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ASSET MANAGEMENT

Good Trends Come to Those Who Wait

April 2025 YTD

Risk Mitigation Investor Letter

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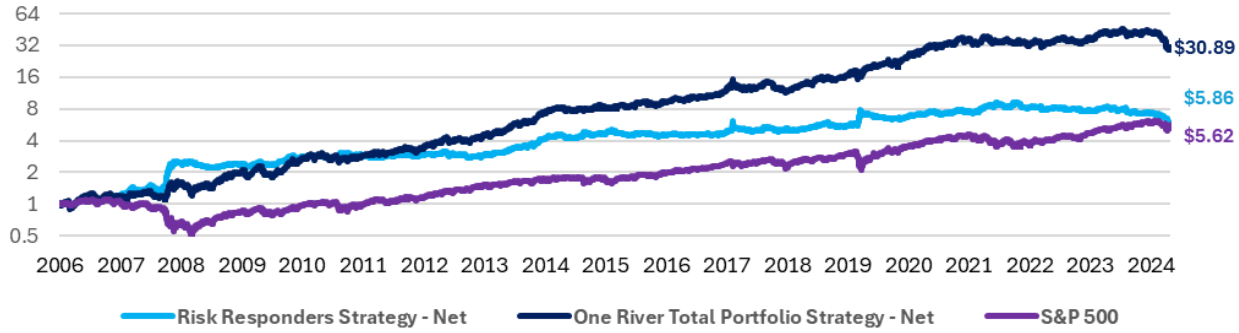
Introduction: Returns When You Need Them, but Not Always When You Want Them

An effective risk mitigation strategy delivers returns when they are most needed. We constructed **Risk Responders**, a fully systematic risk mitigation strategy that delivers both long volatility and multi-asset trend, for this purpose. Defensive returns are most necessary during periods in which equity-centric portfolios sacrifice long-term compounding – due to a drawdown that is either acute (i.e., a crisis) or is protracted enough to spend significant time below its high watermark. Accordingly, we seek to maximize long volatility payouts when a crisis manifests, as well as trend returns during major protracted moves. Doing so comes at a significant cost to average returns on a standalone basis and necessitates that the strategy leans asymmetrically defensive during periods of uncertainty – even when it is tempting to do the opposite. The result for investors is a strategy that is there for you when you need it, but not always when you want it.

Exhibit 1: Cumulative Growth of $1: S&P 500 vs. Risk Responders (Net) vs. One River Total Portfolio (Net)

January 1, 2007 – April 30, 2025



Source: One River, Bloomberg. S&P 500 uses the S&P 500 Total Return Index. The Total Portfolio Fund went live January 1, 2025. Prior to fund launch, the performance represents a vol-scaled carve out combination of live Risk Responders, and a 110% S&P 500 Overlay. The Risk Responders Cayman fund went live on March 15, 2022. All of the active substrategies in the portfolio were live as of Nov 1, 2019. The performance prior to that date represents a pro-forma combination of Dynamic Convexity (live Apr 2015), Trend (live Apr 2015), and Alternative Markets Trend (live Nov 2019) returns as implemented in the Risk Responders strategy. Net returns are net of a 2.5% annual management fee and 0% performance fee. Prior to the fund launch, net returns are net of management fees, but operating expenses prior to fund launch are not deducted. Operating expenses for the Total Portfolio fund will be capped at 25bps when the NAV is above $250m. Most recent month returns are estimated, and subject to change. The return simulation uses live returns when possible, and backtested returns when necessary. Past performance does not guarantee future results. Most recent month returns are estimates.

As can be seen in **Exhibit 1** above, leaning against markets in this way can be an effective long-term strategy, especially when paired with equity beta through our **Total Portfolio** strategy. When reviewing the long-term evidence, we are commonly asked about worst-case scenarios for this strategy. The answer is likely close to what we've seen in the extreme policy and market swings year-to-date. In our mid-month piece, *Tough Times for Trend*, we laid out in detail some of the design choices that worked against us in the recent period.

Given what we seek to capitalize on - major dislocations and big protracted moves - the worst-case scenario would be a highly choppy market that (while averaging lower) never really takes on any form of sustainable momentum. One that, due to some rotating set of catalysts, would quickly oscillate between aggressively risk-on to risk-off, and, importantly, one that could sustain those types of moves for a prolonged period of time.

In such an environment, we would expect implied volatilities to elevate and remain moderately elevated, which may help our long volatility process, though not significantly, as panic never would have taken hold. Meanwhile, the whipsawing nature of those markets would lean directly against an intermediate-term trend following strategy. At the risk of oversimplifying, our trend strategy identifies a price catalyst, and if that catalyst agrees with the prevailing momentum, it makes a bet that the trend will (on average) continue versus reverse course. This type of environment, however, is defined by price catalysts being highly uninformative.

Year-to-date, this path for markets has brought the strategy to its largest and longest drawdown, across both live and backtested periods. Further, the fact that we run high volatility (18-20%) strategies to maximize capital efficiency transforms a tolerable standard deviation event for many into a taxing drawdown for some. Of course, the long-term results as shown in **Exhibit 1** have benefited greatly from this capital efficiency, including many drawdowns along the way.

We have also seen difficult periods for the strategy coincide with periods of market stress. The good news is that things tend to improve from there. The less good news is that (historically) it may take a while to manifest. However, if the program does produce great results in the short term, it is likely a scenario in which something in markets breaks - in which case your broader portfolio will need all the help it can get. One of life's great truisms applies here – good things (and trends) come to those who wait.

A Look Back: Risk Responders Case Studies vs. 2025 Tariff Policy Period

Historically, as can be seen in **Exhibit 2** below, these large drawdowns for the Risk Responders strategy are usually met with well above average returns in the subsequent periods for the strategy. The risk-based explanation for this could be that the two types of periods that lead to drawdowns for Risk Responders, which are prolonged transitional market chop (headwind for trend), and the passing of a major crisis (headwind for long volatility) – are both environments that often result in outsized subsequent moves across many macro assets.

- These large moves (up or down) tend to produce strong trend outcomes.
- Alternatively, transitional market chop can be the result of market participants weighing highly consequential risk factors. If that feared risk manifests (e.g., Lehman bankruptcy), it can spur panic and deliver strong returns for long volatility.

That said, the current strategy drawdown could always get worse before it gets better. Timing markets is challenging – and timing active strategies like trend and long volatility might be harder yet. However, it is generally true for both markets and these strategies that highly abnormal negative (or positive) returns tend to be good indicators for above (or below) average returns in subsequent periods – especially if you evaluate this over a longer horizon.

Exhibit 2: Risk Responders Top 10 Drawdowns and Subsequent Gross Returns
January 1, 2007 – April 30, 2025

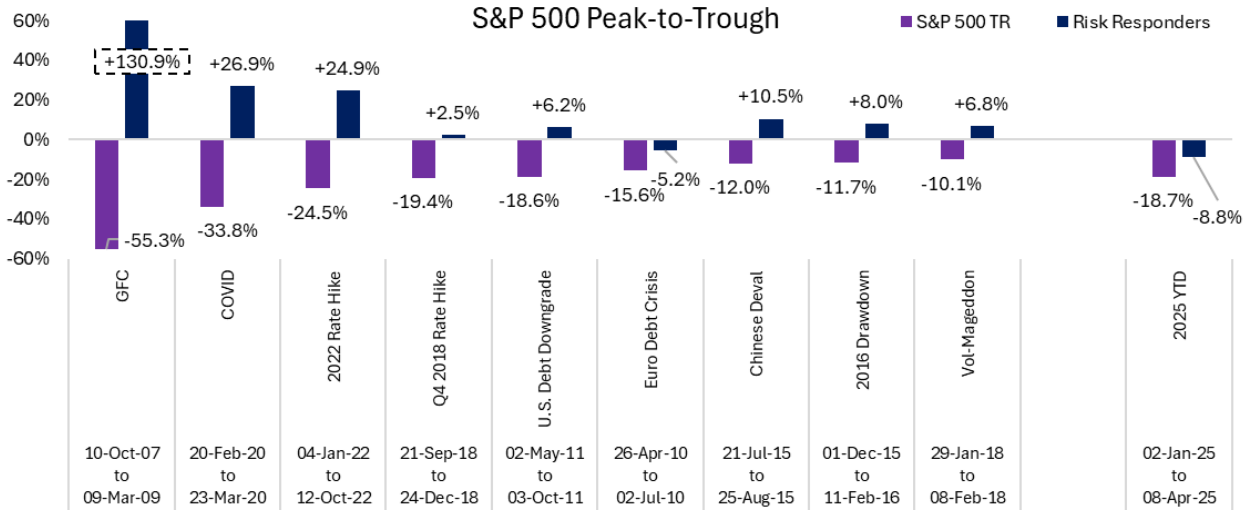
Risk Responders - Largest Historical Drawdowns Dates		Returns Over the Drawdown Period - RR and S&P 500		Subsequent Risk Responders Cumulative Returns by Period			
Start Date	Trough Date	Risk Responders	S&P 500 TR	6-Month	12-Month	18-Month (Ann.)	24-Month (Ann.)
5-Feb-18	29-May-18	-20.1%	+2.2%	+3.6%	+11.9%	+10.6%	+22.2%
18-Mar-20	11-Nov-20	-17.7%	+50.7%	+20.2%	+26.4%	+26.8%	+19.2%
8-May-13	9-Oct-13	-13.3%	+2.4%	+13.6%	+37.0%	+44.3%	+31.5%
2-Mar-09	22-Jun-09	-13.2%	+28.4%	+9.0%	+9.4%	+19.4%	+14.6%
2-Jul-08	11-Aug-08	-13.0%	+3.7%	+86.1%	+71.7%	+45.9%	+39.3%
11-Feb-16	18-Nov-16	-11.9%	+21.3%	+5.1%	+7.2%	+12.8%	+9.8%
3-Oct-11	9-Apr-12	-10.4%	+27.2%	+8.4%	+12.1%	+3.3%	+8.3%
14-Jun-22	12-Aug-22	-10.4%	+14.9%	+2.3%	-0.9%	+0.1%	-2.9%
13-Jul-07	22-Aug-07	-10.0%	-5.5%	+24.7%	+28.4%	+82.2%	+49.0%
22-Feb-07	5-Mar-07	-9.8%	-5.6%	+17.2%	+53.0%	+30.3%	+68.8%
14-Oct-22	25-Apr-25	-33.0%	+60.2%	--	--	--	--
Average Outcome After Drawdowns				+19.0%	+25.6%	+27.6%	+26.0%
Median Outcome After Drawdowns				+11.3%	+19.2%	+23.1%	+20.7%
Full Sample (2007-Present) Average Rolling Returns				+7.6%	+16.1%	+15.6%	+15.0%

Source: One River, Bloomberg. S&P 500 uses the S&P 500 Total Return Index. The Risk Responders Cayman fund went live on March 15, 2022. All of the active substrategies in the portfolio were live as of Nov 1, 2019. The performance prior to that date represents a pro-forma combination of Dynamic Convexity (live Apr 2015), Trend (live Apr 2015), and Alternative Markets Trend (live Nov 2019) returns as implemented in the Risk Responders strategy. Prior to the fund launch, net returns are net of management fees, but operating expenses prior to fund launch are not deducted. Most recent month returns are estimated, and subject to change. The return simulation uses live returns when possible, and backtested returns when necessary. Past performance does not guarantee future results.

From this data there are some interesting observations. For instance, the largest drawdowns for Risk Responders unsurprisingly tend to occur during strong periods for equity markets, which is by design. In addition, the subsequent periods after major drawdowns are usually higher than average long-term return outcomes, but not without exception. But how does the same strategy perform when equity markets come under pressure? **Exhibit 3** below focuses on major S&P 500 drawdown events (10% or greater) and studies Risk Responders performance during those specific periods. An important note is that 2025 is still ongoing and so April 8th may or may not be the actual event trough.

Exhibit 3: S&P 500 Major Drawdowns - Peak-to-Trough: S&P 500 and Risk Responders

January 1, 2007 – April 30, 2025



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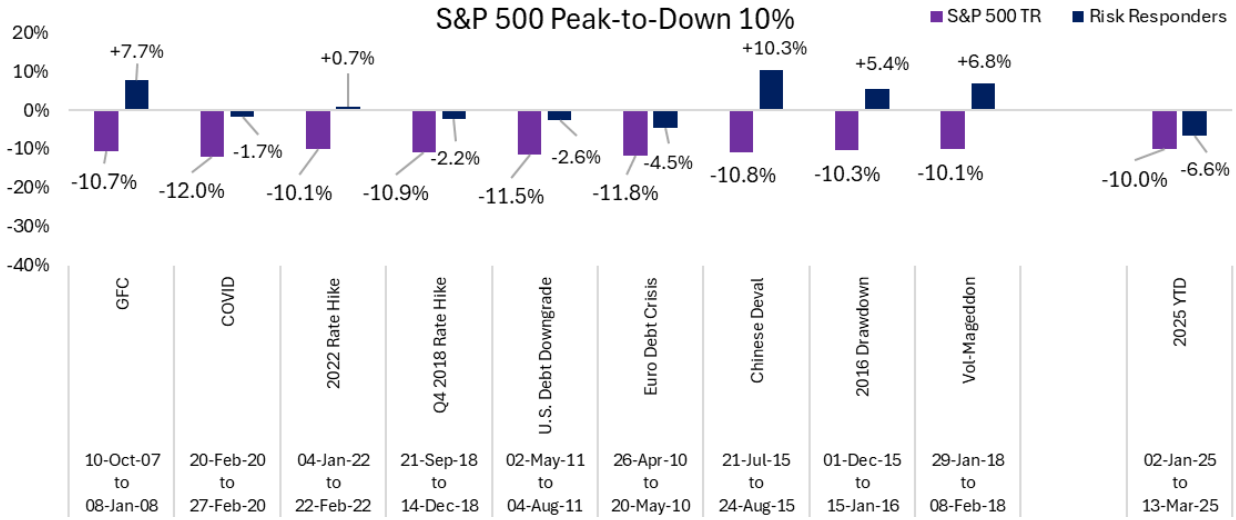
The first observation is the tendency for the program to be up when markets are down – and to an extent that is generally in line with the market drawdowns. This is true for longer events like the GFC and 2022, and it also holds for quicker events like COVID, Chinese Devaluation, and Vol-Mageddon. However, there are some disappointing periods like the Q4 2018 Rate Hike and U.S. Debt Downgrade in which the strategy benefit is far less than the magnitude of the market selloff. Further, there are periods like the European Debt Crisis and this recent period (2025), in which the strategy actually draws down alongside markets for a time.

On this point, **Exhibit 4** looks at the same events, but evaluates the strategy benefit (or detraction) as of the day each given S&P 500 drawdown event crosses -10%. Here, we see a very different picture in terms of strategy performance. In this early stage of a drawdown, it is likely that trend needs some time to flip positioning to be net short risk assets. Further, at this level of drawdown, it is unlikely that investors are sufficiently panicked for a long volatility strategy to deliver outsized returns.

For instance, in most major S&P 500 drawdowns, the Risk Responders strategy was flat-to-down at the moment the equity market drawdown first closed below 10%. Through this lens, the 2025 period looks far less unique. Of course, holding through to the trough of these various events yielded very different outcomes, as we reviewed in **Exhibit 3.** While it is easy to observe these return characteristics with hindsight knowing how each event eventually concluded, it is worthwhile examining how it might have felt experiencing these events as they unfolded. While many of these events saw their peak drawdown 1-4 weeks after this first 10% drawdown, other events like the GFC, 2022, and U.S. Debt Downgrade took 14, 8, and 2 more months respectively after hitting a 10% drawdown to finally bottom out.

Exhibit 4: S&P 500 Major Drawdowns - S&P Hits -10%: S&P 500 and Risk Responders
January 1, 2007 – April 30, 2025

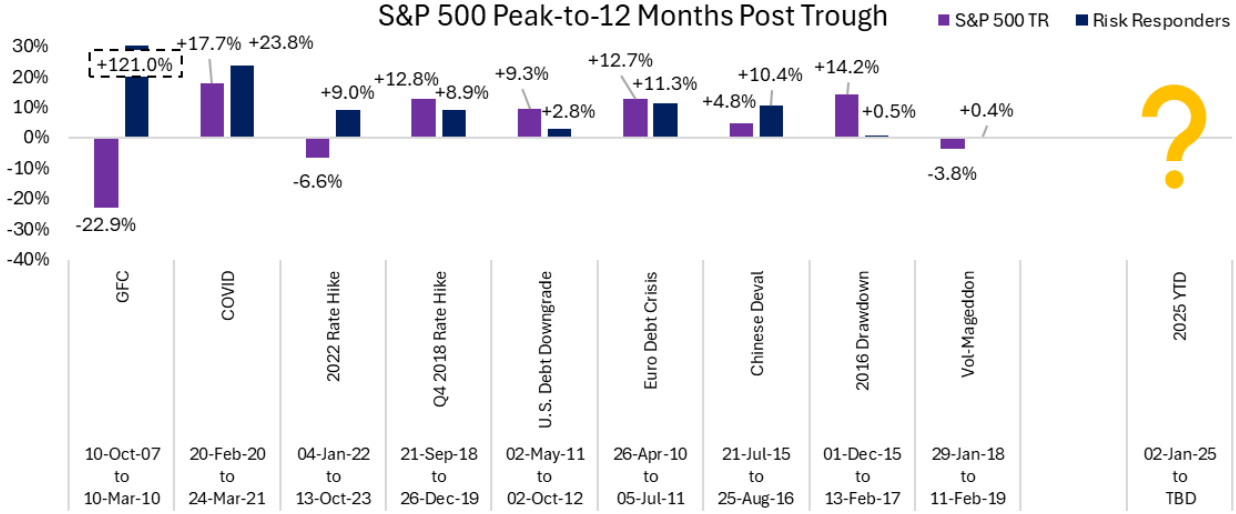


Source: One River, Bloomberg. S&P 500 uses the S&P 500 Total Return Index. The Risk Responders Cayman fund went live on March 15, 2022. All of the active substrategies in the portfolio were live as of Nov 1, 2019. The performance prior to that date represents a pro-forma combination of Dynamic Convexity (live Apr 2015), Trend (live Apr 2015), and Alternative Markets Trend (live Nov 2019) returns as implemented in the Risk Responders strategy. Most recent month returns are estimated. The return simulation uses live returns when possible, and backtested returns when necessary. Past performance does not guarantee future results.

Lastly, there's the period after the trough of a given drawdown. **Exhibit 5** examines the period from peak S&P 500 through 1-year after the trough of the drawdown. For the recent period, this is still unknown, but for most historical major S&P 500 drawdowns, Risk Responders retains a significant portion of its accrued return. Importantly, the periods in which Risk Responders surrendered the majority of its accrued gains were during events (like 2022) wherein markets rapidly recovered.

The European Debt Crisis is a particularly interesting case study in comparison to 2025. For instance, Risk Responders was down a similar amount when the S&P 500 first hit -10%, and also when the S&P 500 hit its peak drawdown during both events. In this 2010 event, the market similarly took a choppy path as it averaged lower. However, 12 months after the market trough, Risk Responders produced a strong outcome, clawing back its drawdown fully while macro trends took off as the world adjusted to a changed global economy.

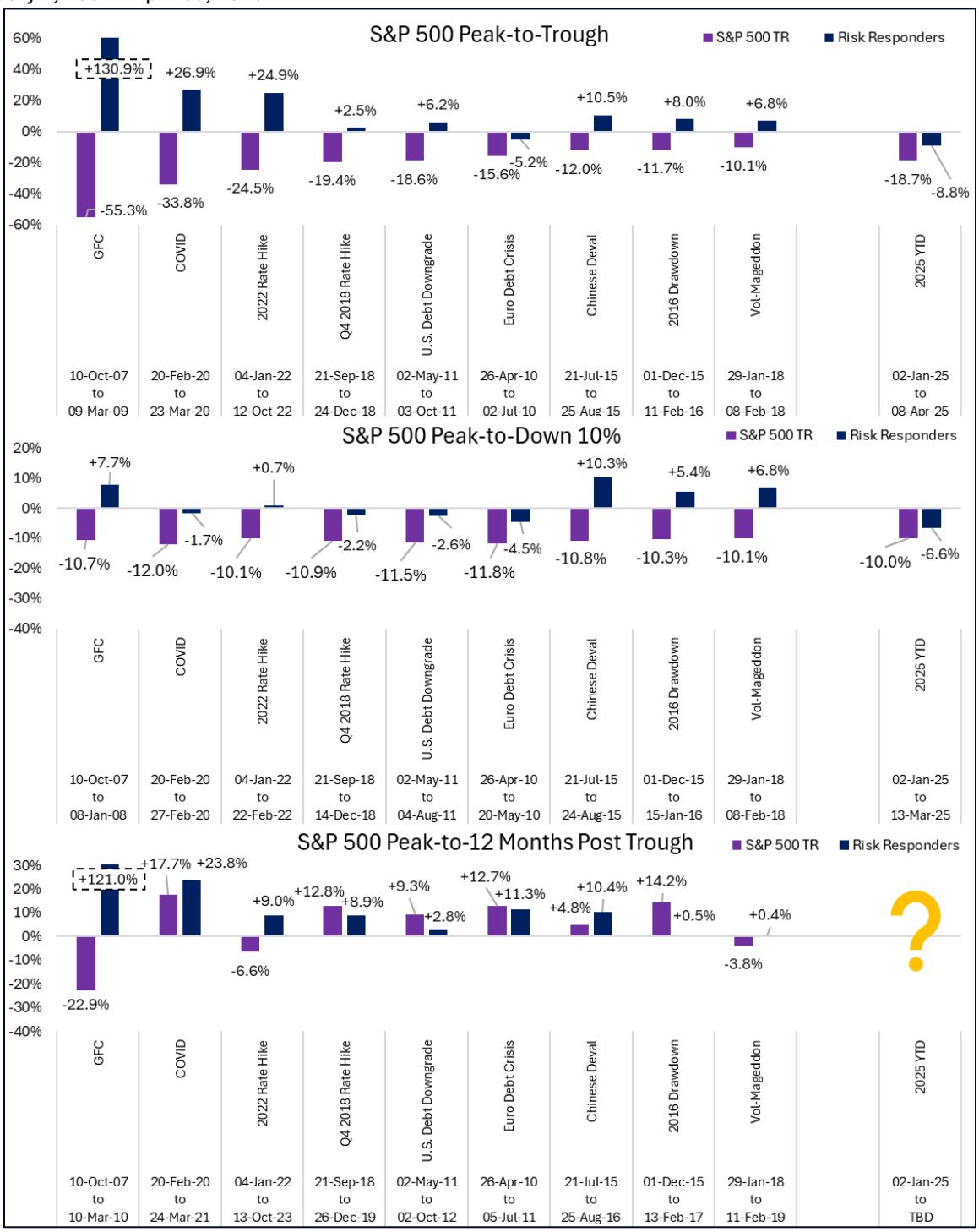
Exhibit 5: S&P 500 Major Drawdowns - Peak-to-12 Month Post Trough: S&P 500 and Risk Responders
January 1, 2007 – April 30, 2025



Source: One River, Bloomberg. S&P 500 uses the S&P 500 Total Return Index. The Risk Responders Cayman fund went live on March 15, 2022. All of the active substrategies in the portfolio were live as of Nov 1, 2019. The performance prior to that date represents a pro-forma combination of Dynamic Convexity (live Apr 2015), Trend (live Apr 2015), and Alternative Markets Trend (live Nov 2019) returns as implemented in the Risk Responders strategy. Most recent month returns are estimated. The return simulation uses live returns when possible, and backtested returns when necessary. Past performance does not guarantee future results.

To spare the reader the comparison across pages, **Exhibit 6** compiles all three exhibits into one.

Exhibit 6: S&P 500 Major Drawdowns: S&P 500 and Risk Responders
Peak-to-Trough (Top), First 10% Down (Middle), Peak-to-12 Months Post Trough (Bottom)
January 1, 2007 – April 30, 2025



Source: One River, Bloomberg. S&P 500 uses the S&P 500 Total Return Index. The Risk Responders Cayman fund went live on March 15, 2022. All of the active substrategies in the portfolio were live as of Nov 1, 2019. The performance prior to that date represents a pro-forma combination of Dynamic Convexity (live Apr 2015), Trend (live Apr 2015), and Alternative Markets Trend (live Nov 2019) returns as implemented in the Risk Responders strategy. Most recent month returns are estimated. The return simulation uses live returns when possible, and backtested returns when necessary. Past performance does not guarantee future results.

The Best Outcomes for Markets are the Worst for Risk Responders (and vice versa):

So far, 2025 has been a challenging environment for our risk mitigation strategies. Importantly, while these initial phases of a stock market decline increase uncertainty and (definitionally) see risk assets lose ground, over the long term they aren't really that impactful to compounding outcomes for equity investors unless the drawdowns become prolonged enough to drag portfolios, and/or are more extreme in depth.

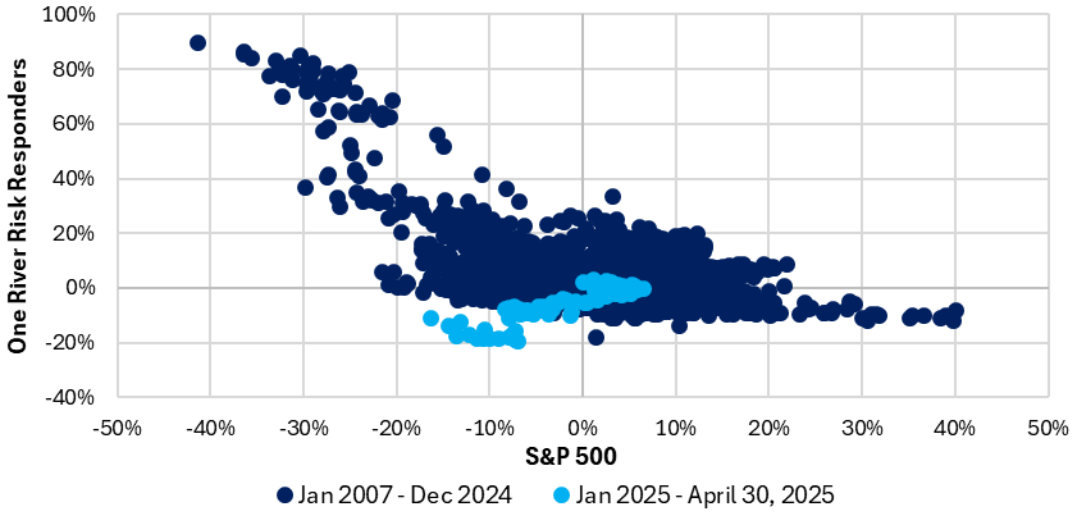
Naturally, a consideration from these observations could be to modify the strategy to be more defensive during the earlier stages of market declines (perhaps through shorter-term models, more dynamic risk modeling, or adding additional return sources). One must be careful, however, since there can be a meaningful negative long-term cost to such approaches (e.g., increased transaction costs, overtrading or "whipsaw" risk, dilution of crisis benefit, etc.), as shallow declines in markets often quickly revert. That's not to say that through research we won't improve our defensiveness during these initial drawdowns – that's an area of focus for our team. Any incremental change will be made in full consideration of the long-term evidence and tradeoffs, with caution so as not to overfit our models. The true skill (and value) of our model that we must retain is in determining when a market dip is likely to deteriorate into a crisis, and that's where we aim to continue delivering returns in the future.

As we've shown, strategy drawdowns can happen fairly often, and sometimes during initial declines for broader markets. However, once a given equity selloff reaches a high enough point of uncertainty, we tend to exhibit a reliable convexity / defensiveness to that event, as can be seen in **Exhibit 7**. In this exhibit, we highlight rolling 3-month windows for S&P and for Risk Responders, which shows reliable convexity as conditions significantly deteriorate for broader markets.

The point of risk mitigating strategies is to benefit from risk-off conditions when your portfolio faces losing meaningful long-term value. In order to deliver on that mandate, the strategy exposes itself to paths that can be quite painful over the short and medium term. While the strategy may not always perform as one would want, it is calibrated to reliably perform when it is most needed. As you review the historical paths studied above and their respective outcomes, it's clear that the worst forward-looking returns for long volatility and trend are likely the best returns for equity markets, and the opposite scenario also holds true – and that's by design.

Exhibit 7: Rolling 3-Month S&P 500 vs. Risk Responders Return Outcomes

January 1, 2007 – April 30, 2025



Source: One River, Bloomberg. The Risk Responders Cayman fund went live on March 15, 2022. All of the active substrategies in the portfolio were live as of Nov 1, 2019. The performance prior to that date represents a pro-forma combination of Dynamic Convexity (live Apr 2015), Trend (live Apr 2015), and Alternative Markets Trend (live Nov 2019) returns as implemented in the Risk Responders strategy. Net returns are net of a 2.5% annual management fee. Prior to the fund launch, net returns are net of management fees, but operating expenses prior to fund launch are not deducted.

Disclaimers

Past performance is not necessarily indicative of future results.

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Prior to December 2019, the Dynamic Convexity Strategy returns reflect the actual returns of the strategy within a One River managed SPC (Segregated Portfolio Company). Returns for the SPC are available upon request. Prior to December 2019, operating expenses are excluded for the net return calculation. The Dynamic Convexity SP caps expenses at 20 bps if AUM is above USD 250 million.

The Risk Responders Strategy performance from Nov 2019 through Feb 2022 represents a pro-forma combination of live Dynamic Convexity, Trend, and Alternative Markets Trend fund returns as implemented in the live Risk Responders strategy. Returns for the individual funds are available upon request.

HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.