

Global Derivatives Programme

Executive summary

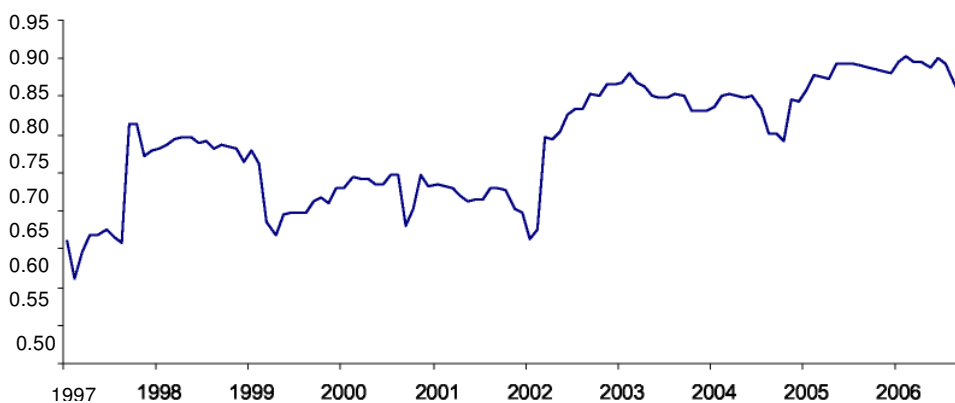
- *In recent years, a proliferation of new hedge funds, greater allocation to alternative investment strategies and better policy-making from central banks have combined to raise the correlation between hedge fund returns and the overall equity market. This has caused some to question the diversification benefit they afford investors.*
- *Worse still, during periods of market stress, when hedge fund performance is supposed to act as a hedge - it has been found lacking. An analysis of the 30 worst monthly returns for the MSCI World since 1995 shows the hedge fund index has been correspondingly negative on no fewer than 20 occasions.*
- *The ideal strategy should be positively correlated to a rising market and negatively correlated to a falling one. The Hedge Fund Index, however, has been highly and positively correlated to the MSCI World in both positive and negative periods. This has left them open to the criticism that they are no more than leveraged plays on the long side of the broader equity markets.*
- *Of the major market strategies, the CTA index provides the best diversification benefits for periods of equity debacles, offering an inverse correlation to the MSCI World during these 30 sharp draw-downs. But this lack of diversification comes at the cost of some performance. The Sharpe ratio for the CTA index is just 0.7.*
- *The IPM Global Derivatives Programme combines CTA models that provide not only a low correlation to the broader equity markets but also significantly higher risk-adjusted returns. When put together, with a strong risk management, these strategies make a product that exhibits an inverse correlation to periods of sharp draw-downs in the CTA index itself.*
- *By providing low correlation through both favourable and unfavourable market periods for both CTA 's and the wider equity market, the IPM Global Derivatives Programme is capable of offering excellent diversification benefits to a CTA basket of funds.*

The Challenge, Or When Diversification Fails

There once was a time when the term "hedge fund" was an accurate functional description. Although the term means different things to different people, one broad definition that seems to fit most investors' perception is that of a fund that follows complex investment strategies, being long and short assets, and often hedging their investments against adverse moves in equity and other markets. The objective of these vehicles is to generate excess returns that are not closely correlated to those of the broader financial markets. Judged under this definition, the term "hedge fund" seems an appropriate nomenclature. Back in the 1990s, indeed it was a rather suiting description. However, as the following graph clearly depicts, there has been a growing tendency for hedge fund returns to correlate very highly with the major market indices as of lately (see fig. 1).

MSCI World vs. Greenwich Global Hedge Fund Index

Figure 1: Correlation between the MSCI World Index and the Greenwich Global Hedge Fund Index calculated on a 3 year rolling window.



The single most important dynamic at play has surely been the increasing competency amongst global central banks that have become more proficient at macro-economic policy management. This latter point should not be under-estimated. The volatility of OECD inflation has collapsed as central banks have become more disciplined in their approach to policy.

The volatility of OECD inflation is now under one fifth of what it was 25 years ago and practically half of what it was just 10 years ago (see fig. 2). This contraction has been reflected in more stable nominal interest rates which have led to a commensurate flattening of volatility across most risky assets. This broad bull market in "risk" has increased correlations between asset classes and, by extension, hedge fund strategies focussed on those asset classes.

The ongoing improvement in macroeconomic management has also been accompanied by a proliferation in the number of hedge funds as more and more capital has been allocated to alternative investments over the last decade. As a result, there have been more hedge funds with more investment dollars chasing fewer and fewer profitable themes. Gone are the days, for the macro manager at least, when central banks' policy errors could be consistently relied upon to provide next year's incentive fees. But more generally, trades straddling all strategies have become more "crowded" leading not only to higher average correlation, but to apparently higher correlation during periods of market stress.

Standard deviation (rolling 5 year) of OECD Total CPI YoY

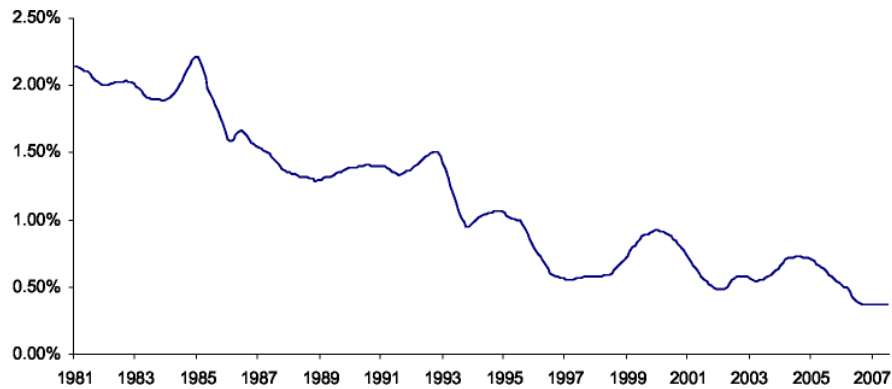


Figure 2: Standard deviation of YoY changes in OECD Total CPI calculated over a 5 year rolling window.

And herein lies the rub. It is these periods of extreme market stress that the hedge fund manager is paid to "hedge" against. A genuinely independent strategy should provide returns which are independent of the market in all market states, not only favourable ones.

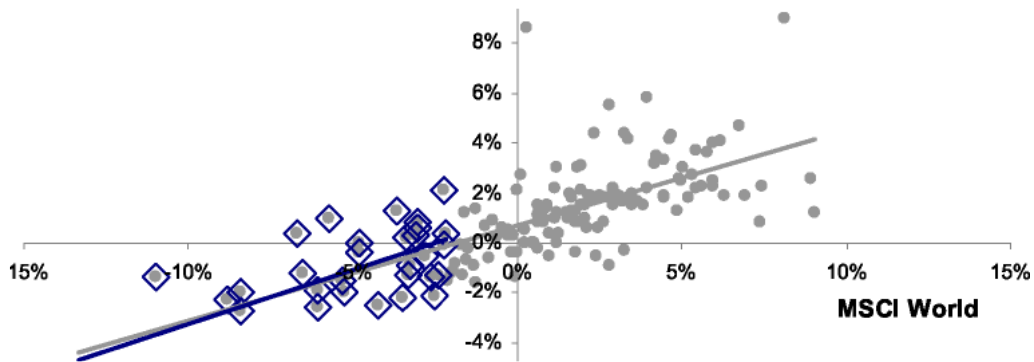
However, the following chart (see fig. 3) shows that this has not been the case and, probably, why hedge funds have recently been criticised as being no more than leveraged plays on overall market conditions. In it, is plotted monthly returns of the MSCI World against the Greenwich Global Hedge Fund Index. Not only is the overall correlation significantly positive, but it is clear that whenever the broader equity markets have tumbled (marked by boxes in the graph), that is, when investors have looked to hedge funds to live up to their name, hedge fund returns have typically tumbled with them.

The tendency for the hedge fund index to print negative returns when the MSCI prints a negative return is surprising. In fact, of the 30 worst months for the MSCI, the hedge fund index prints negative in no less than 20 of those 30 months, averaging declines of -1.0% per month.

While this provides some diversification benefits, and certainly some out-performance during periods of market turbulence (the MSCI averages declines of -5%), the claim to provide "absolute returns" does not stand up to the most basic of empirical analyses.

Monthly returns - January 1995 to August 2007

10% Greenwich Global Hedge Fund Index



Entire period The MSCI World's worst 30 months

Figure 3: Scatter plot of paired monthly returns for the Greenwich Global Hedge Fund Index and the MSCI World Index. The bold lines correspond to linear regressions (i.e. the slope indicates the sample correlation) based on the overall sample (grey) and the MSCI World Index's 30 worst months.

The Response, Or the IPM Global Derivatives Programme

When building a strategy in an area where many people's results are so similar, one needs to think and behave differently. When the underlying philosophy is truly unique, the uncorrelated returns will inevitably follow as a corollary. However, with so high concentration of efforts on the CTA arena, with armies of PhD's striving to build superb quantitative models, is it really possible to find a solution overlooked by others?

We at IPM believe that it is indeed possible if one truly follows the right principles. One key is people; top traders that successfully worked in the market for years and have a profound understanding of its behaviour in different circumstances, have a better chance to formalise their knowledge and come up with conceptually

innovative ideas. That is exactly what happened when Joe Roseman who spent over 10 years at Moore Capital, and Dylan Grice, a former prop trader at Dresdner Kleinwort, developed the underlying CTA strategies of the IPM Global Derivatives Programme (henceforth abbreviated as IPM GDP).

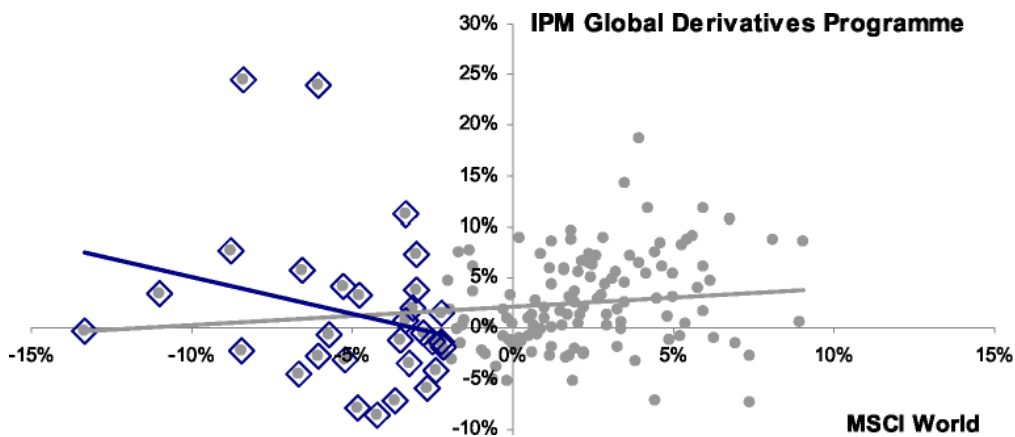
Another principle is to use strategies exploiting philosophically different ideas. Only when the underlying concepts are uncorrelated may the returns become uncorrelated as well. Standard bell-curve statistical thinking forms no part of our models. Instead, we are more focussed on evaluating risk through the eyes of economists thus attempting to create "smart trend following" rather than "blind trend following".

For example, one idea employed by the IPM GDP is to trade equity indices by anticipating the risk appetite currently dominating in the market. When the risk appetite is deemed "healthy" a positive market environment is more likely and long positions in the equity markets have better chances to add value. Conversely, when the risk climate is deemed "unhealthy", short positions in those same equity markets will likely generate profits. A unique approach of gauging the macro environment based on cross-asset correlations helps to formulate the view on the risk appetite.

Another example is an entirely different CTA model designed to imitate the trading habits of some of the best hedge fund traders in the world. It aims to use price information in order to capture the highest probability portion of a trend. Not all trends are similar, and some have a far higher probability of persisting. This model attempts to identify such moves by using a proprietary indicator which emulates memory of that trend and in doing so allows the model to exploit long-lasting opportunities. Very little tolerance for losses, a feature pertinent to the top notch traders, makes the model quickly exit trades if an identified trend does not conform to the pattern that is typified as being a high profit probability.

Each of the strategies used by the IPM GDP could make a superb standalone product. However, great minds rarely think alike, and the returns of the underlying strategies happened to be not just uncorrelated in general but also negatively correlated during their worst months. Naturally, this created a perfect opportunity for combining them into one superior product. Thus the IPM GDP inherits the merits of the underlying strategies and shows even more stable returns helping it to successfully compete with other CTA strategies. Needless to say that strategic allocation of risk and ongoing programme-level risk management play an important role in this product like it should be in any multi-strategy programme.

Monthly returns - January 1995 to August 2007



Entire period The MSCI World's worst 30 months

Figure 4: Scatter plot of paired monthly returns for the IPM GDP and the MSCI World Index. The bold lines correspond to linear regressions (i.e. the slope indicates the sample correlation) based on the overall sample (grey) and the MSCI World Index's 30 worst months.

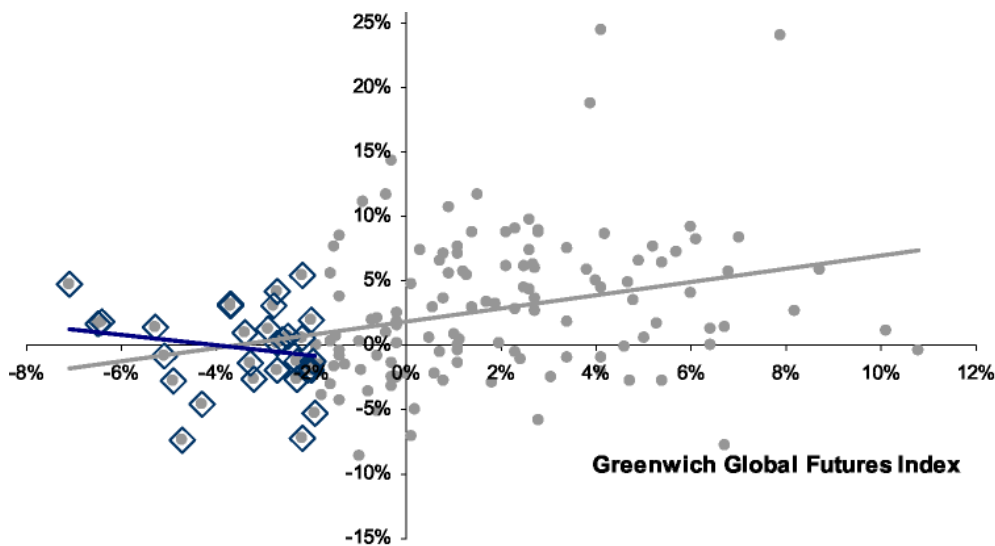
Providing diversification in times of turmoil

Let's take a look at the numbers. For more than a decade, the correlation between the monthly returns² of the IPM GDP to those of the MSCI World has been +0.1, a significantly smaller figure than the +0.7 correlation rendered by Greenwich Global Hedge Fund Index. Overall correlations, however, tell only a part of the story. As the chart below (see fig. 4) shows, the statistics improve when focusing on the worst monthly declines in equity markets. As the MSCI tumbles by -5.0% during its 30 worst declines, on average, the IPM GDP programme averages a monthly gain of +1.4%. Moreover, the programme is in fact expected to generate a higher profit as the fall of the equity markets increases. As shown by the leftmost bold line in the graph, the correlation between IPM GDP and MSCI World during these tail events is negative, more specifically -0.3. The corresponding figure for the hedge fund index is just the opposite, a positive +0.7.

It is clear then, that IPM GDP provides a genuine lack of downside bias during equity market debacles. However, does it provide diversification for an investor holding the hedge fund index? Using the same tail-event analysis concept, the worst 30 monthly draw-downs for the index were identified. Of these 30 months, IPM GDP was up on more than half of the occasions. While hedge funds in general suffered a -1.7% monthly loss, the programme on average generated profits of 2.3%, the same figure as for the entire sample. As far as diversification goes, the IPM GDP was virtually uncorrelated to the hedge fund index during these tail events.

Monthly returns - January 1995 to August 2007

30% IPM Global Derivatives Programme



Entire period The Greenwich Global Futures Index's worst 30 months

Figure 5: Scatter plot of paired monthly returns for the IPM GDP and the Greenwich Global Futures Index. The bold lines correspond to linear regressions (i.e. the slope indicates the sample correlation) based on the overall sample (grey) and the Futures Index's 30 worst months.

² Pro-forma performance, net of trading costs, net of fees, January 1995 - August 2007.

The qualitative results identified so far, are reiterated when limiting the study to alternative strategies more closely related to the IPM GDP in terms of investment philosophy. Since 1995 the monthly returns of IPM GDP and the Greenwich Global Futures index have been weakly positively correlated, but as managed futures suffer great losses the correlation coefficient reverses its sign to a value of -0.2 (see fig. 5). During months of heavy CTA underperformance, the IPM GDP has rendered positive returns in half of the occasions. More specifically, the latter of the two has a practically flat performance of -0.3% as managed futures programmes on average lose -3.4%.

In terms of risk-adjusted performance, the MSCI World has had a Sharpe ratio of 0.5 since 1995. This compares with 0.7 for the CTA index. The underlying strategies of IPM GDP have seen Sharpe ratios of 0.9-1.1 over the same period. These broadly compare with the CTA index Sharpe ratio, although the combination, the IPM GDP, has a Sharpe ratio of closer to 1.4. In a world that has seen returns become increasingly compromised through extra leverage, higher market correlation and in-built event risk, the IPM GDP stands as seemingly unique product that captures significant excess return without running excessive leverage and without having become pseudo long-only strategies. Perhaps most importantly, in a financial environment where tail events have become more frequent and correspondingly more painful to alternative strategies, the IPM GDP offers genuine diversification.

In conclusion

A number of salient facts jump out from this analysis;

- The hedge funds as a class provide little protection from equity market debacles.
- During extreme periods of weakness, whether in the hedge fund index, the MSCI or the CTA index itself, the returns on IPM GDP are typically positive or at least flat.
- During more normal market environments, the range of correlation between the IPM GDP and the above investments is between 0.1-0.3. So, not only does the programme provide positive returns during the periods of greatest draw-downs for other strategies, but it also lacks significant correlation during more normal market periods.
- This lack of correlation does not come at the expense of weaker performance. Indeed, the IPM GDP offers significantly higher risk-adjusted returns than the CTA index.