

Mid-cycle adjustment to factor returns

July 2019

Research Signals

Adding to increasing concerns surrounding the year-long US-China trade dispute and its effect on the global economy, investors' hopes diminished that the Federal Reserve's first rate cut in a decade was the start of an easing cycle. However, for the month, the momentum that pushed US stocks to all-time highs, prior to the post-Fed press conference reversal, helped support Price Momentum factors, contributing to yet another cycle between investor style preferences (Table 1). In the meantime, the J.P.Morgan Global Manufacturing PMI signaled a third consecutive month of downturn in the global manufacturing sector as international trade volumes continued to contract, setting global markets up for another cycle of volatility.

- US: Large caps cycled between momentum and value factors once again, with strong spreads associated with Rational Decay Alpha, while TTM EBITDA-to-Enterprise Value lagged
- Developed Europe: Strong results were posted by Rational Decay Alpha, whereas Industry Relative TTM Dividend Yield and Inventory Turnover Ratio sat at the opposite extreme
- Developed Pacific: Small cap stocks, captured by Natural Logarithm of Market Capitalization, were highly rewarded in markets outside Japan
- Emerging markets: A broad representation of factors outperformed, including 3-M Revision in FY2 EPS Forecasts, Natural Logarithm of Market Capitalization and Asset Quality Index

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Table 1

Global factor quantile return spread performance snapshot, Jul 2019

Factor	Factor Group	US Large Cap	US Small Cap	Developed Europe	Developed Pacific ex Japan	Japan Standard Cap	Emerging Markets
Book-to-Market		-0.97	-1.73	-1.57	-4.53	-5.06	0.27
Forward 12-M EPS-to-Enterprise Value	Deep Value	-1.64	7.01	-1.98	-1.02	-2.20	-0.49
TTM EBITDA-to-Enterprise Value		-3.08	4.64	-0.59	0.74	-1.42	1.48
TTM Free Cash Flow-to-Enterprise Value		0.94	5.33	-0.93	-3.43	-0.11	1.55
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	-1.76	-0.93	-0.35	-2.02	-0.90	0.42
Industry Relative TTM Dividend Yield		-0.74	-0.72	-2.73	-0.49	0.55	1.63
Fixed Assets Turnover Ratio	Management Quality	1.31	1.63	-2.34	0.50	0.12	-1.58
Inventory Turnover Ratio		0.78	3.55	0.16	2.34	-1.54	0.74
Net Operating Asset Turnover		0.08	1.00	-1.27	-1.27	0.31	1.72
Change in Accruals to Assets	Earnings Quality	-0.20	-3.62	0.83	-2.23	0.17	1.01
Change in TTM COGS vs. Inventory Level		-1.02	5.03	-1.20	1.91	-0.60	0.84
Change in TTM Sales vs. Accounts Receivable		-0.94	-3.99	1.43	-0.63	-1.24	-3.24
Working Capital Accruals		1.30	-0.69	-1.39	1.23	-1.32	-0.42
1-yr Growth in TTM Free Cash Flow	Historical Growth	0.28	2.81	0.01	-2.20	0.51	-0.12
Reinvestment Rate		0.30	4.02	-1.49	-0.11	1.96	-3.40
Average Monthly Trading Volume-to-Market Cap	Liquidity, Risk & Size	-0.92	-4.31	-0.28	8.47	-1.37	4.22
60-Month Beta		1.85	2.61	2.38	2.49	0.48	-2.47
Asset Quality Index		-0.39	-1.94	1.39	-1.21	-1.79	2.08
Operating Leverage		0.55	-2.60	0.03	-3.54	-0.55	-1.22
Natural Logarithm of Market Capitalization		-2.04	-6.10	-0.32	10.74	1.24	4.59
2-Year Ahead EPS Growth	Earnings Momentum	-2.93	-1.34	-0.18	1.13	1.22	-1.86
3-M Revision in FY2 EPS Forecasts		-0.52	0.20	1.33	2.76	0.36	2.88
Real Earnings Surprise		0.07	2.56	-1.53	0.46	-0.32	-0.54
24-Month Value at Risk	Price Momentum	2.51	6.98	-0.66	5.48	-0.07	-1.11
5-day Industry Relative Return		1.07	-0.80	-0.84	-2.17	-0.60	0.04
Industry-adjusted 12-month Relative Price Strength		0.74	1.19	1.76	3.00	0.34	1.25
Rational Decay Alpha		1.89	4.88	3.28	0.28	-2.06	-2.09
Demand Supply Ratio	Short Sentiment	1.35	4.18	0.74	3.46	-1.33	-4.73
Implied Loan Rate		0.88	4.87	-0.54	4.34	-2.13	-6.48

Source: IHS Markit

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United States

US Large Cap

The US manufacturing PMI fell to its lowest since September 2009, registering at 50.4 in July, just shy of the June reading (50.6), with export orders contracting for the second time in the last three months. Escalating trade wars helped push manufacturers' expectations of output in the year ahead to its lowest since comparable data was first available in 2012. However, stocks saw modest gains for the month, extending their double-digit gains for the year and hitting an all-time high in late July, though a disappointing Fed press conference and unsuccessful trade negotiations in Shanghai ultimately put a dent in market returns.

Turning to factor performance, we once again find large swings between momentum and value signals among US large cap top (Table 2) and bottom (Table 3) performing factors in July. Momentum returned to the top, led by 30-75 Week Stock Price Ratio (5.12%), while Deep Value measures trailed, with Leading 12 Month Cash Yield (-4.72%) the weakest performer. Recent factor performance for both indicators demonstrates the recent pattern of cyclicity (Figure 1). While we expect a negative correlation between these two factors, over the past 10 years this level increased to -85% for the past 12 months compared with -61% for the prior 9-year period.

Table 2

US Large Cap top decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
30-75 Week Stock Price Ratio	5.12	Price Momentum
Std Dev of FY1 EPS Estimates-to-Price	5.03	Earnings Momentum
50-200 Day Stock Price Ratio	4.88	Price Momentum
4-52 Week Price Oscillator	4.87	Price Momentum
TTM Capital Expenditures-to-Price	4.77	Deep Value
39-Week Return with 4-week Lag	4.58	Price Momentum
Std Dev of FY2 EPS Estimates-to-Price	4.58	Earnings Momentum
12-Month Active Return with 1-month Lag	4.48	Price Momentum
6-Month Nominal Change in 18-Month Alpha	4.47	Price Momentum
Fama-French Momentum	4.27	Price Momentum
18-Month Active Return with 1-Month Lag	4.26	Price Momentum
9-Month Active Return with 1-Month Lag	4.22	Price Momentum
15/36 Week Stock Price Ratio	3.94	Price Momentum
24-Month Active Return with 1-Month Lag	3.81	Price Momentum
26-Week Relative Price Strength	3.78	Price Momentum

Source: IHS Markit

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Table 3

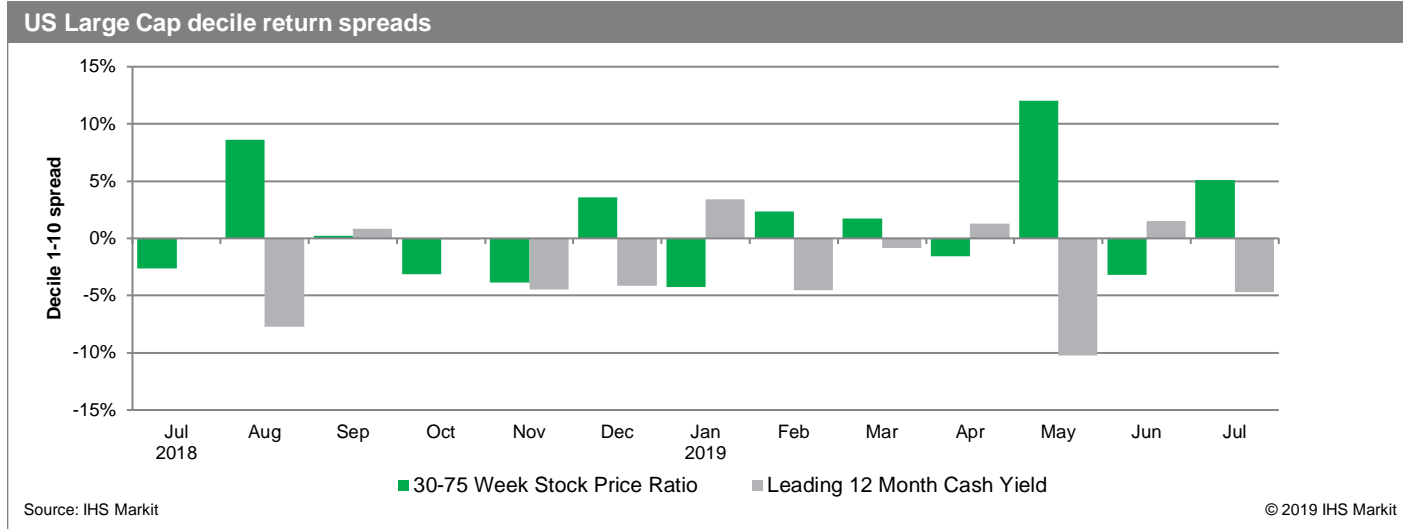
US Large Cap bottom decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Leading 12 Month Cash Yield	-4.72	Deep Value
TTM Operating Cash Flow-to-Price	-4.66	Deep Value
Time Weighted Cash Yield	-4.37	Deep Value
TTM Operating Income to Enterprise Value	-4.26	Deep Value
Time Weighted EBITDA/ EV	-4.23	Deep Value
Asset Composition	-4.16	Liquidity, Risk & Size
1 Year Change in Gross Profit to Assets	-4.15	Management Quality
3 Year Change in Gross Profit to Assets	-4.03	Management Quality
Current Ratio	-3.84	Liquidity, Risk & Size
2-Month Active Return	-3.80	Price Momentum

Source: IHS Markit

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Figure 1



US Small Cap

Small cap factor performance saw larger divergences from large caps in July compared with the more limited differences the prior month. While Price Momentum measures dominated large cap top performers, small caps saw a more diverse set of leaders, with a strong showing by Management Quality (Table 4), led by Profitability Ratio (8.30%). Firms with high financial risk also underperformed, elevating Distress Measure (8.46%) to a top spot for the month, continuing a trend of positive spreads in 8 of the last 10 months (Figure 2). Bottom performing factors for the month (Table 5) also captured a broader representation of styles, including 5-yr Relative TTM Sales-to-Price (-8.68%) and 1-Quarter Ahead EPS Growth (-7.11%), along with repeat appearances by 60-Month Active Return with 1-Month Lag (-6.66%) and Natural Logarithm of Market Capitalization (-6.10%).

Table 4

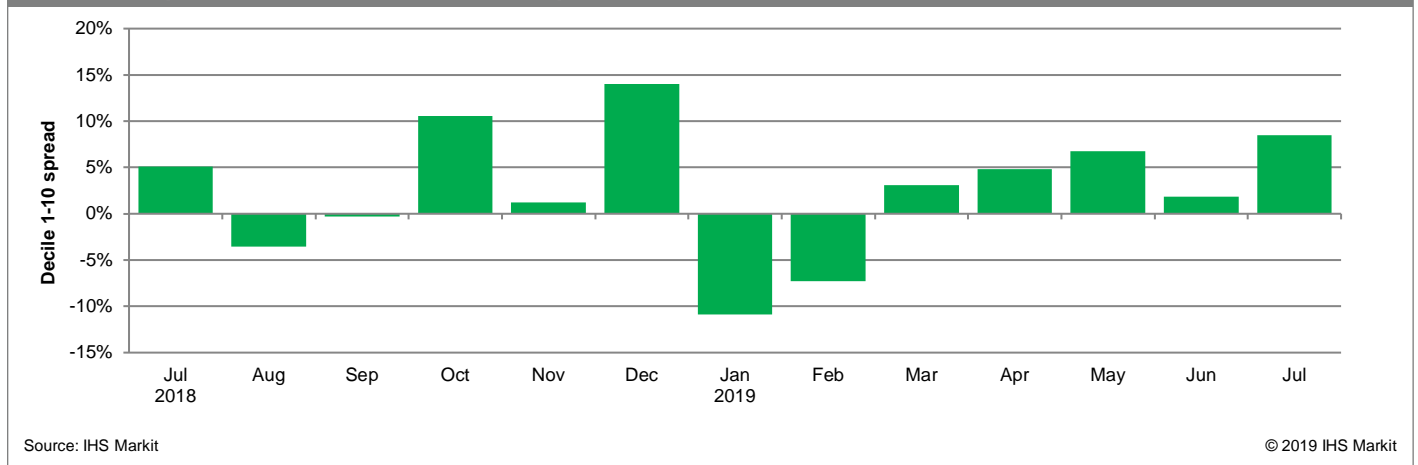
US Small Cap top decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Std Dev of FY1 EPS Estimates-to-Price	9.01	Earnings Momentum
Std Dev of FY2 EPS Estimates-to-Price	8.59	Earnings Momentum
Distress Measure	8.46	Liquidity, Risk & Size
Profitability Ratio	8.30	Management Quality
1-Month Stock Return Interquartile Range	8.26	Liquidity, Risk & Size
Operating Profit Margin	8.21	Management Quality
CV of Prior 90-Day Closing Prices	8.21	Price Momentum
Forward Return on Equity	7.96	Management Quality
3-yr MAD of TTM Net Income	7.75	Liquidity, Risk & Size
Net Profit Margin	7.68	Management Quality
Return on Assets	7.55	Management Quality
Operating Cash Flow to Assets	7.40	Management Quality
Capital Acquisition Ratio	7.38	Management Quality
52-Week High	7.38	Price Momentum
3-Year Trough Operating Margin	7.29	Management Quality

Source: IHS Markit

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Figure 2

US Small Cap Distress Measure decile return spreads

Source: IHS Markit

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Table 5

US Small Cap bottom decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
5-yr Relative TTM Sales-to-Price	-8.68	Relative Value
Altman Z Score	-7.79	Liquidity, Risk & Size
Average Payable Period	-7.56	Management Quality
1-Quarter Ahead EPS Growth	-7.11	Earnings Momentum
60-Month Active Return with 1-Month Lag	-6.66	Price Momentum
Advertising Intensity	-6.46	Management Quality
3-Month Active Return	-6.37	Price Momentum
Flow Ratio	-6.15	Liquidity, Risk & Size
Natural Logarithm of Market Capitalization	-6.10	Liquidity, Risk & Size
60-Month Alpha	-6.07	Price Momentum

Source: IHS Markit

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Europe

The euro area's manufacturing sector continued to contract and at an accelerated rate in July, with the PMI falling to 46.5, from 47.6 in June, marking the lowest level since December 2012. Germany remained a source of weakness, while Greece and the Netherlands continued to expand. Headwinds include rising geopolitical concerns, including trade wars and Brexit, and worries about slower economic growth both domestically and abroad. Meanwhile, stocks could not break out of a narrow trading channel for the month.

Once again, top factor performance in European markets in July (Table 6) resembled that of US large caps, with Price Momentum measures dominating the list of outperformers, led by 1-Year Price Momentum Indicator (4.37%). However, currency markets also played a key role among both top and bottom (Table 7) factor performance. Asia-Pacific Sales Exposure (4.55%) once again outpaced all other factors, while North America Sales Exposure (-5.78%) reversed prior month results (Figure 3) with an 8.4 percentage point decline in month-on-month spread. (Note that Latin America Sales Exposure also recorded a large negative spread, however, performance tends to be more skewed due to lower overall exposure to this region.)

Table 6

Developed Europe top decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Asia-Pacific Sales Exposure	4.55	Macro
1-Year Price Momentum Indicator	4.37	Price Momentum
9-Month Active Return with 1-Month Lag	4.34	Price Momentum
39-Week Return with 4-week Lag	4.06	Price Momentum
Fama-French Momentum	3.80	Price Momentum
3-yr Growth in TTM Oper Cash Flow	3.32	Historical Growth
Rational Decay Alpha	3.28	Price Momentum
12-Month Active Return with 1-month Lag	3.19	Price Momentum
Second Preceding 6-month Return	3.14	Price Momentum
30-75 Week Stock Price Ratio	3.12	Price Momentum
6-Month Active Return with 1-Month Lag	2.99	Price Momentum
1-Month Active Return	2.95	Price Momentum
3-yr Compound Annual Sales Growth	2.90	Historical Growth
50-200 Day Stock Price Ratio	2.77	Price Momentum
18-Month Active Return with 1-Month Lag	2.71	Price Momentum

Source: IHS Markit

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Table 7

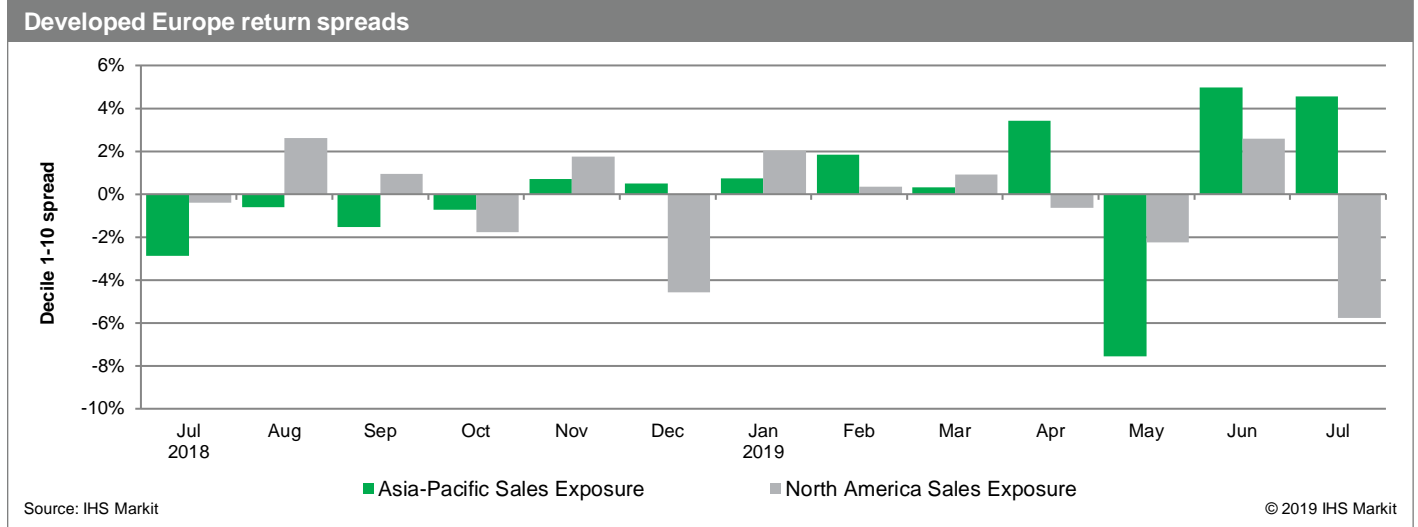
Developed Europe bottom decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Latin America Sales Exposure	-13.56	Macro
North America Sales Exposure	-5.78	Macro
Leading 12 Month Total Dividend Yield	-3.82	Dividend Forecast
Leading 12 Month Regular Dividend Yield	-3.62	Dividend Forecast
60-Month Active Return with 1-Month Lag	-3.43	Price Momentum
Averaged Last 6-M EPS Revisions for FY1	-3.42	Earnings Momentum
Change in QTR Sales vs. Gross Margin	-3.32	Earnings Quality
60-Month Alpha	-3.23	Price Momentum
5-yr Relative TTM Dividend Yield	-3.08	Relative Value
1-yr Change in Total Assets	-3.07	Historical Growth

Source: IHS Markit

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Figure 3



Asia-Pacific

Manufacturing operating conditions in the two largest Asian economies of China and Japan were just shy of the 50.0 no change mark in July. The headline PMI in China showed marginal improvement, rising to 49.9 in July, from 49.4 in June, amid a slight increase in overall new orders. Manufacturing conditions in Japan signalled a third consecutive month of deterioration, with the PMI fractionally higher at 49.4 in July, compared with 49.3 in June, on soft demand. Equity markets in both countries also faced a challenging environment, though stocks in Japan reversed a good portion of their mid-month losses.

Small caps outperformed in developed Pacific markets outside Japan, pushing Natural Logarithm of Market Capitalization (10.74%) to the top of the factor leaderboard in July (Table 8). This signal has been neutral to positive since the start of the year, suggesting a more secular preference for this size segment. Likewise, size measures which are sorted in the reverse order to favor large caps, such as Natural Logarithm of Total Assets (-9.68%), strongly underperformed for the month (Table 9). The US-China trade war was also influential on factor performance, with a

robust 9.65% decile spread recorded by North America Sales Exposure (Figure 4), marking its highest spread since August 2003.

In Japan, top performing factors (Table 10) were concentrated among Management Quality measures. Operating Cash Flow to Assets (4.84%) topped the list, extending its string of positive spreads to nine months (Figure 5), demonstrating far more consistency in performance compared with the more cyclical pattern over the prior year. Conversely, the bottom performing signals (Table 11) were focused on Deep Value measures, with Leading 12 Month Book Yield (-5.28%) posting the weakest spread for the month.

Table 8

Developed Pacific exJapan top decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Natural Logarithm of Market Capitalization	10.74	Liquidity, Risk & Size
North America Sales Exposure	9.65	Macro
Long-term Debt-to-Equity	8.58	Liquidity, Risk & Size
Average Monthly Trading Volume-to-Market Cap	8.47	Liquidity, Risk & Size
Natural Logarithm of Closing Price	7.38	Liquidity, Risk & Size
26-Week Relative Price Strength	6.71	Price Momentum
Lending Supply	6.52	Short Sentiment
6-Month Active Return with 1-Month Lag	6.30	Price Momentum
50-200 Day Stock Price Ratio	6.28	Price Momentum
Profitability Ratio	6.20	Management Quality
Cash & Equivalents-to-Current Liabilities	6.09	Liquidity, Risk & Size
52-Week High	5.93	Price Momentum
On Loan Value Concentration	5.85	Short Sentiment
15/36 Week Stock Price Ratio	5.85	Price Momentum
Latin America Sales Exposure	5.78	Macro

Source: IHS Markit

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Table 9

Developed Pacific exJapan bottom decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Market Cap per Analyst	-10.95	Liquidity, Risk & Size
Natural Logarithm of Total Assets	-9.68	Liquidity, Risk & Size
Natural Logarithm of TTM Sales	-7.55	Liquidity, Risk & Size
Dividends- to-Cash Flow	-6.64	Management Quality
Attention Span Ratio	-5.28	Management Quality
Industrial Production Sensitivity	-4.57	Macro
Book-to-Market	-4.53	Deep Value
Change in Net Operating Assets	-4.48	Management Quality
5-yr Relative TTM Cash Flow-to-Price	-4.42	Relative Value
Time Weighted Book Yield	-4.32	Deep Value

Source: IHS Markit

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Figure 4

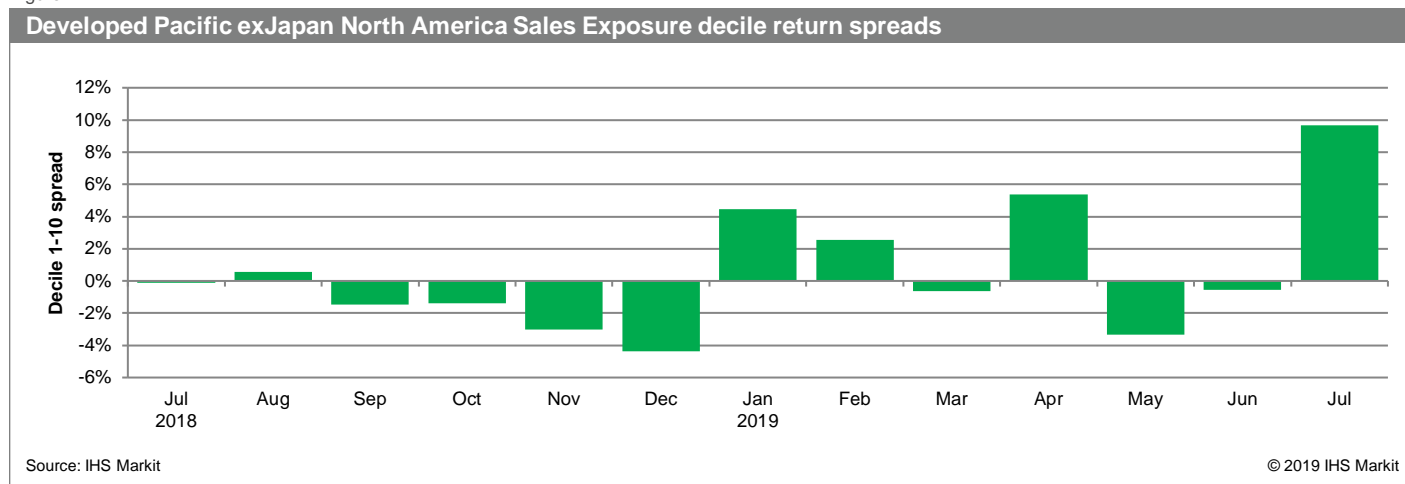


Table 10

Japan Standard Cap top decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Operating Cash Flow to Assets	4.84	Management Quality
Return on Assets	4.76	Management Quality
Profitability Ratio	4.67	Management Quality
Average Collection Period	4.58	Management Quality
Forward Return on Equity	4.55	Management Quality
Cash Earnings Return On Equity	4.24	Management Quality
Cash Flow Return on Invested Capital	3.88	Management Quality
Return on Invested Capital	3.74	Management Quality
Operating Cash Flow Profit Margin	3.71	Management Quality
Oper Cash Flow Return on Invested Capital	3.69	Management Quality
3-yr Compound Annual Sales Growth	3.67	Historical Growth
Return on Equity	3.57	Management Quality
Industry-adjusted Quarterly Return on Equity	3.43	Management Quality
Net Profit Margin	3.33	Management Quality
Pretax Return on Net Operating Assets	3.27	Management Quality

Source: IHS Markit

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Figure 5

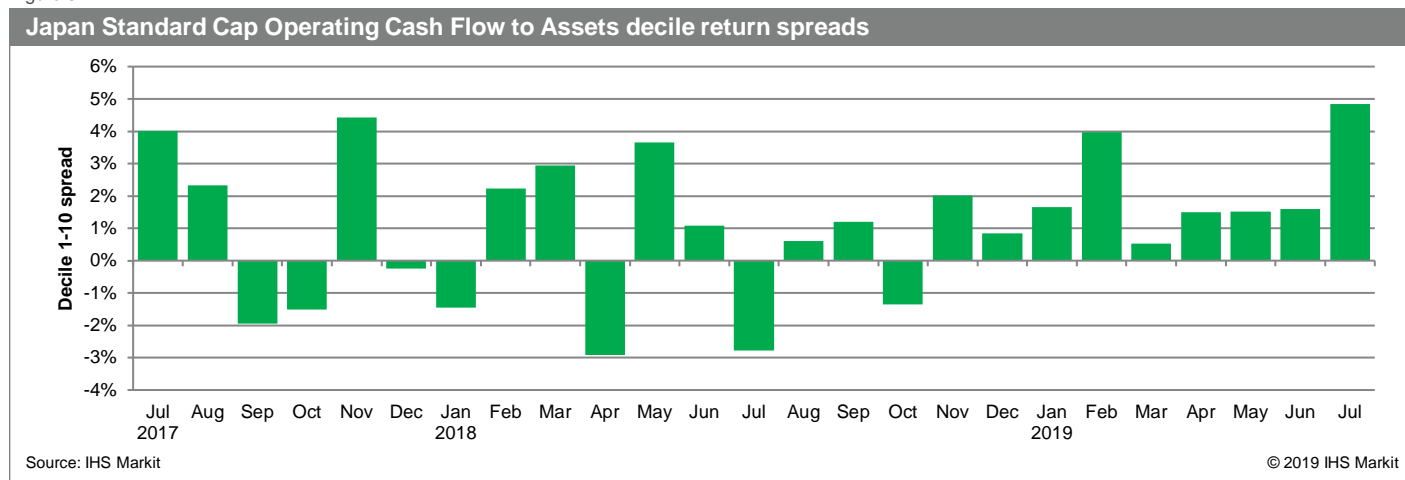


Table 11

Japan Standard Cap bottom decile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Leading 12 Month Book Yield	-5.28	Deep Value
Book-to-Market	-5.06	Deep Value
Graham Number Fair Value Premium	-4.71	Deep Value
Net Asset Value to Price	-4.64	Deep Value
Leading 12 Month Cash Yield	-4.61	Deep Value
Yield Curve Slope Sensitivity	-4.60	Macro
Time Weighted Cash Yield	-4.55	Deep Value
Natural Logarithm of TTM Sales	-4.28	Liquidity, Risk & Size
Price-to-Book Return-on-Equity Combination	-4.16	Deep Value
Normalized Earnings Yield	-3.97	Deep Value

Source: IHS Markit

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Emerging Markets

We round out our report with a review of top (Table 12) and bottom (Table 13) performing factors in emerging markets in July. Top spreads were associated with factors such as Natural Logarithm of Market Capitalization (4.59%) and Slope of 5-yr TTM EPS Trend Line (4.26%). Price Momentum measures also retained their role on the leaderboard, led by 26-Week Relative Price Strength (5.37%), which seems to have regained its footing after a one-year respite (Figure 6). Investors also favored near-term outperformers, pushing short-term price reversal factors such as 1-Month Active Return (-6.02%) to the laggard board.

Table 12

Emerging Markets top quintile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
Credit Risk Premium Sensitivity	6.53	Macro
26-Week Relative Price Strength	5.37	Price Momentum
Natural Logarithm of Market Capitalization	4.59	Liquidity, Risk & Size
50-200 Day Stock Price Ratio	4.38	Price Momentum
6-Month Nominal Change in 18-Month Alpha	4.30	Price Momentum
Slope of 5-yr TTM EPS Trend Line	4.26	Historical Growth
Average Monthly Trading Volume-to-Market Cap	4.22	Liquidity, Risk & Size
15/36 Week Stock Price Ratio	3.98	Price Momentum
Cash to Enterprise Value	3.71	Deep Value
39-Week Return with 4-week Lag	3.51	Price Momentum
60-Month Active Return with 12-Month Lag	3.46	Price Momentum
Inflation Sensitivity	3.39	Macro
Lending Supply	3.19	Short Sentiment
3-M Revision in FY2 EPS Forecasts: Dispersion Relative	3.18	Earnings Momentum
Cash-to-Price	3.05	Deep Value

Source: IHS Markit

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Table 13

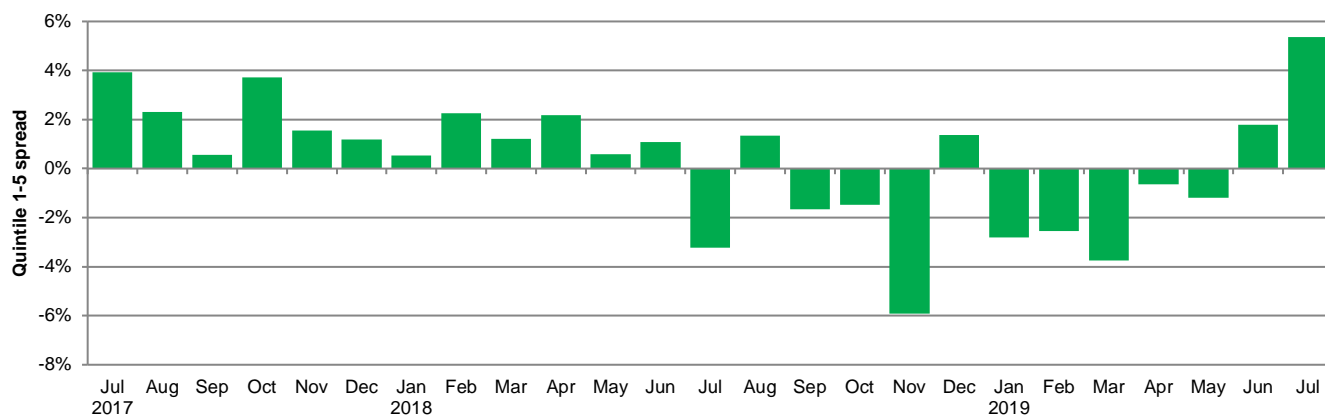
Emerging Markets bottom quintile return spread factor performance, Jul 2019

Factor	Decile spread (%)	Factor group
1-Month Active Return	-6.02	Price Momentum
Market Volatility Sensitivity	-5.73	Macro
Dividend Coverage Ratio	-5.66	Liquidity, Risk & Size
Natural Logarithm of Total Assets	-4.75	Liquidity, Risk & Size
4-week Industry Relative Return	-4.59	Price Momentum
Price Above Last 260-day Lowest Trading Price	-4.31	Price Momentum
3 Year Change in Gross Profit to Assets	-4.21	Management Quality
1 Year Change in Gross Profit to Assets	-4.17	Management Quality
Dividends- to-Cash Flow	-4.02	Management Quality
Market Cap per Analyst	-4.02	Liquidity, Risk & Size

Source: IHS Markit

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Figure 6

Emerging Markets 26-Week Relative Price Strength quintile return spreads

Source: IHS Markit

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