



Regime Change Resilience:
Rebooting Risk Mitigation with Structural Diversifiers

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Standfirst: Is your portfolio able to withstand a regime shift? Investors commonly make outcome-defining allocation choices based on historical data from the preceding couple decades. We explore why deploying such tactics may lead to allocators relying on transient correlations for diversification. Instead, we propose allocating to structural diversifiers in order to build resilience to regime changes.

The most prudent response to uncertainty is diversification. To achieve diversification, allocators seek to combine uncorrelated risks. As such, correlation matrices are a central input to allocation models. If the underlying correlation inputs are reliable, then the allocation can be resilient enough to navigate dynamic market environments. If these correlations are spurious and fragile, however, then the opposite may indeed be true.

Here, we highlight a dichotomy of correlation classifications – transitory and structural correlation.

We define transitory correlation as a relationship that is the byproduct of a confluence of macro risks or dynamic conditions. It is an artifact of history and path dependency. This could include macro policy actions, geopolitical pressures, and booms/busts of the market cycle, to name a few.

We define structural correlation as a relationship that is resilient to changes in these factors. This is a relationship that is the byproduct of something endogenous to the exposure itself (e.g., market risk and volatility), or of direct linkages through pricing mechanisms (e.g., inflation-linked bonds). This article will provide examples of both.

We believe that the success experienced by allocators who have leaned heavily on transitory correlations over the last few decades is less likely to persist through significant economic change without structural diversifiers in their portfolios.

Transitory Correlation Case Study: S&P 500 and U.S. Bonds

To illustrate the potentially misleading statistical conclusions you can reach using historical asset relationships, one can examine a regression of the US 10yr bond proxy¹ versus the S&P 500 returns. A rolling 1-year correlation of daily returns shows a clear regime shift in the equity/bond relationship in the late 1990s that has persisted through the present.

From 1962 through 1981 when interest rates ran up to highs, one can conclude that stocks and bonds had a positive correlation (+0.2). The same goes for the 1981-1998 period when rates collapsed from highs, during which a +0.2 correlation persisted. However, from 1998 until the present, we have witnessed a -0.4 correlation between stocks and bonds. All the correlations here are statistically significant.

In summary, using backward-looking returns might yield convincing statistics, but ultimately this approach is not a reliable method for sourcing future correlation estimates. Indeed, without properly matching a statistical observation with an intuitive linkage, you run the risk of relying on ephemeral relationships for stability.

¹ The U.S. 10-yr bond proxy is a negated time series of daily U.S. 10-year rates (normal percent change multiplied by -1 for each observation), adjusting the yield change for 10-year duration to approximate a bond return, and scaling the full sample volatility to match the full sample volatility of the Bloomberg US Treasury Total Return Index going back to inception in 1973 (LUATTRUU Index). U.S. rates are used instead of an actual bond return index because of data availability, in order to extend the daily frequency analysis back further in time.

This raises a question: if forward-looking allocation models based on historical returns are only valid in a world of relatively static cross-asset relationships, how does an allocator find reliable sources of diversification in the face of regime changes? The answer is rooted in finding and adding structural diversifiers that are resilient to such impacts.

Structural Diversifier #1: Volatility and Market Risk:

The negative correlation between volatility and market risk (specifically equities and implied volatility indices such as VIX) is well known and likely intuitive for most. We see two main factors that drive this consistent negative correlation.

The first is behavioral - investors turn to options when the uncertainty of the future is uncomfortably high, and they would like to transfer risk. They usually tend to do so by replacing cash exposures with option exposures to have finite downside exposure. The well-studied heuristic of loss aversion gives us confidence that this sort of behavior is unlikely to be time varying.

The second, and what makes this equity-volatility relationship *structural*, is a byproduct of the long-biased nature of the average market participant. Market risk can be defined by volatility: the standard deviation of price movements. Since the intention of equity markets is to participate in the growth of corporate cash flows over time, the clear bias of the average participant is for markets to drift upward. When markets de-risk, they tend to do so far more abruptly, which leads to larger standard deviation moves, and (definitionally) higher volatility. Further, market cycle impacts, such as increases in leverage can also lead to structurally more abrupt corrections downward, since loss tolerance typically decreases as leverage increases.

This negative correlation between volatility and equity markets is consequently particularly stable, with very little variation over time as it tends to sit in a -0.5 to -0.8 range. Especially when compared to transitory correlations such as stocks and bonds explored above, the difference is jarring. **One River's Volatility strategies leverage dislocations in volatility markets to provide an efficient means of achieving volatility exposures for those looking to hedge market risk or generate alpha.**

Structural Diversifier #2: Systematic Trend and Macro Risks:

Systematic trend following strategies are another source of structural correlation. While the realized correlations of trend to major macro risks are by design strongly time-varying, the correlation is taken to be structural, and not transitory, because the resulting correlations of a trend strategy to these risks are a result of the systematic investment model used to establish and modulate long and short positioning over time. Accordingly, the investment strategy will participate in prevailing price trends as and when they occur.

Further, trend can work as a successful risk mitigant, as it stands to benefit equally from rising and falling asset prices. Traditional sources of risk, however, are typically heavily biased to benefit from rising asset prices.

By examining daily returns of the SG Trend Index going back to January 2000, trend as an investment strategy has indeed managed to realize a negative correlation to equities, and low correlations to fixed

income and commodities². Our recent paper, *Improving the Performance and Higher Order Return Properties of the Industry's Dominant Portfolios* (One River whitepaper, April 2020), further spells out how **One River's expression of trend is able to trade in and out of trends in a manner we consider to be advantageous – both from a Sharpe ratio and macro asset correlation perspective. We aim to participate in prevailing trends across asset classes more nimbly and precisely than do other players in the trend industry.**

Structural Diversifier #3: Inflation-Linked Securities and Inflation Risk:

For a myriad of reasons, such as the recent unprecedented monetary and fiscal policy actions and the global supply chain dynamics, inflation risk has become increasingly central in broader allocation discussions. However, many investors seem to fall into the same transitory versus structural correlation tendency in their chosen expression of inflation hedges. Historical regressions suggest that commodities, particularly precious metals such as gold, are sufficient inflation hedges. However, studies examining the relationship between such hedges and inflation presents a very limited time sample over which to draw significant conclusions. For gold particularly, when examining the most meaningful inflation observation period during the 1970s, it is extremely difficult to disentangle the gold pricing impacts from the abandonment of the Bretton Woods standard in 1971 from the inflationary protection it appeared to deliver in the latter half of the decade.

We believe it is prudent to align portfolios with inflation outcomes by focusing exposures to assets whose pricing mechanism is directly linked to the economic data that measures inflation. Here, inflation-linked securities (e.g., TIPS) can provide just that. Particularly when implemented in a strategy that actively manages the duration-risk independently from the income associated with inflation-linked securities, these assets can provide portfolios with a source of structural correlation to inflation risks. Accordingly, **One River's Inflation strategy, which is designed to benefit both from volatility in inflation markets and the rising waters of inflation over time, primarily trades inflation-linked instruments.**

Our Solutions practice at One River is focused on identifying which relationships in a portfolio are transitory versus structural, such that the effects of an economic regime change can be properly measured and mitigated through allocation decisions.

By introducing structural diversifiers that do not rely solely on historical return observations to drive convictions in correlation to a portfolio, more resilient risk mitigation can be achieved. We have been working with a number of institutions, ranging from sovereign wealth funds, public state plans, to family offices, on helping them navigate the myriad of considerations that accompany setting up a new risk mitigation program.

² Source: Bloomberg, Daily returns from Jan 2000 – June 2021. January 2000 is the inception of the SG Trend index. SG Trend index used for trend, S&P 500 for equities (-0.1 correlation), the same U.S. 10yr bond as used in the prior case study for bonds (+0.2 correlation), and the Bloomberg Commodity Index used for commodities (+0.1 correlation). There are significant variations in these observations, which for trend is an expectation given it is a dynamic beta strategy.

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