

## **An update on: A Contemporary Evaluation of Key Alternative Investments: CTAs, Risk Premia and Hedge Funds**

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October 2022

## Overview

In our September 2021 paper (“A Contemporary Evaluation of Key Alternative investments...”) we sought to evaluate CTAs, Risk Premia, and Hedge Funds in a manner that demonstrated some potentially less understood or under-appreciated attributes for these investment sectors. We compared these alternative sectors to public and private equity, and to cryptocurrency in the context of absolute and relative performance, and correlation. We hoped to reinforce the importance and benefits of actively managed alternative investment strategies.

One year hence, markets and geopolitical circumstances have changed dramatically. And importantly, uncertainty across most markets has increased along with a seemingly universal diminution of confidence in future investment outcomes and securities valuations.

Herein we update some of our key analyses to reflect more recent circumstances and provide additional context to these alternative investment strategies.

## Changes above... and beneath the surface

We’ve updated the tables and charts from the first report to readily observe the changes, and in some measures lack thereof, within these series.

Most obvious is the downturn in performance in the equity and cryptocurrency markets that has been widely reported. But, also the upturn in CTA performance is striking. This can be seen in Table 1 and Figure 1.

**Table 1 - 5yr and 10yr Cumulative Total Returns**

Based on quarterly data. Data through June, 2022. Note recent Private Equity data was not available. As such we use a proxy of 100% S&P 500 in up quarters and 50% S&P 500 in down quarters.

Asset Class	5yr Total Return Dec 20	10yr Total Return Dec 20	5y Total Return Jun 22	10y Total Return Jun 22
Private Equity (Preqin)	108	277	98	276
US Equity (S&P 500 TR)	103	267	71	238
Crypto (Bitcoin)	6,610	9,665,327	649	281,574
CTA (Barclay)	7	6	25	25
Risk Premia (SocGen)	-6	NA	-3	NA

Source: Bloomberg, Preqin, BarclayHedge, SocGen

## Figure 1 - NAV Chart

Based on quarterly data. Data through June, 2022. Note recent Private Equity data was not available. As such we use a proxy of 100% S&P 500 in up quarters and 50% S&P 500 in down quarters.



Source: Bloomberg, Preqin, S&P, BarclayHedge, SocGen

In the first half of 2022, the equity markets flirted with the formal definition of a bear market when the S&P 500 reached a greater than 20% drawdown from its prior peak. The relevance of such nomenclature can be debated. More important for equity investors is the observation that even after the considerable downturn in 2022, current levels are just at or still above the long-term average annual return of approximately 11%.

Also demonstrated in Table 2 (from the September 2021 report) and Table 3 (updated version) are the impact of CTAs considerable upside return volatility, as 3-and 5-year annualized results tripled and quintupled, respectively. Risk mitigating and other diversifying portfolios were well rewarded for exposure to CTAs so far in 2022.

**Table 2 - Risk and Return Breakdown for Asset Classes Through December 2020**

Based on Quarterly data

Asset	1yr(an)	3yr(an)	5yr(an)	10yr(an)	Vol(5yr)	Max Drawdown	Corr US Eq
US Equity (S&P 500 TR)	18%	14%	15%	14%	17%	-20%	1.0
Private Equity (Preqin)	24%	16%	16%	14%	7%	-7%	0.8
CTA (Barclay)	5%	2%	1%	1%	3%	-5%	0.2
Risk Premia (SocGen)	-15%	-6%	-1%	NA	5%	-16%	0.4

Source: Bloomberg, Preqin, BarclayHedge, SocGen

**Table 3 - Risk and Return Breakdown for Asset Classes Through June 2022**

Based on Quarterly data. Data up until Jun-2022. or Private Equity, we do not have recently updated data and we have proxied it with 100% of S&P 500 in up-quarters and 50% when the S&P 500 is experiencing a down quarter.

Asset	1yr(an)	3yr(an)	5yr(an)	10yr(an)	Vol(5yr)	Max Drawdown	Corr US Eq
US Equity (S&P 500 TR)	-11%	11%	11%	13%	20%	-20%	1.0
Private Equity (Preqin)	0%	15%	15%	14%	10%	-10%	0.9
CTA (Barclay)	9%	6%	5%	2%	3%	-5%	-0.1
Risk Premia (SocGen)	4%	-2%	-1%	NA	6%	-16%	0.3

Source: Bloomberg, Preqin, BarclayHedge, SocGen

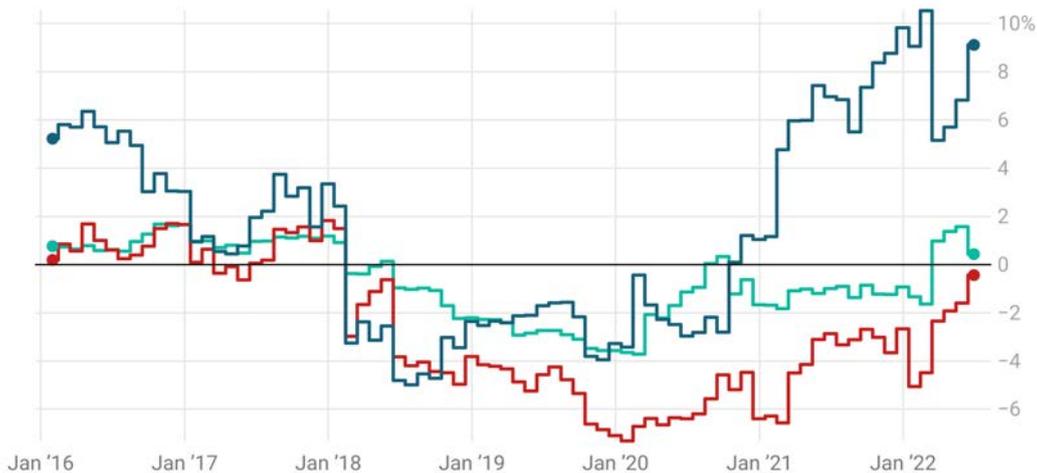
In our original report we observed CTAs demonstrating important attributes (absolute return, low correlation, and positive skew) vis a vis equity dominated portfolios. Noting that the positive return attribution from CTAs can be episodic, the first half of 2022 was one of those episodes. Risk Premia saw a smaller pick up in returns and Hedge Funds were in the red, consistent with that sector's dependency on equity market risk factors.

In Figure 2 we observe Alpha (in the context of Fama French plus momentum factor framework) for CTAs, Risk Premia, and Hedge Funds. Alpha from CTAs has continued to expand from the time of our original report. Hedge Funds and Risk Premia Alpha estimates have also increased, though their pace of expansion and absolute level are a fraction of CTAs. (Appendix B includes updated graphs for the multi-regression study in our September 2021 report. For the most part, we see other relationships hold since this original analysis.) A significant part of the Alpha for CTAs is likely due to the sector's successful navigation of the fits and starts in global risk appetite throughout this period.

## Figure 2 - Rolling 24-Month Annualized Alpha Estimates

Estimated alpha (FF5 Momentum)

— Risk Premia — CTA — Hedge Funds



Source: NilssonHedge

In Figure 3 we note that the 24-month rolling correlation of CTAs to equity showed some variability but remained mostly low, consistent with long run expectations.

## Figure 3 - Correlation Development

Rolling 24-month correlation between S&P, CTAs, and Risk Premia



Source: Bloomberg, Preqin, S&P, BarclayHedge, SocGen

Noteworthy in both Figure 3 and Table 4 is the change in correlation of Risk Premia to the equity market. Though a few explanations may be offered, we point to the continued variability of profile of Risk Premia, a theme we studied in the original paper.

As Hedge Funds maintained their high correlation to equities (Table 4), we also note the decrease in the correlation of Risk Premia and Hedge Funds.

**Table 4 - Periodic Correlations**

Average of 24-month rolling correlations.

	First Half (Dec-17 to Sep-19)	Second Half (Oct-19 – Jul-21)	Update (Aug-21 and Jul-22)
CTA (Barclay) vs Risk Premia (SocGen)	0.71	0.15	0.08
CTA vs Eq	0.52	0.18	0.24
CTA (Barclay) vs Hedge Funds (HFR)	0.68	0.13	0.32
Eq vs RP	0.37	0.52	0.19
Eq vs HF	0.86	0.88	0.83
Hedge Funds (HFR) vs Risk Premia (SocGen)	0.57	0.57	0.13

Source: NilssonHedge, Bloomberg, HFR, BarclayHedge, SocGen

## And... the more things change, the more they stay the same

Back in Q2 and early Q3 2021, some allocators were hesitant to alter their allocations measurably. Feedback from institutional and family office investors back then showed mostly nascent interest in long commodity exposure or other strategies considered inflation hedges.

We posit that the institutional investor constituents and private investors alike mostly hoped for the continued double digit returns and high Sharpe ratios of long equity investments. The past decade's equity bull market and terminally low volatility were a boon for these negative skew strategies. (Curiously, during this time, reasons cited by investors for avoiding additional trend following exposure included that strategy's then-long equity exposure.)

In a related context, positively skewed, "insurance-like" strategies (e.g. CTAs) can appear less intuitive and may have the psychological disadvantage of historically underperforming equities during periods of range bound valuations and at times low or decreasing equity volatility.

Should volatility remain at today's elevated levels, or continue to expand, and greater uncertainty prevail, a properly diversified portfolio may be again well rewarded. That said, it may take more than recent results to drive meaningful reallocation to globally diversified, active strategies such as Global Macro and CTAs.

A long-held rationale for quantitative, globally diversified strategies including systematic CTAs and quantitative macro is the structural dispassion of establishing exposure in the markets and the direction dictated by algorithms. These objective strategies are likely not better or worse than discretionary decisions, but they are different. This "method" diversification can at times create exposures seemingly out of favor, or less intuitive. The quantitative rationale of these strategies has often resulted in positive performance attribution that likely would not otherwise have shown up in a portfolio composed exclusively of discretionary and fundamental-based strategies.

Though recent market commentary has focused on parallels between current inflation and potential economic stagnation akin to the 1970s, comparison to more contemporary scenarios of equity market weakness and elevated downside volatility provide plenty of support for globally diversified strategies and long volatility exposure. Indeed, an even simpler argument can be made for long volatility when anticipating increased uncertainty. That is, if you forecast prices will be moving considerably, but cannot predict which markets and in which direction, a diversified systematic momentum strategy in particular, may be additive in such scenarios.

To demonstrate how a systematic, long volatility strategy like trend following has generated profits and losses during equity downturns since 2000, we created a basic trend following proxy.

Using this proxy, Table 5 records the Sharpe ratio reflecting how each major market sector of the proxy "performed" during negative equity markets since January 2000. Most noteworthy may be the prevalence of positive performance for the proxy during the three years following the unwinding of the Dot.com bubble. All market sectors have positive Sharpe ratios. The almost two years following the Great Financial Crisis demonstrates similar strong performance and breadth of diversification.

The three-month equity drawdown at the onset of the COVID Crisis is an exception. During this "V-shaped" equity market drawdown, the trend following proxy delivered risk-adjusted returns marginally better than equity market, but both had negative returns.

**Table 5 - Sharpe Ratio per Sector During Peak Equity Drawdowns**

Episode	Start	End	Bond	Agricultural	Currency	Energy	Equity Indices	Prec Metal	Overall Proxy	Equity Sharpe
Dot.com	2000, Mar	2003, Mar	1.2	0.7	0.7	0.8	0.6	1.1	1.3	-0.7
GFC	2007, May	2009, Mar	1.0	1.1	0.8	1.4	0.6	0.8	1.2	-0.8
2015-2016 Correction	2015, Jun	2016, Feb	0.5	0.5	0.5	3.1	-1.4	0.0	0.5	-0.6
Covid	2020, Jan	2020, Mar	4.3	-1.0	-0.5	3.3	-2.4	0.8	-1.0	-1.2
Ukraine/Inflation	2021, Dec	2022, Jun	2.9	0.7	2.2	3.0	-0.4	-1.3	2.4	-1.8
Overall	2000, Jan	2022, Aug	0.4	-0.1	0.4	0.4	0.3	0.4	0.5	0.3

Source: NilssonHedge

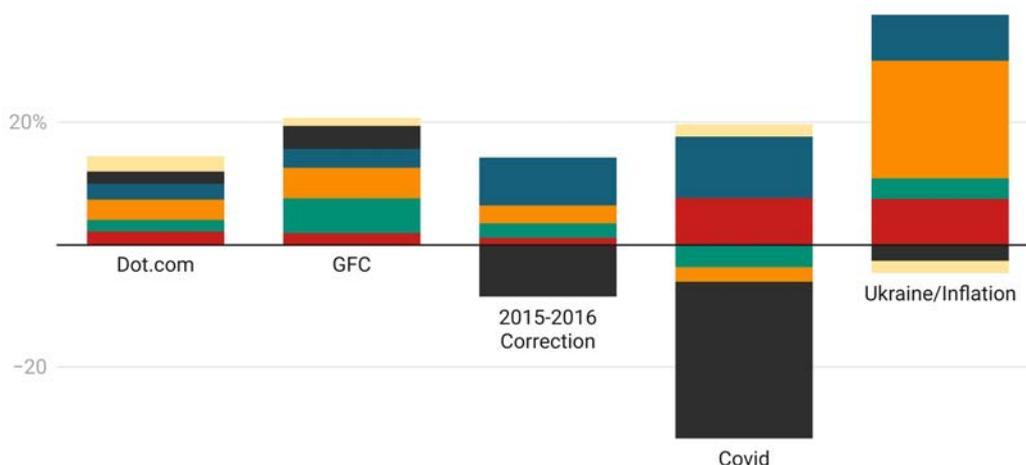
The last row in Table 5 shows the Sharpe ratio for each sector since 2000. We note that this proxy has approximately the same risk adjusted return as equities (here we note that the equity Sharpe ratio is below its long-term average due to the starting point in 2000.) And, with the exception of the commodities, each sector has approximately the same risk adjusted return. Figure 4 provides the annualized daily returns for our trend proxy during the various equity drawdowns observed here.

We noted earlier in this report that the benefits from CTA exposure can result from market sectors not anticipated to drive performance when viewed at the time through a conventional lens. Foreign exchange, the commodity complexes, and fixed income each have provided meaningful positive attribution during the periods evaluated here.

**Figure 4 - Returns per Sector During Peak Equity Drawdowns**

Annualized Daily Returns

■ Bond ■ Agricultural ■ Currency ■ Energy ■ Equity Index ■ Prec Metal

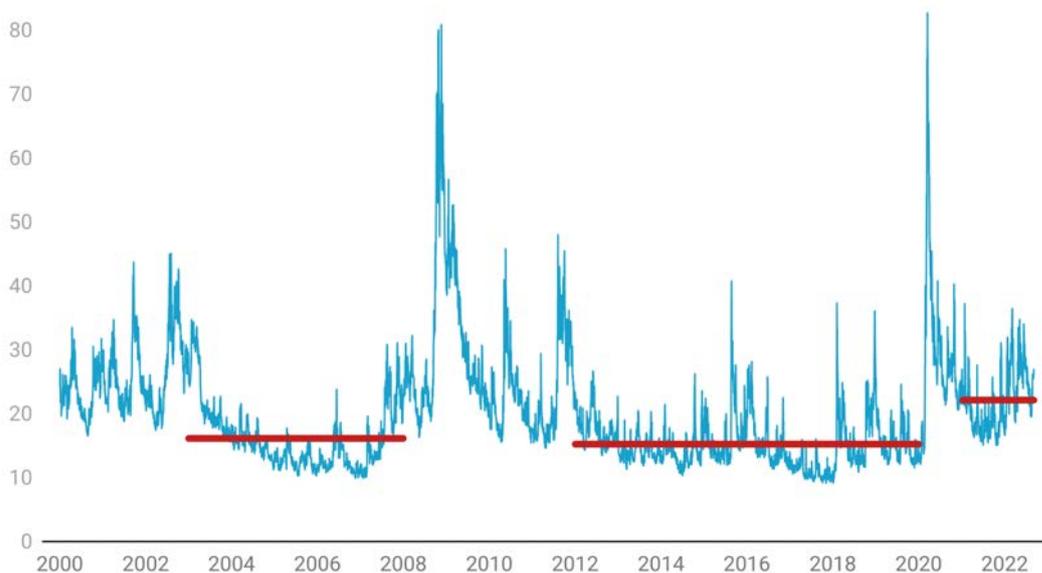


Source: NilssonHedge

## Things to consider now...

- CTAs and long volatility strategies have had a moment in H1 2022. In fact, at the time of publishing, rolling effectivity of CTAs is close to all-time highs. Risk Premia has recovered marginally but has outperformed Hedge Funds. Equity Volatility (i.e. VIX) remains at elevated levels above 20%, well off the historic lows prior to 2020 (Figure 5). VIX may be expected to remain elevated due to the reduced liquidity as a result of quantitative tightening.

**Figure 5 - Post Covid VIX Have Shifted to a Higher Plateau**



Source: CBOE, Authors calculations

- The Federal Reserve's and other central bank's commitment to their own countries' long-term inflation suppression suggests less policy coordination and definitively less monetary accommodation globally. Central banks have gone back to first principles and have re-focused on their primary mission; to fight inflation domestically rather than to provide a backstop for risky assets globally.
- From a longer historical context, the equity markets seem reasonably expected to have a sustained period of reversion to the long-term performance averages. If so, future equity returns (absolute and risk-adjusted) may be well below the unprecedented positive results that followed the Great Financial Crisis and that were supported by historic quantitative easing.
- Behavioral biases keep memories short, outlooks too rosy, and risk taking a conundrum. More recent market entrants are simply less familiar with such equity market distress or ambivalence.

We again advocate for diversified, active alternative investment management strategies as an important response to the seeming contradiction of needed investment results during an increasingly uncertain investment outlook.

## Appendix A • A short description of our Basic Trend Following Proxy

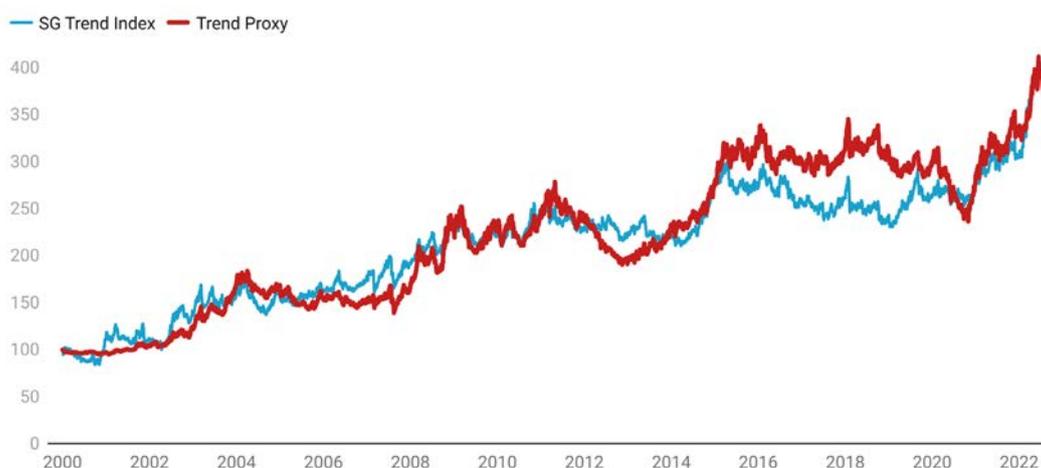
For illustrative purposes, we have simulated a strategy with the goal of replicating long-term Trend-Following strategies. The Trend Replication approach that we have picked depends on six different long-term trend-following systems, trading the liquid US Futures markets. Our index does not contain transaction costs, does not earn interest rate on cash (yes, we know this was an irrelevant factor for a long time), and only trades the most liquid US Futures markets. We have exposure across currencies, commodities, equities, and fixed income futures.

We pick our systems and parametrization once, without the goal to replicate a particular index or manager, but rather replicating the philosophy behind long-term trend following strategies – Identify and capture reasonable long-term market moves. This approach should hopefully result in a more robust out-of-sample replication of long-term trend-strategies.

Yet, it manages to replicate the SG Trend Index with a daily correlation of 0.60. Since the start of 2019, the correlation is 0.7. There are significant deviations at particular points in time. It shall be noted that the composition of the SG Trend index has shifted over time, and we are thus chasing a moving target.

**Figure 6 - The Trend Proxy Matches Existing Trend Indices**

Data from Jan 2020 to July 2022



Source: SocGen, Marex

Overall, we manage to catch a large share of major episodes. These deviations are the same as we would have seen when investigating a particular manager, rather than a broader group.

We use three different basic trend identification strategies; breakouts, moving average cross-over, and exponential moving average cross-over. All of them having long-term horizons.

	Parameter Set 1	Parameter Set 2
Breakout	80	160
Moving Average X-Over	80, 160	120, 240
Exponential Average X-Over	80, 160	120, 240

Each underlying market is continuously risk sized to the inverse of the current market volatility. Each market for each system is targeted to have the same ex-ante risk allocation. This is not a sophisticated simulation, but rather helps us to understand how profits and losses were generated, as was our objective.

## Appendix B • Multiple Regression Update

We update the regressions that we performed as part of our initial report. For more details we refer the interested reader to the original report.

This regression tells us the individual loadings of each fund in the database. These loadings are subsequently grouped into our three alternative investment categories: CTAs, Risk Premia, and Hedge Funds, where the latter category consists of a variety of Equity Long/Short, Market Neutral, Event-Driven, Fixed Income, and other strategies. The 24-month rolling average regression betas are used in the charts below

Most of the selected factors are equity-centric, but we hope to learn something from the changes and levels of factor correlations. The factors do not carry fees, transaction costs, liquidity restrictions, and are generally hypothetical in nature. Thus, they have a distinct advantage over the actual funds used in this analysis. That said, they are generally accepted benchmarks for understanding exposure and strategies.

The Y-axis is the factor loading derived from the standardized multiple regression model.

Much of the observations still hold in terms of implicit factor loadings and some trends have been accentuated (for instance the continued reduced market (MKT) exposure and the increasing small cap exposure (SMB) for Risk Premia strategies).

**Figure 7 - CMA**



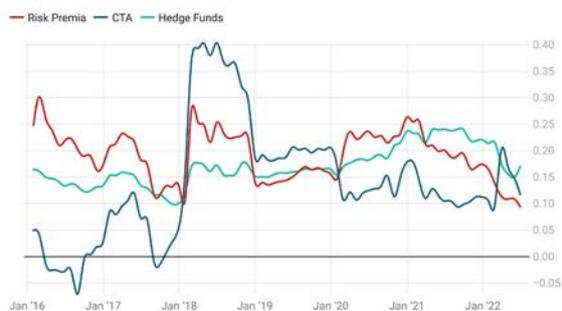
Source: NilssonHedge

**Figure 7 - HML**



Source: NilssonHedge

**Figure 7 - MKT**



Source: NilssonHedge

**Figure 7 - MOM**



Source: NilssonHedge

Figure 7 - RMW



Source: NilssonHedge

Figure 7 - SMB



Source: NilssonHedge

## Biographies

### **Dan Rizzuto, CFA**

*Head of Capital Introductions and Advisory, Marex*

Dan Rizzuto is the Head of Capital Introductions and Advisory at Marex. Dan has been a committed advocate of the alternative asset management industry for over twenty-five years. He has held senior management, business development, analytic, and operational roles in both the asset management and banking industries throughout his career at companies including Société Générale, Graham Capital Management, DKR Capital, and Bear, Stearns. Dan is a CFA Charterholder.



### **Linus Nilsson**

*Founder, NilssonHedge*

Linus Nilsson founded NilssonHedge, a public hedge fund database, as an initiative to bring transparency to the hedge fund universe. The database uses an innovative way of aggregating public performance data and offers access to hedge fund returns. Linus has spent the last twenty years in various roles relating to external allocation, systematic trading, and risk management. Linus is a CFA Charterholder.



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