

Factor performance cycle inversion

August 2019

Research Signals

Investors' concerns over trade wars and a downshift in the global economy were reinforced by the August J.P.Morgan Global Manufacturing PMI residing below the neutral 50.0 mark for the fourth consecutive month. A global flight to safety led to an inversion of the US yield curve for the first time since 2007, contributing to another bout of volatile equity markets which coincided with a strong penchant for low risk stocks in many regional markets. However, the momentum trade was able to break out of its recent cyclical pattern, with a second consecutive month of positive performance in August (Table 1).

- US: After several months of flip flopping, Price Momentum tacked on a second month of outperformance, as captured by Industry-adjusted 12-month Relative Price Strength
- Developed Europe: The risk off trade was prominent, elevating the performance of 24-Month Value at Risk and 60-Month Beta
- Developed Pacific: In markets outside Japan, investors took cues from the securities lending markets, with positive performance associated with factors such as Implied Loan Rate
- Emerging markets: Factor performance at the two extremes was dominated by Price Momentum (e.g., Rational Decay Alpha) at the top and Deep Value (e.g., Book-to-Market) at the bottom

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Table 1

Global factor quantile return spread performance snapshot, Aug 2019

Factor	Factor Group	US Large Cap	US Small Cap	Developed Europe	Developed Pacific ex Japan	Japan Standard Cap	Emerging Markets
Book-to-Market		-7.36	-8.14	-0.61	-4.35	-4.81	-4.45
Forward 12-M EPS-to-Enterprise Value	Deep Value	-3.41	-3.85	-0.81	-4.75	-3.94	-2.49
TTM EBITDA-to-Enterprise Value		-4.37	-4.51	0.17	-2.80	-2.93	-1.87
TTM Free Cash Flow-to-Enterprise Value		-4.55	-1.65	-1.72	-2.18	-1.98	0.36
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	-2.40	-2.58	0.60	-5.59	-2.99	-2.38
Industry Relative TTM Dividend Yield		-0.98	0.12	1.13	0.18	-1.53	-0.50
Fixed Assets Turnover Ratio	Management Quality	-3.58	-0.24	-5.57	-2.36	-6.76	0.75
Inventory Turnover Ratio		1.96	-4.02	0.62	1.60	0.23	1.01
Net Operating Asset Turnover		-0.31	0.83	0.59	-0.91	-2.38	2.29
Change in Accruals to Assets	Earnings Quality	0.82	-1.84	0.35	-0.24	-0.73	-0.38
Change in TTM COGS vs. Inventory Level		0.47	2.65	0.39	0.77	0.01	2.17
Change in TTM Sales vs. Accounts Receivable		-0.84	0.03	0.57	1.94	-2.42	0.23
Working Capital Accruals		-1.82	-2.91	0.25	1.21	-0.95	1.81
1-yr Growth in TTM Free Cash Flow		-1.56	0.69	-2.91	-3.14	-0.90	-0.10
Reinvestment Rate	Historical Growth	3.63	-2.94	0.47	0.08	-3.97	-0.88
Average Monthly Trading Volume-to-Market Cap	Liquidity, Risk & Size	-8.01	-0.60	-0.92	-2.94	-6.90	-0.63
60-Month Beta		12.53	5.81	5.68	2.03	7.25	3.07
Asset Quality Index		2.05	-1.51	2.23	-3.54	-0.23	0.49
Operating Leverage		-1.89	-0.46	1.00	1.50	-1.33	-0.78
Natural Logarithm of Market Capitalization		-7.31	-4.08	-1.97	1.58	-3.07	0.87
2-Year Ahead EPS Growth	Earnings Momentum	-2.97	-0.32	-2.67	-1.39	-1.52	-1.66
3-M Revision in FY2 EPS Forecasts		7.64	1.66	1.62	1.04	1.09	2.37
Real Earnings Surprise		0.81	0.33	-0.18	-0.13	-1.84	-1.26
24-Month Value at Risk	Price Momentum	11.56	3.62	7.30	2.83	7.95	1.68
5-day Industry Relative Return		-2.38	-1.03	-1.47	-0.67	-1.93	-1.64
Industry-adjusted 12-month Relative Price Strength		10.98	3.02	3.99	3.09	2.70	3.54
Rational Decay Alpha		6.92	0.31	1.15	3.42	0.44	3.45
Demand Supply Ratio	Short Sentiment	5.19	-0.08	2.88	0.72	-1.49	-1.63
Implied Loan Rate		3.48	1.09	-0.28	2.64	-1.33	-1.47

Source: IHS Markit

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United States

US Large Cap

Growth in the US manufacturing sector fell to its lowest in nearly a decade, with the PMI registering at 50.3 in August, just shy of the July reading (50.4). New export orders fell at the quickest pace for 10 years, as falling orders among foreign clients dragged on overall new business growth and producer confidence. Stock markets saw higher volatility on an escalation in the US-China trade dispute and the mid-month inversion of the yield curve, sending stocks to their second monthly loss this year.

However, momentum signals rode the volatility higher, as Price Momentum maintained its dominance on the list of top performing markets for US large caps in August (Table 2). 39-Week Return with 4-week Lag took the lead, with a solid double-digit spread (15.25%) not seen since a similar posting in July 2015, though performance turned south the following month (Figure 1). Valuation measures maintained their prominence among bottom performing factors (Table 3), including 60-Month Alpha (-10.50%), a long-term price reversal metric, and 5-yr Relative TTM Sales-to-Price (-10.36%). Yield Curve Slope Sensitivity (-10.33%) also trailed, which is not surprising given the inversion of the yield curve in August.

Table 2

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

Factor	Decile spread (%)	Factor group
39-Week Return with 4-week Lag	15.25	Price Momentum
9-Month Active Return with 1-Month Lag	14.49	Price Momentum
50-200 Day Stock Price Ratio	13.82	Price Momentum
4-52 Week Price Oscillator	13.81	Price Momentum
15/36 Week Stock Price Ratio	13.69	Price Momentum
52-Week High	13.14	Price Momentum
12-Month Active Return with 1-month Lag	12.97	Price Momentum
1-Year Price Momentum Indicator	12.96	Price Momentum
26-Week Relative Price Strength	12.84	Price Momentum
60-Month Beta	12.53	Liquidity, Risk & Size
30-75 Week Stock Price Ratio	12.32	Price Momentum
Fama-French Momentum	12.08	Price Momentum
Product of Beta and Sigma	11.93	Liquidity, Risk & Size
24-Month Value at Risk	11.56	Price Momentum
Industry-adjusted 12-month Relative Price Strength	10.98	Price Momentum

Source: IHS Markit

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Figure 1

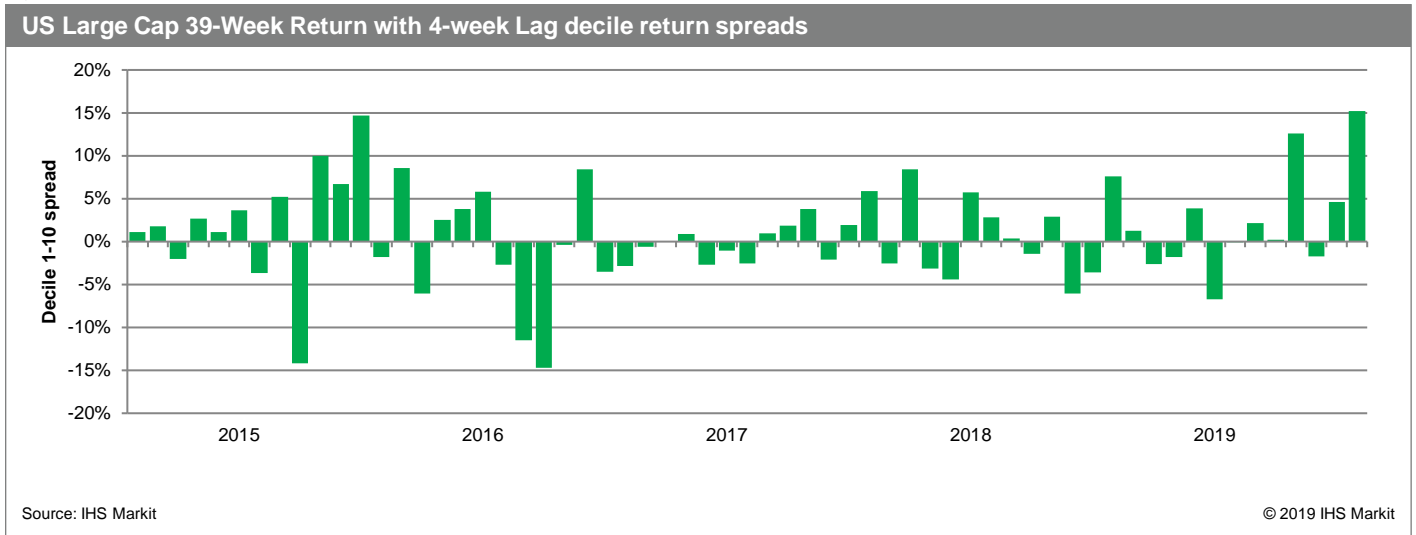


Table 3

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

Factor	Decile spread (%)	Factor group
3-Month Active Return	-11.42	Price Momentum
60-Month Alpha	-10.50	Price Momentum
5-yr Relative TTM Sales-to-Price	-10.36	Relative Value
5-yr Relative TTM Oper Cash Flow-to-Price	-10.35	Relative Value
Yield Curve Slope Sensitivity	-10.33	Macro
60-Month Active Return with 1-Month Lag	-10.25	Price Momentum
5-yr Relative TTM Dividend Yield Transition	-9.59	Relative Value
5-yr Relative Leading 12-Month Earnings Yield	-9.13	Relative Value
Graham Number Fair Value Premium	-8.94	Deep Value
5-yr Relative Book-to-Market	-8.92	Relative Value

Source: IHS Markit

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US Small Cap

Small cap factor performance fell back in line with that of large caps in August (Table 4), with a strong showing by Price Momentum, led by 1-Year Price Momentum Indicator (8.20%). Small cap investors also favored low risk stocks (Figure 2), sending measures such as 1-Month Realized Stock Return Volatility (7.03%) onto the leaderboard as well. On the other hand, the totality of the laggard board (Table 5) was occupied by valuation measures such as Time Weighted Book Yield (-9.37%) and 60-Month Alpha (-7.11%).

Table 4

US Small Cap top decile return spread factor performance, Aug 2019		
Factor	Decile spread (%)	Factor group
1-Year Price Momentum Indicator	8.20	Price Momentum
1-Month Stock Return Interquartile Range	7.44	Liquidity, Risk & Size
39-Week Return with 4-week Lag	7.23	Price Momentum
1-Month Realized Stock Return Volatility	7.03	Liquidity, Risk & Size
9-Month Active Return with 1-Month Lag	6.95	Price Momentum
TTM Capital Expenditures-to-Price	6.93	Deep Value
52-Week High	6.79	Price Momentum
Dividends-to-Cash Flow	6.66	Management Quality
Std Dev of FY2 EPS Estimates-to-Price	6.32	Earnings Momentum
6-Month Nominal Change in 18-Month Alpha	6.27	Price Momentum
4-52 Week Price Oscillator	6.26	Price Momentum
Leading 1-Year Regular Dividend Payout	5.98	Dividend Forecast
50-200 Day Stock Price Ratio	5.97	Price Momentum
Product of Beta and Sigma	5.92	Liquidity, Risk & Size
Abnormal Return around QTR Earnings Release	5.92	Price Momentum

Source: IHS Markit

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Figure 2

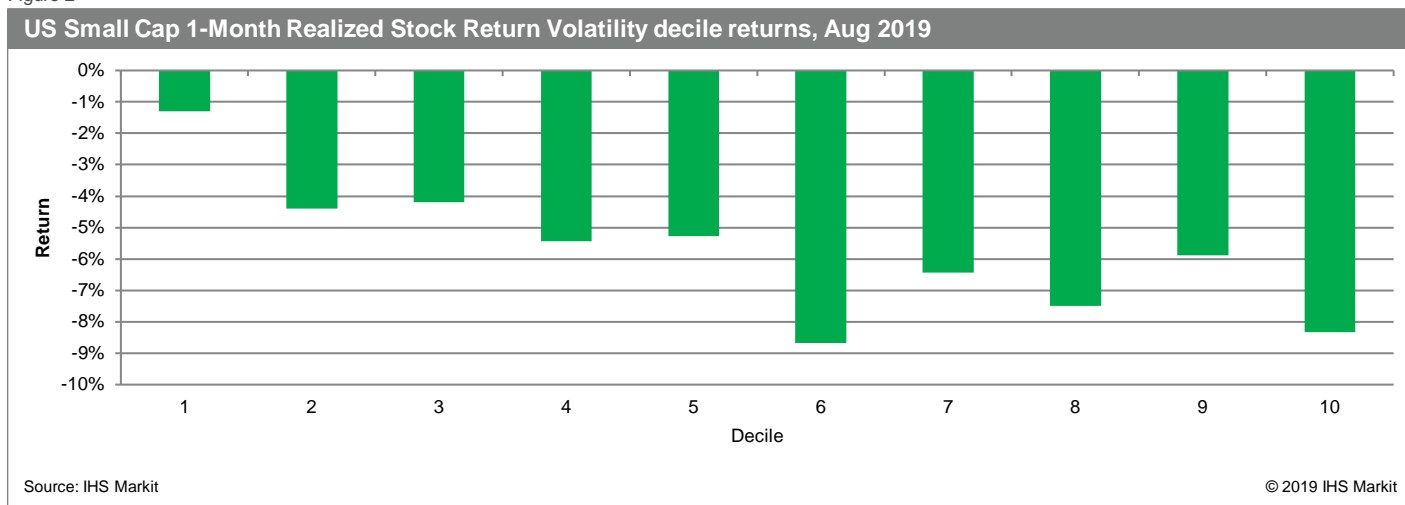


Table 5

US Small Cap bottom decile return spread factor performance, Aug 2019		
Factor	Decile spread (%)	Factor group
Time Weighted Book Yield	-9.37	Deep Value
Book-to-Market	-8.14	Deep Value
Leading 12 Month EBITDA/ EV	-8.05	Deep Value
Sortino Ratio	-7.45	Price Momentum
Time Weighted EBITDA/ EV	-7.37	Deep Value
60-Month Alpha	-7.11	Price Momentum
5-yr Relative Book-to-Market	-7.05	Relative Value
TTM Operating Cash Flow-to-Price	-6.97	Deep Value
TTM Operating Income to Enterprise Value	-6.63	Deep Value
5-yr Relative TTM Sales-to-Price	-6.36	Relative Value

Source: IHS Markit

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Europe

The euro area's manufacturing slump continued in August, though the PMI (47.0) improved from July's six-and-a-half year low (46.5). Most countries saw improvement with the exception of Ireland. In Germany, operating conditions remained weak, while, in contrast, France and the Netherlands continued to experience modest manufacturing growth and Greece was comfortably the strongest performing nation. Trade wars and tariffs remain the biggest concerns among producers and also loom over equity markets, though stocks finished the month somewhat strong, recovering some, but not all, of their early-month losses.

The risk off trade was prevalent in European markets in August (Table 6). In fact, the top 10% of stocks ranked by 24-Month Value at Risk (7.30%), the most highly rewarded factor, saw an average return in positive territory for the month (Figure 3). Price Momentum was also a positive theme, as represented by metrics such as 1-Year Price Momentum Indicator (5.95%). At the opposite extreme, the weakest performing factors (Table 7) included several quality and valuation measures such as Fixed Assets Turnover Ratio (-5.57%) and Forward Free Cash Flow-to-Price (-3.70%), respectively. Yield Curve Slope Sensitivity (-4.52%), while a US macro measure, also reflected underperformance of Financials in European markets.

Table 6

Developed Europe top decile return spread factor performance, Aug 2019

Factor	Decile spread (%)	Factor group
24-Month Value at Risk	7.30	Price Momentum
Product of Beta and Sigma	7.04	Liquidity, Risk & Size
Net Income per Employee	6.01	Management Quality
1-Year Price Momentum Indicator	5.95	Price Momentum
60-Month Beta	5.68	Liquidity, Risk & Size
Operating Profit Margin	5.56	Management Quality
CV of Prior 90-Day Closing Prices	5.43	Price Momentum
52-Week High	5.26	Price Momentum
1-Month Stock Return Interquartile Range	5.10	Liquidity, Risk & Size
Long-term Debt-to-Cash Flow	4.59	Liquidity, Risk & Size
Latin America Sales Exposure	4.58	Macro
1-Month Realized Stock Return Volatility	4.44	Liquidity, Risk & Size
39-Week Return with 4-week Lag	4.36	Price Momentum
Slope of 66 Week Price Trend Line	4.23	Price Momentum
Capital Gearing Ratio	4.03	Liquidity, Risk & Size

Source: IHS Markit

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Figure 3

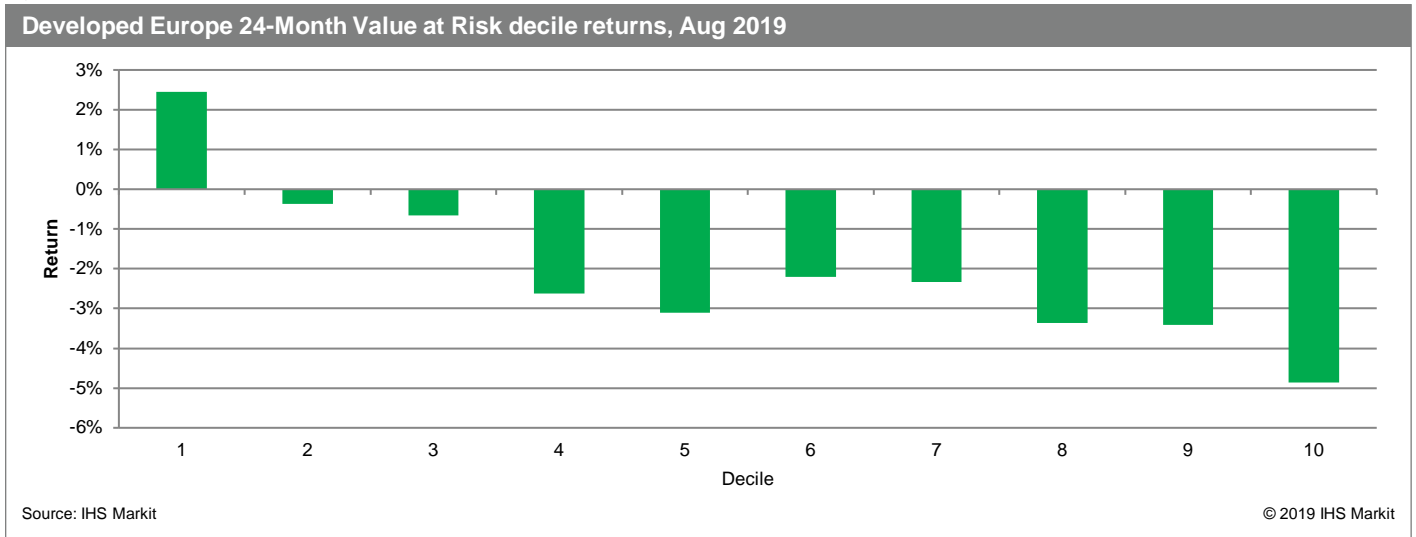


Table 7

Developed Europe bottom decile return spread factor performance, Aug 2019

Factor	Decile spread (%)	Factor group
Fixed Assets Turnover Ratio	-5.57	Management Quality
TTM Capital Expenditures-to-Sales	-5.17	Management Quality
Yield Curve Slope Sensitivity	-4.52	Macro
3-Month Active Return	-4.44	Price Momentum
5-yr Relative TTM Dividend Yield Transition	-4.08	Relative Value
Forward Free Cash Flow-to-Price	-3.70	Deep Value
Asia-Pacific Sales Exposure	-3.54	Macro
5-yr Relative Leading 12-Month Earnings Yield	-3.51	Relative Value
Capital Expenditures to Depreciation Linkage	-3.45	Management Quality
1-Year Ahead Regular Dividend growth	-3.39	Dividend Forecast

Source: IHS Markit © 2019 IHS Markit

Asia-Pacific

Manufacturing operating conditions in the two largest Asian economies of China and Japan straddled the 50.0 no change mark in August. China was the stronger of the two, with the headline PMI improving marginally to 50.4, from 49.9 in July, supported by an increase in production and stable new orders, despite a decline in export sales.

Manufacturing conditions in Japan deteriorated at the fastest rate in over three years, on declining output and new orders. Equity markets in China also fared better than in Japan following the early-month rout in global markets.

Top performing factors in July in developed Pacific markets outside Japan (Table 8) were led by momentum measures including Std Dev of FY1 EPS Estimates-to-Price (6.92%) and 52-Week High (6.04%). Short Sentiment indicators were also highly rewarded, as demonstrated by Utilization (4.81%), the percentage of stock on loan relative to the inventory, which has posted positive spreads for a fourth consecutive month (Figure 4). Conversely, valuation was a key theme among factors that lagged for the month (Table 9), including 5-yr Relative Leading 12-Month Earnings Yield (-7.26%) and Cash-to-Price (-6.65%).

Similar to several other coverage universes, low risk and high momentum were concurrently rewarded signals in Japan in August (Table 10). Indeed, the top two performing factors capture these themes, namely 24-Month Value at Risk (7.95%) and 39-Week Return with 4-week Lag (7.78%), respectively, with somewhat more systematic trading across the former, based on the monotonic distribution of decile returns (Figure 5). At the opposite end of the spectrum, bottom performing signals (Table 11) included Operating Liability Leverage (-6.86%) and TTM Sales-to-Price (-6.24%), along with Natural Logarithm of Closing Price (-6.22%), suggesting an investor preference for large caps.

Table 8

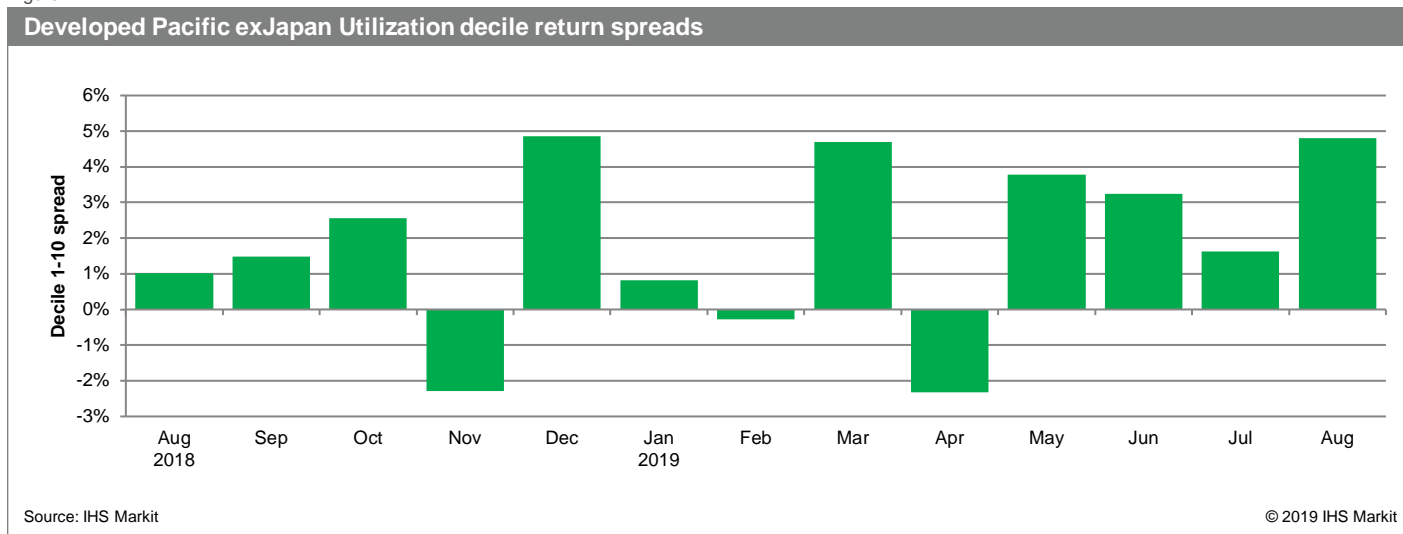
Developed Pacific exJapan top decile return spread factor performance, Aug 2019

Factor	Decile spread (%)	Factor group
Std Dev of FY1 EPS Estimates-to-Price	6.92	Earnings Momentum
52-Week High	6.04	Price Momentum
Std Dev of FY2 EPS Estimates-to-Price	5.55	Earnings Momentum
18-Month Active Return with 1-Month Lag	5.52	Price Momentum
Short Loan Concentration	5.45	Short Sentiment
Stock Return Volatility	5.37	Liquidity, Risk & Size
Long-term Debt-to-Cash Flow	4.86	Liquidity, Risk & Size
Utilization	4.81	Short Sentiment
Long-term Debt-to-Equity	4.77	Liquidity, Risk & Size
26-Week Relative Price Strength	4.39	Price Momentum
Regression Error of 60-Month CAPM	4.18	Liquidity, Risk & Size
1-yr Change in Sales	4.09	Historical Growth
US Dollar Value Sensitivity	4.03	Macro
Active Utilization	3.98	Short Sentiment
Yearly TTM Total Sales Growth Rate	3.97	Historical Growth

Source: IHS Markit

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Figure 4



Source: IHS Markit

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Table 9

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

Factor	Decile spread (%)	Factor group
5-yr Relative Leading 12-Month Earnings Yield	-7.26	Relative Value
Normalized Earnings Yield Transition	-6.97	Deep Value
Cash-to-Price	-6.65	Deep Value
Leading 12-Month Mean Earnings Yield	-6.62	Deep Value
Leading 12-Month Median Earnings Yield	-6.44	Deep Value
5-yr Relative Book-to-Market	-6.35	Relative Value
Leading 12 Month Sales Yield	-6.16	Deep Value
Time Weighted Sales Yield	-6.09	Deep Value
Leading 12 Month EBITDA/ EV	-6.08	Deep Value
Tobin q	-6.07	Liquidity, Risk & Size

Source: IHS Markit

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Table 10

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

Factor	Decile spread (%)	Factor group
24-Month Value at Risk	7.95	Price Momentum
39-Week Return with 4-week Lag	7.78	Price Momentum
52-Week High	7.67	Price Momentum
Product of Beta and Sigma	7.66	Liquidity, Risk & Size
9-Month Active Return with 1-Month Lag	7.47	Price Momentum
60-Month Beta	7.25	Liquidity, Risk & Size
Average Collection Period	6.25	Management Quality
Stock Return Volatility	6.19	Liquidity, Risk & Size
Std Dev of FY2 EPS Estimates-to-Price	5.89	Earnings Momentum
Slope of 52 Week Price Trend Line	5.40	Price Momentum
Std Dev of FY1 EPS Estimates-to-Price	5.34	Earnings Momentum
Operating Profit Margin	5.15	Management Quality
18-Month Active Return with 1-Month Lag	4.99	Price Momentum
30-75 Week Stock Price Ratio	4.85	Price Momentum
CV of Prior 90-Day Closing Prices	4.79	Price Momentum

Source: IHS Markit

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Figure 5

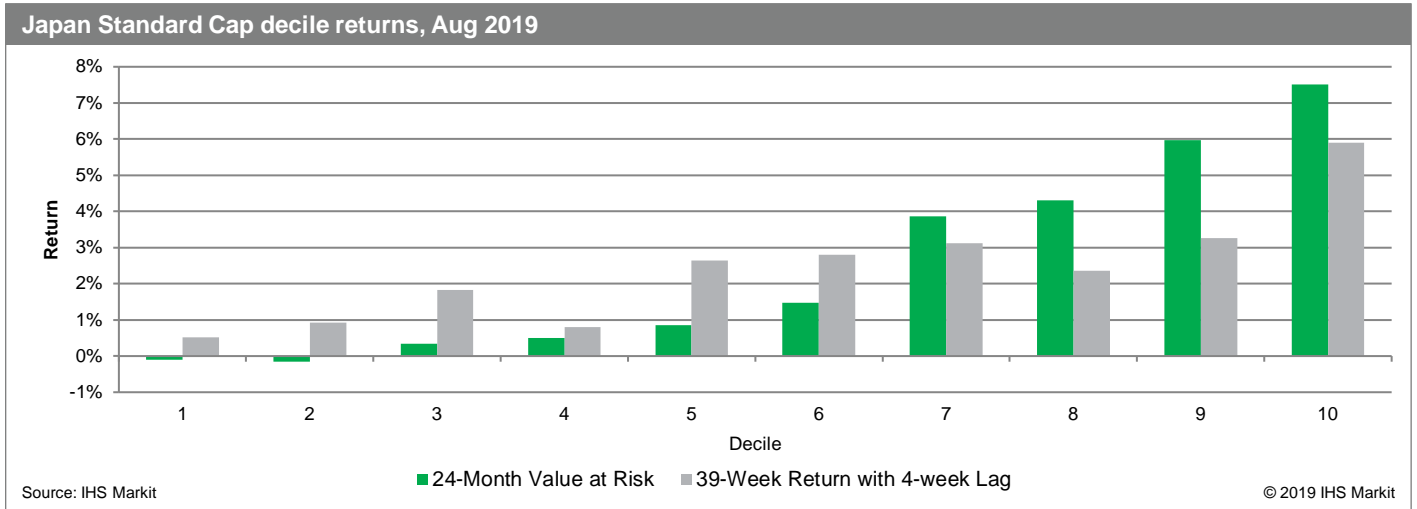


Table 11

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

Factor	Decile spread (%)	Factor group
Average Monthly Trading Volume-to-Market Cap	-6.90	Liquidity, Risk & Size
Operating Liability Leverage	-6.86	Management Quality
Fixed Assets Turnover Ratio	-6.76	Management Quality
TTM Capital Expenditures-to-Sales	-6.35	Management Quality
TTM Sales-to-Price	-6.24	Deep Value
Natural Logarithm of Closing Price	-6.22	Liquidity, Risk & Size
Price-to-Book Return-on-Equity Combination	-6.15	Deep Value
Dividend Coverage Ratio	-5.90	Liquidity, Risk & Size
Leading 12 Month Cash Yield	-5.88	Deep Value
Time Weighted Cash Yield	-5.81	Deep Value

Source: IHS Markit

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Emerging Markets

Lastly, we review top (Table 12) and bottom (Table 13) performing factors in emerging markets in August. Price Momentum was a dominant style among the outperformers, led by 18-Month Active Return with 1-Month Lag (5.35%). This factor's August spread represents a 6.0 percentage point improvement in spread over the trailing 12-month average and, with neutral to positive spreads for five consecutive months, perhaps a return to its tendency for positive spreads seen in the prior 12-month period, (Figure 6). Deep Value was the dominant style among the bottom performers, with Time Weighted Book Yield (-5.94%) posting the weakest spread.

Table 12

Emerging Markets top quintile return spread factor performance, Aug 2019

Factor	Decile spread (%)	Factor group
18-Month Active Return with 1-Month Lag	5.35	Price Momentum
9-Month Active Return with 1-Month Lag	4.90	Price Momentum
52-Week High	4.65	Price Momentum
30-75 Week Stock Price Ratio	4.63	Price Momentum
Std Dev of FY2 EPS Estimates-to-Price	4.53	Earnings Momentum
Debt to Market Cap	4.49	Liquidity, Risk & Size
Std Dev of FY1 EPS Estimates-to-Price	4.43	Earnings Momentum
6-Month Nominal Change in 18-Month Alpha	4.41	Price Momentum
26-Week Relative Price Strength	4.38	Price Momentum
39-Week Return with 4-week Lag	4.35	Price Momentum
1-Year Price Momentum Indicator	4.32	Price Momentum
50-200 Day Stock Price Ratio	4.20	Price Momentum
24-Month Active Return with 1-Month Lag	3.94	Price Momentum
15/36 Week Stock Price Ratio	3.90	Price Momentum
12-Month Active Return with 1-month Lag	3.90	Price Momentum

Source: IHS Markit

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Table 13

Emerging Markets bottom quintile return spread factor performance, Aug 2019

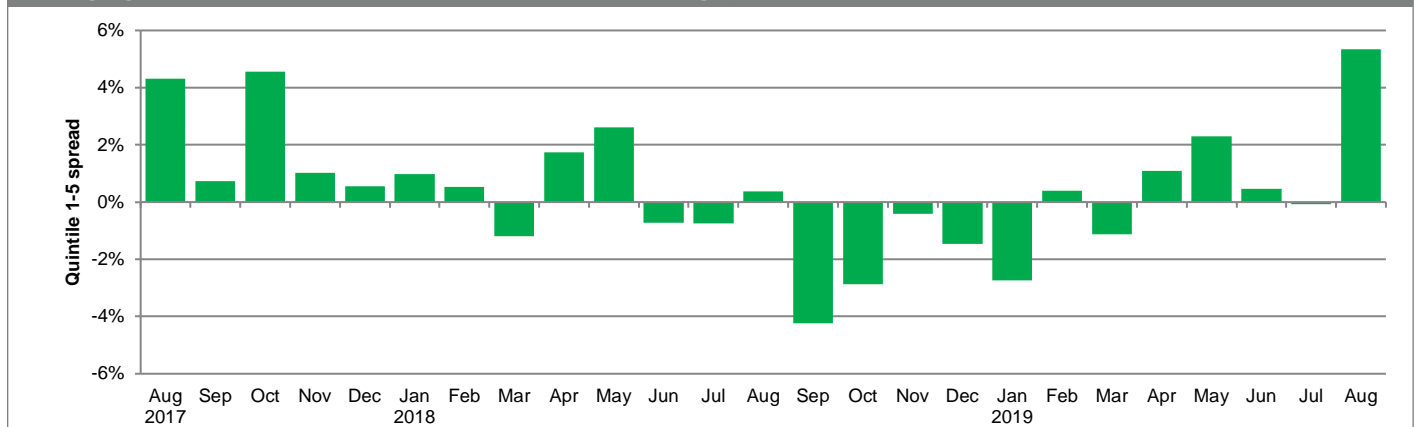
Factor	Decile spread (%)	Factor group
Time Weighted Book Yield	-5.94	Deep Value
Leading 12 Month Book Yield	-5.70	Deep Value
Graham Number Fair Value Premium	-5.09	Deep Value
Price-to-Book Return-on-Equity Combination	-5.02	Deep Value
Price-to-Total Assets	-4.86	Deep Value
Normalized Earnings Yield Transition	-4.84	Deep Value
Tobin q	-4.72	Liquidity, Risk & Size
Current Liabilities-to-Price	-4.67	Liquidity, Risk & Size
Net Asset Value to Price	-4.52	Deep Value
Book-to-Market	-4.45	Deep Value

Source: IHS Markit

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Figure 6

Emerging Markets 18-Month Active Return with 1-Month Lag quintile return spreads



Source: IHS Markit

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