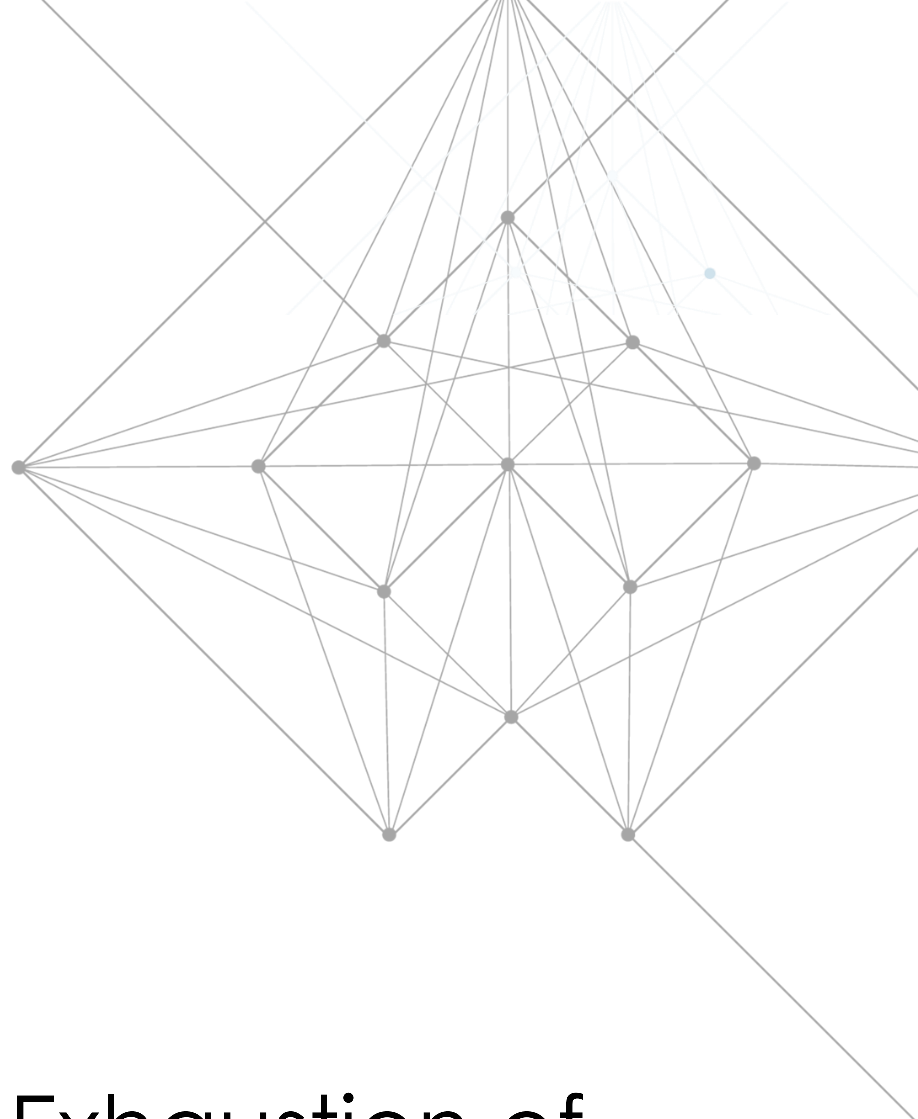

The Structural Exhaustion of Portfolio Diversification

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April 2020

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How does one respond to the lack of safe haven protection, evident from the February and March 2020 sell-off?

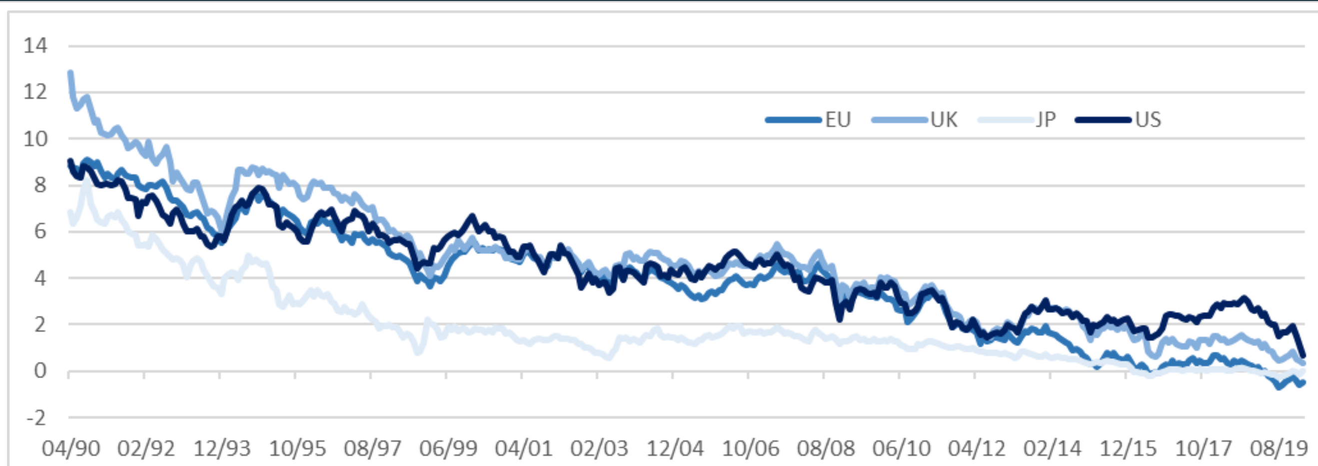
The COVID-19 pandemic is having a huge impact on health, global economic activity and financial markets. In many ways the impact overshadows the Global Financial Crisis of 2008. It now feels unimaginable how sanguine markets were in the first seven weeks of 2020. Again, we are in the midst of a battle between depressing fundamentals and a worldwide policy response from central banks and governments to prevent a full capitulation and damage beyond repair. What stands out is the speed of the market correction and the fact that almost nothing was able to compensate for the loss in equities. An institutional investor with a globally diversified portfolio has found little comfort in almost all other asset classes and alternative investments. There are structural reasons for this lack of offset and this paper will first focus on the reasons behind this. The question then becomes how to respond?

Bonds

The first asset to focus on is global government bonds. Historically, safe haven bonds have been the best asset class to offer diversification versus equity risk. As central banks' reaction function is to cushion economic and financial market shocks through lowering interest rates, the bond market has consistently, and for a very long time, delivered offsetting returns in adverse market conditions. And in the good old times, when the coupon yield was still positive, the cost of protection was minimal or even negative.

Here is the history of global bond yields.

Figure 1: 10-year Government Bond Yields



Source: Capstone, Bloomberg.

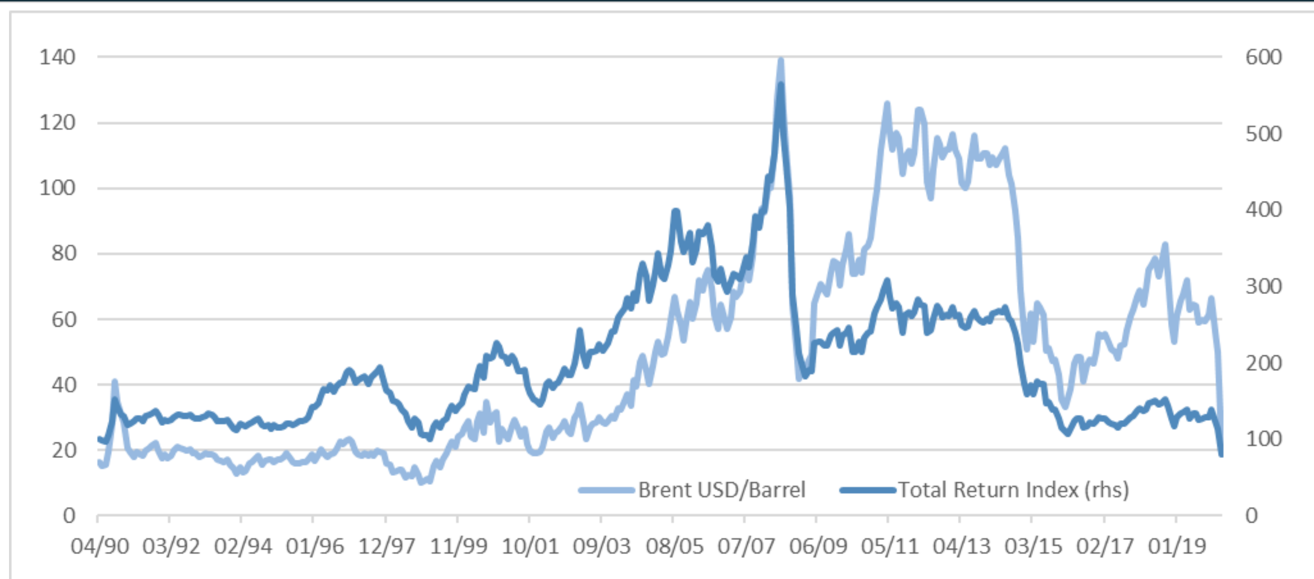
The return on global bonds has been stellar, but the return potential has been eroded by yields moving to record lows. In effect, global bonds have offered all the protection that they had to offer. We need to recognize that and be grateful, but stop extrapolating this. From here onwards, the expected return cannot match history anymore as that would require yields to dive into negative territory and accelerate lower continuously to compensate for the loss of the coupon as a return component.

The driver behind this has been the battle against inflation and, at a later stage, against deflation. Central banks have exhausted their toolkit. Not only are money market and short-dated bond yields at historical lows, but QE has also flattened yield curves, implying an absence of yield across all maturity spectrums. For example, the European 10-year swap yield, priced 40-year forward recently traded below minus 50 basis points. What can possibly generate a positive return from here onwards?

Commodities

In the search for diversification, another asset class that was accepted widely was commodities. Based on the stagflation experience of the 1970s, the expectation was that commodity returns would show a negative correlation to equities and bonds in difficult times. During the 2001-2007 period, the rise of China and the lack of interest in the preceding years for the "old economy" gave commodities a boost.

Figure 2: GSCI Commodities Index



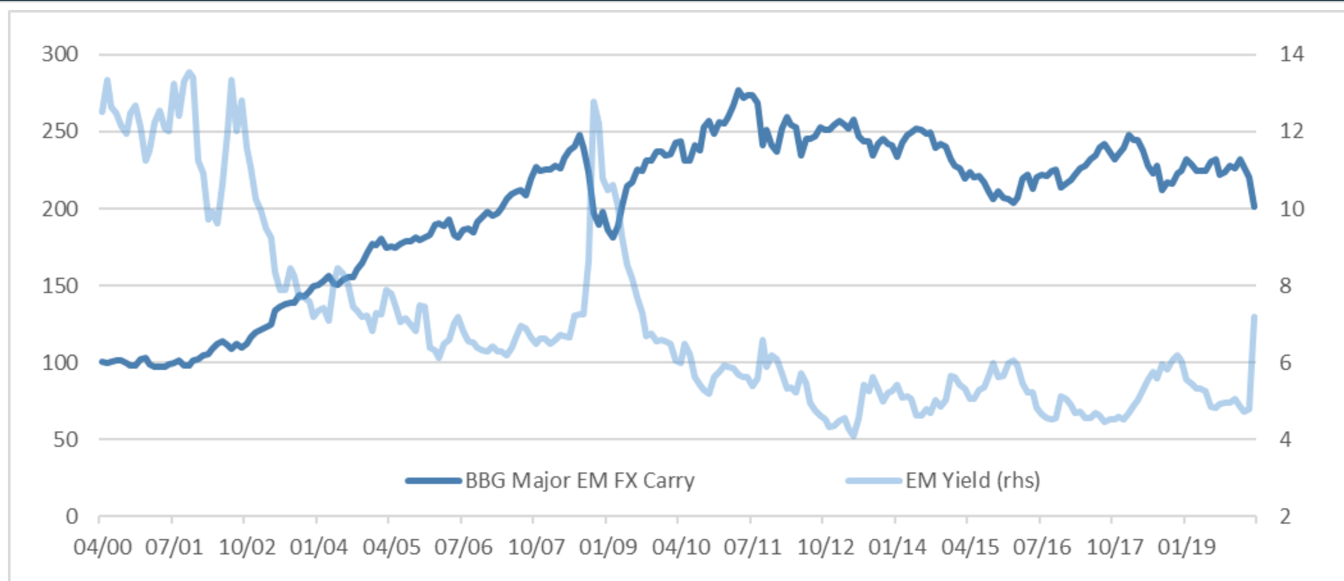
Source: Capstone, Bloomberg.

The price of a barrel of Brent jumped from US$20 to more than US$140 in mid-2008, from where it started to freefall. Although oil prices recovered towards 2011, the total return of commodities, as measured by the GSCI index, did not. Contango in energy and other commodities caused roll yields to be negative and the underlying cash yield component fell to unattractive (real) levels. The trauma of 2008 was that commodities added to the losses made in equities, which repeated itself in 2014-2015, when diversification was needed to weather the Eurozone and China slowdown crisis. And now again, in 2020, a price war within OPEC aggravated short-term market uncertainty, causing the asset class to add to the drawdown suffered in equities.

Emerging Markets Bonds and FX

Finding diversification through investing in emerging markets has also been a struggle for a long time already. Although the return on the EMBI index has been good over the long haul to date, the sell-offs during times of stress have been quite painful - especially for those investors that became dissatisfied with hard currency EM yield spreads and decided to switch to local currency exposure. The EM FX carry index peaked in 2007, then got hammered in 2008, recovering handsomely and peaking again in 2010. During the last decade overvalued emerging market currencies combined low yields with depreciation trends and participated in about every serious stress episode as can be seen in Figure 3 below.

Figure 3: Emerging Market Debt and FX



Source: Capstone, Bloomberg.

Illiquid Alternatives

An important allocation in diversified portfolios has gone to illiquid assets, like private equity, alternative credit, infrastructure and natural resources. An attractive feature of these assets is that they are hard to mark-to-market and, for that reason, show more muted return fluctuations during normal times. However, under the surface, there are similar return drivers at work that influence changes in valuation. Those factors remain hidden until a shock becomes so severe that valuations need to get a full reset. In such an environment, several vulnerabilities will surface, like leverage, cyclicality, possibly defaults and exposure to common factors like equity risk, credit risk and of course liquidity risk. Liquidity risk is positively correlated with equity risk and typically adds to the drawdown when diversification is needed the most. It can be difficult to understand how this asset class can play a role within a diversified portfolio if there is not enough transparency to be able to assess the risks of the underlying strategies.

Hedge Funds

Hedge funds is another asset class that potentially can offset or mitigate equity drawdowns as correlations to equities of several hedge fund styles are low, time-varying or even negative. Naturally, the hedge fund styles that have a structural short bias tend to struggle in bullish market conditions. After years of disappointing performance, investors understandably give up and will have little exposure to hedge funds in a bear market event. Time-varying correlations can mainly be found in CTAs and Macro. These styles can prove to be very defensive as they have the ability to take sizeable short positions, which is about the only medicine in a "cash is king" stress event, like we experienced in 2008 and now in 2020.

Figure 4: HFRX Global Hedge Fund Indices

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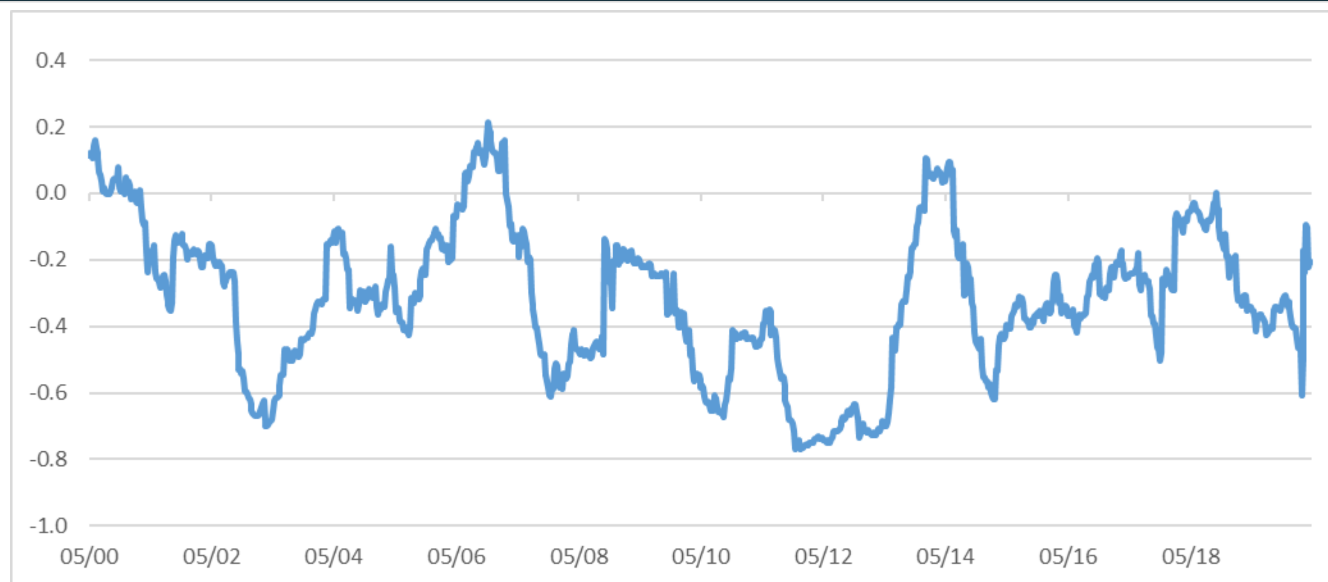
Figure 4 above shows that the HFRX Macro/CTA index proved to be one of the better diversifiers during the 2008 Global Financial Crisis, but struggled since. One reason is that CTAs have evolved over the past decade and several of these strategies have focused more on market-neutral alpha generation than on being mainly directional, thereby staying protective. Whipsawing in equity short positioning has been painful, but also the defensive nature of trend-following in safe haven bonds and money markets has lost a lot of potential in line with the observation made when discussing global bonds. During the first quarter of 2020 the Macro/CTA index was down a moderate one percent, although several CTAs and Macro funds have been able to deliver sizable returns, with potential to deliver more as the elevated volatility regime offers an improved opportunity set.

Risk Parity

One of the successful portfolio construction formulae of the past two decades has been risk parity, building on the concept of improved diversification by equal risk-scaling of liquid asset classes. The sweet spot for risk parity is when assets realize a positive Sharpe ratio with low or even negative correlations amongst them. The main driver behind the success of risk parity has been the persistent negative correlation between bonds and equities and the high return to risk ratio of bonds. This correlation structure is regime dependent. For instance, during a stagflation/oil shock like we witnessed in the 1970s, the inflation spike hits both equity and bond returns in the same way as earnings and bond yields spike higher. Also, in the aftermath of the stagflation shock, the fall in inflation and return of economic growth benefits both bonds and equities, thereby keeping the positive return correlation intact for a while. However, since inflation fear was conquered around the late 1980s, the correlation between equities and bonds turned negative. With deflation fears as the main driver behind global markets corrections, bonds tend to do well when risky assets sell off. The past 20 years have shown a more or less reliable negative correlation, which is driven by the reaction function of central banks. If they need to counteract an economic slowdown, falling inflation and investor panic, the recipe is easy. Lowering yields will serve all purposes and when it is not enough QE can help to drive longer-dated yields lower.

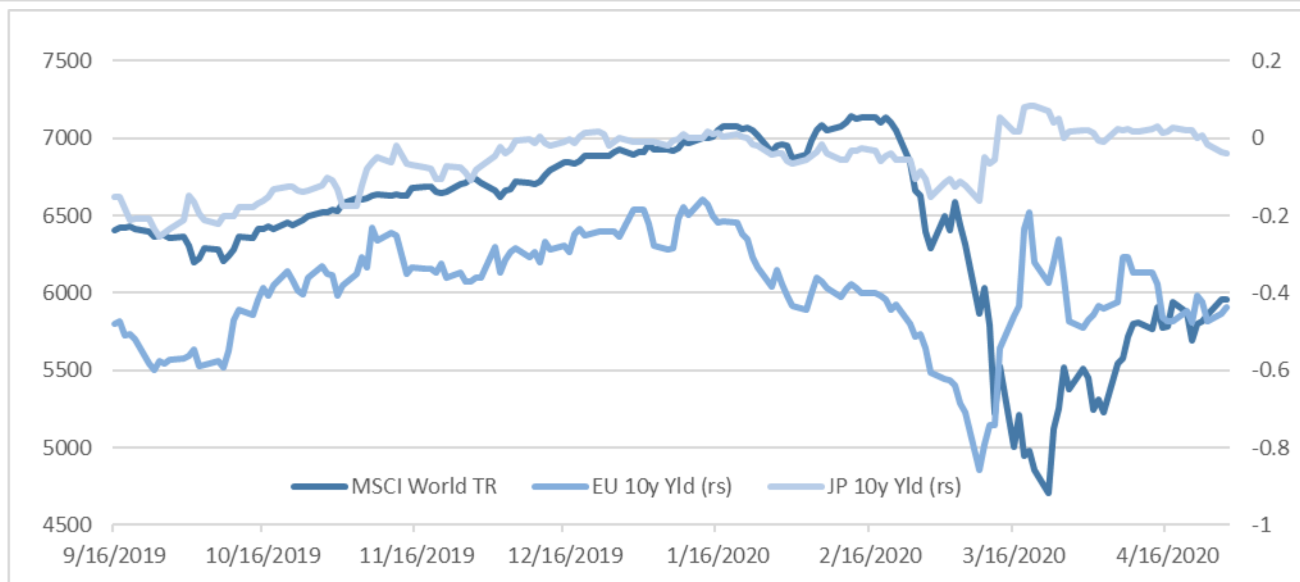
Figure 5: Correlation – S&P 500 vs 10-year US Treasuries



Source: Capstone, Bloomberg.

However, now that we have arrived close to the end station of the central bank's firepower, the negative correlation regime is becoming much less reliable. That is also what we witnessed during the taper tantrum of 2013. Furthermore, Figure 6 shows what we have experienced during the Coronavirus shock in 2020. Two major bond markets with yields already at ultra-lows, the EU and Japan, initially rallied, but they started to retrace fast when the equity market accelerated down, thereby adding to the pain, especially in levered bond positions, as for instance applied in risk parity.

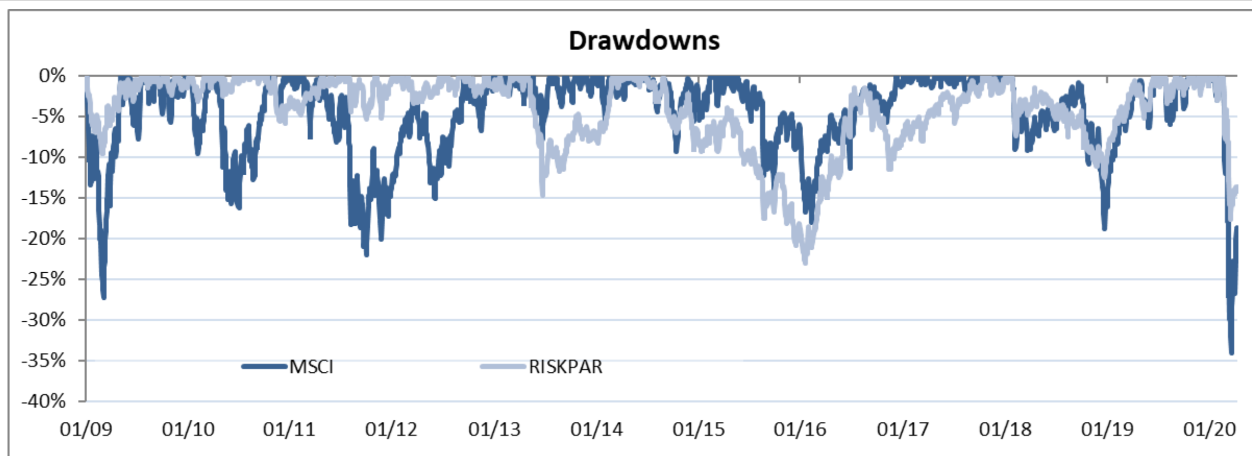
Figure 6: Lost Diversification



Source: Capstone, Bloomberg.

The observation that so many asset classes have started to fail in offering diversification to equities when it is needed the most is a worrying feature. Figure 7 summarizes this well. We have plotted the drawdown in MSCI world together with the drawdown in a representative risk parity portfolio. As one can witness, the balanced portfolio suffered deeper drawdowns during the taper tantrum episode in 2013, as well as in 2014-2015. Furthermore, the risk parity portfolio gave very little relief in 2018, both in February and towards the end of the year. And now again, in 2020 risk parity faced the harsh reality that few exposures helped dampen the drawdown.

Figure 7: Drawdowns



Source: Capstone, Bloomberg.

This poses a real challenge for investors with balanced portfolios. How do they avoid clustered drawdowns? What is the best way forward to mitigate equity drawdowns now that "safe haven" bonds have been exhausted and have delivered all they had to give? Bonds have transformed from a return-generating asset class into an expensive insurance product. Any form of reflation or stagflation will cause future bond returns to turn negative. And the path towards negative yields looks troublesome as can be witnessed in Europe. Contrary to past expectations, the lower yields go, the more people need to save to ensure good pensions. Sweden dismantled negative rates and the core European countries would love to do the same. In conclusion, safe haven bonds at current valuations are no longer a free hedge. This challenges concepts like risk parity as one of the cornerstones of its success has been depleted.

Defensive Equity

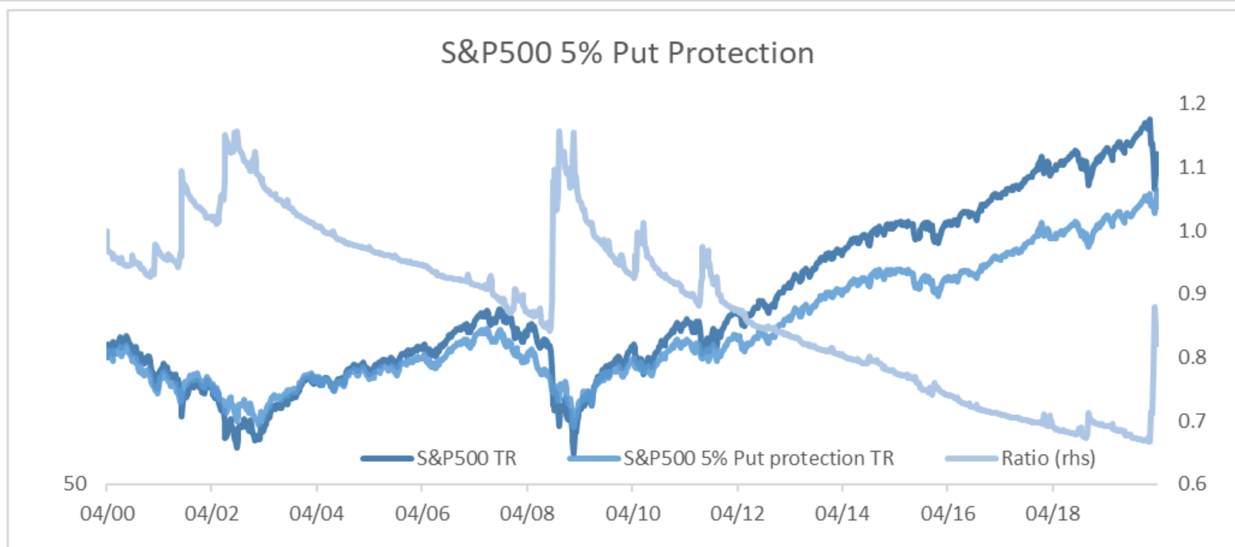
Equities are the asset class of first choice. Listed companies represent the successful enterprises that are the engine behind economic growth and employment, while shareholders provide the risk capital needed to run those businesses. As an equity shareholder, one gets rewarded for profit generation and cash flow growth, and from a standpoint of return drivers, equity clearly generates fundamental added value. As companies grow, and multiples stay steady, an equity holder will receive dividend payments and additionally see a price gain equal to the underlying growth of fundamentals. Although the payout is structured differently, many other asset classes depend on the same return drivers. The reason why investors have always looked for portfolio diversification is because equities are mostly volatile, cyclical and illiquid in times of stress. The long-term average Sharpe of equities is about 0.4. The reason why equity returns are mostly higher than other asset classes is because on its returns are relatively more volatile. The average long-term volatility is 16% versus an average total return of 6.2% (MSCI World net 1999-2020). Drawdowns have proven to be severe if sentiment and fundamentals turn, with several troughs deeper than 50% below peak values.

With the quest for protection through portfolio diversification becoming ever more challenging, the focus must shift to a more direct approach with the goal to move the return distribution of equities to a less cyclical, less drawdown prone and more liquid profile. In the absence of proxy hedges, investors will need to play defensively within the equity asset class.

Addressing the Tail

Figure 8 shows the added value of the CBOE S&P 500 5% Put Protection Index which is designed to track the performance of a hypothetical strategy that holds a long position indexed to the S&P 500 Index and buys a monthly 5% out-of-the-money S&P 500 Index put option as a hedge. As can be seen, the strategy is able to deliver a sizeable offset almost instantly when a bear market correction occurs. However, in normal times, the cost of running this put protection program is high as can be seen in the chart below. The ratio represents the cumulative difference between the unprotected and the protected portfolio.

Figure 8: S&P 500 5% Put Protection



Source: Capstone, Bloomberg, CBOE.

From the perspective of a longer-term investor, it will be hard to switch from a return-generating diversifier, like safe haven bonds, to a protection overlay with an expected negative return. From a relative perspective, the equity hedge has become more attractive. Now that global yields have dropped towards zero or below, the opportunity cost has gone. One could even argue that in a normalization scenario with global reflation, the return on bonds will be negative as well.

Furthermore, there are alternatives to a relatively simple put protection program. They can be found in more advanced and tailor-made option strategies, but also in volatility optimized equity portfolio constructions. Furthermore there are possibilities to manage dynamically the equity beta through different market cycles geared towards capital protection.

With the structural exhaustion of portfolio diversification comes the need to shift the focus to more direct approaches to manage the return distribution of equities if investors want to better manage the sensitivity of their portfolio to sentiment shifts, cyclical downturns and liquidity events. Applying volatility insights to achieve this goal will be an important way to achieve this. The time has come the start to see volatility as an ally rather than an enemy.

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The S&P 500® Index (SPX) consists of 500 stocks chosen for market size, liquidity, and industry group representation. It is a market-value weighted index (stock price times number of shares outstanding), with each stock's weight in the Index proportionate to its market value.

The S&P 500® Total Return Index (SPTR) tracks the S&P 500® Index based on the price changes and reinvested dividends.

The S&P GSCI Total Return Index in USD is widely recognized as the leading measure of general commodity price movements and inflation in the world economy. Index is calculated primarily on a world production weighted basis, comprised of the principal physical commodities futures contracts.

The HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies falling within four principal strategies: equity hedge, event driven, macro/CTA, and relative value arbitrage.

The MSCI World Index is a broad global equity index that represents large and mid-cap equity performance across all 23 developed markets countries. It covers approximately 85% of the free float-adjusted market capitalization in each country.

The Cboe S&P 500 5% Put Protection Index (PPUT) is designed to track the performance of a hypothetical strategy that holds a long position indexed to the S&P 500® Index and buys a monthly 5% out-of-the-money S&P 500 Index put option as a hedge. The PPUT Index rolls on a monthly basis, typically every third Friday of the month.

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