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Crisis or Correction: Managing Expectations for Managed Futures and Crisis Alpha

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Crisis or Correction?

Every market crisis is different, and each creates market trends that are unique to the specific macro environment and moment in history. For most investors, although any big drawdown may feel like a crisis, not all drawdowns are created equal. Some drawdowns may correct quickly, while others are sustained for longer periods of time. As investors seek to build diversifying portfolios, they may look for investments that can provide opportunity during periods of crisis, or "crisis alpha." In practice, however, it becomes important to distinguish between a crisis and a correction. A **crisis** is a sustained period of loss in an investment which does not correct quickly. A **correction** is a period of loss that recovers quickly. Clear examples of past market crises are the tech bubble bursting in the early 2000s or the Great Financial Crisis. Market corrections, on the other hand, are events like the "Volpocalypse" of 2018, when markets fall only to regain their footing rather quickly.

Trend Following During Crisis or Correction Periods

When we originally wrote a paper on crisis or correction in 2019, we focused primarily on equity markets.[1] 2022 reminded investors that bonds could also face a crisis. As a result, in this paper we consider both equity markets and fixed income markets when examining the performance of trend-following strategies during crisis or correction periods over time. Figure 1 and Figure 2 plot the cumulative drawdown periods and their subsequent recovery periods for equity markets (using the S&P 500 TR Index in red) and fixed income markets (using the FTSE Bond TR Index) versus the performance of trend-following strategies (using the SG Trend Index in blue). Crisis and recovery periods are marked in Figures 1 and 2; periods without crises are denoted as calm markets.

[1] See Kaminski 2019.

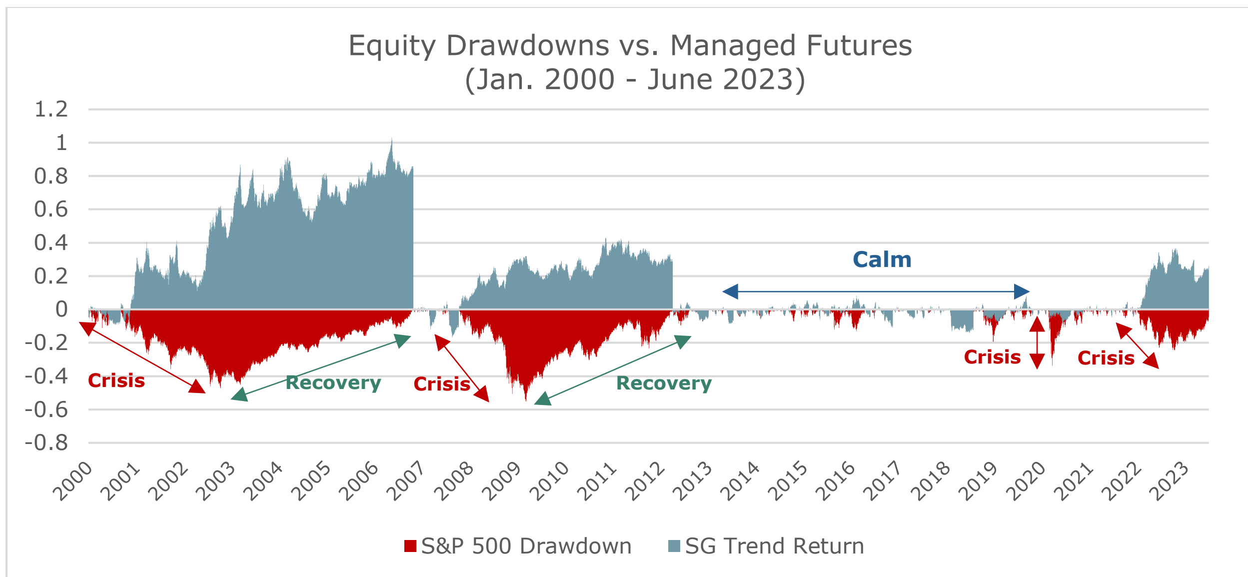

Figure 1: Equity market (S&P 500 TR Index) drawdowns and recovery periods plotted against the performance of Managed Futures strategies (represented by the SG Trend Index) during the same drawdown and recovery periods. The data begins at the inception of the SG Trend Index in January 2000 through June 2023. For descriptive purposes, crisis and recovery periods are labeled for context. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

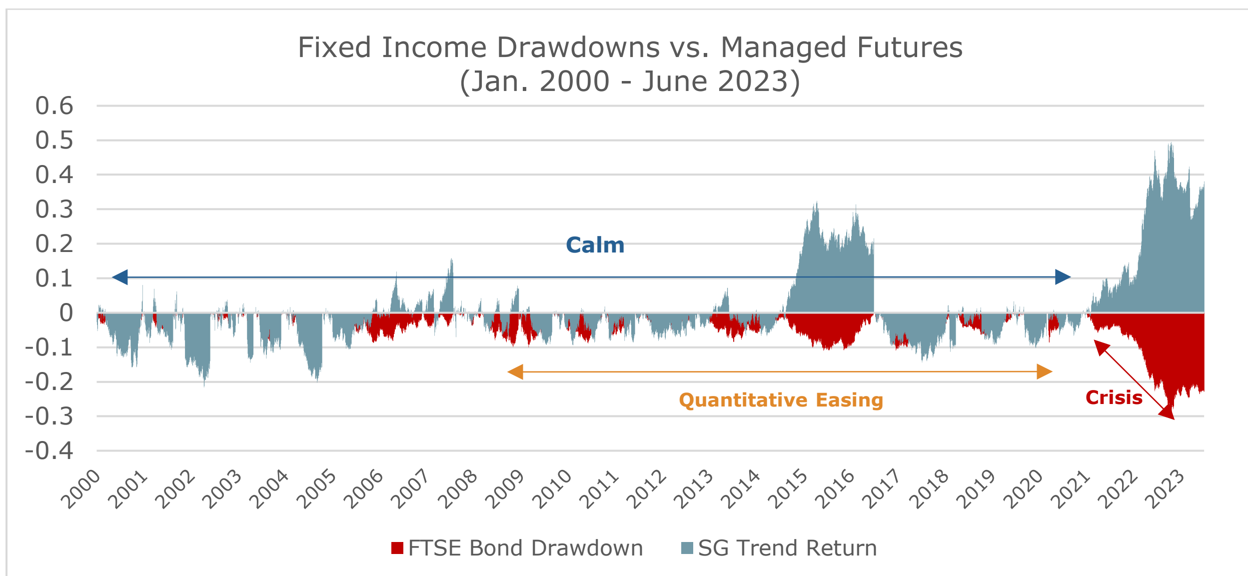

Figure 2: Fixed income (FTSE Bond TR Index) drawdown and recovery periods plotted against the performance of Managed Futures strategies (represented by the SG Trend Index) during the same drawdown and recovery periods. The data begins at the inception of the SG Trend Index in January 2000 through June 2023. For descriptive purposes, crisis and recovery periods are labeled for context. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

Examining crisis and correction periods over time, we note a few key observations. From Figure 1, we can see that since 2000 there have been a few large equity market crisis periods and a number of smaller equity market corrections. From Figure 2 we can see that for bonds,

there have been many small corrections until 2022 when there was a large crisis that is still either ongoing or in recovery. The equity market crisis that started in 2022 is also either in recovery or ongoing. Trend-following performance seems to be most robust during prolonged crisis periods; it tends to be mixed for equity corrections and generally negative for bond market corrections.

To examine this further, Figure 3 and Figure 4 present a graphical view of trend-following performance against the depth and length of a drawdown where trend performance is color coded as positive (green) or negative (red) and the size of the circle represents the magnitude of trend-following returns during the specified equity or fixed income drawdown. The lengths of drawdowns are in log scale for visualization as there are a large number of quick drawdowns for both fixed income and equities and fewer extended or extreme drawdowns. The depth of drawdowns are not in log scale. A few specific events are labeled for context.

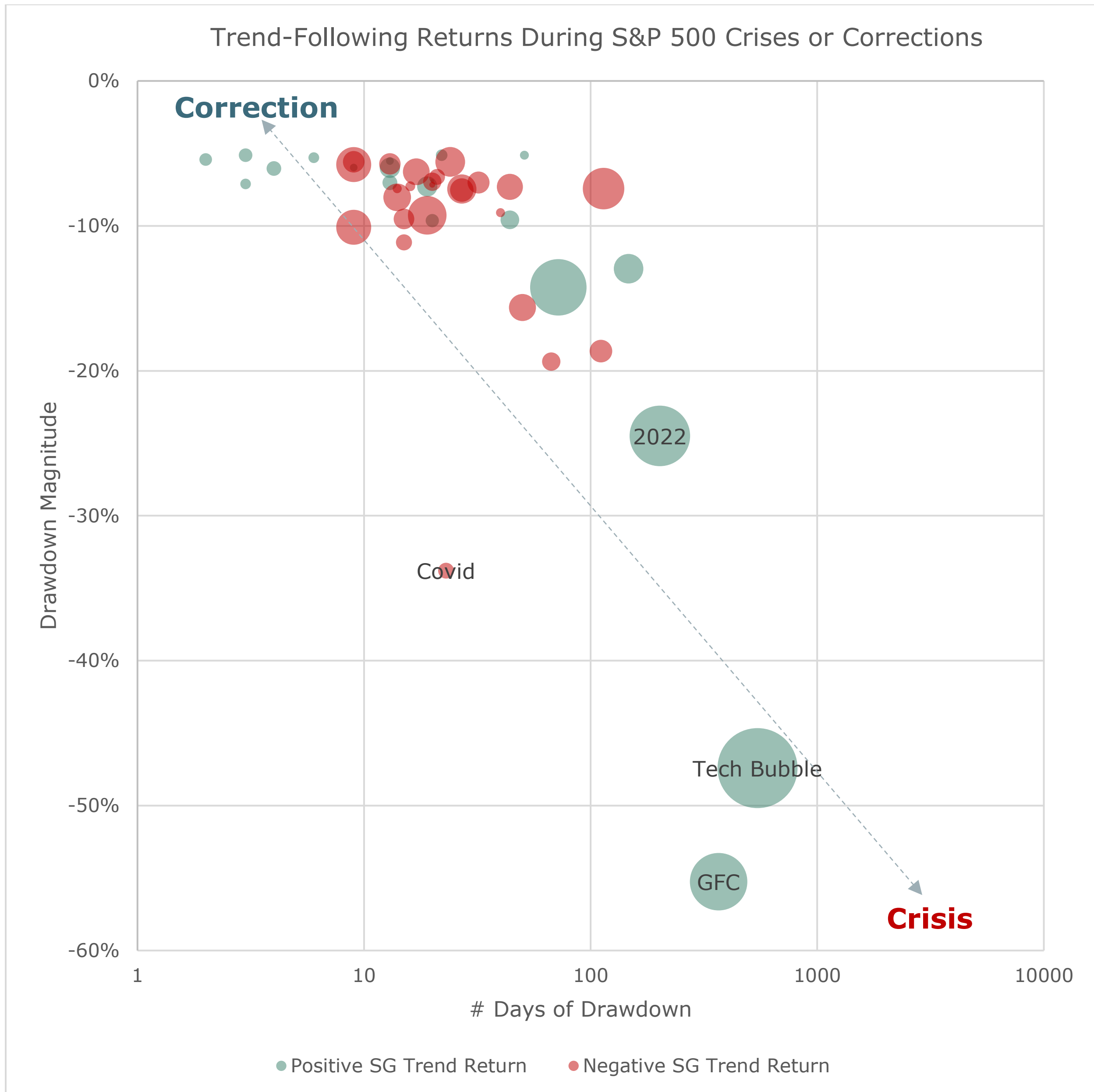

Figure 3: Performance of the SG Trend Index during periods of equity drawdowns that are larger than 5% (using the S&P 500 Total Return Index) plotted with both the length of the equity drawdown (in number of days, log scale) and the depth of the drawdown (cumulative return) for the period January 2000 through June 2023. The size of the bubble represents the magnitude of the trend-following return, with positive returns in green and negative returns in red. Specific events are labeled for context. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

From Figure 3, we can see that most of the sustained equity crisis periods were largely positive for trend followers. One exception is the COVID-19 pandemic drawdown, when the SG Trend Index was slightly negative. This may be related to the fact that this crisis was particularly

sharp and quick.[2] During smaller short-term corrections, such as the Volpocalypse, trend-following performance is mixed and often negative. This makes sense because managed futures strategies are following trends in these markets. If equity markets are going up over time, trend-following strategies will follow that trend; if trends reverse quickly, trend followers will need a little bit of time to adjust to the new direction, sometimes resulting in a correction for trend followers as well. This result highlights a finding from our 2019 paper on crisis or correction. For short term corrections, prior positioning matters because in a quick market shift trend followers have less time to pivot and adapt to new short-term trends that form in such an event.

Turning to fixed income drawdowns, Figure 4 plots the performance for fixed income drawdowns based on the length and depth of each drawdown period. As in Figure 3, the lengths of drawdowns are in log scale for visualization as there are a large number of quick drawdowns for both fixed income and equities and fewer extended or extreme drawdowns. The depth of drawdowns are not in log scale. A few specific events are labeled for context.

[2] For more details about trend-following performance during the COVID-19 crisis, see Kaminski and Yang (2021), which examined what characteristics performed well during this period and showed that pure trend following and faster signals performed better in such an acute crisis.

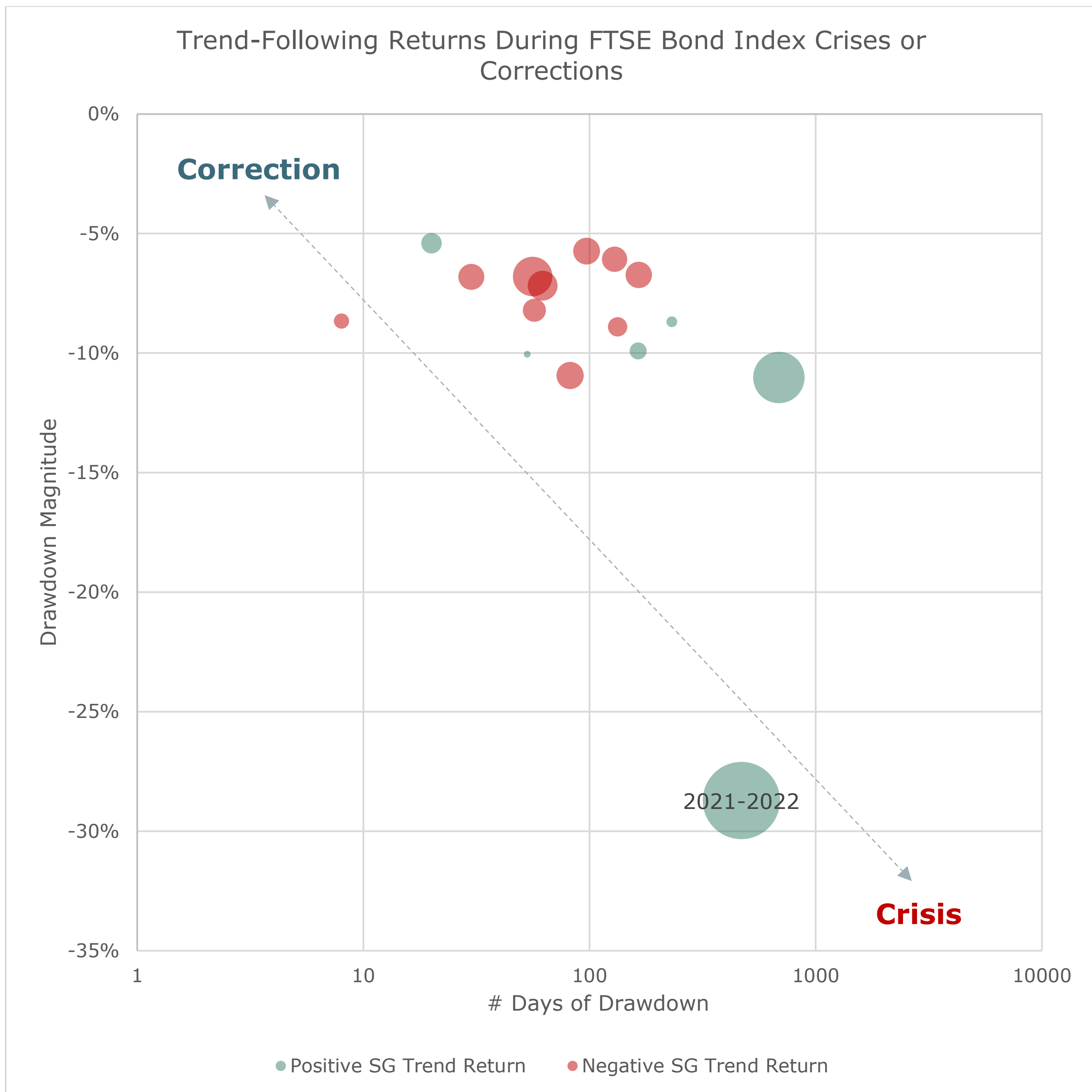

Figure 4: Trend-following performance using the SG Trend Index during periods of fixed income drawdowns that are larger than 5% (using the FTSE Bond Total Return Index) plotted with both the length of the fixed income drawdown (in number of days, in log scale) and the depth of the drawdown in cumulative return for the period January 2000 through June 2023. The size of the bubble represents the magnitude of the trend-following return, with positive returns in green and negative returns in red. Specific events are labeled for context. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

In Figure 4 we can see that during the most sustained fixed income crisis, trend following had positive performance. For smaller short-term drawdowns, trend followers tended to have negative performance. Over this time period, bond prices have generally trended upwards as yields raced towards zero (and even negative in some markets). Trend-following strategies were generally long in bonds over that period, so these strategies will also feel the pain when

these markets revert.[3] For fixed income corrections, as with equity corrections, there is little time to adjust to the changing market trends and the performance of trend following will depend on where it is positioned prior to the correction. On the other hand, during crisis periods in which trends last longer, trend following has often been able to adjust to capture opportunities, providing "crisis alpha."

Summarizing the results for trend following during crises or corrections in both equity and fixed income markets, we see:

1. Trend following tends to perform best during a sustained drawdown or crisis.
2. Trend-following performance during a correction depends on prior positioning and trends.
3. Since 2000, trend-following performance during fixed income corrections was more negative than during equity corrections.

What to Expect from Trend Following During Recovery

Many investors who consider trend-following strategies do so based on their ability to perform well during a crisis period. Then, after a crisis is over, investors often wonder what happens next. In this section, we consider the other side of a drawdown: the recovery period. A recovery period is the period of time required for an investor to get back to even after a drawdown. Before we delve deeper into trend-following performance during these periods, we first want to take a quick look at the length of recovery for both equity and fixed income drawdowns. Figures 5A and 5B plot the magnitude of a drawdown with both the length of drawdown and length of recovery for equity and fixed income markets, respectively. Note all bubbles are red as they represent the magnitude of drawdown and drawdowns are series of prolonged negative returns. From these figures, we can see that recovery often takes a similar amount of time as the drawdown itself, although some recovery periods are slower and some are faster. Also, for drawdowns with larger magnitude, the length of drawdown is usually longer and it generally takes longer to recover. This is very encouraging for trend following, because in these big magnitude events, trend-following strategies often have enough time to adapt and to capture opportunities both on the way down and on the way up.

[3] Kaminski and Sun (2022) examine the frequency of trend followers shorting bonds across different interest rate regimes. They demonstrate that trend following tended to be long during falling rates and short during raising rate periods, and that long positions tend to do better during falling rate periods and shorts sometimes do better during rising rate periods especially if the yield curve is inverted.

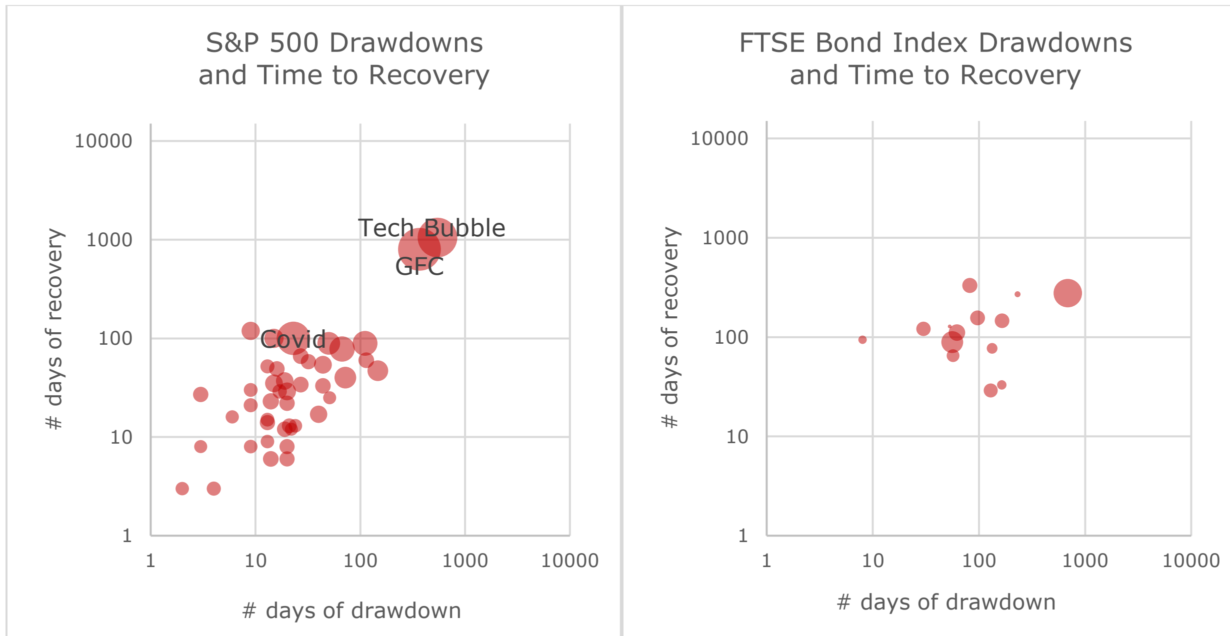

Figure 5: Equity (A) and fixed income (B) drawdowns that are larger than 5% plotted versus the length of drawdown and the time to recovery. The size of the circle represents the magnitude of the drawdown. For visualization purposes, the figure is plotted using a log scale as there are many more short-term drawdowns. The period for measuring drawdowns is January 2000 to June 2023. Ongoing drawdowns or drawdowns that have not recovered are excluded. The S&P 500 Total Return Index is used as a proxy for equity returns and the FTSE Bond Total Return Index is used as a proxy for fixed income returns during this period. Specific events are labeled for context. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

Next we consider the performance of trend-following strategies during recovery periods from drawdowns in both equity and fixed income markets. Figure 6 and Figure 7 plot the performance of trend followers during recovery periods compared to the length of the recovery and the depth of the drawdown for both equity and fixed income markets. For each circle, the color denotes whether the return of trend following is positive (green) or negative (red) and the size of the circle denotes the magnitude of return for trend followers. Note that in Figure 5, equity and fixed income recoveries were roughly similar in duration to the drawdowns that precede them. From Figure 6, we note that when an equity drawdown is small (a correction) trend following tends to be more positive on average than during the correction itself. Also, for more sustained periods of equity crisis, the performance of trend following is mixed with large positive returns during the tech bubble recovery and small negative returns during the Great Financial Crisis and the COVID-19 crisis. From Figure 7, which represents fixed income drawdown recovery periods, we see that short recoveries are mixed and there are few examples of large crises, with the exception of the current ongoing crisis. If we compare Figure 6 and Figure 7, which focus on recovery periods, to Figure 3 and Figure 4, which focus on drawdowns, we note that short term drawdowns are not as easy for trend-following strategies while their recoveries are mixed-to-positive. Crisis periods are more favorable for trend following, while returns during crisis recovery periods seem to vary.

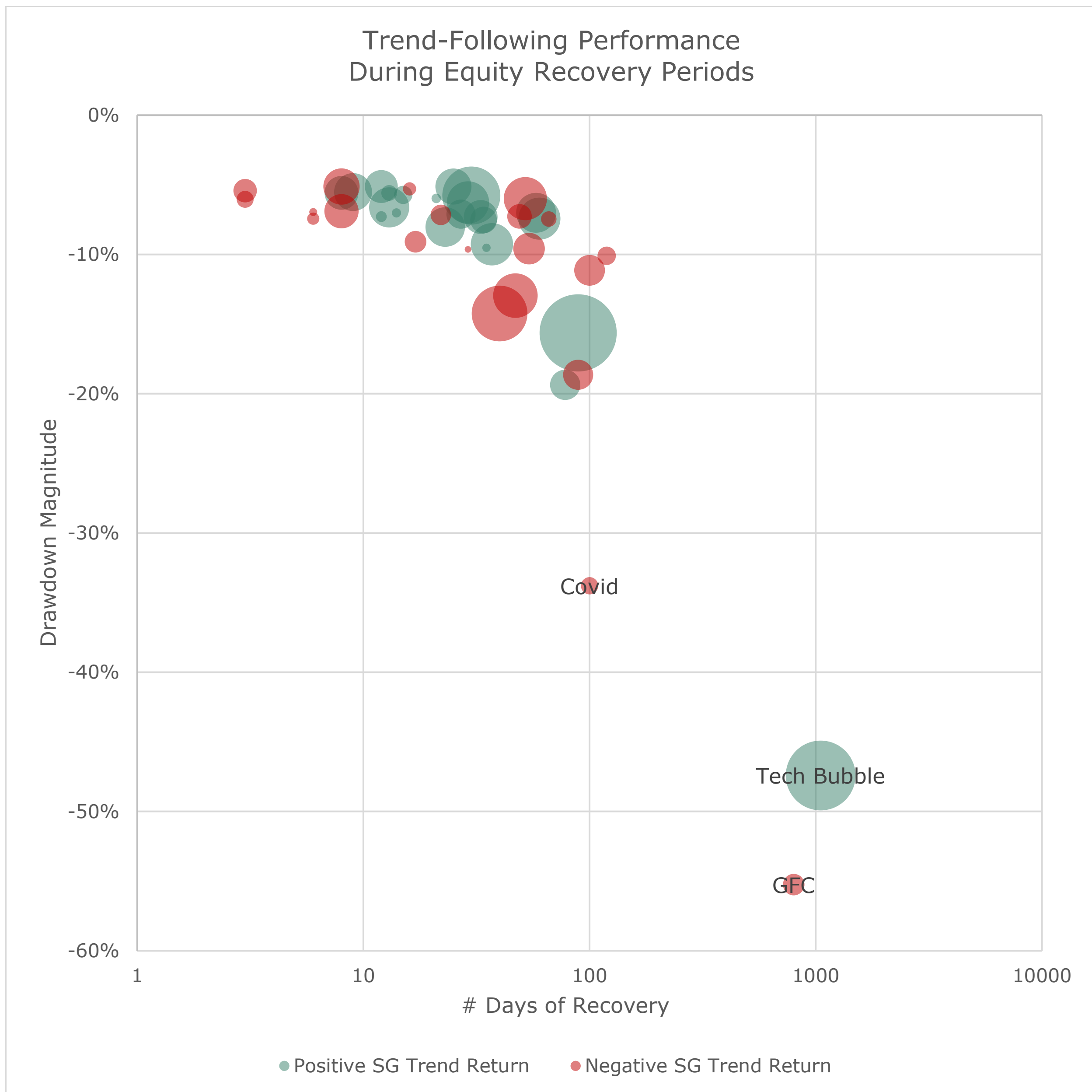

Figure 6: Trend-following performance (represented by the SG Trend Index) during recovery periods of equity drawdowns that are larger than 5% (using the S&P 500 Total Return Index) plotted with both the length of the equity recovery (in number of days, log scale) and the depth of the drawdown in cumulative return for the period January 2000 through June 2023. Ongoing drawdowns or drawdowns that have not yet recovered are excluded. The size of the bubble represents the magnitude of the trend-following return in the recovery period with positive returns in green and negative returns in red. Specific events are labeled for context. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

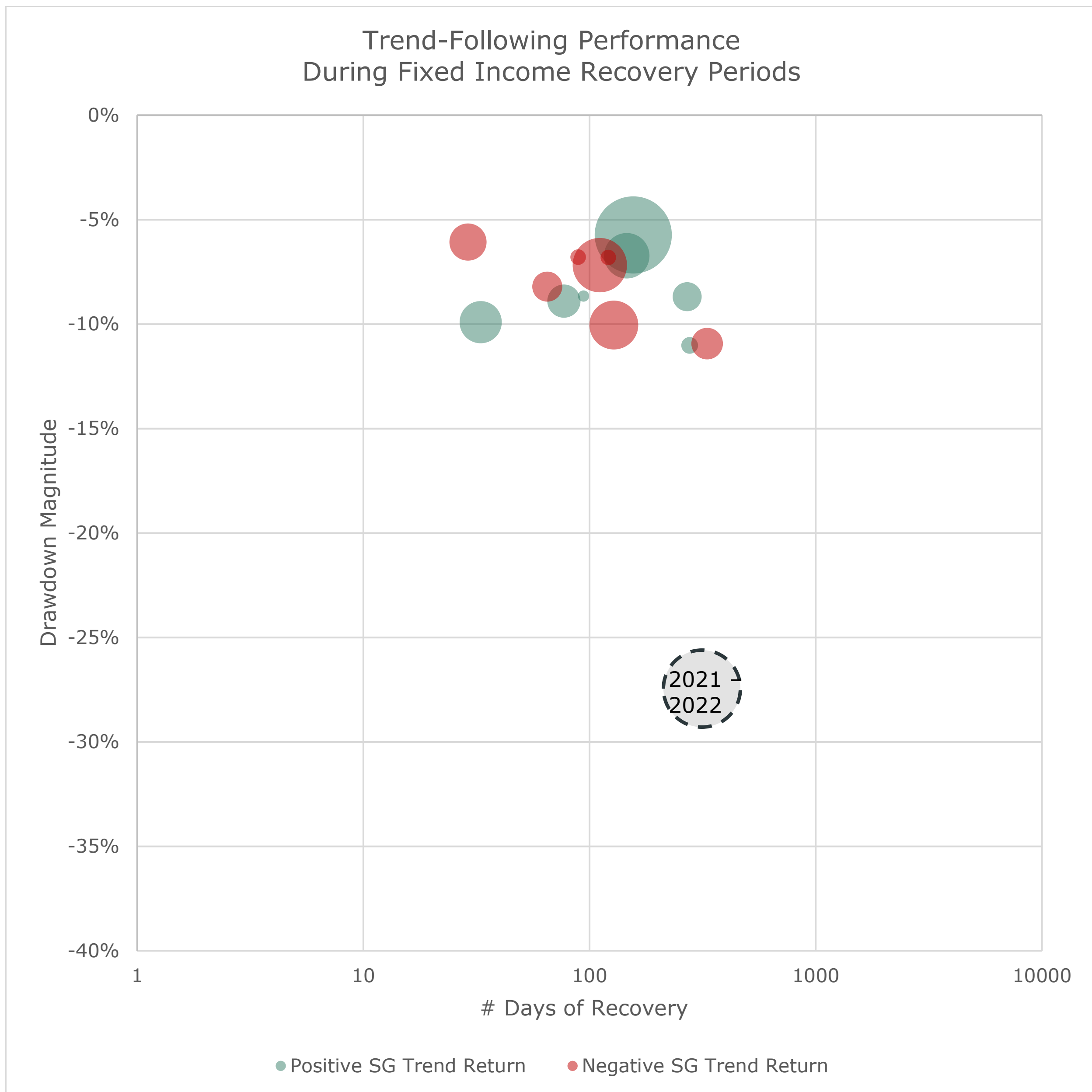

Figure 7: Trend-following performance (represented by the SG Trend Index) during recovery periods of fixed income drawdowns that are larger than 5% (using the FTSE Bond Total Return Index) plotted with both the length of the fixed income recovery (in number of days, log scale) and the depth of the drawdown in cumulative return for the period January 2000 through June 2023. The size of the bubble represents the magnitude of the trend-following return in the recovery period with positive returns in green and negative returns in red. The gray bubble represents the recovery period of the current crisis, which is still in progress. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

2023 Crisis or Correction: Where are we now?

2022 certainly was a challenge for both equity and fixed income. Both asset classes realized crisis level drawdowns, while trend-following strategies reacted positively during the same period. Figure 8 and Figure 9 plot the cumulative drawdown periods and ongoing recovery for both equity and fixed income markets compared with the cumulative return in trend following during the same periods. From these figures, we can see that the majority of the drawdown was realized in 2022 and for both markets the subsequent period has been choppy.

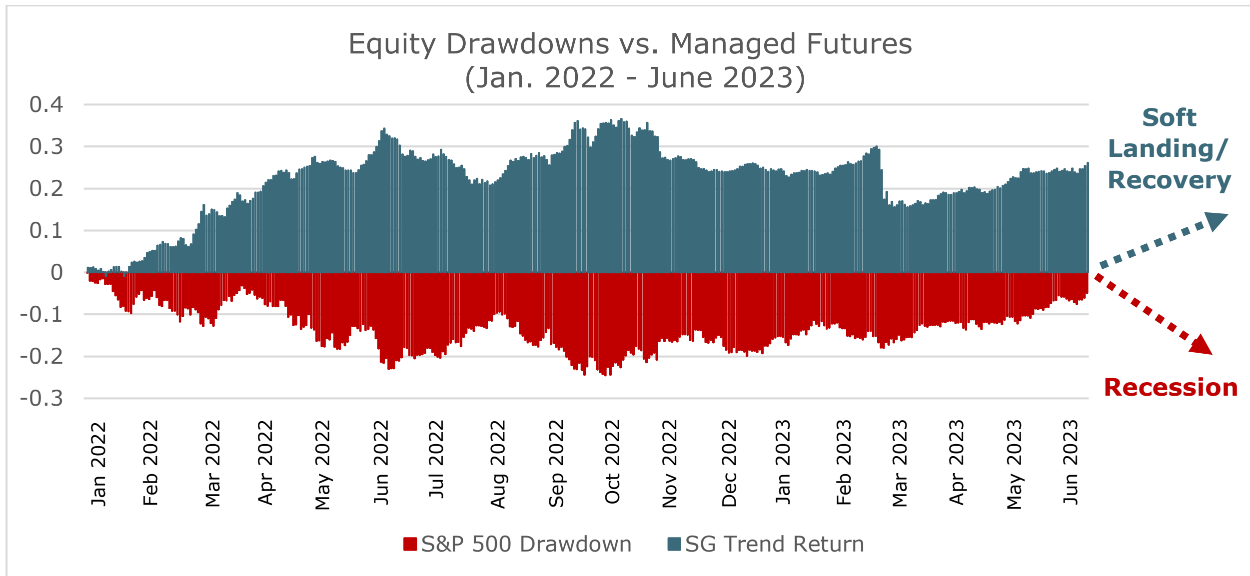

Figure 8: The most recent equity drawdown versus cumulative trend-following performance from January 2022 through June 2023. Equity market cumulative returns are plotted using the S&P 500 Total Return Index and the SG Trend Index is used to proxy trend-following performance. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

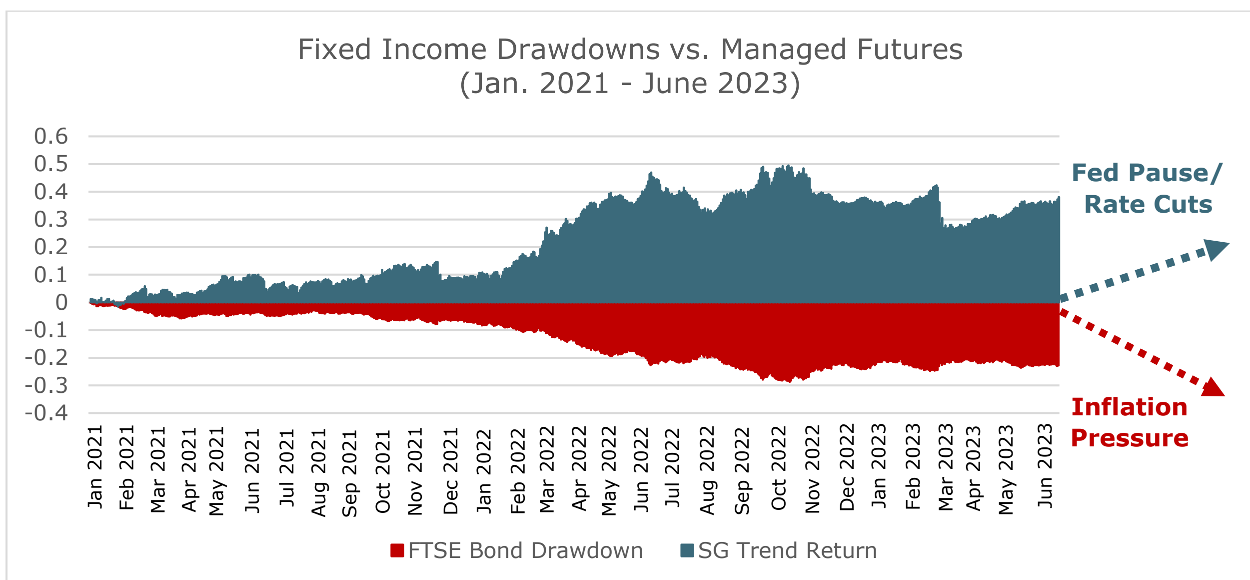

Figure 9: The most recent fixed income drawdown versus cumulative trend-following performance from January 2021 through June 2023. Fixed income cumulative returns are plotted using the FTSE Bond Total Return Index and the SG Trend Index is used to proxy trend-following performance. Source: Bloomberg, AlphaSimplex. Past performance is not necessarily indicative of future results.

While the drawdown seemed to peak in late 2022, and we have seen more optimism and some favorable inflation data in 2023, investors may still be wondering whether we have passed peak drawdown or if this crisis period could have a subsequent and unexpected wave of losses. This is not an unfounded worry for investors, as other deeper crisis periods such as the Tech Crisis or even the Great Financial Crisis (as plotted in Figure 1) were punctuated with periods of respite only to find that the crisis was not yet over. Given the examples earlier in this paper, a more sustained crisis period may provide a positive environment for trend following; should we see a true recovery and a soft landing, a continued phase of less aggressive monetary policy, and a sustained positive recovery for equity and fixed income markets, those long and steady trends may also provide a good environment for trend following. If, on the other hand, the recovery period is interrupted by many short-term trend reversals, trend followers may struggle. In any environment, we see that trend-following strategies will prefer longer sustained moves and dislike reversals and short-term shocks whether they take place during a crisis, a correction, or a recovery period.

References

- Kaminski, Kathryn M. 2019. "Crisis or Correction? Managing Expectations for Managed Futures and Crisis Alpha." *AlphaSimplex Insights*. Available on request.
- Kaminski, Kathryn M., and Jiashu Sun. 2022. "The Short on Shorting Bonds." *AlphaSimplex Insights*. https://www.alphasimplex.com/articles/the-short-on-shorting-bonds.
- Kaminski, Kathryn M. and Ying Yang. 2021. "Crowded Trends: Safe Haven or Sour Spot in 2020?" *AlphaSimplex Insights*. https://www.alphasimplex.com/articles/crowded-trends-safe-haven-of-sour-spot-in-2020.

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