

# Risk-off sentiment returns

April 2022

## Research Signals

Markets faced economic headwinds as confirmed by some key data releases including the April J.P.Morgan Global Manufacturing PMI which signaled a downturn in worldwide manufacturing production for the first time in 22 months and an initial estimate of a decline in the US Q1 GDP. Geopolitical tensions, escalating inflation pressures and tighter Covid restrictions in China contributed to a sharp snapback in risk-off sentiment across regional equity markets (Table 1).

- US: Investors favored low risk shares and the least shorted names as gauged by 24-Month Value at Risk and Demand Supply Ratio, respectively
- Developed Europe: Both high momentum and risk-off trades were positive last month, as captured respectively by Industry-adjusted 12-month Relative Price Strength and 60-Month Beta
- Developed Pacific: High dividend payers were rewarded in Japan, as identified by Industry Relative TTM Dividend Yield
- Emerging markets: Investors followed similar themes to other regional markets, with positive performance associated with 24-Month Value at Risk and Demand Supply Ratio

## Contacts

Research Signals · [MK-ResearchSignals@ihsmarkit.com](mailto:MK-ResearchSignals@ihsmarkit.com)



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Table 1

## Global factor quantile return spread (%) performance snapshot, Apr 2022

Factor	Factor Group	US Large	US	Developed	Developed	Japan	Emerging
		Cap	Small Cap	Europe	Pacific ex Japan	Standard Cap	Markets
Book-to-Market		0.40	-0.73	3.17	4.35	4.83	1.46
Forward 12-M EPS-to-Enterprise Value	Deep Value	12.80	18.23	5.88	4.15	0.74	-1.73
TTM EBITDA-to-Enterprise Value		12.23	15.16	6.13	6.06	1.40	0.71
TTM Free Cash Flow-to-Enterprise Value		3.67	13.69	2.86	0.51	-0.15	1.51
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	9.44	12.14	5.64	3.80	3.19	0.29
Industry Relative TTM Dividend Yield		3.83	3.59	1.77	4.00	4.47	-0.28
Fixed Assets Turnover Ratio	Management Quality	-5.15	8.14	-1.07	-0.59	-2.08	-3.32
Inventory Turnover Ratio		0.14	6.46	0.12	-1.26	1.01	0.41
Net Operating Asset Turnover		3.66	7.72	0.23	-0.79	-1.80	-3.21
Change in Accruals to Assets	Earnings Quality	-1.74	-1.27	1.52	-0.85	0.26	1.04
Change in TTM COGS vs. Inventory Level		4.67	6.41	3.87	0.27	1.22	2.23
Change in TTM Sales vs. Accounts Receivable		-0.04	-0.82	0.00	-1.34	-1.21	-0.29
Working Capital Accruals		-2.17	0.37	1.17	3.78	-0.18	-0.77
1-yr Growth in TTM Free Cash Flow	Historical Growth	3.85	8.16	2.13	-0.38	-0.37	0.33
Reinvestment Rate		7.85	11.70	-0.67	1.67	-2.41	2.80
Average Monthly Trading Volume-to-Market Cap	Liquidity, Risk & Size	-5.40	-14.28	1.65	-1.63	0.33	-4.40
60-Month Beta		6.05	5.51	5.30	-0.71	4.62	2.15
Asset Quality Index		4.64	1.87	-0.68	0.53	-1.28	-0.10
Operating Leverage		-1.77	-1.93	0.16	0.45	0.01	-0.51
Natural Logarithm of Market Capitalization		-4.60	-11.64	-1.68	-1.35	-0.55	-3.35
2-Year Ahead EPS Growth	Earnings Momentum	-4.98	-3.79	0.18	-0.92	-0.49	0.60
3-M Revision in FY2 EPS Forecasts		6.85	3.92	3.20	3.69	-1.43	2.10
Real Earnings Surprise		1.90	3.57	0.44	2.20	0.39	2.69
24-Month Value at Risk	Price Momentum	11.97	14.53	6.81	7.17	4.05	4.00
5-day Industry Relative Return		-6.11	-8.01	-1.97	-7.34	1.29	-1.76
Industry-adjusted 12-month Relative Price Strength		6.33	7.09	4.66	1.75	-0.13	-1.69
Rational Decay Alpha		8.56	13.43	0.10	2.33	-1.41	-0.46
Demand Supply Ratio		10.72	13.32	5.64	4.45	1.16	8.77
Implied Loan Rate	Short Sentiment	8.28	9.10	0.02	1.02	1.35	2.71

Source: IHS Markit

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## United States

### US Large Cap

Operating conditions improved across the US manufacturing sector in April, with the headline PMI figure rising to 59.2 in April, up from 58.8 in March, driven by a quicker expansion in output and a series-record rise in pre-production inventories, though input costs rose substantially. In equity markets, stocks booked their worst April since 2002, contributing to their weakest start to the year since 1939.

A sharp increase in risk-off sentiment is evident among the list of top performing factors for US large caps in April (Table 2). 1-Month Realized Stock Return Volatility (19.63%) is one such example of a risk measure which recorded similar performance to that seen during January's market rout (Figure 1). Interestingly, though, Price Momentum measures including 52-Week High (19.42%) and 26-Week Relative Price Strength (16.21%) were other strong performers and, similarly, 3-Month Active Return (-13.74%), interpreted as a short-term price reversal metric, was included on the laggard board for the month (Table 3).

Table 2

US Large Cap top decile return spread factor performance, Apr 2022		
Factor	Decile spread	Factor group
1-Month Stock Return Interquartile Range	21.73	Liquidity, Risk & Size
1-Month Realized Stock Return Volatility	19.63	Liquidity, Risk & Size
52-Week High	19.42	Price Momentum
CV of Prior 90-Day Closing Prices	19.13	Price Momentum
Distress Measure	18.50	Liquidity, Risk & Size
60-Day Residual Risk	18.17	Liquidity, Risk & Size
50-200 Day Stock Price Ratio	17.87	Price Momentum
15/36 Week Stock Price Ratio	17.57	Price Momentum
Leading 12 Month EBITDA/ EV	16.39	Deep Value
26-Week Relative Price Strength	16.21	Price Momentum
Time Weighted EBITDA/ EV	16.03	Deep Value
6-Month Active Return with 1-Month Lag	15.73	Price Momentum
20-Day Volume Volatility to Price Volatility	15.36	Liquidity, Risk & Size
4-52 Week Price Oscillator	15.17	Price Momentum
Time Weighted Cash Yield	14.40	Deep Value

Source: IHS Markit

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Figure 1

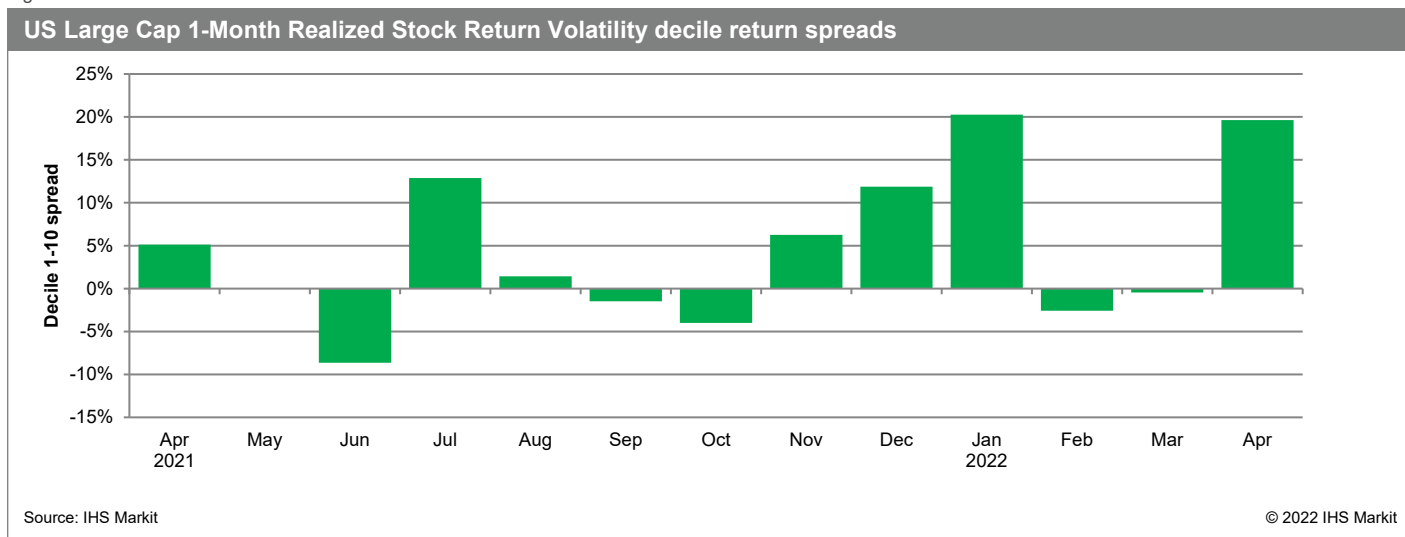


Table 3

**US Large Cap bottom decile return spread factor performance, Apr 2022**

Factor	Decile spread	Factor group
3-Month Active Return	-13.74	Price Momentum
3-yr Compound Annual Sales Growth	-13.37	Historical Growth
Advertising Intensity	-9.95	Management Quality
Attention Span Ratio	-9.87	Management Quality
Cash to Enterprise Value	-8.01	Deep Value
5-yr Relative TTM Sales-to-Price	-7.31	Relative Value
Growth Duration	-7.21	Liquidity, Risk & Size
2-Year Ahead EPS Growth Percentage Change	-7.20	Earnings Momentum
TTM Capital Expenditures-to-Price	-6.88	Deep Value
Industrial Production Sensitivity	-6.66	Macro

Source: IHS Markit © 2022 IHS Markit

## US Small Cap

As with large caps, momentum and low risk measures were prominent among the top performing factors for small caps in April (Table 4). 52-Week High (21.71%) was the top performer, a signal that has been successful over the past year with outperformance in all but two months (Figure 2), capped by its highest spread since March 2001. Conversely, factors which struggled for the month (Table 5) include Stability of 3-yr TTM Free Cash Flow (-6.76%), Earnings Shortfall (-6.46%) and Inventory-to-Total Assets (-6.36%).

Table 4

US Small Cap top decile return spread factor performance, Apr 2022		
Factor	Decile spread	Factor group
52-Week High	21.71	Price Momentum
Distress Measure	20.82	Liquidity, Risk & Size
CV of Prior 90-Day Closing Prices	20.41	Price Momentum
50-200 Day Stock Price Ratio	20.34	Price Momentum
4-52 Week Price Oscillator	20.22	Price Momentum
6-Month Active Return with 1-Month Lag	19.83	Price Momentum
6-Month Nominal Change in 18-Month Alpha	19.76	Price Momentum
Cash-to-Sales	19.32	Management Quality
Working Capital-to-Trailing 12-Month Sales	19.19	Management Quality
1-Month Stock Return Interquartile Range	18.88	Liquidity, Risk & Size
26-Week Relative Price Strength	18.60	Price Momentum
SG&A Expenses-to-Sales	18.58	Management Quality
15/36 Week Stock Price Ratio	18.33	Price Momentum
Forward 12-M EPS-to-Enterprise Value	18.23	Deep Value
Natural Logarithm of TTM Sales	18.03	Liquidity, Risk & Size

Source: IHS Markit

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Figure 2

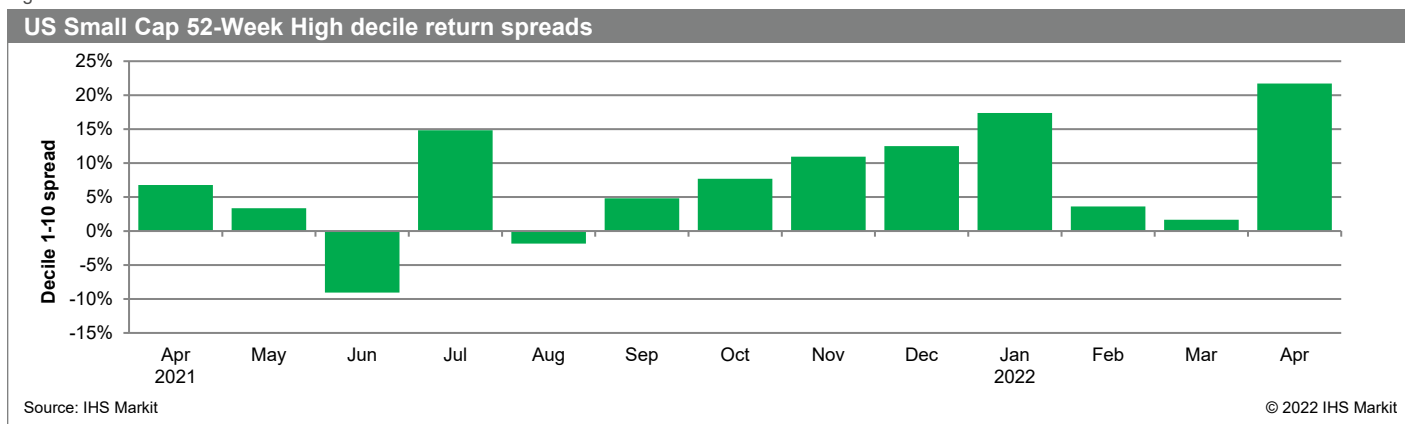


Table 5

US Small Cap bottom decile return spread factor performance, Apr 2022		
Factor	Decile spread	Factor group
Stability of 3-yr TTM Free Cash Flow	-6.76	Historical Growth
Earnings Shortfall	-6.46	Earnings Quality
Inventory-to-Total Assets	-6.36	Management Quality
1-Month Active Return	-5.94	Price Momentum
TTM Capital Expenditures-to-Price	-5.87	Deep Value
3-yr Change in Assets-adj TTM Cash Flow	-5.56	Historical Growth
Aggregate Gamma	-5.54	Liquidity, Risk & Size
TTM Gross Profit Margin	-5.54	Management Quality
Liquidity Coefficient	-5.39	Liquidity, Risk & Size
3-yr Compound Annual FCF Growth	-5.20	Historical Growth

Source: IHS Markit

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## Europe

Manufacturing growth in the eurozone weakened further in April, with the PMI slumping to a 15-month low of 55.5, from 56.5 in March, amid record output price inflation. Of the monitored eurozone constituents, the Netherlands recorded the strongest upturn, while PMI readings fell in the remaining countries with the exception of France. In equity markets, stocks finished mostly flat for the month on vying forces from positive earnings reports to fears over Ukraine and energy supplies.

While investors did not follow the lead of US markets which experienced a steep decline in April, the most highly favored factors (Table 6) did take on similar behavior, with outperformance to momentum and risk-off measures. Furthermore, the trade was fairly systematic as demonstrated by the nearly monotonic distribution of returns across deciles (Figure 3) for factors such as 50-200 Day Stock Price Ratio (13.93%) and CV of Prior 90-Day Closing Prices (11.03%). On the other hand, the weakest performers for the month (Table 7) included 3-yr Compound Annual Sales Growth (-6.83%) and 5-yr Relative Book-to-Market (-4.77%).

Table 6

### Developed Europe top decile return spread factor performance, Apr 2022

Factor	Decile spread	Factor group
50-200 Day Stock Price Ratio	13.93	Price Momentum
15/36 Week Stock Price Ratio	13.64	Price Momentum
52-Week High	12.82	Price Momentum
6-Month Nominal Change in 18-Month Alpha	12.17	Price Momentum
26-Week Relative Price Strength	12.12	Price Momentum
6-Month Active Return with 1-Month Lag	11.80	Price Momentum
CV of Prior 90-Day Closing Prices	11.03	Price Momentum
6-Month Nominal Change in 36-Month Alpha	9.94	Price Momentum
1-Month Stock Return Interquartile Range	9.77	Liquidity, Risk & Size
39-Week Return with 4-week Lag	9.52	Price Momentum
9-Month Active Return with 1-Month Lag	9.41	Price Momentum
1-Month Realized Stock Return Volatility	8.96	Liquidity, Risk & Size
6-Month Nominal Change in 12-Month Alpha	8.68	Price Momentum
Cash & Equivalents-to-Current Liabilities	8.67	Liquidity, Risk & Size
Altman Z Score	8.55	Liquidity, Risk & Size

Source: IHS Markit

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Figure 3

### Developed Europe decile returns, Apr 2022

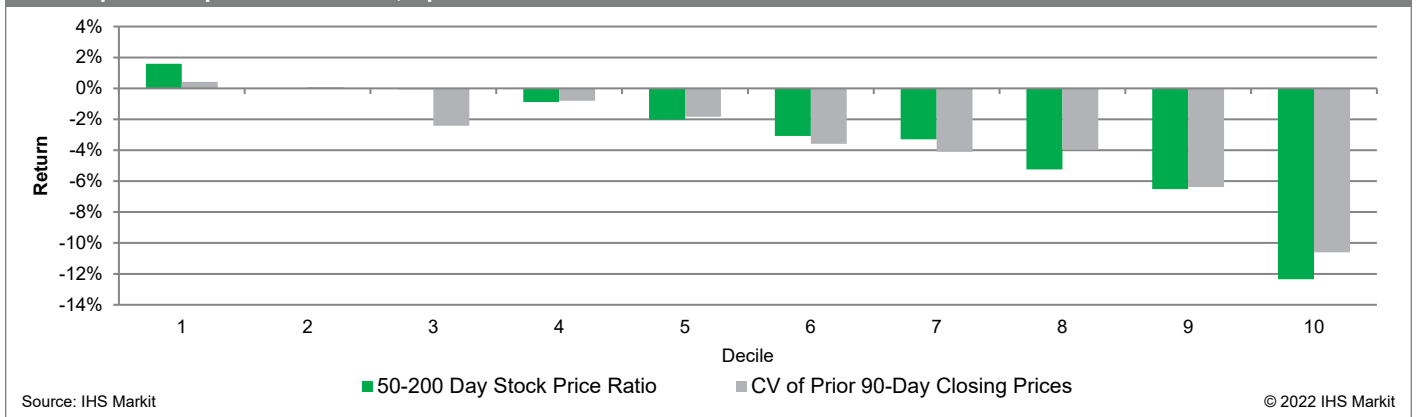


Table 7

Developed Europe bottom decile return spread factor performance, Mar 2022		
Factor	Decile spread	Factor group
3-Month Active Return	-12.73	Price Momentum
2-Month Active Return	-9.17	Price Momentum
3-yr Compound Annual Sales Growth	-6.83	Historical Growth
3-yr Change in Assets-adj TTM Cash Flow	-5.55	Historical Growth
Housing Starts Sensitivity	-4.98	Macro
5-yr Relative Book-to-Market	-4.77	Relative Value
Debt to Market Cap	-4.42	Liquidity, Risk & Size
Second Preceding 6-month Return	-4.41	Price Momentum
1-Month Active Return	-4.38	Price Momentum
5-yr Relative TTM Sales-to-Price	-4.35	Relative Value

Source: IHS Markit

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## Asia-Pacific

Further tightening in Covid restrictions in China and inflationary pressures dampened manufacturing operating conditions in the two largest Asian economies of China and Japan in April. In China, the manufacturing PMI slipped further into contraction territory at 46.0 in April, from 48.1 in March, on a stronger reduction in output and new orders. In Japan, the headline PMI dipped to 53.5 in April, from 54.1 in March, on a slower expansion in incoming business and the lowest business optimism since July 2020. Worries surrounding shutdowns in China to curb Covid flareups also dragged stocks down in April, with China suffering steeper losses for the year compared with Japan.

Risk appetites were also low in Develop Pacific markets. Top performing factors in developed Pacific markets outside Japan in April (Table 8) included measures such as CV of Prior 90-Day Closing Prices (9.27%) and 60-Day Residual Risk (8.37%). At the same time, Price Momentum measures of various durations outperformed, including 52-Week High (11.82%) and 26-Week Relative Price Strength (7.18%), in addition to 3-Month Active Return (-11.57%), which is sorted as a short-term price reversal metric and thus appeared on the laggard board (Table 9) after registering its deepest spread since May 2009.

Similarly in Japan, measures such as 52-Week High (11.82%) and CV of Prior 90-Day Closing Prices (9.27%) were among the top performers in April (Table 10), while 3-Month Active Return (-6.91%) was the weakest performer (Table 11). We also highlight TTM Dividend Yield (5.45%) which returned to positive territory as investors once again favored the highest dividend payers (Figure 5).

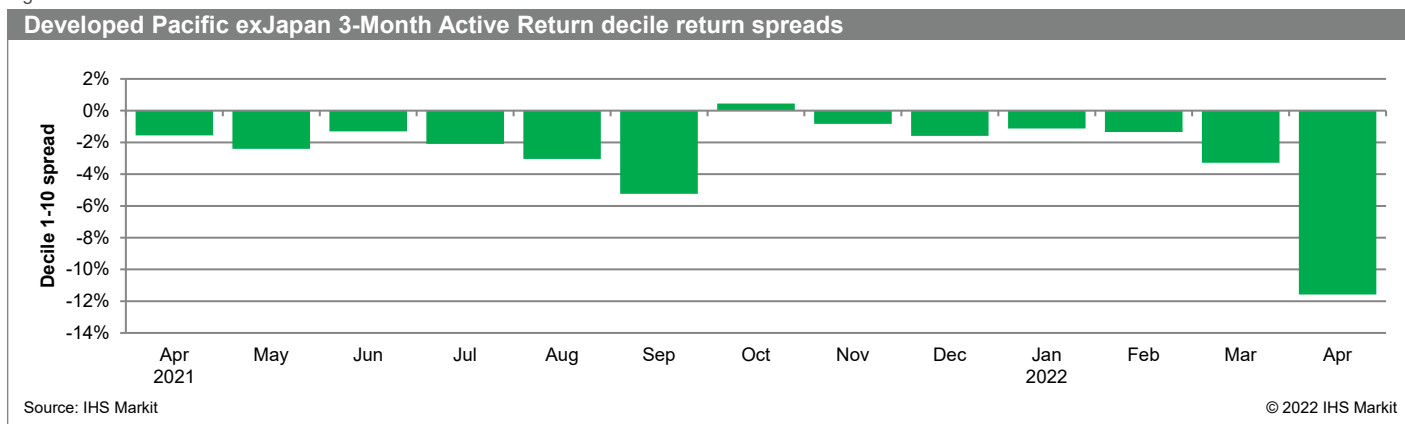
Table 8

Developed Pacific exJapan top decile return spread factor performance, Apr 2022		
Factor	Decile spread	Factor group
52-Week High	11.82	Price Momentum
CV of Prior 90-Day Closing Prices	9.27	Price Momentum
60-Day Residual Risk	8.37	Liquidity, Risk & Size
1-Month Stock Return Interquartile Range	8.32	Liquidity, Risk & Size
15/36 Week Stock Price Ratio	8.14	Price Momentum
1-Month Realized Stock Return Volatility	7.67	Liquidity, Risk & Size
24-Month Residual Return Variance	7.45	Price Momentum
50-200 Day Stock Price Ratio	7.44	Price Momentum
Distress Measure	7.41	Liquidity, Risk & Size
26-Week Relative Price Strength	7.18	Price Momentum
24-Month Value at Risk	7.17	Price Momentum
6-Month Active Return with 1-Month Lag	7.11	Price Momentum
Oil Prices Sensitivity	6.82	Macro
TTM Cash Flow-to-Price	6.80	Deep Value
Operating Profit Margin	6.34	Management Quality

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, Apr 2022		
Factor	Decile spread	Factor group
3-Month Active Return	-11.57	Price Momentum
5-day Industry Relative Return	-7.34	Price Momentum
Attention Span Ratio	-6.88	Management Quality
2-Month Active Return	-6.55	Price Momentum
1-Month Active Return	-5.70	Price Momentum
14 Day Relative Strength Index	-5.37	Price Momentum
4-week Industry Relative Return	-5.12	Price Momentum
3-yr Compound Annual Sales Growth	-5.07	Historical Growth
TTM Gross Profit Margin	-4.90	Management Quality
Operating Liability Leverage	-4.43	Management Quality

Source: IHS Markit

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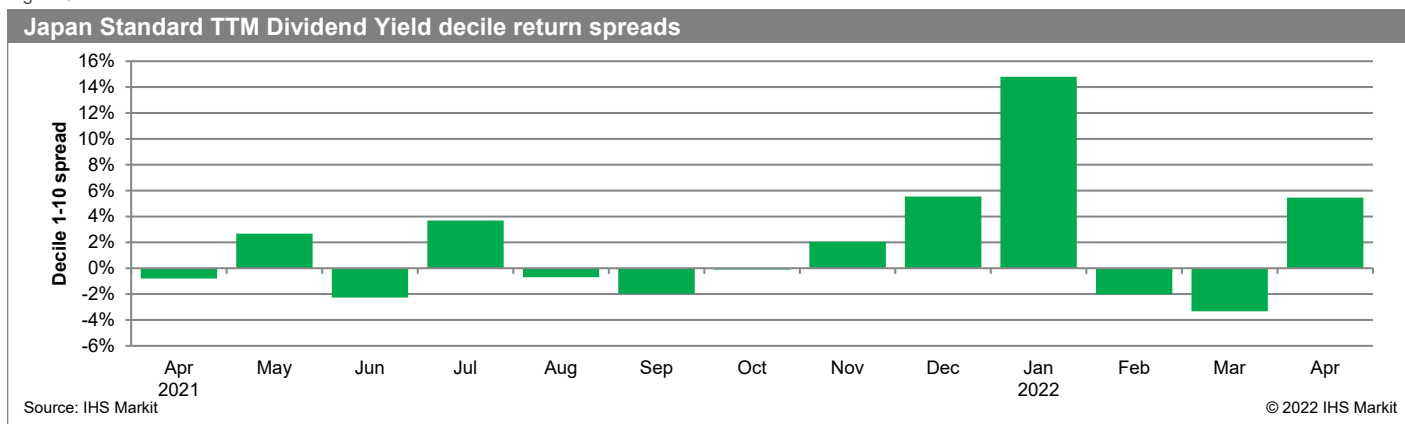
Table 10

Japan Standard Cap top decile return spread factor performance, Apr 2022		
Factor	Decile spread	Factor group
Market Volatility Sensitivity	6.71	Macro
Product of Beta and Sigma	6.25	Liquidity, Risk & Size
1-Month Realized Stock Return Volatility	6.24	Liquidity, Risk & Size
60-Day Residual Risk	6.12	Liquidity, Risk & Size
Distress Measure	5.86	Liquidity, Risk & Size
CV of Prior 90-Day Closing Prices	5.83	Price Momentum
6-Month Nominal Change in 18-Month Alpha	5.60	Price Momentum
1-yr Change in Total Assets	5.59	Historical Growth
1-Month Stock Return Interquartile Range	5.51	Liquidity, Risk & Size
TTM Dividend Yield	5.45	Deep Value
Price-to-Total Assets	5.43	Deep Value
20-Day Volume Volatility to Price Volatility	5.42	Liquidity, Risk & Size
36-Month Active Return with 1-Month Lag	5.37	Price Momentum
Stock Return Volatility	5.16	Liquidity, Risk & Size
Leading 12 Month Cash Yield	5.04	Deep Value

Source: IHS Markit

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Figure 5



Source: IHS Markit

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Table 11

Japan Standard Cap bottom decile return spread factor performance, Apr 2022		
Factor	Decile spread	Factor group
3-Month Active Return	-6.91	Price Momentum
24-Month Active Return with 1-Month Lag	-5.35	Price Momentum
3-yr Chg in Assets-adj TTM Free Cash Flow	-3.92	Historical Growth
Yearly TTM Total Sales Growth Rate	-3.86	Historical Growth
3-yr Change in Assets-adj TTM Oper Cash Flow	-3.76	Historical Growth
Street Consensus Rating	-3.73	Earnings Momentum
Lagged Inverse of PEG Ratio	-3.66	Earnings Momentum
Second Preceding 6-month Return	-3.21	Price Momentum
Slope of 52 Week Price Trend Line	-3.18	Price Momentum
3-yr Compound Annual Sales Growth	-3.07	Historical Growth

Source: IHS Markit

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## Emerging Markets

We round out the report with a review of the top (Table 12) and bottom (Table 13) performing factors in emerging markets in April. As with our other coverage universes, the risk-off trade was effective last month, as demonstrated by 1-Month Realized Stock Return Volatility (4.63%), while bottom performing factors include Lending Supply (-4.84%) and Liquidity Coefficient (-4.49%). We also consider an interesting juxtaposition of two momentum measures, 52-Week High (7.66%), favoring firms trading closest to their annual high, and 60-Month Active Return with 12-Month Lag (5.99%), favoring firms with the weakest long-term return. The distribution of quintile returns (Figure 6) indicates that, while investors continued to bid up stocks trading near their 52-week highs (quintile 1), they sold off longer term winners (quintile 5).

Table 12

### Emerging Markets top decile return spread factor performance, Apr 2022

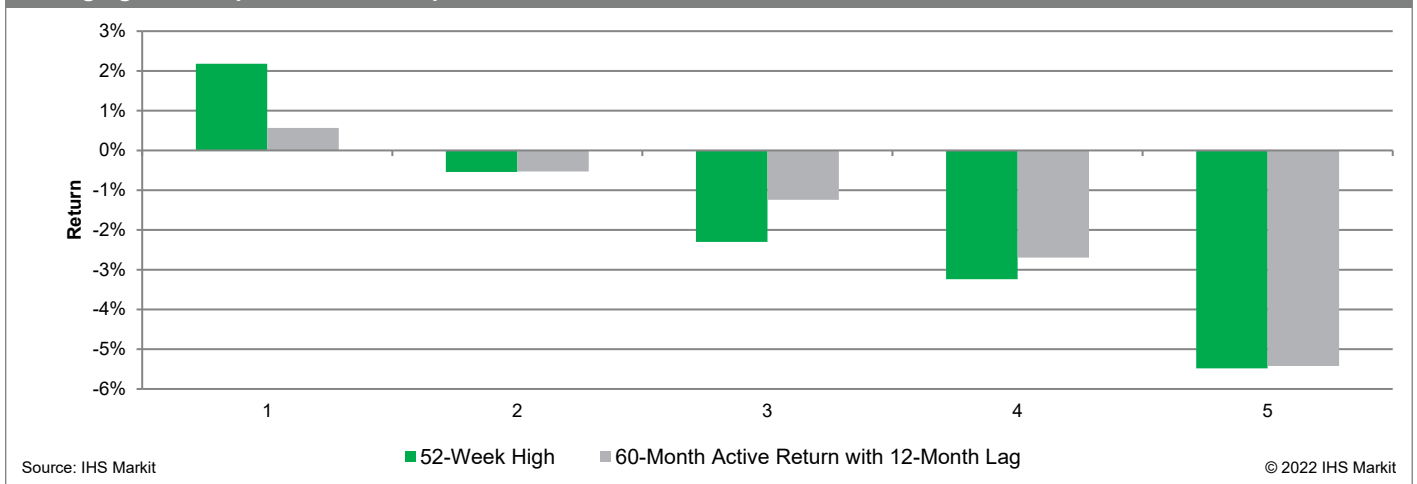
Factor	Decile spread	Factor group
52-Week High	7.66	Price Momentum
Average Trading Volume in Preceding 6-month	6.21	Price Momentum
60-Month Active Return with 12-Month Lag	5.99	Price Momentum
Working Capital-to-Total Assets	5.24	Management Quality
Natural Logarithm of Total Assets	4.98	Liquidity, Risk & Size
Trading Turnover Ratio	4.87	Liquidity, Risk & Size
60-Month Active Return with 1-Month Lag	4.70	Price Momentum
1-Month Stock Return Interquartile Range	4.69	Liquidity, Risk & Size
1-Month Realized Stock Return Volatility	4.63	Liquidity, Risk & Size
60-Month Alpha	4.49	Price Momentum
50-200 Day Stock Price Ratio	4.49	Price Momentum
Asset Composition	4.35	Liquidity, Risk & Size
Cyclically Adjusted Earnings-to-Price	4.24	Deep Value
15/36 Week Stock Price Ratio	4.17	Price Momentum
Working Capital-to-Trailing 12-Month Sales	4.14	Management Quality

Source: IHS Markit

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Figure 6

### Emerging Markets quintile returns, Apr 2022



Source: IHS Markit

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Table 13

<b>Emerging Markets bottom decile return spread factor performance, Apr 2022</b>		
<b>Factor</b>	<b>Decile spread</b>	<b>Factor group</b>
3-Month Active Return	-5.30	Price Momentum
Lending Supply	-4.84	Short Sentiment
Liquidity Coefficient	-4.49	Liquidity, Risk & Size
Average Monthly Trading Volume-to-Market Cap	-4.40	Liquidity, Risk & Size
Attention Span Ratio	-4.37	Management Quality
Net Debt to EBITDA	-3.95	Management Quality
Interest Coverage	-3.61	Liquidity, Risk & Size
Cash to Enterprise Value	-3.35	Deep Value
Natural Logarithm of Market Capitalization	-3.35	Liquidity, Risk & Size
Fixed Assets Turnover Ratio	-3.32	Management Quality

Source: IHS Markit

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## Customer Care

[CustomerCare@ihsmarkit.com](mailto:CustomerCare@ihsmarkit.com)

### **Asia and the Pacific Rim**

Japan: +81 3 6262 1887

Asia Pacific: +604 291 3600

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