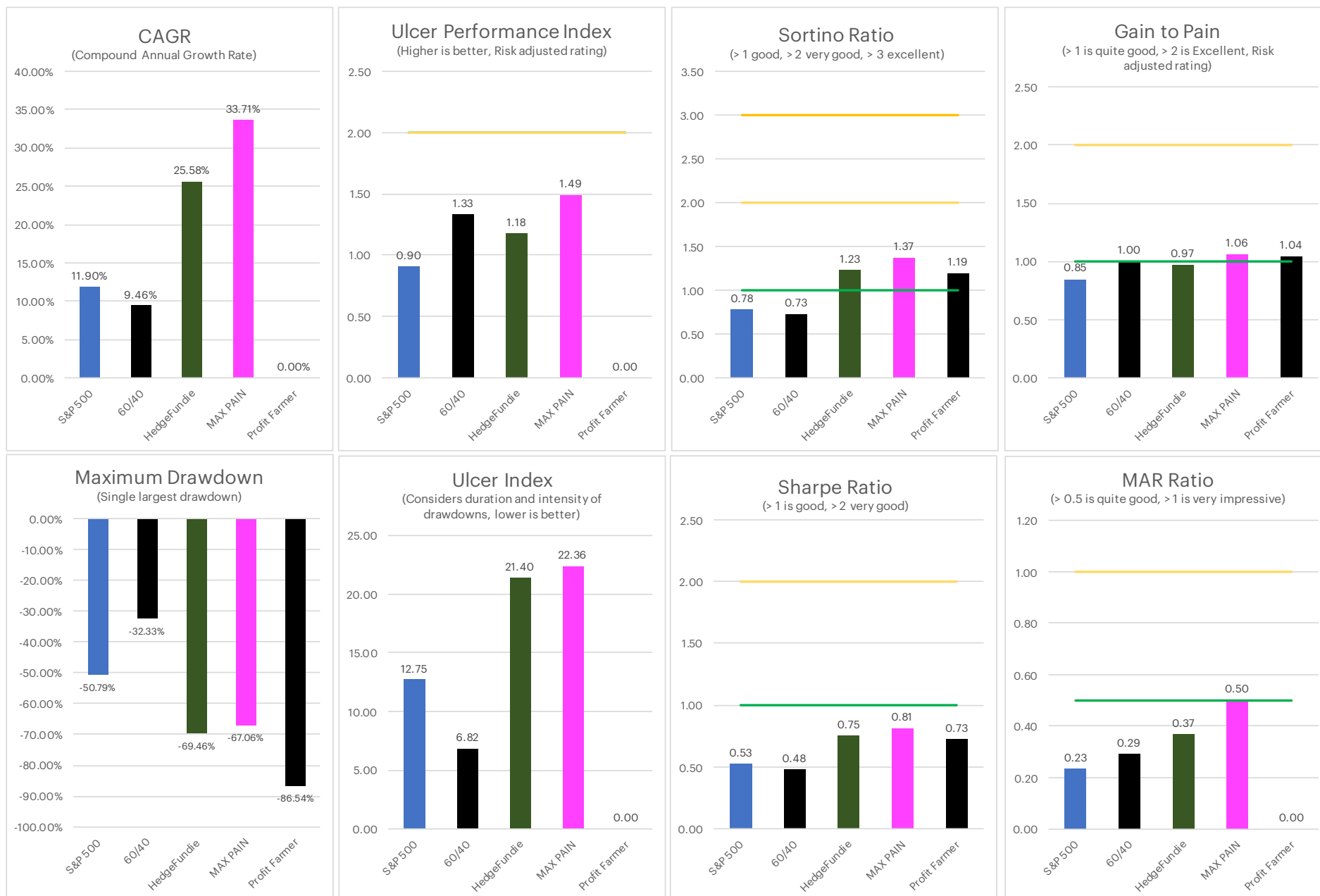
Maximum Drawdown: The largest negative drawdown for the strategy, on a month end basis

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

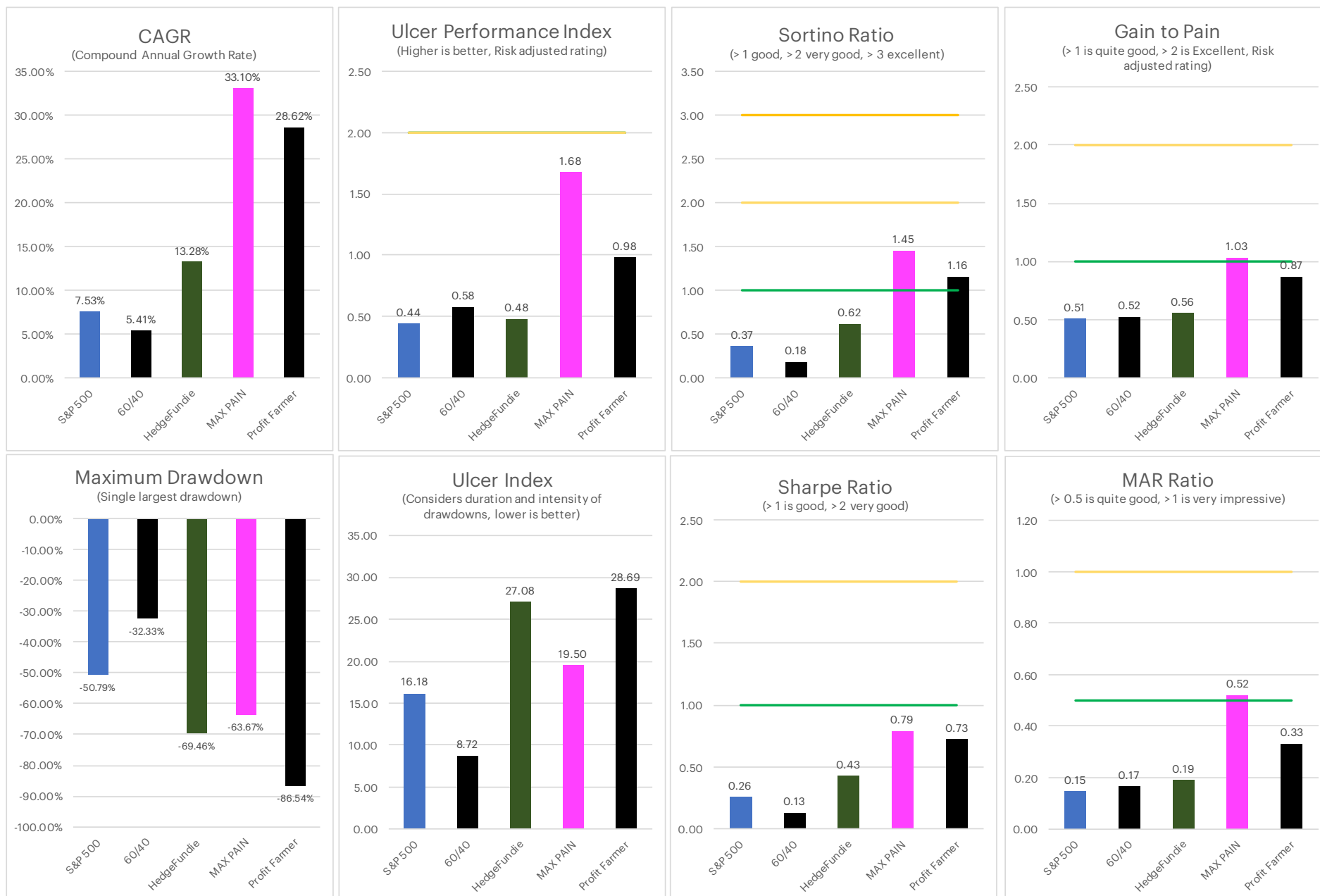
MAR Ratio: A risk adjusted performance ratio, uses maximum drawdown in it's calculations

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



All Metrics are calculated from Monthly returns

"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

← Aggressive

| | S&P 500 | Balanced 60/40 | QQQ | LT Gain 3X | HedgeFundie | MAX PAIN |
|----------------|---------|----------------|------|------------|-------------|----------|
| S&P 500 | 100% | | | | | |
| Balanced 60/40 | 78% | 100% | | | | |
| QQQ | 92% | 74% | 100% | | | |
| LT Gain 3X | 0% | 0% | 0% | 0% | | |
| HedgeFundie | 92% | 89% | 92% | 0% | 100% | |
| MAX PAIN | 71% | 72% | 76% | 0% | 79% | 100% |

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 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.

A handwritten signature in black ink, appearing to read "Randy".

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 be 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!