"There Was A Tremor in the Force"

Third Quarter Review and Commentary

In our market commentary for the second quarter, we discussed how 'below the radar' indicators of economic health were showing signs of an impending recession. For the first two months of the third quarter, these measures all continued their downward trends.

- The Copper/Gold ratio fell by another 10%.
- The yield curve remained flat to inverted. While 10-year yield recently rose above 2-year yields, they remain below 3-month yields.
- Global PMIs were flat to down, with China's Caixin index showing a little life in September. The ISM index, an older and arguably less effective leading indicator in the US, fell to its lowest level since the global Financial Crisis.

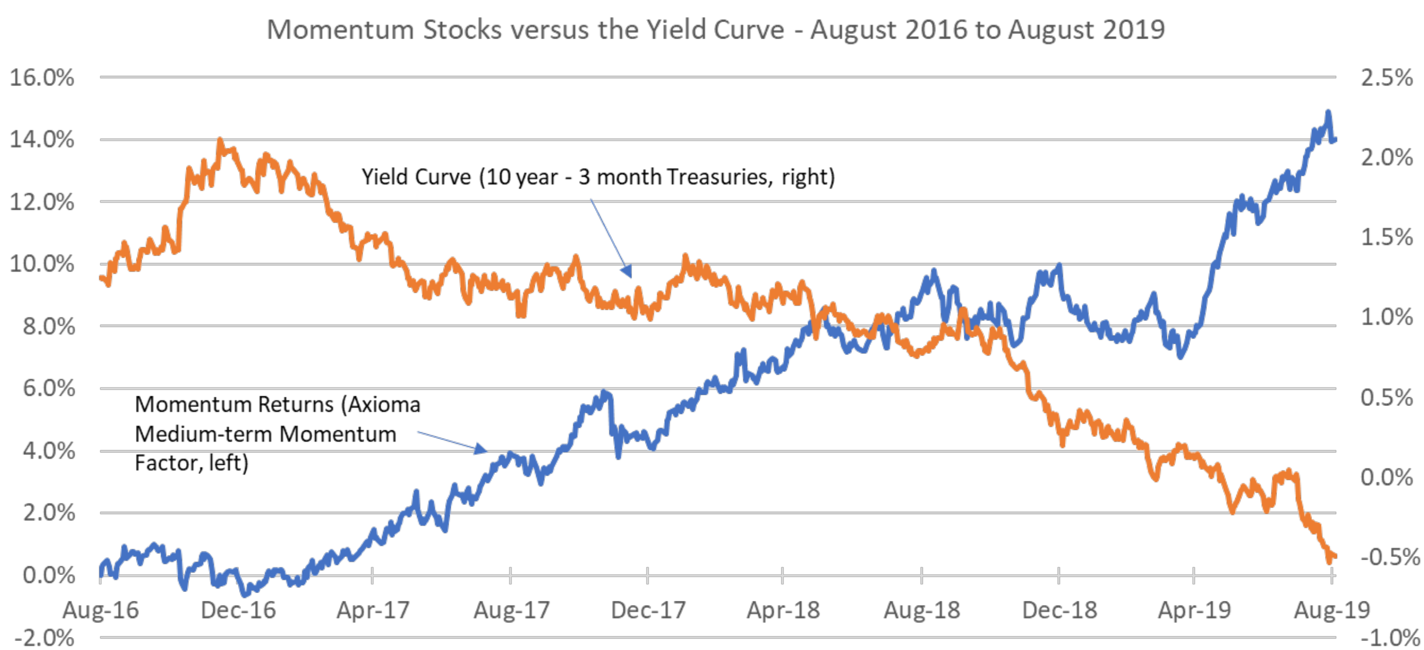
We also discussed the effect of all these late-cycle indicators on the internal behavior of the stock market. Within equities, most returns for the last few years have come from a limited set of large growth stocks, the most notorious known as the FAANG stocks. (Facebook, Apple, Amazon, Netflix, Google), while the rest of the market has lagged.

This disparity of returns between large growth and small value is greater than any time since the tech boom of the late 90s. The chart below shows the size and style returns for the past 3 years as of the end of August:

Russell Style and Size Returns, August 2016 to August 2019[1]

	Growth	Core	Value
Large	17.7%	13.6%	8.9%
Mid	14.9%	10.1%	6.5%
Small	10.6%	7.9%	5.0%

This separation between large growth returns and small cap or value stock returns can be captured in one measure: momentum. Stocks that performed well over the previous several months, in this case growth stocks, continued to perform well. Strong momentum performance is typical during times of slowing economic activity. Using the slope of the Treasury Yield curve as a proxy for the economy, the next chart shows its inverted relationship to returns to momentum stocks. The more the yield curve



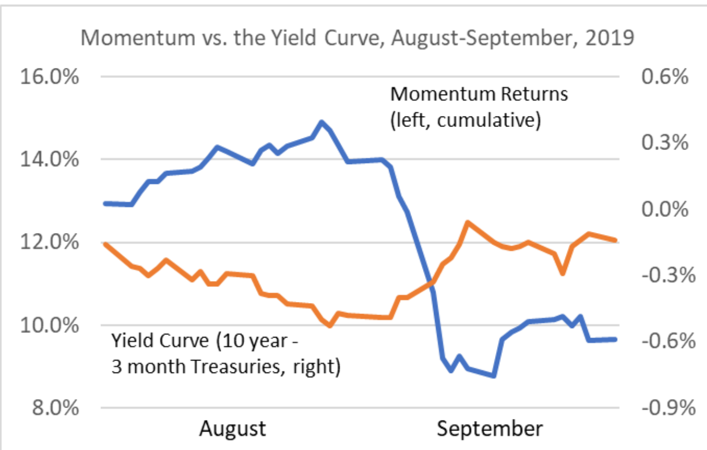
flattened or even inverted, the more investors that

[1] The following Russell indices were used: Large Cap - Russell Top 200. Mid Cap - Russell Midcap. Small Cap - Russell 2000

piled into large growth stocks and away from small value stocks

There are limits to how long this can go on. The yield curve has flirted with inversion all summer long. Valuations between large growth and small/value stocks are wide, and like a spring under tension, if released by a sign of a change in trends, can compress quickly.

And in early September, it did…



In the second week of September, the yield curve moved from deeply inverted, to almost flat.[2] The market interpreted this move as a signal of a potential upturn in the economy, and reacted by shifting focus from the large, stable, safe growth stocks to the smaller, cheap, and generally more cyclical value stock it had been neglecting. For the first two weeks of September, returns to size and style were the reverse of the 3 years previous.

Russell Style and Size Returns, September 1-13, 2019

	Growth	Core	Value
Large	1.4%	2.7%	4.4%
Mid	0.0%	2.8%	4.8%
Small	3.4%	5.6%	8.0%

The move was dramatic, breaking all sorts of statistical measures of volatility, and again bringing back memories of 2000 and 2009[3]

We'll come back to this tumultuous week in just a minute…

"Take a Deep Breadth…"

The events of that week in September relate directly to our investment process, the challenges of factor-based investing and the concept of breadth.

An investor's ability to add value for clients can be broken down into two pieces: their ability to select investments (Skill) and how broadly they can apply that ability (Breadth)[4]. Having the two together is rare. Some investors are very skilled at selecting stocks within an industry. They have high skill, but their breadth is limited.

Factor-based quantitative investors also face breadth challenges. While their factors may build portfolios with hundreds of stocks, all those positions are built around a single (or a set of) investment factor, be it value, momentum, quality or low volatility, or others. All these factors have something in common: there are market and macroeconomic forces that underlie the performance of these factors, and thus, the source of alpha for these stocks is very narrow.

At Vitruvian, our investment process is built around selecting stocks based on investment criteria with broad, diverse sources of information and alpha.

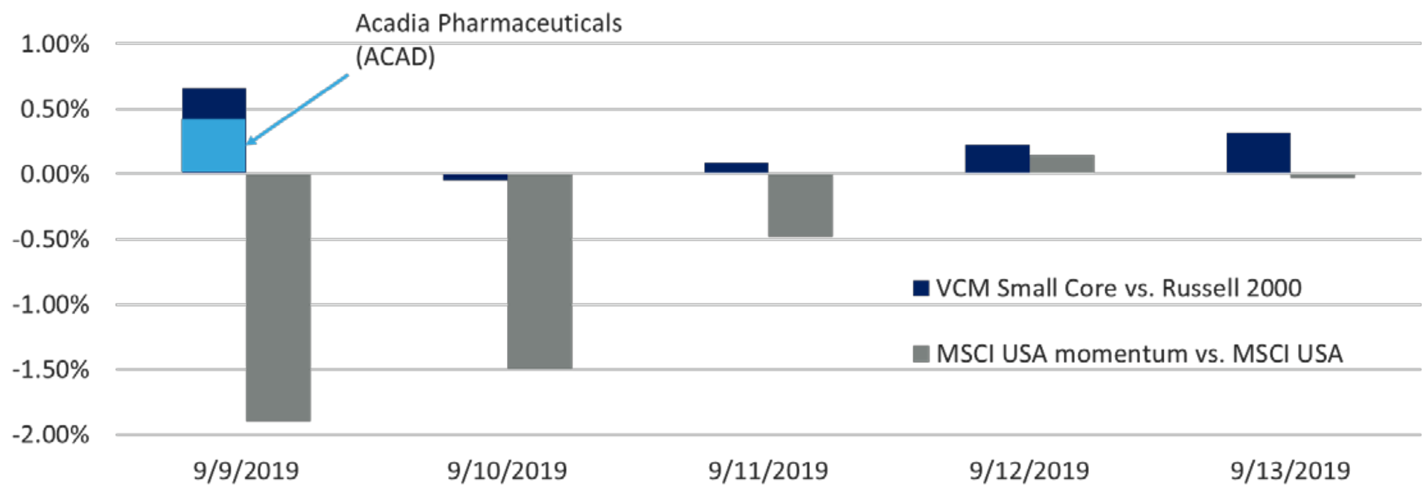
- Management behavior - A collection of uncorrelated signals from management that portend the companies' outlook.
- Investor sentiment – An aggregation of independent perspectives from informed investors.
- Upside potential - Our analysis of company upside potential. While similar to valuation, this measure isolates the firms potential above and beyond that measured by traditional valuation metrics.

[2] The reason for the move in the yield curve are beyond this discussion for now, but Twitter is usually a good place to start.

[3] And for quantitative investors, August of 2007

[4] There is a third piece, how that ability translates to a client's portfolio, known as the Transfer Coefficient. For more detail, see "Portfolio Constraints and the Fundamental Law of Active Management" Clarke, de Silva, and Thorley, 2002

Small Cap Core and Momentum: September 9th through 13th 2019



In this way, broad market forces have limited effect on portfolio performance. Instead, systematic implementation of our process results in performance determined by the merits of individual companies themselves – pure alpha.

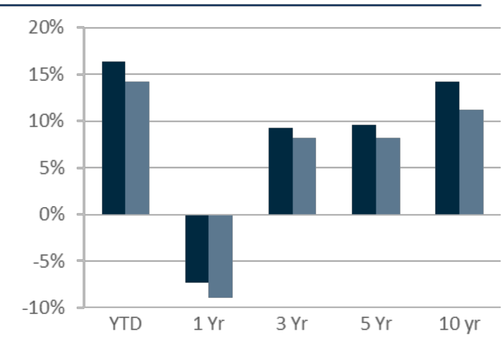
The performance of the second week of September shows how this process delivers steady returns. Despite the maelstrom of momentum, value, growth and size reversals, the Small Cap Core strategy remained stable, with one exception. On Monday Acadian Pharmaceuticals (ACAD) announced positive results for a study of their dementia-psychosis medicine, pimavanserin. The stock rose some 60% that day, providing most of the performance for the portfolio for the week.

While the rapid reversal in momentum returns was short lived – they resumed their steady upward march during the second half of the month - the volatility of the second week of September demonstrates that factor investing based on risk premiums comes with a volatility and performance cost, and that broad based sources of true alpha provide much more consistent returns.

VCM Strategy Performance

Vitruvian Small Cap Core

Small Cap Core Performance – as of 09/30/2019



	YTD	1 Yr	3 Yr	5 Yr	10 yr
Small Cap Core (Gross)	16.35%	-7.33%	9.28%	9.57%	14.17%
Russell 2000 Index	14.18%	-8.89%	8.23%	8.19%	11.19%
Morningstar Ranking	**37**	**52**	**31**	**21**	**1**

Morningstar Ranking is based on the estimated ranking of the net returns to the portfolio within the Morningstar Small Blend Category

The Small Cap Core strategy returned -0.75% during the third quarter, 1.65% ahead of the Russell 2000 which lost -2.40%. The strategy is now 2.15% ahead of the Russell 2000 year to-date.

Health Care provided much of the difference. The portfolio was underweight the weak biotech and pharmaceutical industries, even as individual positions in these areas performed well. Acadian Pharmaceuticals (ACAD) falls into this category. In addition, Genomic Health (GHDX) a genomic testing firm, was targeted for acquisition by Exact Sciences (EXAS) at the end of July.

Related to the health care sector was service provider Medpace Holdings (MEDP), a provider of clinical research services to the pharmaceutical industry. Medpace was up just short of 9% during the quarter. Medpace's performance offset our small position in Fluidigm(FLM), off dramatically after a weak quarter. While we had hopes for this holding, its risk level led us to fortunately limit the position.

World Fuel Services a long-time position of the strategy, also had a strong quarter, making it three straight quarters of double-digit returns. Management confidence has been confirmed by continued support by informed investors, leading to a near doubling in value since the beginning of the year.

Vitruvian Small Cap Market Neutral

Our beta-zero small-cap stock selection strategy had a third straight positive quarter and has now returned 2.6% for the year.

On the long side, this strategy benefitted from some of the same names as the long-only fund. On the short side, a small position in Viewray (VRAY) paid big rewards when results for their prospective radiation therapy for prostate cancer disappointed. Our measures detected a lack of confidence in the program from multiple inside and outside sources, leading to our underweight.

Similarly, we found commentary from the management of Stratasys(SSYS) to be lacking in conviction, and paired with excessive expectations. By the end of the quarter, investors agreed that while the rapid prototyping capabilities enabled by their 3D printing products have merit, the firm has not quite figured out the best way to monetize them.

Shake Shack (SHAK) spent the third quarter quieting concerned about their ability to maintain margins. While we continue to have these concerns, it has been painful waiting for them to come to fruition as the stock has returned to the price levels it saw shortly after going public in 2015.

Vitruvian Large Cap Core

Our Large Cap strategy returned 0.76%, trailing the Russell 1000 return of 1.42% by 0.66%. Of our four strategies, it was the only one to underperform in the third quarter.

The portfolio escaped the volatility of September relative unscathed, suffering most of its underperformance during the narrow, momentum-driven month of August.

For large cap funds over the past few years, the choice of which FAANG stocks to hold usually determines portfolio performance. Outside of these stocks, we had several hits and misses. Lowe's (LOW) reported strong margin and revenue improvement. Despite the severe headwind faced by the energy sector, Phillips 66 (PSX) managed to rise by over 10%, thanks to solid results in their Midstream and Chemical segments. Our biggest setback was Xilinx (XLNX), which fell over 18% on news that researchers discovered a vulnerability in the security of a key product.

Vitruvian Large Cap Long-Short

The beta-one Large Cap Long-Short strategy bolstered by the stock performance in the 30%/30% long/short 'extension' segment, returned 2.83% for the quarter, ahead of the Russell 1000 by 1.41%

Our biggest two winners came from the technology sector. Cloudera (CLDR) justified the faith that informed investors have shown in the stock and rebounded off its historical lows with a strong quarter and improved guidance.

Also beneficial was Acacia Communications (ACIA), a recent addition to the portfolio. Acacia rose 38% thanks to their impending acquisition by Cisco Systems.

The strategy will hit the three-year mark at the end of the year and will likely have a performance record that will put it at the top of the Large Cap Core universe.

Regards,

Derek Izuel