Aspect Capital Insight Series

Aspect Systematic Global Macro

A Tale of Risk and Reward

February 2019

People love stories. When we get asked by allocators to tell them about our strategy and help them understand how it behaves and how it may perform, wouldn't it be great if we could provide them with trade narratives like our fellow managers on the discretionary macro side? However, as a systematic strategy, the Aspect Systematic Global Macro Programme (ASGM) doesn't tend to rely on small numbers of big one-off trades with great stories and ideas attached to them. Instead, it aims to generate its alpha by exploiting a diversified range of different effects which are generally smaller, but more persistent. The Programme is designed to be resilient under the majority of market conditions and achieves this resilience by using relative value strategies that are intrinsically uncorrelated to traditional assets. It also uses distinctively shorter-term holding periods driven by dynamic risk filters and non-traditional data sets.

Sadly therefore, as a systematic investment manager, our story is one of risk versus reward: capturing lots of small rewards while managing risks effectively and appropriately for the market environment. In this paper, we want to simplify things and shed some light on some powerful and interesting features of our strategy. We examine its behaviour during periods of differing risk appetite. We find that the strategy copes well in most market environments but, importantly, is able to deliver strong performance during periods of higher risk aversion and particularly subsequent to risk shocks. We discuss how it is able to achieve this and demonstrate its more dynamic reactions during high risk aversion states.

1. Methodology

There are innumerable descriptors of market environments, but we want to keep our analysis focussed on our strategy's performance conditional on the extent of risk aversion. This choice reduces the number of possible methods for market regime conditioning, and is very timely given market behaviour in 2018 and the concerns we hear from investors.

For the analysis we use the programme's live track record, since its launch on the 10th May 2016 until the 31st December 2018.

Extent of Risk Aversion

In order to analyse the effects of risk aversion, the Programme's performance was conditioned against the VIX index, which serves as a widely watched forward-looking indicator of near-term risk aversion across markets. Traditional wisdom says that periods of high-risk aversion often coincide with adverse price shocks for long-only asset portfolios, and they can be followed by extended sell-offs. Asset owners naturally therefore value strategies which can diversify or mitigate this. Given that the VIX is a forward-looking measure of volatility on the world's biggest equity market, the S&P 500, we think its use as a proxy of global risk aversion sentiment is apt.

We wanted to explore the behaviour of our strategy conditional on the risk aversion level. Although the Aspect Systematic Global Macro Programme has been around since 2016, the VIX, also dubbed the 'fear indicator' has been around considerably longer than that.

In Figure 1 we plot a nearly 30-year timeseries of the VIX level from 30th March 1990 to the 31st December 2018. Over this period, the median volatility level is 17% and the 5th-95th range of observations lie between 11% and 33%. Based on this long-term history we divided this data into four distinct risk aversion levels:

- Low: VIX < 15%
- Normal: VIX between 15% to 20%
- High (Normal): VIX between 20% and 25%
- High (Risk Shock): VIX > 25%

Figure 2 shows that over the nearly 30 years of data we have a fairly even distribution of risk aversion states between the Low, Normal and High states (but slightly skewed towards the lower states). However, for the purpose of our analysis, we separate the 'High' risk-aversion states into two buckets because we can infer some important information from the highest risk aversion states. We will revisit that decision when we interpret and discuss the results in section 2.

Figure 1: VIX Level: 30th Mar 1990 to 31st Dec 2018

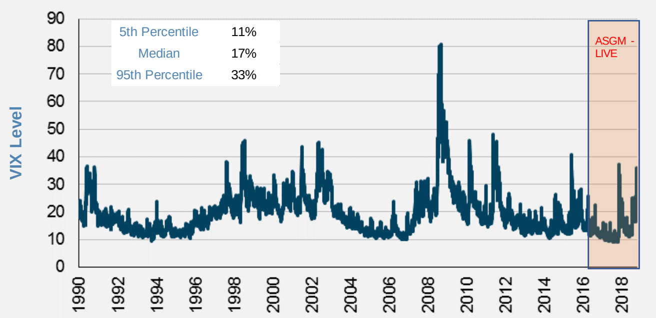


Figure 2: Risk Aversion States Using the VIX as a Proxy: 1990 to 2018

Risk Aversion State	VIX Level Range	Frequency of Observations
Low	<15%	35%
Normal	15% to 20%	28%
High - Normal	20% to 25%	20%
High - Risk Shock	>25%	17%

Source: Aspect Capital, Bloomberg

2. Results and Interpretation

Extent of Risk Aversion: The Effect on the Portfolio

Figure 3: ASGM Average Returns Conditional on Risk Aversion States: 10th May 2016 to 31st Dec 2018

VIX Risk Aversion States*			ASGM Average Daily Returns Conditional on Risk Aversion States			
Risk Aversion State	VIX Level Range	Number of Observations	T(0) On the Day	T(1) Next Day	T(1-3) Next 3 Days	T(1-5) Next 5 Days
Low	<15%	502	0.03%	0.01%	0.02%	0.02%
Normal	15% to 20%	118	0.01%	0.05%	0.03%	0.01%
High - Normal	20% to 25%	52	0.09%	0.10%	0.12%	0.10%
High - Risk Shock	>25%	18	-0.04%	0.18%	0.06%	0.07%

Source: Aspect Capital, Bloomberg. Please see important disclaimer on page 4.

Having selected levels of risk aversion based on the long-run distribution of the VIX Index we analysed the live ASGM Programme performance conditional on risk aversion states. We have looked at coincident average returns as well as average returns the day after, average daily returns over the following three- and five-day periods conditional on risk aversion state.

Looking at the average conditional returns on the day of the shocks in Figure 3, we observe that the strategy is by no means a hedge against sudden volatility spikes nor does it bear traditional hallmarks of long volatility managers. However, it manages to perform well on the days we have categorised as ‘High – Normal’ and it performs very favourably in the wake of volatility shocks, with average daily returns noticeably higher than during normal or low risk aversion periods. This effect is strongest in the ‘High’ risk aversion states and particularly the day after risk shocks.

This is by no means accidental. On the contrary, the ASGM strategy is designed to be dynamic and regime aware: it contains a number of specific features designed to react in the wake of volatility shocks. It is unsurprising therefore that when we condition the strategy’s trading turnover in a similar way in Figure 4 we see significantly more trading both during and in the immediate aftermath of periods of heightened risk aversion. The higher the risk aversion, the more trading we tend to see in the following few days.

Figure 4: ASGM Average Trading Turnover Conditional on Risk Aversion States: 10th May 2016 to 31st Dec 2018

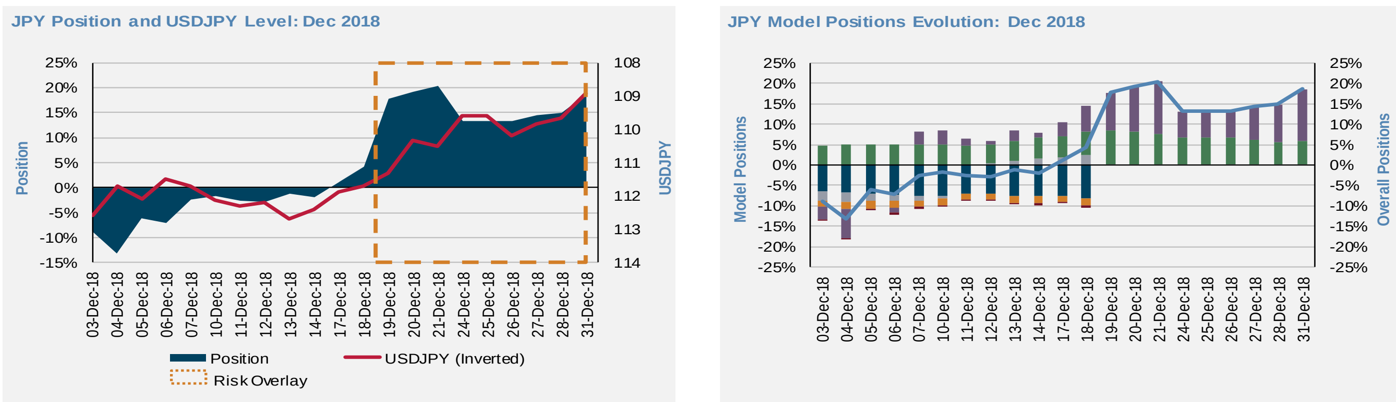
VIX Risk Aversion States*			ASGM Average Daily Trading Turnover Conditional on Risk Aversion States			
Risk Aversion State	VIX Level Range	Number of Observations	T(0) On the Day	T(1) Next Day	T(1-3) Next 3 Days	T(1-5) Next 5 Days
Low	<15%	502	0.59	0.58	0.59	0.60
Normal	15% to 20%	118	0.86	0.80	0.77	0.74
High - Normal	20% to 25%	52	0.90	0.95	0.97	0.97
High - Risk Shock	>25%	18	0.87	0.93	1.10	1.08

Source: Aspect Capital, Bloomberg. Please see important disclaimer on page 4.

This increased dynamism is partly a function of the data inputs we use (a topic all on its own) but is largely driven by our reactive risk management techniques. The Programme uses a three-pronged risk filtering and factor timing approach which is intended to navigate exogenous shocks responsively. Firstly, within the individual sub-strategies, risk management and performance capture are combined by excluding positions during regimes which are identified as unfavourable. Secondly, some sub-strategies apply top-down stop-losses to all their positions (and in some cases correlated positions elsewhere) to mitigate prolonged difficult periods. Finally, some sub-strategies use sentiment-driven risk overlays to adapt positioning during periods of heightened risk aversion.

These three techniques dovetail with each other to reduce unfavourable tail risks in a variety of potentially difficult market conditions. They differentiate the Programme by dynamically adapting its positioning to changing market environments and contribute to the Programme’s shorter holding periods. We have witnessed their beneficial impact in live trading, and Figure 5 shows a recent example of this.

Figure 5: ASGM Position in USDJPY and Breakdown by Model: December 2018



Source: Aspect Capital, Bloomberg. Note: For illustrative purposes only.

In early December the Programme's Japanese Yen position was hovering around flat as the signals from different models largely offset each other. However, in late December our risk overlay identified the environment as more likely to be an unfavourable one for some of the strategies which had been holding short Yen signals. These signals were immediately closed out, meaning the net position in the Yen grew significantly on the long side driven by the remaining models and was able to profit from the subsequent rally in the Yen as risk aversion gripped the markets towards the end of the year.

Taken together, these results demonstrate three main points. They show how robust the Programme's performance has been during risk averse periods, and especially afterwards when its performance has been better than average. They show that the Programme does more trading in these periods in order to adapt its positioning for the changing market environment. And finally, we show that perhaps systematic macro managers can bring their performance to life with stories, even if they are stories about systematic risk control rather than genius trade ideas!

3. Looking Ahead

The Programme's historical performance conditional on the forward-looking implied volatility levels of risk aversion is reassuringly replicated in longer-term simulations of the strategy since 2010*. Although we have more confidence in results from live trading data and prefer to use this wherever possible, the effects we have highlighted here do appear to be persistent features of the strategy, as we would expect, rather than an anomaly of recent times.

We think this bodes well for the future of the strategy. After a general and sustained decline in market volatility since the global financial crisis, 2018 reminded us not to be complacent: such low volatility levels are exceptional and not the normal state of affairs. If we believe that the future will not be too different from the past, an emphasis should be placed on investment strategies which are deliberately equipped with the means to navigate such rapidly changing environments by managers with appropriate and relevant experience.

Disclaimers

*Please contact investor.relations@aspectcapital.com for further details about this analysis.

Figure 3: Aspect Systematic Global Macro started trading on 10th May 2016. The performance data shown above is gross and as such does not reflect the deduction of fees and expenses which would have lowered overall performance. The returns shown above have not been audited and include the reinvestment of all sources of earnings. See the table below for the historical net performance of the Programme.

Live Net Track Record of the Aspect Systematic Global Macro Programme

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2016					-1.37%	-1.07%	1.93%	-0.50%	0.75%	3.11%	-3.83%	-1.38%	-2.50%
2017	-4.00%	0.71%	-3.34%	0.53%	1.37%	0.57%	3.21%	0.68%	-1.89%	2.92%	3.09%	0.21%	3.81%
2018	1.93%	0.39%	4.55%	0.63%	-2.02%	2.72%	0.50%	-2.01%	1.50%	4.67%	-0.22%	1.03%	14.28%

Note: The performance data shown above has not been audited. The returns shown are net of a 1% management fee (accrued monthly and paid monthly in arrears) and 20% performance fee (determined and debited (if applicable) annually). The returns shown include the reinvestment of all sources of earnings. The performance of customised or modified implementations of the Programme may differ to the performance shown above.

Past performance is not necessarily indicative of future results.

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