

Record-breaking events

July 2021

Research Signals

In a month of exciting and record-breaking competition during the Tokyo Olympics, several chart-topping events affected global markets and a broad representation of factors competed for the monthly performance lead across regions (Table 1). US and European equity markets continued to post all-time highs, though stocks struggled in Asia as rising coronavirus cases, including daily counts in the Japanese capital which topped earlier records, fueled concerns on the strength of the global economic recovery. While the J.P.Morgan Global Manufacturing PMI maintained a solid pace of expansion, with gold, silver and bronze medals awarded to the Netherlands, Germany and Austria and the US just shy of making the podium, record supply chain constraints drove up input prices and hindered growth.

- US: A high level of risk aversion was evident in the market, as confirmed by outperformance of signals such as 24-Month Value at Risk and 60-Month Beta
- Developed Europe: High quality firms were positively rewarded, as gauged by measures including Change in TTM COGS vs Inventory Level and Net Operating Asset Turnover
- Developed Pacific: Deep Value factors outperformed in the region, particularly in Japan where TTM EBITDA-to-Enterprise Value took top honors
- Emerging markets: Price Momentum measures remained positive indicators, as confirmed by outperformance of Rational Decay Alpha and Industry-adjusted 12-month Relative Price Strength

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Table 1

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

Factor	Factor Group	US Large Cap	US Small Cap	Developed Europe	Developed Pacific ex Japan	Japan Standard Cap	Emerging Markets
Book-to-Market	Deep Value	-3.28	3.41	-3.80	3.54	3.32	-3.02
Forward 12-M EPS-to-Enterprise Value		7.82	13.57	5.80	3.75	5.71	0.70
TTM EBITDA-to-Enterprise Value		6.91	14.77	3.73	3.83	6.13	0.80
TTM Free Cash Flow-to-Enterprise Value		1.50	11.03	-0.02	0.82	2.76	0.97
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	4.53	7.85	1.91	0.58	3.91	-1.05
Industry Relative TTM Dividend Yield		3.64	-1.02	0.83	-0.94	2.42	-1.11
Fixed Assets Turnover Ratio	Management Quality	-1.83	8.31	-0.15	-6.80	-1.32	1.73
Inventory Turnover Ratio		1.28	3.20	1.54	0.08	1.70	-1.80
Net Operating Asset Turnover		3.44	4.02	1.74	0.94	-0.76	3.67
Change in Accruals to Assets		1.62	0.60	-1.44	-0.90	0.96	-0.48
Change in TTM COGS vs. Inventory Level	Earnings Quality	4.71	6.11	3.06	2.78	4.83	1.33
Change in TTM Sales vs. Accounts Receivable		2.15	0.84	-0.53	-2.14	0.72	1.57
Working Capital Accruals		-1.18	-0.79	2.35	1.06	0.80	-0.74
1-yr Growth in TTM Free Cash Flow		1.89	3.94	1.07	2.31	-0.14	0.74
Reinvestment Rate	Historical Growth	7.88	10.27	6.83	0.82	2.49	3.33
Average Monthly Trading Volume-to-Market Cap		-10.81	-15.25	-6.86	-1.03	-3.90	-3.71
60-Month Beta		8.30	7.38	5.39	-2.85	2.35	-0.67
Asset Quality Index		-3.33	-5.16	-1.77	0.21	0.56	-0.99
Operating Leverage	Liquidity, Risk & Size	1.39	-0.61	0.15	-1.71	1.02	-0.61
Natural Logarithm of Market Capitalization		-6.73	-2.93	-3.18	1.32	1.93	-1.28
2-Year Ahead EPS Growth		-5.39	-4.68	-3.54	-5.58	0.07	-2.92
3-M Revision in FY2 EPS Forecasts		2.01	1.28	1.15	3.90	-1.43	3.24
Real Earnings Surprise	Earnings Momentum	0.59	3.04	2.50	-3.23	1.19	1.03
24-Month Value at Risk		9.89	10.60	6.30	-0.99	2.80	-1.30
5-day Industry Relative Return		-0.52	-4.11	-2.24	-2.96	-2.17	-1.16
Industry-adjusted 12-month Relative Price Strength		0.62	-0.24	4.51	4.51	-1.55	3.71
Rational Decay Alpha	Price Momentum	5.66	4.54	6.55	-0.01	-0.89	4.33
Demand Supply Ratio		9.75	12.46	6.48	2.91	2.96	-0.59
Implied Loan Rate		7.31	7.34	3.07	1.73	3.21	-0.91

Source: IHS Markit

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United States

US Large Cap

The US manufacturing sector started off the third quarter with the highest improvement in operating conditions on record. The July manufacturing PMI came in at 63.4, up from 62.1 in June, underpinned by stronger expansions in output and new orders, while cost pressures spiked amid record shortages and efforts to rebuild stock. Stocks posted their sixth consecutive monthly increase as positive earnings reports and relatively low interest rates outweighed concerns of higher inflation and the rise in delta variant cases.

Low risk shares returned to favor, sending measures of risk to the factor leaderboard for US large caps in July (Table 2). 1-Month Realized Stock Return Volatility led the way (12.89%), with a robust double-digit spread not seen since the height of the pandemic-driven downturn in March 2020 (Figure 1). At the same time, small caps and long-term underperforming stocks lagged, dragging down performance of measures such as Natural Logarithm of Closing Price (-8.69%) and 36-Month Active Return with 1-Month Lag (-10.52%), respectively (Table 3).

Table 2

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

Factor	Decile spread (%)	Factor group
1-Month Realized Stock Return Volatility	12.89	Liquidity, Risk & Size
At the Money Put Option Implied Volatility	11.92	Liquidity, Risk & Size
60-Day Residual Risk	11.57	Liquidity, Risk & Size
1-Month Stock Return Interquartile Range	11.40	Liquidity, Risk & Size
At the Money Call Option Implied Volatility	11.37	Liquidity, Risk & Size
52-Week High	11.25	Price Momentum
Stock Return Volatility	10.82	Liquidity, Risk & Size
24-Month Residual Return Variance	10.70	Price Momentum
Distress Measure	10.45	Liquidity, Risk & Size
2-Year Trough Operating Margin	10.19	Management Quality
Product of Beta and Sigma	10.04	Liquidity, Risk & Size
24-Month Value at Risk	9.89	Price Momentum
3-Year Trough Operating Margin	9.85	Management Quality
Demand Supply Ratio	9.75	Short Sentiment
Regression Error of 60-Month CAPM	9.66	Liquidity, Risk & Size

Source: IHS Markit

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Figure 1

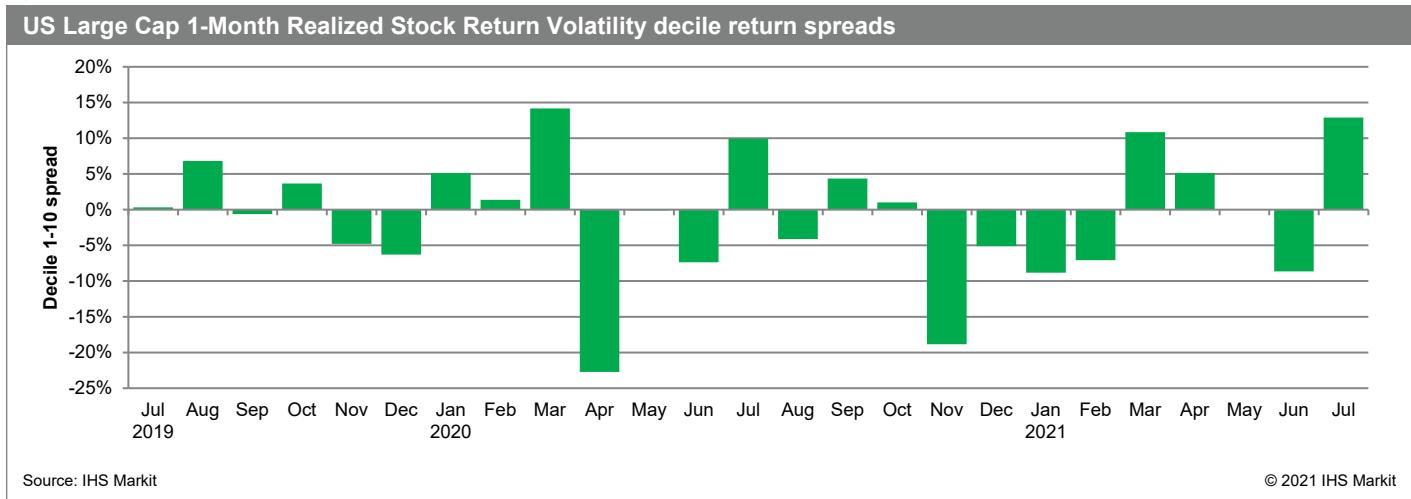


Table 3

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

Factor	Decile spread (%)	Factor group
Average Monthly Trading Volume-to-Market Cap	-10.81	Liquidity, Risk & Size
36-Month Active Return with 1-Month Lag	-10.52	Price Momentum
Implied Volatility	-8.77	Liquidity, Risk & Size
Natural Logarithm of Closing Price	-8.69	Liquidity, Risk & Size
36-Month Sharpe Ratio	-7.86	Price Momentum
Sortino Ratio	-7.73	Price Momentum
Industrial Production Sensitivity	-7.67	Macro
60-Month Active Return with 12-Month Lag	-7.09	Price Momentum
Slope of 3-yr TTM Cash Flow Trend Line	-6.90	Historical Growth
60-Month Active Return with 1-Month Lag	-6.76	Price Momentum

Source: IHS Markit © 2021 IHS Markit

US Small Cap

Small cap top (Table 4) and bottom (Table 5) factor performance took on similar themes as with large caps in July, captured by measures such as Stock Return Volatility (14.18%), Natural Logarithm of Closing Price (-12.30%) and 60-Month Active Return with 12-Month Lag (-9.66%). However, the top performing factor was 52-Week High (14.84%), as stocks trading nearest their highs outperformed laggards by the widest margin since December 2018 (Figure 2).

Table 4

US Small Cap top decile return spread factor performance, Jul 2021

Factor	Decile spread (%)	Factor group
52-Week High	14.84	Price Momentum
TTM EBITDA-to-Enterprise Value	14.77	Deep Value
Distress Measure	14.39	Liquidity, Risk & Size
Stock Return Volatility	14.18	Liquidity, Risk & Size
60-Day Residual Risk	13.92	Liquidity, Risk & Size
Regression Error of 60-Month CAPM	13.82	Liquidity, Risk & Size
At the Money Put Option Implied Volatility	13.79	Liquidity, Risk & Size
Return on Assets	13.62	Management Quality
Forward 12-M EPS-to-Enterprise Value	13.57	Deep Value
Current Earnings Yield	13.40	Deep Value
1-Month Stock Return Interquartile Range	13.38	Liquidity, Risk & Size
Operating Cash Flow to Assets	13.34	Management Quality
TTM Pretax Income-to-Price	13.11	Deep Value
Std Dev of FY2 EPS Estimates-to-Price	13.09	Earnings Momentum
TTM Operating Income to Enterprise Value	13.05	Deep Value

Source: IHS Markit

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Table 5

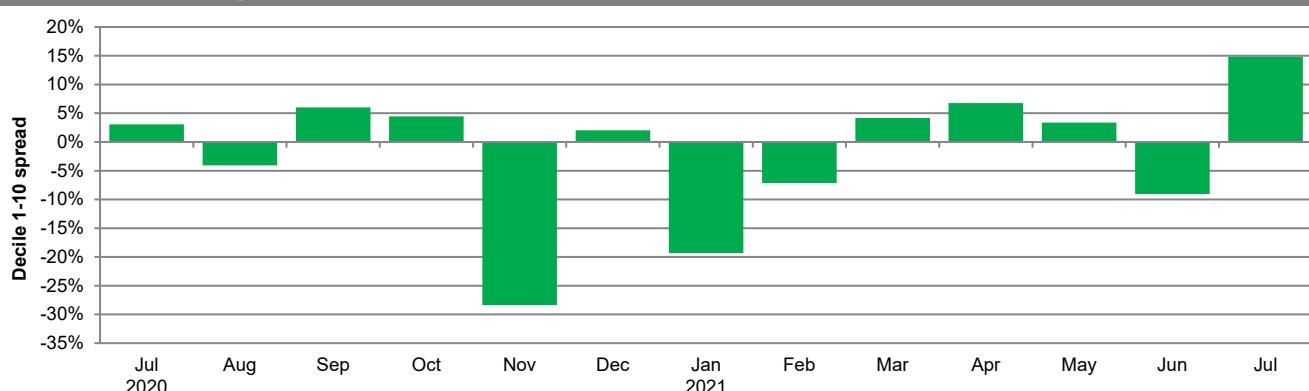
US Small Cap bottom decile return spread factor performance, Jul 2021

Factor	Decile spread (%)	Factor group
Average Monthly Trading Volume-to-Market Cap	-15.25	Liquidity, Risk & Size
Natural Logarithm of Closing Price	-12.30	Liquidity, Risk & Size
Advertising Intensity	-11.82	Management Quality
Ohlson Bankruptcy Score	-11.54	Liquidity, Risk & Size
Implied Volatility	-11.21	Liquidity, Risk & Size
Cash to Enterprise Value	-10.45	Deep Value
60-Month Active Return with 12-Month Lag	-9.66	Price Momentum
Product of TTM FCF Yield and Forward ROE	-9.48	Earnings Momentum
Average Payable Period	-9.26	Management Quality
60-Month Active Return with 1-Month Lag	-9.19	Price Momentum

Source: IHS Markit

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Figure 2

US Small 52-Week High decile return spreads

Source: IHS Markit

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Europe

The eurozone manufacturing sector remained strong in July despite a slight loss of momentum. The July manufacturing PMI posted at 62.8, down from 63.4 in June, as output and order growth rates slowed and inflation rates hit new highs on continued supply chain disruptions. With the exception of Germany, there was a broad decrease across nations, with the Netherlands retaining its top spot. Overall positive economic data, despite rising inflation and delta variant cases, helped push European equities to a strong close for the month, with a sixth consecutive monthly gain.

Stocks with high agreement in analyst outlook and high quality shares outperformed in Developed Europe in July (Table 6). FY2 EPS Forecast Dispersion (10.25%) was the top performing measure, capping its five-month string of positive spreads (Figure 3). Other outperforming factors include Cash Flow Return on Invested Capital (8.30%) and 24-Month Active Return with 1-Month Lag (7.05%), while price reversal measures such as 36-Month Active Return with 1-Month Lag (-8.54%) and 3-Month Active Return (-8.07%) trailed for the month (Table 7).

Table 6

Developed Europe top decile return spread factor performance, Jul 2021

Factor	Decile spread (%)	Factor group
FY2 EPS Forecast Dispersion	10.25	Earnings Momentum
52-Week High	9.51	Price Momentum
Net Income per Employee	8.97	Management Quality
Std Dev of FY2 EPS Estimates-to-Price	8.76	Earnings Momentum
Std Dev of FY1 EPS Estimates-to-Price	8.66	Earnings Momentum
FY1 EPS Estimates Dispersion	8.44	Earnings Momentum
Cash Flow Return on Invested Capital	8.30	Management Quality
Forward Return on Equity	7.93	Management Quality
Return on Assets	7.74	Management Quality
EBITDA-to-Debt	7.58	Liquidity, Risk & Size
Sustainable Growth Rate	7.52	Historical Growth
Return on Equity	7.11	Management Quality
24-Month Active Return with 1-Month Lag	7.05	Price Momentum
Slope of 66 Week Price Trend Line	7.00	Price Momentum
1-Month Realized Stock Return Volatility	6.96	Liquidity, Risk & Size

Source: IHS Markit

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Figure 3

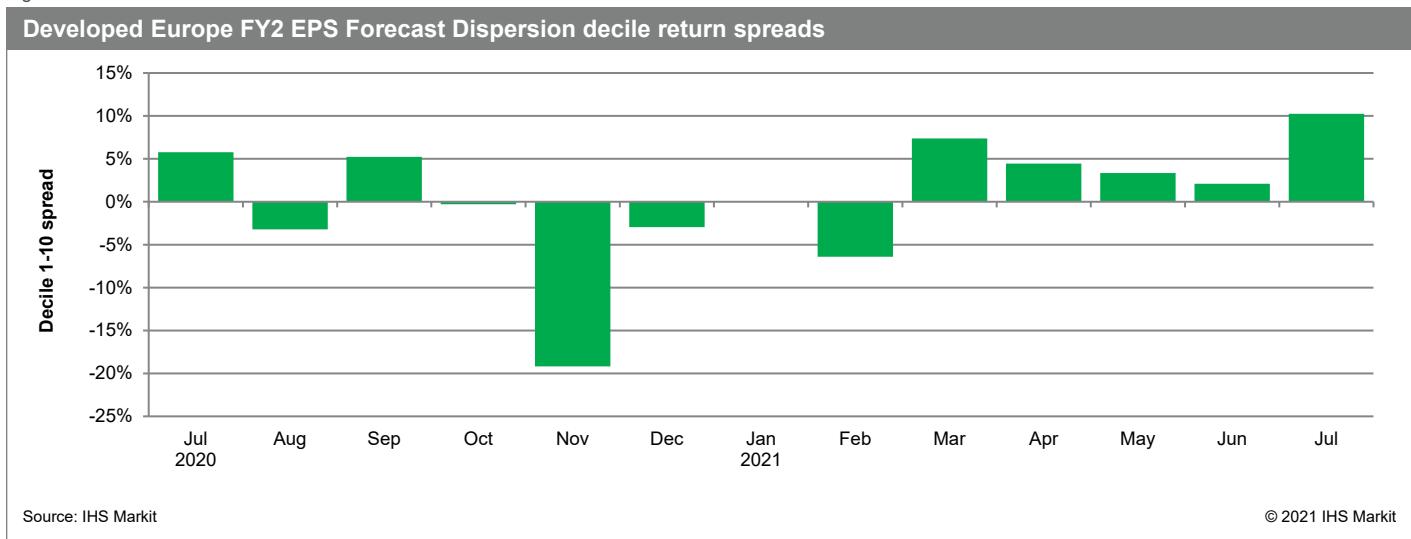


Table 7

Developed Europe bottom decile return spread factor performance, Jul 2021

Factor	Decile spread (%)	Factor group
36-Month Active Return with 1-Month Lag	-8.54	Price Momentum
3-Month Active Return	-8.07	Price Momentum
Ohlson Bankruptcy Score	-7.03	Liquidity, Risk & Size
Average Monthly Trading Volume-to-Market Cap	-6.86	Liquidity, Risk & Size
Industrial Production Sensitivity	-6.50	Macro
60-Month Active Return with 12-Month Lag	-6.30	Price Momentum
Cash to Enterprise Value	-6.21	Deep Value
Altman Z Score	-6.21	Liquidity, Risk & Size
60-Month Active Return with 1-Month Lag	-6.20	Price Momentum
Graham Number Fair Value Premium	-6.12	Deep Value

Source: IHS Markit © 2021 IHS Markit

Asia-Pacific

Rates of growth in the manufacturing sector in the two largest Asian economies of China and Japan moved in opposite directions in July. The Japanese manufacturing sector was the stronger of the two, with the PMI at 53.0 in July, up slightly from 52.4 in June, as output and new orders rose at faster rates while cost burdens rose sharply amid supply chain disruptions. In China, the manufacturing PMI edged down further to 50.3 in July, from 51.3 in June, as output expanded at the slowest rate for 16 months amid continued pandemic-driven dampening of overseas sales. Stocks also remained under pressure in July, as delta variant cases increased in Japan prompting tightening restrictions and tensions flared between China and the US.

Factor performance in markets outside Japan was characterized by measures of low risk (Table 8), led by 1-Month Realized Stock Return Volatility (9.77%). However, the top performing measure was Utilization (11.88%), as investors favored this gauge of low shorting activity by the widest margin during the factor's five-month winning streak (Figure

4). At the opposite extreme, factors which trailed for the month (Table 9) include Attention Span Ratio (-8.78%) and 3-yr Compound Annual Sales Growth (-6.99%).

In Japan, Deep Value measures were prevalent on the factor performance leaderboard in July (Table 10). TTM EBITDA-to-Enterprise Value (6.13%) was the lead measure, posting its highest spread since July 2016 (Figure 5). Conversely, bottom performing factors for the month (Table 11) include TTM Gross Profit Margin (-4.23%) and Average Monthly Trading Volume-to-Market Cap (-3.90%).

Table 8

Developed Pacific exJapan top decile return spread factor performance, Jul 2021

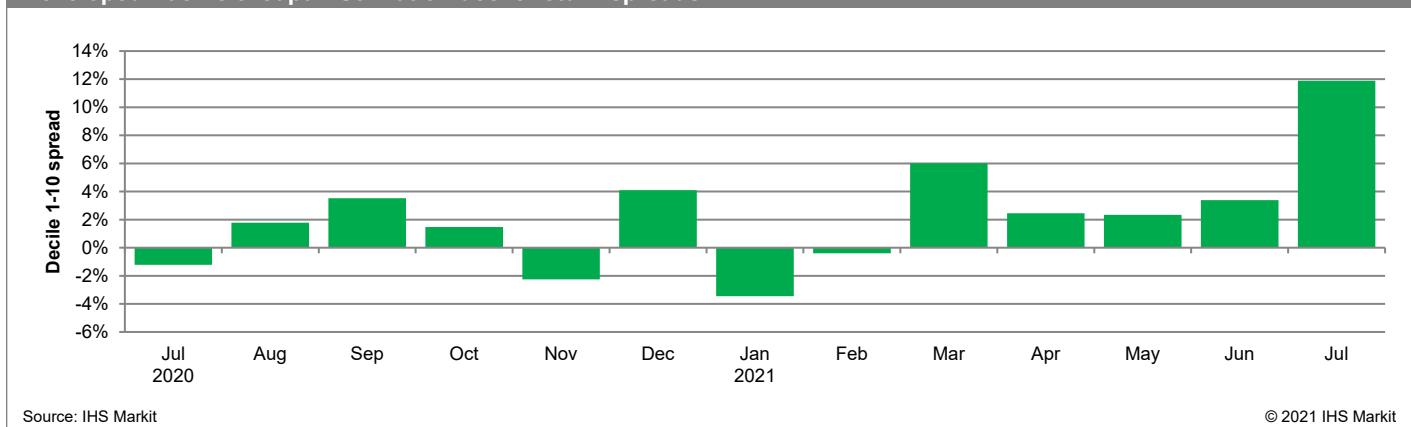
Factor	Decile spread (%)	Factor group
Utilization	11.88	Short Sentiment
Asset Composition	10.46	Liquidity, Risk & Size
1-Month Realized Stock Return Volatility	9.77	Liquidity, Risk & Size
60-Day Residual Risk	9.72	Liquidity, Risk & Size
20-Day Volume Volatility to Price Volatility	8.66	Liquidity, Risk & Size
CV of Prior 90-Day Closing Prices	8.58	Price Momentum
Time Weighted Earnings Revision	7.94	Earnings Momentum
Time Weighted Earnings Revision Dispersion	7.82	Earnings Momentum
1-yr Change in Total Assets	7.50	Historical Growth
52-Week High	7.45	Price Momentum
1-Month Stock Return Interquartile Range	7.39	Liquidity, Risk & Size
3-M Revision in FY2 EPS Forecasts: Dispersion Relative	7.30	Earnings Momentum
Working Capital-to-Total Assets	7.27	Management Quality
Cash & Equivalents-to-Current Liabilities	6.73	Liquidity, Risk & Size
Working Capital to Inventory	6.70	Management Quality

Source: IHS Markit

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Figure 4

Developed Pacific exJapan Utilization decile return spreads



Source: IHS Markit

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Table 9

Developed Pacific exJapan bottom decile return spread factor performance, Jul 2021

Factor	Decile spread (%)	Factor group
Attention Span Ratio	-8.78	Management Quality
Market Volatility Sensitivity	-7.21	Macro
Operating Liability Leverage	-7.06	Management Quality
3-yr Compound Annual Sales Growth	-6.99	Historical Growth
Fixed Assets Turnover Ratio	-6.80	Management Quality
Natural Logarithm of Closing Price (USD)	-6.07	Liquidity, Risk & Size
On Loan Value Concentration	-5.92	Short Sentiment
TTM Capital Expenditures-to-Price	-5.85	Deep Value
Cash to Enterprise Value	-5.73	Deep Value
Net Debt to EBITDA	-5.60	Management Quality

Source: IHS Markit

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Table 10

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

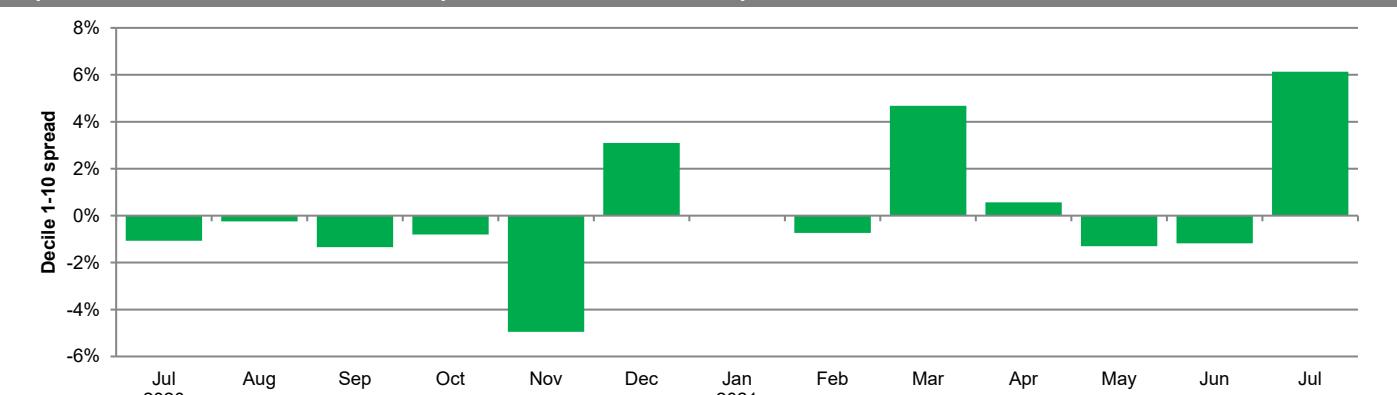
Factor	Decile spread (%)	Factor group
TTM EBITDA-to-Enterprise Value	6.13	Deep Value
TTM Operating Income to Enterprise Value	6.01	Deep Value
R&D Intensity	5.92	Management Quality
1-Month Realized Stock Return Volatility	5.89	Liquidity, Risk & Size
Forward 12-M EPS-to-Enterprise Value	5.71	Deep Value
TTM EBITDA-to-Price	5.56	Deep Value
Leading 12-Month Median Earnings Yield	5.39	Deep Value
TTM Cash Flow-to-Price	5.21	Deep Value
60-Day Residual Risk	5.19	Liquidity, Risk & Size
SG&A Expenses-to-Sales	5.18	Management Quality
Time Weighted Earnings Yield	4.99	Deep Value
Normalized Earnings Yield	4.94	Deep Value
Change in TTM COGS vs. Inventory Level	4.83	Earnings Quality
Distress Measure	4.83	Liquidity, Risk & Size
Industry Relative TTM Cash Flow-to-Price	4.75	Relative Value

Source: IHS Markit

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Figure 5

Japan Standard TTM EBITDA-to-Enterprise Value decile return spreads



Source: IHS Markit

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Table 11

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

Factor	Decile spread (%)	Factor group
Credit Risk Premium Sensitivity	-4.64	Macro
Attention Span Ratio	-4.40	Management Quality
TTM Gross Profit Margin	-4.23	Management Quality
Flow Ratio	-4.03	Liquidity, Risk & Size
TTM Capital Expenditures-to-Price	-3.94	Deep Value
Average Monthly Trading Volume-to-Market Cap	-3.90	Liquidity, Risk & Size
Industrial Production Sensitivity	-3.44	Macro
Net Current Assets-to-Price	-3.19	Deep Value
2-Year Ahead EPS Growth Percentage Change	-2.71	Earnings Momentum
Number of Analyst Coverage	-2.58	Liquidity, Risk & Size

Source: IHS Markit

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Emerging Markets

We wrap up the report with a review of top (Table 12) and bottom (Table 13) performing factors in emerging markets in July. Price Momentum remained a highly rewarded style, led by 1-Year Price Momentum Indicator (6.31%) which has recorded positive spreads in all but two months over the past year (Figure 6). At the opposite end of the spectrum, valuation measures such as 3-Month Active Return (-4.23%), a short-term price reversal metric, and Time Weighted Book Yield (-4.15%) were among the weakest performers for the month.

Table 12

Emerging Markets top quintile return spread factor performance, Jul 2021

Factor	Decile spread (%)	Factor group
1-Year Price Momentum Indicator	6.31	Price Momentum
Slope of 66 Week Price Trend Line	5.65	Price Momentum
Slope of 52 Week Price Trend Line	5.52	Price Momentum
3-M Revision in FY2 EPS Forecasts: Dispersion Relative	5.48	Earnings Momentum
TTM Gross Profit to Assets	5.33	Management Quality
Profitability Ratio	5.21	Management Quality
12-Month Active Return with 1-month Lag	4.77	Price Momentum
52-Week High	4.73	Price Momentum
26-Week Relative Price Strength	4.53	Price Momentum
Retained Earnings-to-Total Assets	4.47	Management Quality
EBITDA-to-Debt	4.47	Liquidity, Risk & Size
Rational Decay Alpha	4.33	Price Momentum
Cash Earnings Return On Equity	4.31	Management Quality
15/36 Week Stock Price Ratio	4.30	Price Momentum
Std Dev of FY2 EPS Estimates-to-Price	4.28	Earnings Momentum

Source: IHS Markit

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Table 13

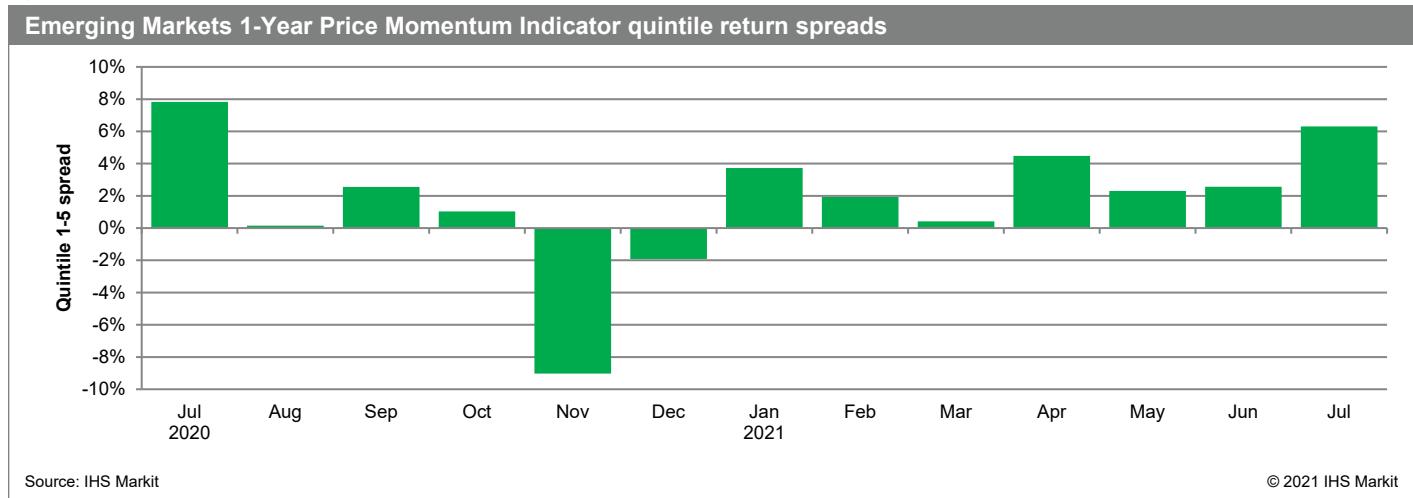
Emerging Markets bottom quintile return spread factor performance, Jul 2021

Factor	Decile spread (%)	Factor group
Natural Logarithm of Closing Price	-5.51	Liquidity, Risk & Size
Natural Logarithm of Total Assets (USD)	-4.47	Liquidity, Risk & Size
3-Month Active Return	-4.23	Price Momentum
Time Weighted Book Yield	-4.15	Deep Value
Leading 12 Month Book Yield	-4.14	Deep Value
5-yr Relative Book-to-Market	-4.08	Relative Value
Altman Z Score	-3.80	Liquidity, Risk & Size
Cash-to-Price	-3.80	Deep Value
Price-to-Book Return-on-Equity Combination (PB-ROE)	-3.72	Deep Value
Price Above Last 260-day Lowest Trading Price	-3.72	Price Momentum

Source: IHS Markit

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Figure 6



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