

Rising interest in factor performance

February 2021

Research Signals

While investors focused on the early stages of economic recovery, supported by a three-year high in the J.P.Morgan Global Manufacturing PMI, rising US Treasury yields triggered a late-month global selloff in equity markets. The proposition of higher borrowing costs and inflation expectations affected relative sector performance and, in turn, factor performance for the month (Table 1).

- US: Factors with high active exposure to the Energy and Financial sectors outperformed, including 2-Year Ahead EPS Growth and Book-to-Market, respectively
- Developed Europe: Rational Decay Alpha and 24-Month Value at Risk captured respective trades favoring low momentum shares at the same time as high risk names
- Developed Pacific: Book-to-Market remained a strong performer in Japan, with this trade, in addition to underperformance of Industry-adjusted 12-month Relative Price Strength, spilling over to the broader region
- Emerging markets: Industry-adjusted 12-month Relative Price Strength outperformance was isolated to emerging markets

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Table 1

Global factor quantile return spread (%) performance snapshot, Feb 2021

Factor	Factor Group	US Large Cap	US Small Cap	Developed Europe	Developed Pacific ex Japan	Japan Standard Cap	Emerging Markets
Book-to-Market		8.58	15.01	6.48	10.28	10.62	2.38
Forward 12-M EPS-to-Enterprise Value	Deep Value	-0.89	3.39	-3.00	-1.24	-7.62	-3.43
TTM EBITDA-to-Enterprise Value		-7.38	0.27	-0.95	3.87	-0.74	-2.27
TTM Free Cash Flow-to-Enterprise Value		-2.78	0.54	2.22	1.57	-5.40	-1.25
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	-2.14	-1.08	0.13	3.06	-2.49	-2.42
Industry Relative TTM Dividend Yield		-2.30	-0.50	2.91	6.43	5.46	-2.47
Fixed Assets Turnover Ratio	Management Quality	-0.29	1.40	5.58	-0.32	-7.85	0.43
Inventory Turnover Ratio		4.70	0.45	3.81	-3.34	-1.87	-1.33
Net Operating Asset Turnover		-0.01	0.50	0.89	-1.34	-6.75	0.35
Change in Accruals to Assets	Earnings Quality	3.44	3.88	1.97	3.33	-3.11	-0.63
Change in TTM COGS vs. Inventory Level		-1.20	1.66	3.07	-0.34	-1.64	0.20
Change in TTM Sales vs. Accounts Receivable		-1.07	-2.04	-0.99	-0.29	-0.20	-3.40
Working Capital Accruals		1.04	2.39	-2.09	0.99	0.14	-1.51
1-yr Growth in TTM Free Cash Flow	Historical Growth	-6.22	-2.58	0.19	0.18	-4.72	-2.01
Reinvestment Rate		-0.54	3.59	0.84	-0.22	-9.56	-3.64
Average Monthly Trading Volume-to-Market Cap	Liquidity, Risk & Size	9.86	2.24	6.64	-1.30	4.38	2.35
60-Month Beta		-17.84	-10.48	-10.60	-4.14	-3.91	-5.51
Asset Quality Index		3.51	0.01	0.04	0.12	0.18	-0.63
Operating Leverage		-0.34	-2.48	-0.05	-0.14	-1.55	-0.62
Natural Logarithm of Market Capitalization	Earnings Momentum	7.40	7.85	0.85	1.42	-2.59	-1.73
2-Year Ahead EPS Growth		14.49	9.06	11.85	9.72	8.94	4.23
3-M Revision in FY2 EPS Forecasts		-0.05	1.25	-2.24	2.95	-2.34	2.64
Real Earnings Surprise		2.45	1.04	1.56	0.76	-4.90	-2.99
24-Month Value at Risk		-17.86	-9.21	-8.72	-3.68	-5.14	-6.06
5-day Industry Relative Return	Price Momentum	9.86	15.25	-0.06	0.35	-2.66	3.17
Industry-adjusted 12-month Relative Price Strength		-4.92	-2.69	-4.08	-10.67	-11.71	2.31
Rational Decay Alpha		-19.25	-15.53	-11.19	-8.81	-14.38	-3.11
Demand Supply Ratio	Short Sentiment	1.18	7.24	0.02	2.08	-0.86	-4.29
Implied Loan Rate		1.84	5.39	-1.65	2.52	1.33	-0.63

Source: IHS Markit

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United States

US Large Cap

The US manufacturing sector remained strong in February, with the manufacturing PMI posting at 58.6, though easing from January's survey high of 59.2. The headline figure was supported by steep expansions in output and new orders, while unprecedented supply chain disruptions remained apparent as input costs, partially passed on to clients, rose at the fastest rate since April 2011. Higher inflation expectations, coupled with higher borrowing costs, also impacted stock markets in the second half of the month, erasing some of the month's earlier gains.

The strong run in oil prices last month and, in turn the Energy sector, played a prominent role in the top performing factors with active exposures to the sector. For US large caps in February (Table 2), this included clearly identifiable Macro factors such as Oil Prices Sensitivity (14.40%), Industrial Production Sensitivity (14.01%) and Credit Risk Premium Sensitivity (11.45%). However, a perhaps unexpected impacted factor is 2-Year Ahead EPS Growth (14.49%), which started the month with an active (D1-D10) Energy sector exposure of 26.2% (Figure 1), an extreme move from the April 2020 low (0.7%) and more than double the next closest sector (Cyclical Goods & Services: 12.1%). On the other hand, Price Momentum factors were among the weakest performers (Table 3), led by Rational Decay Alpha (-19.25%).

Table 2

US Large Cap top decile return spread factor performance, Feb 2021

Factor	Decile spread (%)	Factor group
2-Year Ahead EPS Growth	14.49	Earnings Momentum
Oil Prices Sensitivity	14.40	Macro
3-yr Compound Annual ROIC Growth	14.06	Historical Growth
Industrial Production Sensitivity	14.01	Macro
Price-to-Total Assets	13.50	Deep Value
50-200 Day Stock Price Ratio	13.21	Price Momentum
60-Month Alpha	12.88	Price Momentum
Tobin q	12.42	Liquidity, Risk & Size
Market Leverage	12.37	Liquidity, Risk & Size
Altman Z Score	11.93	Liquidity, Risk & Size
Change in QTR Sales vs. Gross Margin	11.91	Earnings Quality
2-Year Ahead EPS Growth Percentage Change	11.89	Earnings Momentum
26-Week Relative Price Strength	11.48	Price Momentum
Credit Risk Premium Sensitivity	11.45	Macro
6-Month Nominal Change in 36-Month Alpha	11.40	Price Momentum

Source: IHS Markit

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Figure 1

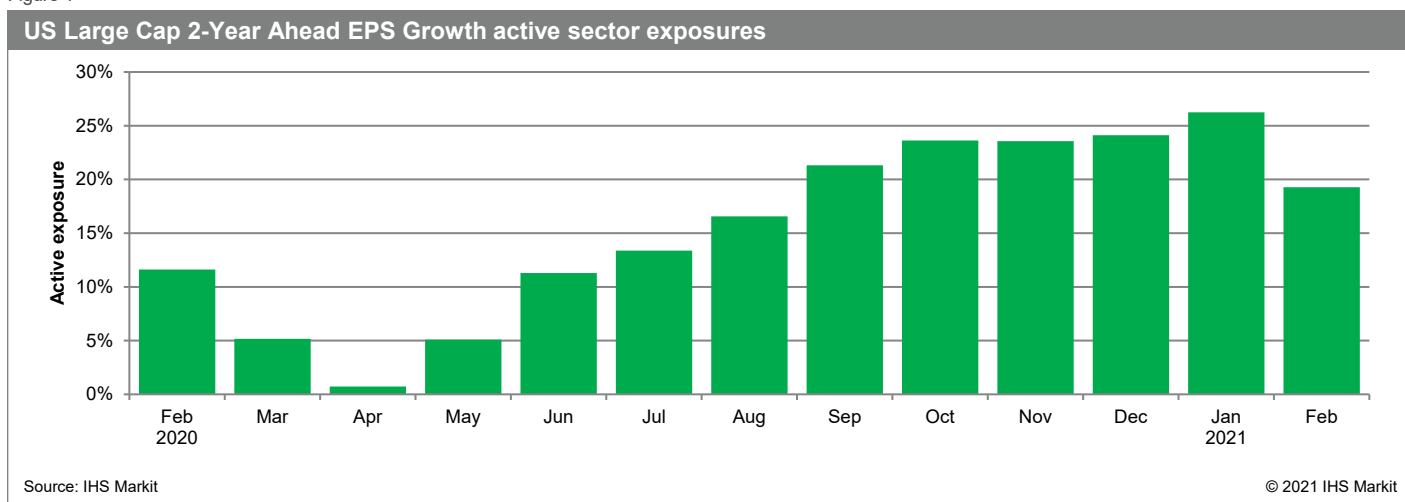


Table 3

US Large Cap bottom decile return spread factor performance, Feb 2021

Factor	Decile spread (%)	Factor group
Rational Decay Alpha	-19.25	Price Momentum
Second Preceding 6-month Return	-18.44	Price Momentum
24-Month Value at Risk	-17.86	Price Momentum
60-Month Beta	-17.84	Liquidity, Risk & Size
Yearly TTM Total Sales Growth Rate	-16.92	Historical Growth
Product of Beta and Sigma	-16.27	Liquidity, Risk & Size
1-yr Change in Sales	-15.94	Historical Growth
Std Dev of FY2 EPS Estimates-to-Price	-15.23	Earnings Momentum
30-75 Week Stock Price Ratio	-14.32	Price Momentum
1-yr Change in Price-adj TTM Cash Flow	-14.14	Historical Growth

Source: IHS Markit

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US Small Cap

Several Deep Value measures were among the top performing factors for small caps in February (Table 4), including Time Weighted Book Yield (15.15%) and Price-to-Total Assets (9.63%). However, unlike large caps, the strong performance associated with these factors was related to heavy active exposures to another strong performing sector, Financials. Yet, the top performer was an industry neutral ranked factor, 5-day Industry Relative Return (15.25%), which has been highly rewarded in three of the last four months (Figure 2). Conversely, the weakest performing factors (Table 5) were dominated by Price Momentum measures, with the top two factors matching that of large caps, Rational Decay Alpha (-15.53%) and Second Preceding 6-month Return (-15.21%).

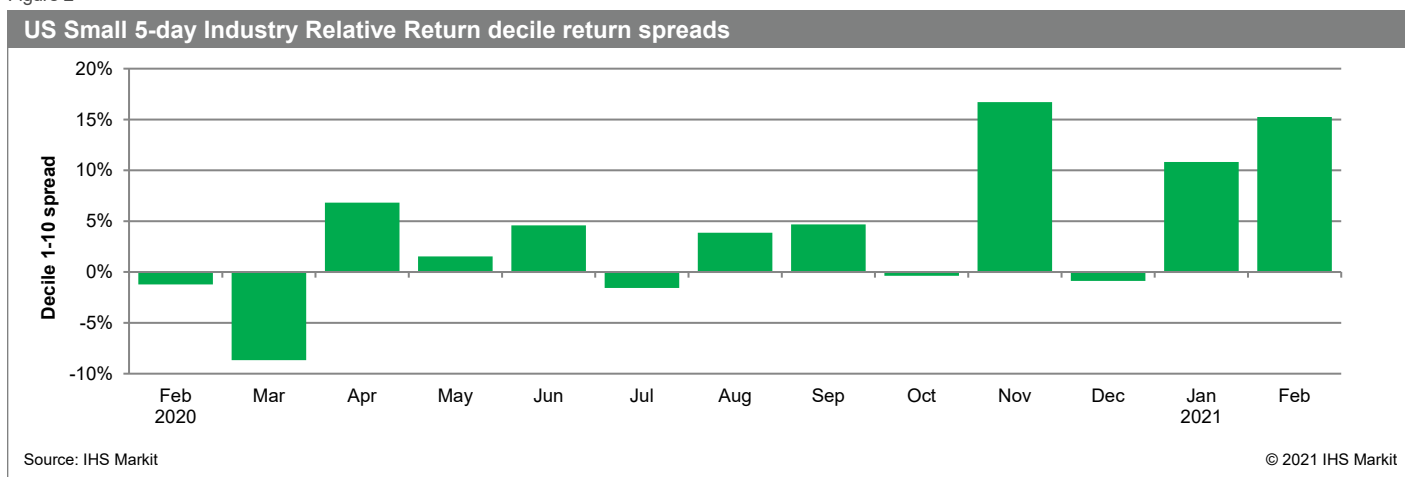
Table 4

US Small Cap top decile return spread factor performance, Feb 2021		
Factor	Decile spread (%)	Factor group
5-day Industry Relative Return	15.25	Price Momentum
Time Weighted Book Yield	15.15	Deep Value
Book-to-Market	15.01	Deep Value
60-Month Alpha	13.61	Price Momentum
Aggregate Gamma	12.64	Liquidity, Risk & Size
Oil Prices Sensitivity	11.76	Macro
Tobin q	10.46	Liquidity, Risk & Size
Sortino Ratio	10.07	Price Momentum
Industrial Production Sensitivity	10.03	Macro
36-Month Sharpe Ratio	9.86	Price Momentum
Price-to-Total Assets	9.63	Deep Value
Leading 12 Month EBITDA/ EV	9.60	Deep Value
Current Liabilities-to-Price	9.41	Liquidity, Risk & Size
36-Month Active Return with 1-Month Lag	9.36	Price Momentum
TTM Sales-to-Price	9.20	Deep Value

Source: IHS Markit

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Figure 2



Source: IHS Markit

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Table 5

US Small Cap bottom decile return spread factor performance, Feb 2021		
Factor	Decile spread (%)	Factor group
Rational Decay Alpha	-15.53	Price Momentum
Second Preceding 6-month Return	-15.21	Price Momentum
30-75 Week Stock Price Ratio	-14.48	Price Momentum
1-yr Change in Price-adj TTM EPS	-12.27	Historical Growth
1-yr Change in Price-adj TTM Cash Flow	-12.12	Historical Growth
12-Month Active Return with 1-month Lag	-11.74	Price Momentum
Slope of 66 Week Price Trend Line	-11.22	Price Momentum
Fama-French Momentum	-10.52	Price Momentum
60-Month Beta	-10.48	Liquidity, Risk & Size
18-Month Active Return with 1-Month Lag	-10.16	Price Momentum

Source: IHS Markit

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Europe

The eurozone's manufacturing economy performed strongly in February, with the PMI coming in at 57.9, up from 54.8 in January, driven by marked gains in output and new orders as exports strengthened, while input costs rose sharply on continued lengthening in delivery times. The upswing in manufacturing growth was broad-based, with all nations apart from Greece recording stronger PMI readings. Stocks declined from the mid-month high, in tandem with US markets which slumped in the final weeks of February on fears that rising interest rates would choke off the fragile economic recovery.

As with US markets, sector exposures were impactful on factor performance in Developed Europe markets in February, elevating factors such as 2-Year Ahead EPS Growth (11.85%), Oil Prices Sensitivity (11.08%) and Price-to-Total Assets (9.20%) to the leaderboard (Table 6). At the opposite extreme, momentum and risk measures were prominent among the factors which lagged for the month (Table 7). Rational Decay Alpha (-11.19%) and 60-Month Beta (-10.60%) represented these themes, with an interesting juxtaposition of systematic trades across deciles (Figure 3) favoring low momentum and high risk shares, respectively.

Table 6

Developed Europe top decile return spread factor performance, Feb 2021		
Factor	Decile spread (%)	Factor group
2-Year Ahead EPS Growth	11.85	Earnings Momentum
Oil Prices Sensitivity	11.08	Macro
Industrial Production Sensitivity	10.61	Macro
Price-to-Total Assets	9.20	Deep Value
60-Month Alpha	9.01	Price Momentum
2-Year Ahead EPS Growth Percentage Change	8.94	Earnings Momentum
Market Leverage	8.28	Liquidity, Risk & Size
36-Month Active Return with 1-Month Lag	8.18	Price Momentum
Tobin q	7.76	Liquidity, Risk & Size
Time Weighted Book Yield	7.63	Deep Value
Leading 12 Month Book Yield	7.41	Deep Value
Book Leverage	7.12	Liquidity, Risk & Size
60-Month Active Return with 1-Month Lag	6.64	Price Momentum
Average Monthly Trading Volume-to-Market Cap	6.64	Liquidity, Risk & Size
3-yr Compound Annual TTM EPS after Extra Items-to-Price Growth Rate	6.64	Historical Growth

Source: IHS Markit

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Figure 3

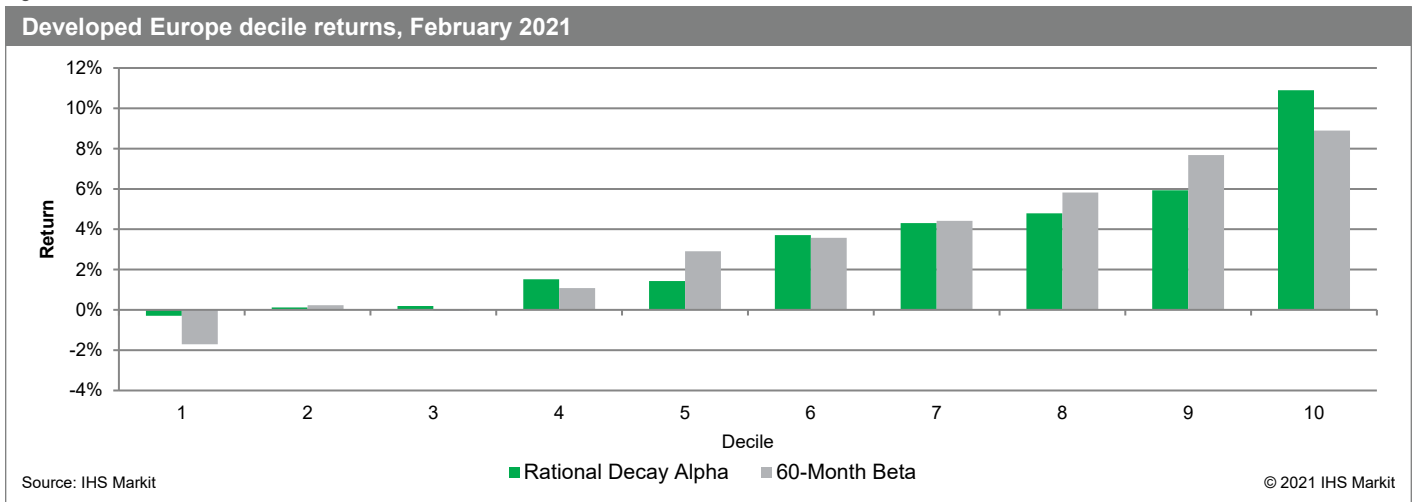


Table 7

Developed Europe bottom decile return spread factor performance, Feb 2021

Factor	Decile spread (%)	Factor group
Rational Decay Alpha	-11.19	Price Momentum
60-Month Beta	-10.60	Liquidity, Risk & Size
Product of Beta and Sigma	-10.23	Liquidity, Risk & Size
Second Preceding 6-month Return	-9.52	Price Momentum
Std Dev of FY2 EPS Estimates-to-Price	-9.45	Earnings Momentum
30-75 Week Stock Price Ratio	-8.94	Price Momentum
24-Month Value at Risk	-8.72	Price Momentum
CV of Prior 90-Day Closing Prices	-8.56	Price Momentum
Debt to Market Cap	-8.31	Liquidity, Risk & Size
Std Dev of FY1 EPS Estimates-to-Price	-8.19	Earnings Momentum

Source: IHS Markit © 2021 IHS Markit

Asia-Pacific

Manufacturing operating conditions moved in opposite directions in the two largest Asian economies of China and Japan in February. The Japanese manufacturing sector signaled the first improvement since April 2019, with the PMI rising to 51.4 in February, from 49.8 in January, on modest expansions in output and new orders, though supply chain disruptions contributed to a sharp rise in input rises. In China, the manufacturing PMI slipped to 50.9 in February, from 51.5 in January, on slower rises in output and new work for a third consecutive month. Shares in Japan also fared better than in China which was more acutely impacted by the late-month spike in US Treasury yields.

Factors with high active (D1-D10) exposures to Financials outperformed in Developed Pacific markets outside Japan in February (Table 8), in particular, those capturing strong balance sheets such as Altman Z Score (15.80%) and Leading 12 Month Book Yield (13.14%). At the opposite end of the spectrum, Price Momentum factors were particularly disfavored for the month (Table 9), with the highest underperformance turned in by Second Preceding 6-month Return (-13.64%), at a magnitude just surpassing that of November 2020 (Figure 4) and not outmatched since May 2009.

Top and bottom factor performance in Japan mirrored that of the broader region, with valuation measures continuing to dominate the list of top performing factors (Table 10) and momentum signals remaining bottom performers (Table 11). 60-Month Alpha (15.87%) was the top performer, more than tripling January's top tier performance for the month (Figure 5), at a level not seen since March 2000. In contrast, as with our other developed market coverage universe, Second Preceding 6-month Return (-16.82%) turned in an especially large drawdown, in this case the second deepest in our factor history.

Table 8

Developed Pacific exJapan top decile return spread factor performance, Feb 2021		
Factor	Decile spread (%)	Factor group
Altman Z Score	15.80	Liquidity, Risk & Size
Leading 12 Month Book Yield	13.14	Deep Value
Tobin q	13.13	Liquidity, Risk & Size
Price-to-Total Assets	12.97	Deep Value
Current Liabilities-to-Price	12.94	Liquidity, Risk & Size
Graham Number Fair Value Premium	12.92	Deep Value
Time Weighted Book Yield	12.66	Deep Value
Market Leverage	12.28	Liquidity, Risk & Size
60-Month Active Return with 1-Month Lag	11.88	Price Momentum
Price-to-Book Return-on-Equity Combination	11.62	Deep Value
Time Weighted Cash Yield	11.16	Deep Value
Time Weighted Sales Yield	10.98	Deep Value
Cash-to-Price	10.92	Deep Value
36-Month Active Return with 1-Month Lag	10.80	Price Momentum
Natural Logarithm of Total Assets (USD)	10.67	Liquidity, Risk & Size

Source: IHS Markit

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Table 9

Developed Pacific exJapan bottom decile return spread factor performance, Feb 2021		
Factor	Decile spread (%)	Factor group
Second Preceding 6-month Return	-13.64	Price Momentum
18-Month Active Return with 1-Month Lag	-13.31	Price Momentum
Debt to Market Cap	-12.16	Liquidity, Risk & Size
12-Month Active Return with 1-month Lag	-12.11	Price Momentum
Slope of 66 Week Price Trend Line	-12.04	Price Momentum
Std Dev of FY1 EPS Estimates-to-Price	-10.81	Earnings Momentum
Industry-adjusted 12-month Relative Price Strength	-10.67	Price Momentum
30-75 Week Stock Price Ratio	-10.41	Price Momentum
24-Month Active Return with 1-Month Lag	-10.33	Price Momentum
Fama-French Momentum	-10.30	Price Momentum

Source: IHS Markit

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Figure 4

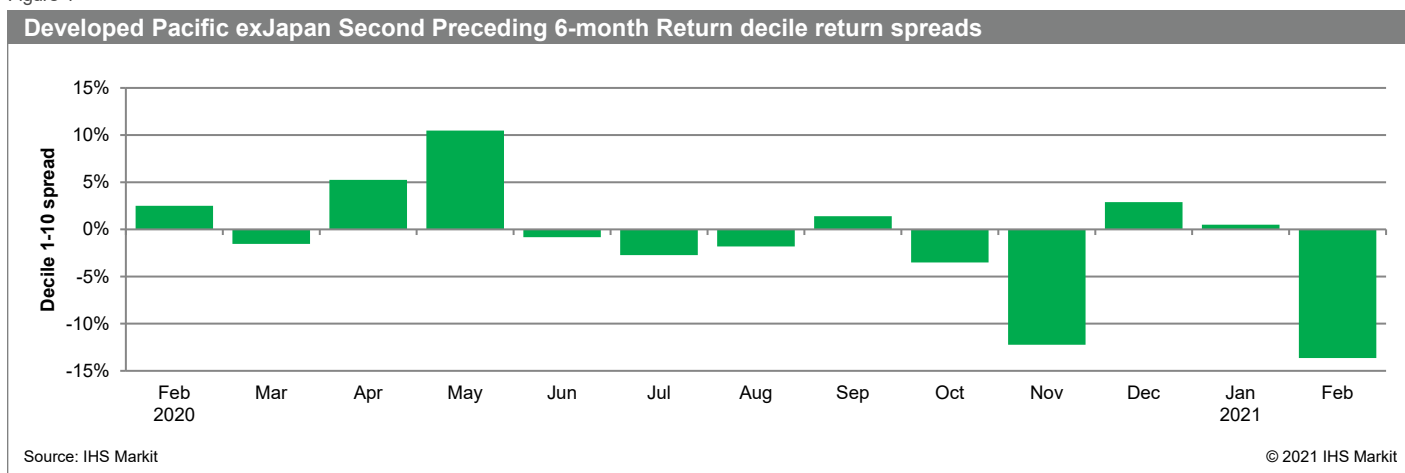


Table 10

Japan Standard Cap top decile return spread factor performance, Feb 2021

Factor	Decile spread (%)	Factor group
60-Month Alpha	15.87	Price Momentum
60-Month Active Return with 1-Month Lag	15.20	Price Momentum
36-Month Active Return with 1-Month Lag	15.08	Price Momentum
Altman Z Score	13.94	Liquidity, Risk & Size
Time Weighted Cash Yield	13.51	Deep Value
Natural Logarithm of Total Assets (USD)	12.82	Liquidity, Risk & Size
60-Month Active Return with 12-Month Lag	12.42	Price Momentum
Price-to-Total Assets	12.26	Deep Value
Leading 12 Month Book Yield	12.14	Deep Value
Net Asset Value to Price	11.96	Deep Value
Time Weighted Book Yield	11.48	Deep Value
Market Leverage	11.46	Liquidity, Risk & Size
Tobin q	11.29	Liquidity, Risk & Size
3-yr Compound Annual TTM EPS after Extra Items-to-Price Growth Rate	10.67	Historical Growth
Oil Prices Sensitivity	10.66	Macro

Source: IHS Markit © 2021 IHS Markit

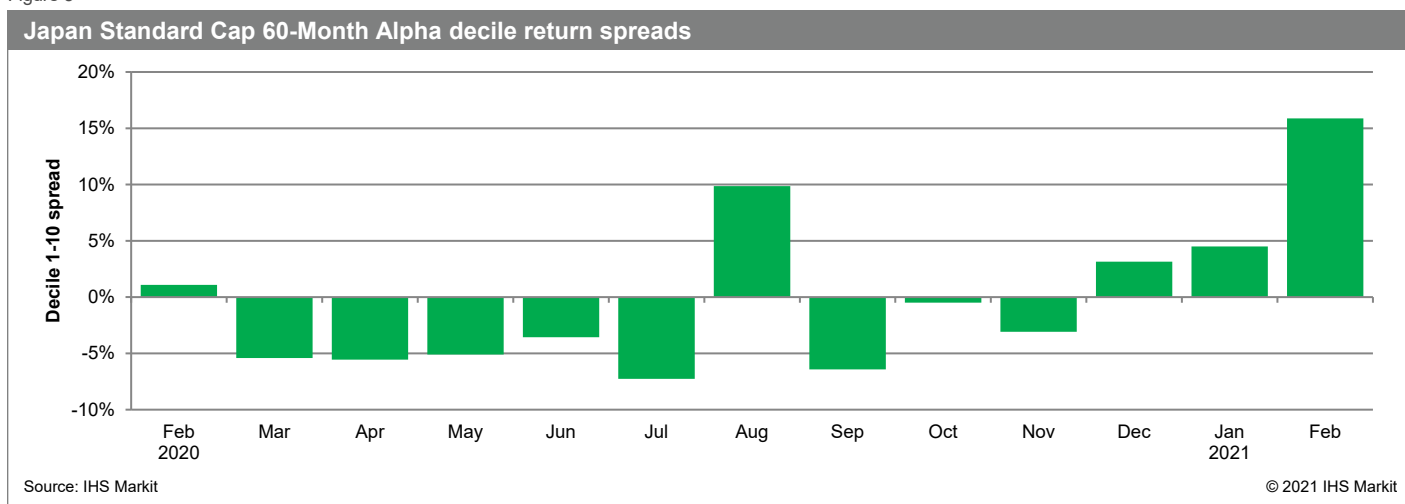
Table 11

Japan Standard Cap bottom decile return spread factor performance, Feb 2021

Factor	Decile spread (%)	Factor group
Second Preceding 6-month Return	-16.82	Price Momentum
18-Month Active Return with 1-Month Lag	-15.25	Price Momentum
30-75 Week Stock Price Ratio	-14.69	Price Momentum
Fama-French Momentum	-14.68	Price Momentum
Rational Decay Alpha	-14.38	Price Momentum
24-Month Active Return with 1-Month Lag	-13.83	Price Momentum
Interest Coverage	-13.79	Liquidity, Risk & Size
12-Month Active Return with 1-month Lag	-13.67	Price Momentum
Std Dev of FY2 EPS Estimates-to-Price	-13.60	Earnings Momentum
Profitability Ratio	-13.60	Management Quality

Source: IHS Markit © 2021 IHS Markit

Figure 5



Emerging Markets

Lastly, we report on top (Table 12) and bottom (Table 13) performing factors in emerging markets in February. The markets diverged from our other coverage universes with the strongest performance associated with Price Momentum measures. 50-200 Day Stock Price Ratio (8.07%) led the way with its highest spread over the past year (Figure 6). Investors also moved out on the risk curve, sending factors such as 24-Month Value at Risk (-6.06%) and 60-Month Beta (-5.51%) to the laggard board.

Table 12

Emerging Markets top quintile return spread factor performance, Feb 2021

Factor	Decile spread (%)	Factor group
50-200 Day Stock Price Ratio	8.07	Price Momentum
6-Month Nominal Change in 12-Month Alpha	7.77	Price Momentum
9-Month Active Return with 1-Month Lag	7.34	Price Momentum
6-Month Active Return with 1-Month Lag	7.18	Price Momentum
15/36 Week Stock Price Ratio	6.92	Price Momentum
26-Week Relative Price Strength	6.74	Price Momentum
39-Week Return with 4-week Lag	6.24	Price Momentum
6-Month Nominal Change in 18-Month Alpha	5.74	Price Momentum
6-Month Nominal Change in 36-Month Alpha	5.00	Price Momentum
2-Year Projected EPS Growth	4.46	Earnings Momentum
Street Consensus Rating	4.46	Earnings Momentum
Leading 12 Month Sales Yield	4.37	Deep Value
2-Year Ahead EPS Growth	4.23	Earnings Momentum
Time Weighted Sales Yield	4.09	Deep Value
Street Revision Magnitude	3.71	Earnings Momentum

Source: IHS Markit

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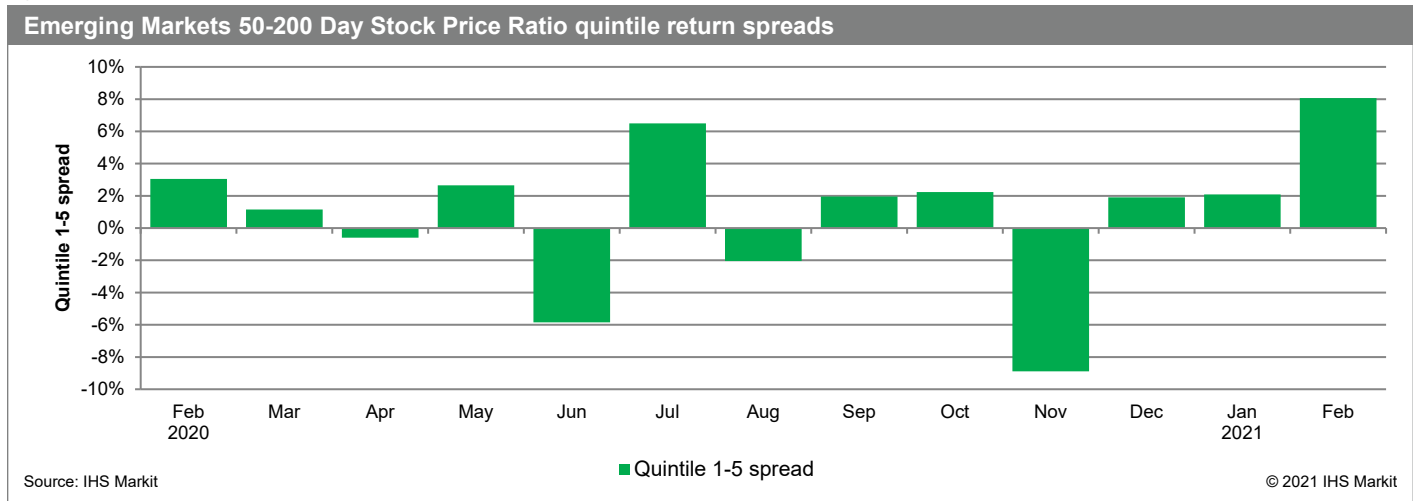
Table 13

Emerging Markets bottom quintile return spread factor performance, Feb 2021		
Factor	Decile spread (%)	Factor group
CV of Prior 90-Day Closing Prices	-8.46	Price Momentum
24-Month Value at Risk	-6.06	Price Momentum
Product of Beta and Sigma	-5.52	Liquidity, Risk & Size
60-Month Beta	-5.51	Liquidity, Risk & Size
60-Day Residual Risk	-5.42	Liquidity, Risk & Size
Pretax Return on Net Operating Assets	-5.28	Management Quality
Price Above Last 260-day Lowest Trading Price	-5.16	Price Momentum
Stock Return Volatility	-5.12	Liquidity, Risk & Size
3-Month Active Return	-5.10	Price Momentum
Average Trading Volume in Preceding 6-month	-4.95	Price Momentum

Source: IHS Markit

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Figure 6



Source: IHS Markit

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