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A Silver Lining Amidst the Market Turmoil?: A recent increase in cross-sectional stock return dispersion might mean even *more* opportunities for factor-based investing

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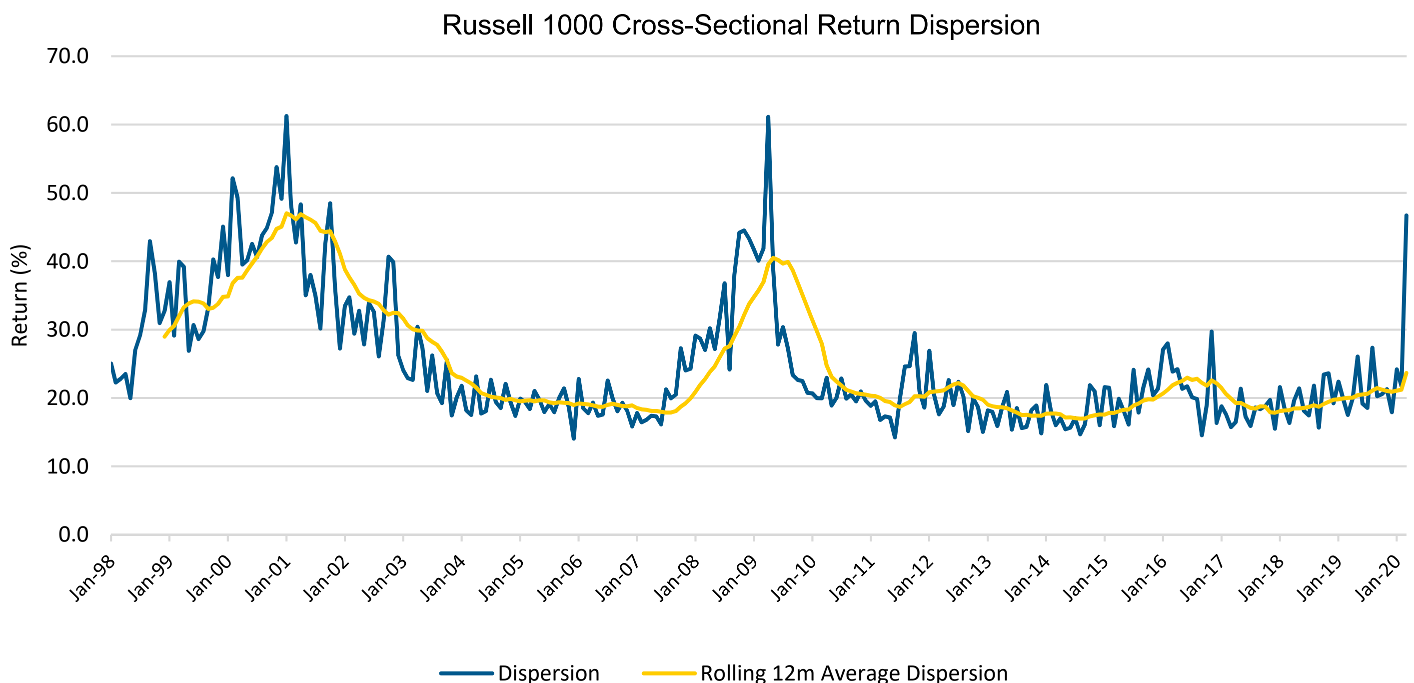
With the market turmoil that began in March of 2020 has come an increase in the cross-sectional dispersion of stock returns – bigger differences between the best and worst stock performers. In the past, periods of larger cross-sectional return dispersion have coincided with bigger factor performance spreads, meaning, potentially, more opportunities for factor-based investors.

CROSS-SECTIONAL DISPERSION HAD INCREASED IN 2020

To measure this cross-sectional dispersion, we used a universe of Russell 1000 stocks, and sorted the stocks by their monthly performance from January 1998 through March 2020. We then calculated an equal-weighted average return for the best performing 200 stocks and for the worst performing 200 stocks and subtracted one from the other. We can see that in March of 2020, this measure of cross-sectional dispersion spiked up to levels not seen since the Tech Bubble and Global Financial Crisis as seen on the graph below. This graph also shows the monthly cross-sectional dispersion (blue line) and a rolling 12-month average of it (yellow line).



Source: Factset, Russell, Cadence. Blue line represents an equal-weighted average return for the best performing 200 stocks and for the worst performing 200 stocks. Yellow line is a 12-month moving average of this number. 1/1/1998 – 4/30/2020.

Past performance is no guarantee of future results.

FACTOR PERFORMANCE SPREADS AND CROSS-SECTIONAL DISPERSION

In the world of factor investing, investment managers often do the following:

1. Observe a factor that seems to have generated excess returns over time
2. Measure a factor's performance through some type of spread analysis
3. Form portfolios that will attempt to harvest that factor's performance spread, potentially generating outperformance for the client

Once having observed a factor that seems to have generated excess returns over time, there are many ways that a factor's performance spread can be measured. One common method is as follows:

- Rank a universe of stocks based on the factor's value for each stock
- Form groups of stocks based on these rankings (quintiles, deciles, etc.)
- Measure the average performance of the stocks within each group
- Compare the returns of the different groups (Top Quintile Return - Bottom Quintile Return, for example)

Historically, there has been a strong relationship between the cross-sectional return dispersion in the market and the magnitude of factor return spreads. Factor return spreads tend to decrease when cross-sectional dispersion decreases and tend to increase when cross-sectional dispersion increases. This is important for factor-based investors. One way to think about factor-based portfolios is that they are designed to harvest a factor's performance spread for the client. When there is more spread in the market, there is potentially more performance to harvest for the client.

Consider the following analysis: Using a set of 10 well-known stock selection factors, we generated equal-weighted average returns based on quintiles for each factor. We did this using a universe of Russell 1000 stocks each month from January 1998 through March 2020. The set of factors we used was:

- 12-month Price Momentum
- Earnings Growth
- Book to Price
- Earnings to Price
- Free Cash Flow to Enterprise Value
- Dividend Yield
- Share Buyback
- Return on Assets
- Return of Equity
- Debt to Equity

As stated, each month we calculated the equal-weighted quintile spreads for each factor. For the purposes of this analysis, we are not interested in which of these factors might have performed best or worst; we are simply interested in measuring the magnitude of the spreads to see if there is a relationship between the magnitude of factor return spreads and the cross-sectional stock performance observed in the market. So, each month we plotted the best factor spread (the spread that was largest) versus our measure of cross-sectional dispersion (from chart 1). As illustrated in the chart on page 3, we observed a strong relationship between the magnitude of factor return spreads (light blue line, right axis) and cross-sectional dispersion (dark blue line).

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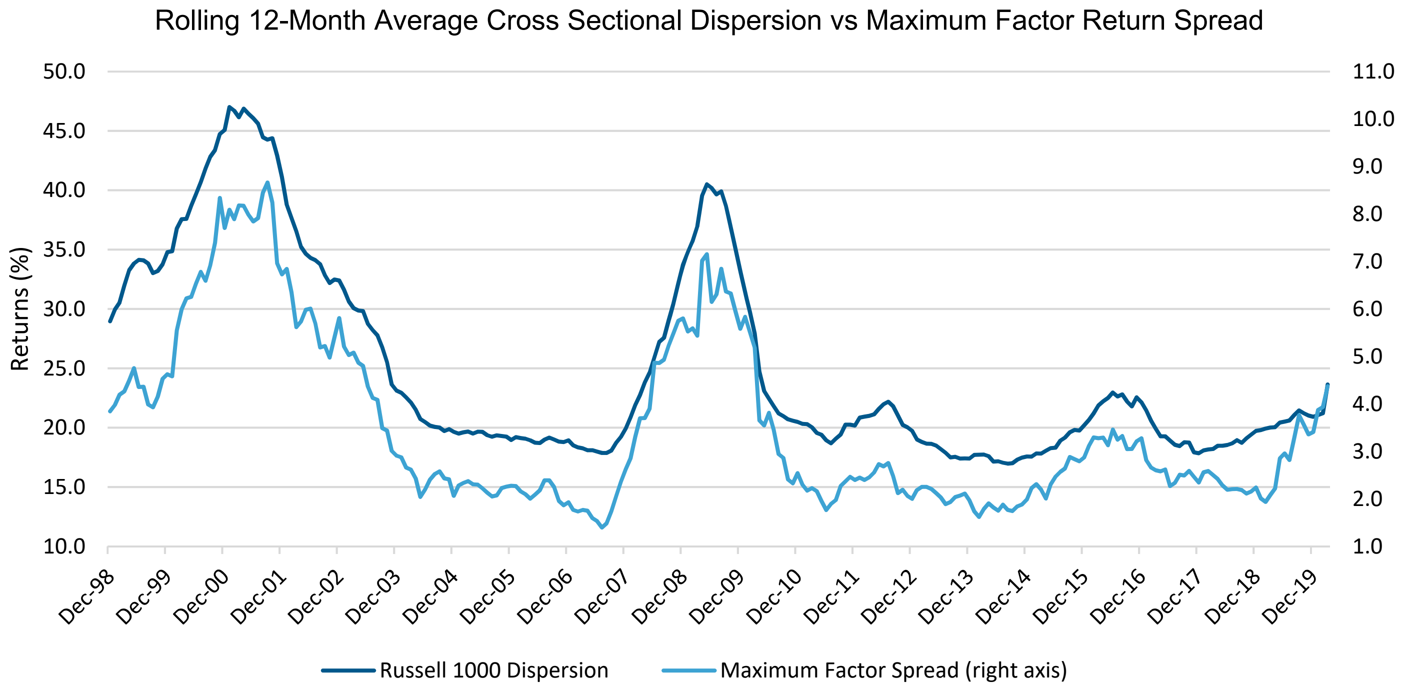

Source: Factset, Russell, Compustat, Cadence. 12/1/1998 – 4/30/2020.

In fact, there is a 0.96 correlation between the rolling average 12-month cross sectional dispersion and the rolling 12-month average best factor spread. And we found that on average, from January 1998 through March 2020, that the best factor captured about 14% of the cross sectional dispersion. What this means is when cross-sectional dispersion is higher, factor return spreads are also greater in magnitude, meaning there is potentially more spread available to harvest for clients through factor-based portfolios.

CONCLUSION

We have explored the relationship between cross sectional stock return dispersion and factor return spreads and found a strong positive relationship. If a period of increased cross-sectional dispersion were to persist, this would be potentially a good situation for factor-based investors as it may provide a chance for greater outperformance. (Although, beyond the scope of this paper, it should be noted that increased cross-sectional dispersion might be good for (skilled) active investors in general as they would also enjoy a chance for increased levels of outperformance). Of course, no one knows if the increased cross-sectional dispersion that we observed in March of 2020 will persist. However, with uncertainty still surrounding the COVID-19 outbreak, one could certainly make the case that uncertainty will persist for the foreseeable future, and this uncertainty may also lead to a sustained increase in cross-sectional dispersion. No matter what the environment turns out to be, Cadence has a history of working with our clients to help navigate the markets' twists and turns.

There is no guarantee that any particular strategy will be successful. All investments involve the risk for loss of principal.

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