Historic coronavirus fear index

March 2020

Research Signals

The final trading day of last week coincided with a quadruple witching day and, true to its historical tendency of heightened volatility, US stocks finished in negative territory, capping their worst week since the peak of the financial crisis. We have closely monitored and reported on daily factor and style model performance in light of the continued significant day-to-day swings in market returns amid the growing coronavirus panic, typified at the start of the week by the highest close on record for the CBOE Volatility Index (VIX), commonly referred to as the Wall Street fear index. Extending on last week's **publication**, in this special report we continue our weekly performance review of daily style exposures in the US, as well as month-to-date results from non-US regions.

- Since January, low beta and high bankruptcy risk remained the best and weakest signals cumulatively in US markets, while high momentum stocks and the least shorted shares saw renewed weakness last week
- Our Historical Growth Model expanded its lead over other models as the only style to remain in positive territory cumulatively since January, while Price Momentum remained the weakest performer, giving up the most ground last week
- In Developed Europe, Developed Pacific and emerging markets, low beta significantly outperformed other styles, while noticeably negative signals included high bankruptcy risk and small caps in developed markets and low valuation in emerging markets

February and March style model and factor returns

We review daily factor and style model performance through 20 March across a representative group of our 400+ US factor library in addition to our style models – Deep Value, Earnings Momentum, Price Momentum, Historical Growth, Relative Value and Value Momentum Analyst II. Performance is based on daily decile return spreads, where the spread is computed as the difference in the equal-weighted return at the top (decile 1) and bottom (decile 10) tails. The universe is our US Large Cap universe, which consists of approximately 1,000 of the largest cap names.

First, from a factor perspective, we focus our results on several factors of interest covering value, momentum, size, risk and short sentiment signals, namely Book-to-Market, TTM EBITDA-to-Enterprise Value, 3-M Revision in FY2 EPS Forecasts, Industry-adjusted 12-Month Relative Price Strength, Natural Logarithm of Market Capitalization, 60-Month Beta, Altman Z-score and Demand Supply Ratio.

The most notable movement in factor performance in the third week of March (Figure 1) was captured by an early-week bump in 60-month Beta as investors clamored for low risk assets, though this trade reversed course by the end of the week. Other mid-week reversals of note include a bounce back for Natural Logarithm of Market Capitalization off

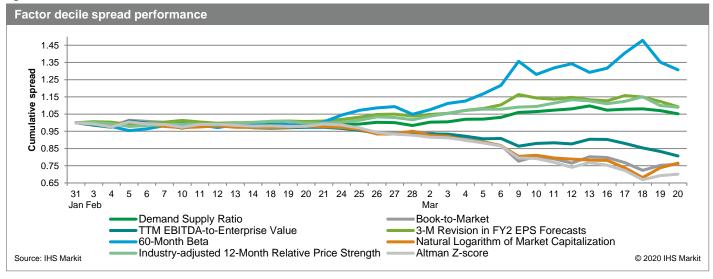
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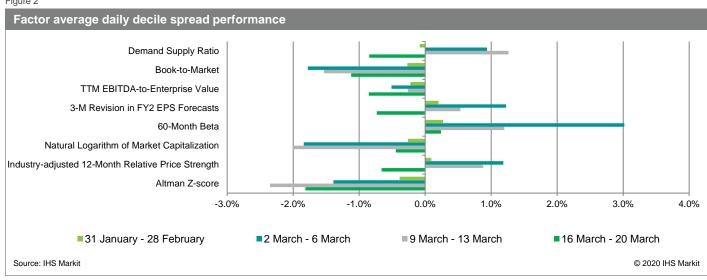
its weakest cumulative spread over the full period. Investors continued to trade out of high bankruptcy risk names, with Altman Z-score remaining the weakest performer, returning -24.5% cumulatively since the end of February. TTM EBITDA-to-Enterprise Value moved more closely in-line with Book-to-Market, the longstanding value measure which was one of February's weakest performers, losing -10.8% cumulatively last week.

Figure 1



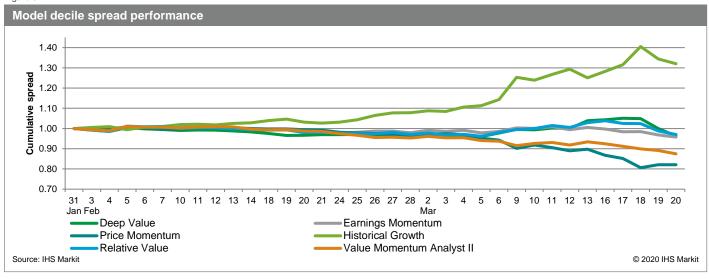
For another perspective, we compare average daily decile spreads in February with those in the first three weeks of March (Figure 2) to provide a more focused view of the extreme behavior between the four periods. Several interesting developments stand out from this vantage point. First, the only factor to post positive average daily performance was 60-Month Beta (0.24%). Interestingly, the largest one-week drawdown in average daily performance was associated with Demand Supply Ratio, a measure that favors stocks with low implied short interest, with a swing from 1.26% to -0.85%. Momentum measures also saw renewed weakness, as demonstrated by Industry-adjusted 12-Month Relative Price Strength and 3-M Revision in FY2 EPS Forecasts, while Natural Logarithm of Market Capitalization's average underperformance tapered off from -2.01% to -0.44%.

Figure 2



Returns for our style models mostly maintained their relative positioning on a cumulative basis from January through the third week of March (Figure 3). Historical Growth expanded its lead over the other models as the only style to remain in positive territory cumulatively over the full period. Price Momentum remained the weakest performer since January, giving up the most ground with a weekly cumulative return of -8.6%, followed by Deep Value (-7.2%) and Value Momentum (-6.4%).

Figure 3



Lastly, to put the factor and model performance results into perspective globally, we look at return spreads and information coefficients for the same set of factors in non-US universes, covering Developed Europe, Developed Pacific, Emerging EMEA and Emerging Asia, through the third week of March. As with US markets, the risk off trade remained a key driver in Developed Europe and Developed Pacific, with 60-Month Beta extending its lead over other factors, while Altman Z-Score and Natural Logarithm of Market Capitalization were noticeably negative signals, along with the change in fate to Demand Supply Ratio. Emerging markets universes followed suit with other coverage universe, with elevated outperformance associated with 60-Month Beta, while Industry-adjusted 12-Month Relative Price Strength and Demand Supply Ratio were also positively rewarded themes at the expense of Book-to-Market.

Table 1

| Factor performance by region, 2 March 2020 – 20 March 2020 | | | | | | | | | |
|------------------------------------------------------------|------------------|------------------|------------------|-------------------|------------------|---------------|------------------|---------------|--|
| | Developed | Developed Europe | | Developed Pacific | | Emerging EMEA | | Emerging Asia | |
| Factor/Model | Return spread | IC | Return spread | IC | Return spread | IC | Return spread | IC | |
| Altman Z Score | -12.39 | -0.22 | -4.59 | -0.17 | -6.77 | -0.17 | -3.17 | -0.09 | |
| Industry-adjusted 12-Month Relative Price Strength | 1.39 | 0.07 | -1.97 | -0.04 | 2.95 | 0.13 | 2.72 | 0.11 | |
| Natural Logarithm of Market Capitalization | -7.01 | -0.10 | -9.13 | -0.08 | 0.85 | -0.06 | -0.68 | 0.01 | |
| 60-Month Beta | 16.61 | 0.31 | 11.21 | 0.24 | 8.56 | 0.22 | 9.92 | 0.30 | |
| 3-M Revision in FY2 EPS Forecasts | 0.13 | 0.02 | 3.99 | 0.11 | -1.98 | -0.01 | 2.22 | 0.06 | |
| TTM EBITDA-to-Enterprise Value | -5.20 | -0.15 | -0.15 | 0.03 | 0.01 | 0.00 | -2.67 | -0.05 | |
| Book-to-Market | -14.52 | -0.25 | 0.02 | -0.05 | -2.69 | -0.15 | -3.06 | -0.07 | |
| Demand Supply Ratio | -4.29 | -0.04 | -7.26 | -0.13 | 1.47 | 0.09 | 5.04 | 0.19 | |

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