

Technology: Research: Investing

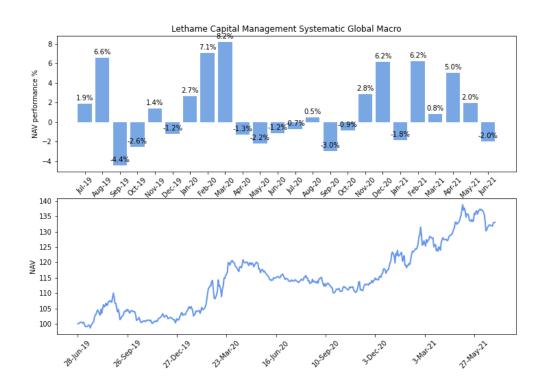
Program Update - Total return in two years since inception to end Q2 2021

| | Annualised Return | Standard Deviation | Sharpe Ratio | Maximum Drawdown | Average Correlation |
|----------------------------|----------------------|-----------------------|-----------------|---------------------|------------------------|
| Lethame Capital Management | 14.2% | 12.3% | 1.14 | 10.5% | - |
| S&P 500 Index | 19.7% | 25.9% | 0.74 | 38.6% | 2.8% |
| 60/40 portfolio | 12.8% | 15.0% | 0.85 | 22.5% | 5.7% |

This commentary refers to the performance of the strategy of the personal investment vehicle of Piers D. Watson, please see disclaimer.

*System running from 1st July 2019. All calculations based on daily data. Program Sharpe Ratio calculated using RBA 3 month Overnight Indexed Swap, comparison indices use USD 3m Libor.

"Making a handful of good uncorrelated bets that are balanced and leveraged well is the surest way of having a lot of upside without being exposed to unacceptable downside." – Ray Dalio



Performance Review 2Q

Lethame Capital Management's (LCM) systematic global macro program returned 4.9% in the Second Quarter. For the second quarter in a row Commodities were generally the strongest performing instruments on a risk adjusted basis.

The absolute return of corn (+20%), Soybeans (+7.5%) and Crude Oil (+12.4%) all produced sharp ratios well over 0.5x. The most negative risk adjusted performances came from bitcoin and Platinum.



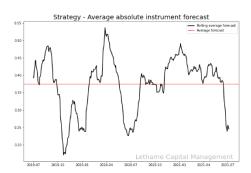
Technology: Research: Investing

Inflation fears were dominant in market price action during the quarter. U.S. CPI data released early in June showed prices rising at an annual 5% in May the highest since August 2008. Core inflation which strips out volatile items such as food and energy jumped to the highest level since 1992.

LCM has previously commented that it is very possible that an over levered economy which has become reliant on debt fueled growth but has a banking system that is reluctant to lend will find it hard to generate sufficient expansion in aggregate demand to fuel sustained inflation.

Notwithstanding this, fears over rising prices have gripped markets, with investors fearing that pentup demand and supply chain bottlenecks would create inflationary pressures, forcing central bankers slow their respective stimulus program's.

For the strategy the second quarter ends with average forecast across the range of instruments in the bottom decile of observations since inception.



This suggests that there is a more limited than usual opportunity set among the risk premia the strategy aims to capture and so it starts the third quarter with a below average level of risk.

<u>Two years since inception – actual versus expected?</u>

June 30th 2021 marks two years since the inception of the program. When LCM researched and designed the strategy it concluded that it could support a Sharpe Ratio expectation of

approximately 0.9x. Using geometric mean maximization theory LCM therefore determined that targeting a 20% volatility, and as a consequence an implied 18% per annum return expectation, would be a relatively conservative target.

Over the period since inception actual growth in capital was 32.7%, equivalent to an annualised return of 14.2%. Using daily volatility of returns this equates to a Sharpe Ratio of 1.1x. Therefore, while the strategy exceeded expectations on the risk adjusted returns it realized only 12% volatility versus its 20% target and thus produced a lower return than the expectation.

There is a degree of path dependence to targeting strategy volatility. If many of the assets do not exhibit strong signals, as is the case currently, then the strategy takes less risk in those assets and the risk is lower than is targeted and so is the resultant return.

LCM Program Returns

As the strategy has exposure to a diversified range of global instruments and multiple currencies it is sometimes hard to know which is the most appropriate comparison benchmark. In LCM's judgement the most relevant comparison is a standard 60% equity / 40% fixed interest exposure created with a broad based internationally focused index such as the S&P 500.

The 60/40 combination of equities and bonds has been the standard diversified portfolio benchmark for many decades. While it is possible that this mixture of assets faces structural challenges from a performance perspective in the future it remains the most useful benchmark for LCM's strategy.



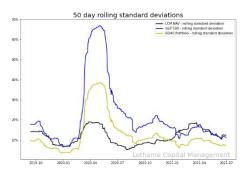
Technology: Research: Investing



LCM's strategy has produced significantly better risk adjusted returns than the 60/40 portfolio exposure as well as the S&P 500 itself. In particular, it produced over 70% of the impressive return of equities with less than half of the volatility. Furthermore, the strategy's maximum drawdown (the largest peak to trough decline in strategy equity) was just 10.5% for the strategy compared to 22.5% decline for 60/40 and 38.6% for the S&P500.

LCM Program Volatility

Realized volatility is a function of the risk management built into the strategy which automatically adjusts position sizes to take account of an instruments changing risk. As the next chart illustrates this resulted in a realized volatility which did not exceed the 20% target over the period unlike the comparison indices which experienced significant increases in volatility.



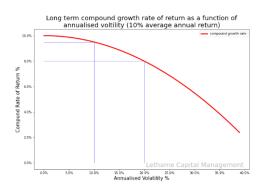
At the inception of the strategy volatility was relatively subdued. Both the strategy and the

comparison index exhibited similar realized volatility at around the 10% level. However, during the COVID-19 induced sell off, realized volatility of the comparison index increased substantially, far in excess of the volatility increase of LCM's strategy.

Why is the Realised Volatility Important?

Fund managers often express a view along the lines of 'we are long term investors; volatility doesn't matter to our portfolio'. At first glance this may seem intuitive however, volatility itself reduces the compounding growth of a portfolio through a phenomenon called variance drag.

This is best illustrated by examining two theoretical return streams which both have average annual returns of 10%, but with annualized volatility of 10% and 20% respectively.



The two compound long-term growth rates of these return streams will be 9.5% and 8.0%. The adjustment factor is equal to half of the asset's variance (or squared volatility). This means a reduction in volatility from 20% to 10% for the same average annual return increases the long-term compound growth rate by 150 basis points.

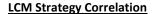
Simplistically, a very volatile asset with price 100 and an expected annual growth rate of 10%, may in one year see a fall of 30%. It then compounds its expected annual return of 10% from a value of 70. Whereas the less volatile asset with the same expected average will be less likely to have to



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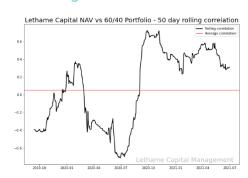
compound from such a low level. The volatility of the asset erodes its long-term return.

By incorporating risk management techniques into the portfolio construction process volatility is managed in such a way that the expectation is that it will produce a superior risk adjusted return than the comparison indices. The actual outcome was the strategy did in fact significantly outperform the comparison indices on this basis.



LCM's strategy is designed to provide a convexity of returns. This can be thought of as 'good' diversification.

A 'bad' diversification will help in bad times, but that will also destroy performance in good times. A good example of this is systematically buying put options which historically has caused a significant drag on upside participation. A 'good' diversification, on the other hand, will help in bad times without compromising long-run performance in good times.



This can only be achieved with a time varying beta: a positive beta in good times and a negative beta in bad times. This is exactly the profile that the strategy produced as can be seen by its negative correlation to the comparison index during bad times but a positive correlation to that same index in good times.

LCM set out with the intention of designing a program that systematically follows Ray Dalio's advice to make '...a handful of good uncorrelated bets that are balanced and leveraged well...'. LCM's research produced results that suggested this would produce an attractive long term growth vehicle. The results of the first two years of live trading in the strategy are very encouraging that this can also be achieved in the real world.

Lethame Capital Management

Lethame Capital Management (LCM) is a private company established to manage capital using proprietary software and algorithms developed by Principal, Piers Watson, CFA FRM CQF. LCM's investment program utilises his thirty years of experience as a portfolio and risk manager covering multiple asset classes and follows years of research, analysis and technology development. The program is designed to provide a comprehensive and systematic exposure to a diversified range of return streams.

Program design has been borne out by the performance of the system since inception and is backed by comprehensive back-testing over the past 25 years (see the performance graph and table on the following page).



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