WestLB Mellon Asset Management

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US Quant Flu: Should we worry?

What happened?

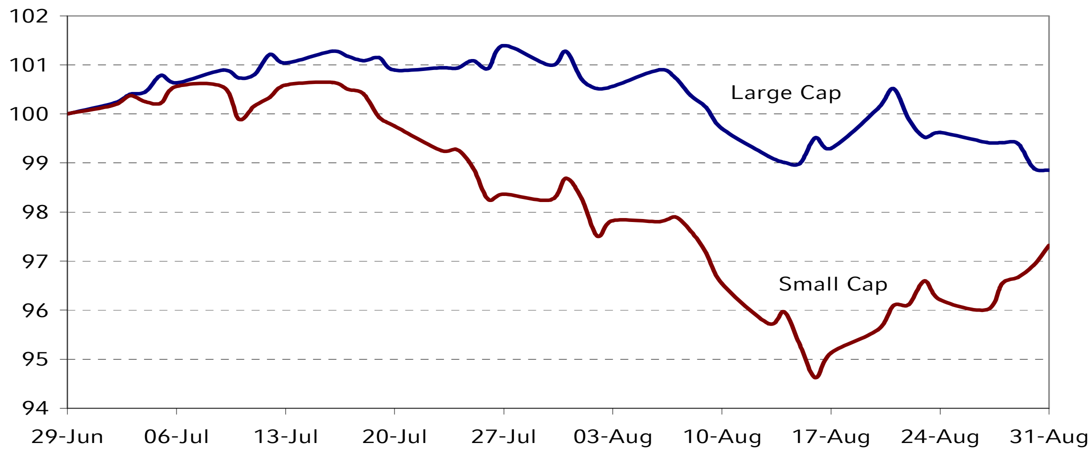
Starting in late July and continuing into the first half of August some large US quant hedge funds encountered very rough weather and reported extraordinarily poor performance. The Wall Street Journal has featured numerous articles about the troubles of prominent quant managers such as Goldman Sachs, Morgan Stanley, Renaissance Technologies and AQR Capital Management. However the circumstances of local quant equity managers are far removed from these events.

How?

While sharing the 'quant' badge these funds were involved in a wide range of strategies across multiple markets using derivative as well as physical implementation. The most important common denominator was high leverage. The timing of their performance woes coincided with the sub-prime originated credit crisis, and hinted at a more direct connection. It is likely initially some large leveraged equity hedge funds, also holding high yield credit instruments in their portfolios, experienced collateral problems with their prime brokers. This necessitated deleveraging their active positions (ie selling down long positions and buying back short positions) which damaged their performance as heavy trades were moving in the opposite direction to their portfolio positions. In the course of that deleveraging there was contagion of poor performance to other similar highly leveraged equity portfolios, including some not directly exposed to credit instruments. With declines in their asset values they were also forced to deleverage, creating more mayhem.

The Australian market is at the periphery of these events. Local institutional long/short funds are not leveraged in the same way as these headline US funds. For example Goldman Sachs has admitted to six times leverage. Local collateral arrangements are also more flexible. So local equity funds were not directly caught in the same maelstrom, but the local market was not altogether immune. The indices below show the cumulative performance of simple momentum strategies, separated by large and small cap, on a daily basis over the months of July and August. The nadir was mid August followed by a strong recovery.

Momentum rewards July/August



This sort of volatility is unusual and could be referred to as roughly a three standard deviation event for this simple index. Interestingly other signals exploited by quantitative managers were much less disrupted by our reckoning so the underlying disturbance to alpha overall drivers has not been excessive.

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Another measure of how unusual the period has been is the spread of active equity manager returns over the past month. Typically the inter-quartile spread across manager returns is under 1%. In the month of August interim numbers from InTech have that spread at 1.9%. That increased dispersion occurs when stocks across the market head in different directions.

What drives quant portfolio commonality?

Most quant equity managers today use a combination of value, momentum and quality to rank stocks. These stock characteristics are favored by quant investors because research indicates they are consistently rewarded, and they resonate with the findings of behavioral finance. The fact that independent research-based processes distil to common ingredients is somewhat reassuring rather than disturbing. By contrast it isn't surprising that belief based processes are more disparate. Some detailed analysis by Matthew Ross of Goldman Sachs JBWere on manager performance correlations indicates that the level of correlations between quantitative managers has been around 0.4 over recent years, which is significant, but hardly high. That compares to around 0.1 to 0.2 for the broader universe of managers. The greater portfolio diversification of quants means that underlying correlations are not diluted by stock specific noise and will therefore tend to be higher. Correlations of active returns don't tell the whole story because at different phases of the cycle style-biased managers can exhibit very high correlation. As an example Ross estimates that value manager correlations while currently low (circa 0.1) were around 0.7 leading up to the burst of the tech bubble.

Average correlation of active equity manager performance is a trivial risk issue for an overall portfolio. What is of greater concern is the risk of latent correlation at the wrong time. On this more critical point the technical factors behind the rout of highly leveraged quant hedge funds in the US are simply not relevant to institutional Australian quant managers.

How else are quant managers different?

Performance survey numbers tell a very straightforward tale of the difference between quant equity managers and the rest of the manager universe. The following group medians are based on the InTech survey for July, and manager classifications suggested by Goldman Sachs JBWere.

Five years ending July 2007 – Median Results for Long Only Managers

	Excess Return %pa	Tracking Error %pa	Information Ratio (Consistency)
Quant equity managers	1.40	1.95	0.75
Non-quant managers	0.95	2.75	0.40
All Managers	1.10	2.60	0.40

Source: InTech, Goldman Sachs JBWere, WestLB Mellon Asset Management

As a cohort quant equity managers have performed better with almost double the consistency of other managers. For a fund with exceptional manager selection ability it might make sense to prefer high risk/high return managers if they can be reliably identified, as manager diversification shrinks the composite risk. But in practice successful higher risk manager selection is hard to achieve, and prone to mistimed hiring and firing. A preference for risk and ambivalence about consistency undermines many manager configurations and may partly explain the indifferent performance of implemented consultants.

Conclusion

The US experience has been fascinating but the experience of July/August has been very different for Australian managers. The basic problem in the US has been about excessive leverage, with no enduring implications for quantitative portfolio characteristics locally. More importantly the strong medium term performance of local long only quant managers challenges the popular preference for high active risk.