

Factors follow the Fed's pivot

April 2019

Research Signals

US investors have extended their celebration of the Fed's dovish pivot to a more patient stance on interest rate hikes, with stocks hitting record highs to finish off the month of April. While most major regional stock markets are still reinforced by rising momentum, factor performance in April was characterized by a pivot from momentum to valuation (Table 1). At the macro level, the global manufacturing economy remained subdued, based on the J.P.Morgan Global Manufacturing PMI barely above the 50.0 no-change mark, dragged down by international trade flows. However, glimmers of hope on the US-China trade dispute and economic stimulus in China have investors posturing that stocks prices will not pivot.

- US: Undervalued names captured by measures such as Forward 12-M EPS-to-Enterprise Value helped propel markets to record highs, while signals from the securities lending market such as Demand Supply Ratio were successful among small caps
- Developed Europe: High quality measures such as Fixed Assets Turnover Ratio were rewarded at the expense of momentum metrics including Rational Decay Alpha
- Developed Pacific: High beta names in Japan outperformed in April, reinforcing a trend that took hold with the market rebound at the start of the year
- Emerging markets: Investors favored small cap firms, as captured by Natural Logarithm of Market Capitalization, along with those with positive technical metrics including Average Monthly Trading Volume-to-Market Cap and Industry-adjusted 12-month Relative Price Strength

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Table 1

Global factor quantile return spread performance snapshot, Apr 2019

Factor	Factor Group	US Large Cap	US Small Cap	Developed Europe	Developed Pacific ex Japan	Japan Standard Cap	Emerging Markets
Book-to-Market		0.65	0.41	0.71	-1.37	-0.25	-0.02
Forward 12-M EPS-to-Enterprise Value	Deep Value	4.72	6.84	1.93	0.34	2.06	0.34
TTM EBITDA-to-Enterprise Value		1.60	5.49	0.42	1.22	2.84	0.84
TTM Free Cash Flow-to-Enterprise Value		4.34	3.90	1.70	-1.76	0.86	0.98
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	0.99	-0.80	1.16	0.19	0.83	0.33
Industry Relative TTM Dividend Yield		-3.03	-2.81	2.18	-0.35	2.30	2.14
Fixed Assets Turnover Ratio		4.60	1.14	4.32	2.13	3.73	1.15
Inventory Turnover Ratio	Management Quality	2.66	2.86	2.81	2.60	-0.84	0.63
Net Operating Asset Turnover		1.23	3.44	2.40	4.01	2.62	0.07
Change in Accruals to Assets		-0.11	0.48	0.66	-2.18	-2.03	0.92
Change in TTM COGS vs. Inventory Level	Earnings Quality	2.60	2.36	0.77	0.08	-1.65	-0.68
Change in TTM Sales vs. Accounts Receivable		-0.12	-1.48	-0.28	2.63	0.36	1.10
Working Capital Accruals		-0.22	0.65	-0.27	2.60	4.76	-1.09
1-yr Growth in TTM Free Cash Flow		1.83	3.10	-0.44	0.07	-0.54	0.19
Reinvestment Rate	Historical Growth	2.40	6.15	1.81	1.50	2.41	-0.20
Average Monthly Trading Volume-to-Market Cap	Liquidity, Risk & Size	-0.77	-6.77	-0.70	0.04	2.24	1.84
60-Month Beta		-1.60	0.90	-4.89	-1.76	-8.01	-0.03
Asset Quality Index		-3.10	0.57	-0.62	-0.95	-0.05	0.11
Operating Leverage		-1.14	1.24	2.54	1.29	0.98	-0.62
Natural Logarithm of Market Capitalization		-0.14	-3.06	-0.47	0.50	0.06	1.31
2-Year Ahead EPS Growth		1.55	3.39	0.21	0.82	-0.14	-0.27
3-M Revision in FY2 EPS Forecasts	Earnings Momentum	1.52	-0.19	-2.56	1.55	-4.88	-0.24
Real Earnings Surprise		-2.85	-3.01	-2.95	-0.20	-0.79	0.96
24-Month Value at Risk		-0.54	3.18	-2.80	-0.66	-6.69	1.25
5-day Industry Relative Return	Price Momentum	0.42	-0.29	-0.25	-0.36	0.64	0.07
Industry-adjusted 12-month Relative Price Strength		-2.45	2.73	-0.68	0.29	-3.01	1.62
Rational Decay Alpha		-3.12	-1.31	-4.20	1.06	-4.83	-0.90
Demand Supply Ratio		1.40	4.37	-0.69	-1.23	1.59	1.81
Implied Loan Rate	Short Sentiment	-0.25	3.67	0.87	-0.02	0.76	0.79

Source: IHS Markit

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United States

US Large Cap

US manufacturing registered a moderate improvement in operating conditions in April, with the PMI posting at 52.6, up slightly from March's recent low of 52.4. While panelists' expectations towards the coming year were relatively subdued and down to the lowest level seen so far this year, stocks extended year-to-date gains, reaching a record high at the end of the month.

Valuation took on a prominent role in April's market gains, with several Deep Value measures topping the list of outperformers in the US Large Cap universe (Table 2) after lagging the prior month. Time Weighted Earnings Yield (6.30%) led the way with a 9.9 percentage point month-on-month swing in spread (Figure 1). Interestingly, other top performing signals include two macro indicators, namely Yield Curve Slope Sensitivity (5.10%) and Asia-Pacific Sales Exposure (5.09%), in the month following the yield curve inversion and as the US dollar strengthened. On the other hand, a handful of Price Momentum metrics were among the weakest performing factors (Table 3), including 1-Year Price Momentum Indicator (-4.58%) and 6-Month Nominal Change in 12-Month Alpha (-3.22%).

Table 2

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

Factor	Decile spread (%)	Factor group
3-yr MAD of TTM Net Income	6.69	Liquidity, Risk & Size
Time Weighted Earnings Yield	6.30	Deep Value
Cyclically and Inflation Adjusted Earnings-to-Price	6.15	Deep Value
Leading 12-Month Mean Earnings Yield	5.91	Deep Value
Leading 12-Month Median Earnings Yield	5.74	Deep Value
Normalized Earnings Yield	5.49	Deep Value
Regression Error of 60-Month CAPM	5.44	Liquidity, Risk & Size
Operating Liability Leverage	5.26	Management Quality
Yield Curve Slope Sensitivity	5.10	Macro
Asia-Pacific Sales Exposure	5.09	Macro
Edwards-Bell-Ohlson Value-to-Price	5.05	Deep Value
5-yr Relative Leading 12-Month Earnings Yield	5.00	Relative Value
TTM Pretax Income-to-Price	4.97	Deep Value
Capital Expenditure-to-Total Assets	4.94	Management Quality
Book Leverage	4.74	Liquidity, Risk & Size

Source: IHS Markit

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Figure 1

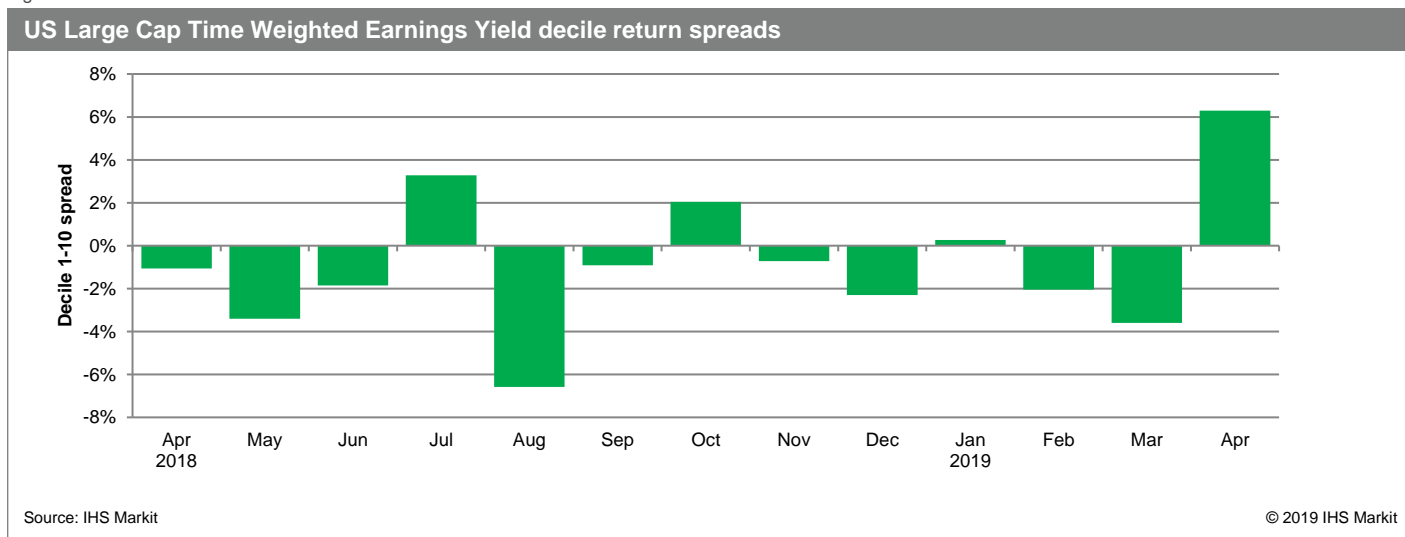


Table 3

Factor	Decile spread (%)	Factor group
60-Month Active Return with 12-Month Lag	-5.10	Price Momentum
Cash Flow Leverage	-4.72	Liquidity, Risk & Size
1-Year Price Momentum Indicator	-4.58	Price Momentum
Leading 1-Year Regular Dividend Payout	-4.46	Dividend Forecast
Shareholder Payout to Gross Profit	-3.69	Management Quality
Assets Turnover Ratio	-3.50	Management Quality
6-Month Nominal Change in 12-Month Alpha	-3.22	Price Momentum
Slope of 66 Week Price Trend Line	-3.14	Price Momentum
Debt to Market Cap	-3.13	Liquidity, Risk & Size
Rational Decay Alpha	-3.12	Price Momentum

Source: IHS Markit © 2019 IHS Markit

US Small Cap

High quality remained a dominant theme among the top performing factors for small caps in April (Table 4), now occupying two-thirds of the top spots, though with a different representative group of indicators. Forward Return on Equity (7.45%) is one such newly rewarded Management Quality measure which took the lead last month with a 12.1 percentage point month-on-month improvement in spread (Figure 2). At the same time, some Management Quality factors which were top performers in March now reside among the weakest performers in April (Table 5), including TTM Gross Profit Margin (-5.22%) and Operating Liability Leverage (-4.19%). However, we remark that both sets of quality measures have large exposures to the Healthcare sector which drove performance.

Table 4

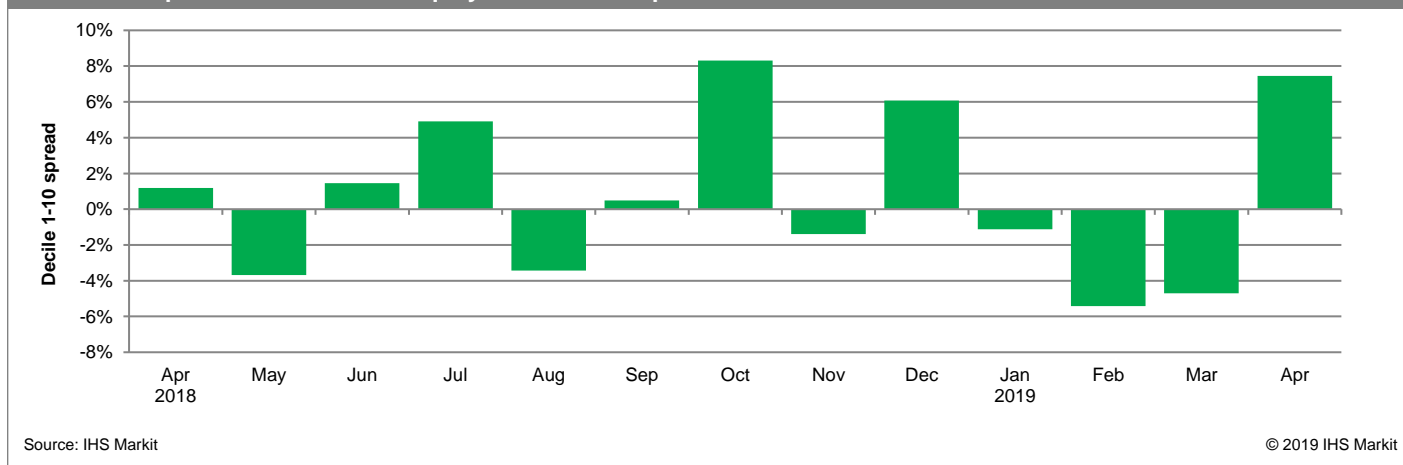
US Small Cap top decile return spread factor performance, Apr 2019

Factor	Decile spread (%)	Factor group
Forward Return on Equity	7.45	Management Quality
Return on Assets	7.11	Management Quality
Cash-to-Sales	7.07	Management Quality
2-Year Trough Operating Margin	6.87	Management Quality
Leading 12-Month Mean Earnings Yield	6.85	Deep Value
TTM Free Cash Flow-to-TTM Sales	6.84	Management Quality
Forward 12-M EPS-to-Enterprise Value	6.84	Deep Value
Time Weighted Earnings Yield	6.80	Deep Value
Leading 12-Month Median Earnings Yield	6.75	Deep Value
Pretax Return on Net Operating Assets	6.65	Management Quality
NOPAT Margin	6.51	Management Quality
SG&A Expenses-to-Sales	6.47	Management Quality
Reinvestment Rate	6.15	Historical Growth
1-Year Trough Operating Margin	6.14	Management Quality
Working Capital-to-Trailing 12-Month Sales	6.09	Management Quality

Source: IHS Markit

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Figure 2

US Small Cap Forward Return on Equity decile return spreads

Source: IHS Markit

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Table 5

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

Factor	Decile spread (%)	Factor group
Average Monthly Trading Volume-to-Market Cap	-6.77	Liquidity, Risk & Size
Advertising Intensity	-6.14	Management Quality
Flow Ratio	-5.82	Liquidity, Risk & Size
TTM Gross Profit Margin	-5.22	Management Quality
Natural Logarithm of Closing Price	-5.13	Liquidity, Risk & Size
Average Payable Period	-4.98	Management Quality
Operating Liability Leverage	-4.19	Management Quality
Change in Net Operating Assets	-4.17	Management Quality
Volatility Spread	-4.06	Liquidity, Risk & Size
Attention Span Ratio	-3.90	Management Quality

Source: IHS Markit

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Europe

The eurozone manufacturing sector remained firmly in contraction territory in April, with the PMI at 47.9, up just marginally from March's near six-year low of 47.5. In line with recent trends, the capital and intermediate goods sectors remained the principal areas of weakness. At the country level, Germany continues to lead the downturn, while Greece expanded at the fastest rate in nearly 19 years. Yet, equities followed closely behind the US market with a strong double-digit return thus far in 2019.

A broad set of styles topped the list of outperforming factors in European markets in April (Table 6), including Fixed Assets Turnover Ratio (4.32%), 1-Month Active Return (4.07%), Forward Free Cash Flow-to-Price (4.04%) and Inverse of PEG Ratio (3.02%). At the opposite extreme, as with US large caps, momentum measures were among the worst performing factors for the month (Table 7), with 1-Year Price Momentum Indicator (-5.26%) at the top of the list with a -11.0 percentage point month-on-month drop in spread (Figure 3).

Table 6

Developed Europe top decile return spread factor performance, Apr 2019

Factor	Decile spread (%)	Factor group
Fixed Assets Turnover Ratio	4.32	Management Quality
TTM Capital Expenditures-to-Sales	4.29	Management Quality
Yield Curve Slope Sensitivity	4.28	Macro
1-Month Active Return	4.07	Price Momentum
Forward Free Cash Flow-to-Price	4.04	Deep Value
TTM Gross Profit to Assets	3.56	Management Quality
Profitability Ratio	3.44	Management Quality
Asia-Pacific Sales Exposure	3.43	Macro
Long-term Debt-to-Equity	3.06	Liquidity, Risk & Size
Inverse of PEG Ratio	3.02	Earnings Momentum
Liquidity Coefficient	3.01	Liquidity, Risk & Size
5-yr Relative Leading 12-Month Earnings Yield	2.91	Relative Value
5-yr Relative TTM Cash Flow-to-Price	2.86	Relative Value
Capital Expenditures to Depreciation Linkage	2.81	Management Quality
Inventory Turnover Ratio	2.81	Management Quality

Source: IHS Markit

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Table 7

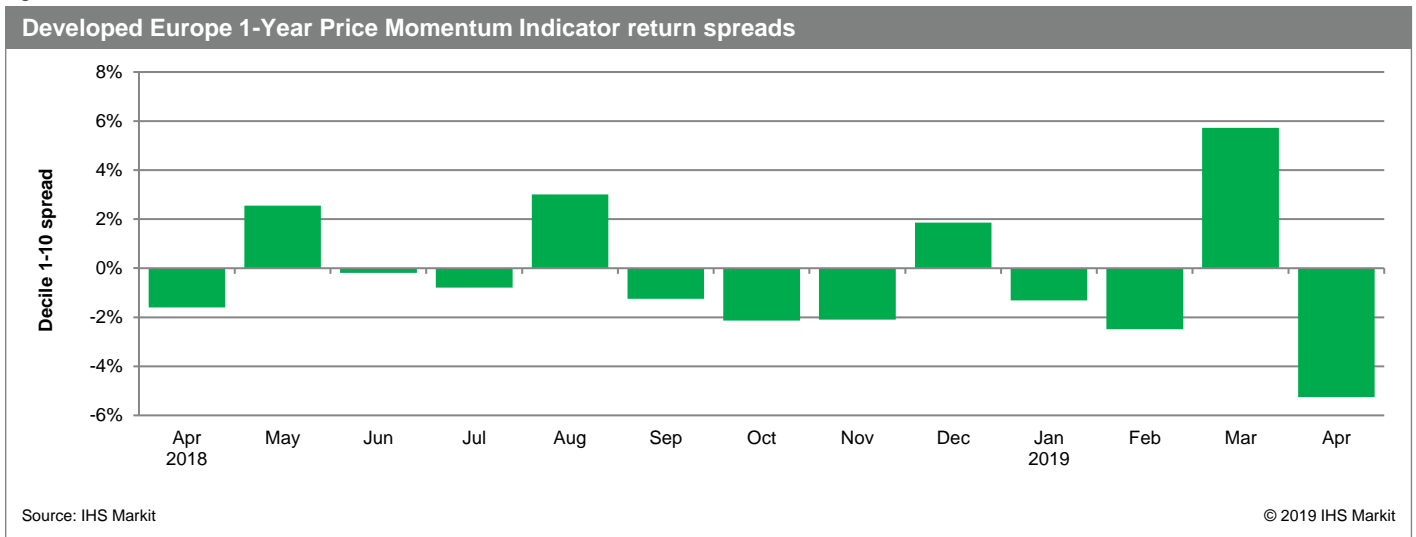
Developed Europe bottom decile return spread factor performance, Apr 2019

Factor	Decile spread (%)	Factor group
1-Year Price Momentum Indicator	-5.26	Price Momentum
52-Week High	-5.02	Price Momentum
60-Month Beta	-4.89	Liquidity, Risk & Size
Short Loan Concentration	-4.81	Short Sentiment
30-75 Week Stock Price Ratio	-4.64	Price Momentum
1-Month Stock Return Interquartile Range	-4.50	Liquidity, Risk & Size
Time Weighted Earnings Revision Dispersion	-4.38	Earnings Momentum
1-Month Realized Stock Return Volatility	-4.24	Liquidity, Risk & Size
Rational Decay Alpha	-4.20	Price Momentum
12-Month Active Return with 1-month Lag	-4.00	Price Momentum

Source: IHS Markit

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Figure 3



Asia-Pacific

Manufacturing PMIs in the two largest Asian economies of Japan and China again straddled the 50.0 no change mark in April. In China, operating conditions improved for the second month running in April, though at a softer pace, with the PMI posting at 50.2, down from 50.8 in March, on increases in output and new orders, coupled with an 11-month high in business confidence in the one-year outlook for production. Alternatively, the Flash Japan PMI came in at 49.5, a slight improvement from 49.2 in March, nevertheless a third straight month below the neutral level as weaker demand from domestic and international markets persists. Conversely, Asia-Pacific equity markets were mostly flat for the month, with positive gains in Japan while stocks lost steam in China.

In developed Pacific markets outside Japan, trading leaned heavily toward Macro indicators, as captured at both extremes of top (Table 8) and bottom (Table 9) performing factors in April. Examples include North America Sales Exposure (5.37%), rewarding companies with hedged exposure to the softening local economies, and Industrial Production Sensitivity (3.23%) which sat opposite Oil Prices Sensitivity (-5.05%) and Asia-Pacific Sales Exposure (-3.48%). Other indicators at the tails of factor performance include TTM Gross Profit to Assets (4.73%) and Time Weighted Book Yield (-2.98%), both extending their performance trend to three successive months (Figure 4).

In Japan, factors based on corporate fundamentals outperformed in April (Table 10), represented by measures such as Profitability Ratio (4.86%), TTM Operating Income to Enterprise Value (3.54%) and 3-yr Compound Annual Sales Growth (3.42%). On the other hand, 6 of the bottom 10 performing factors (Table 11) came from the Price Momentum group, including Fama-French Momentum (-7.99%) and 24-Month Value at Risk (-6.69%). Yet, the weakest performance was posted by 60-Month Beta (-8.01%), where the distribution of average monthly returns across deciles since the start of the year (Figure 5) suggests systematic trading in favor of the highest beta stocks during the market advance.

Table 8

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

Factor	Decile spread (%)	Factor group
North America Sales Exposure	5.37	Macro
Latin America Sales Exposure	5.20	Macro
TTM Gross Profit to Assets	4.73	Management Quality
Assets Turnover Ratio	4.52	Management Quality
4-Year Change in the Average Trading Volume	4.22	Price Momentum
3 Year Change in Gross Profit to Assets	4.20	Management Quality
Equity Turnover Ratio	4.18	Management Quality
60-Month Active Return with 1-Month Lag	4.11	Price Momentum
Net Operating Asset Turnover	4.01	Management Quality
60-Month Alpha	3.74	Price Momentum
3-yr Growth in TTM Free Cash Flow	3.50	Historical Growth
Inventory Value Concentration	3.49	Short Sentiment
Yearly Change in ROE - Arithmetic Difference	3.49	Management Quality
Industrial Production Sensitivity	3.23	Macro
Average Collection Period	3.05	Management Quality

Source: IHS Markit

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Table 9

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

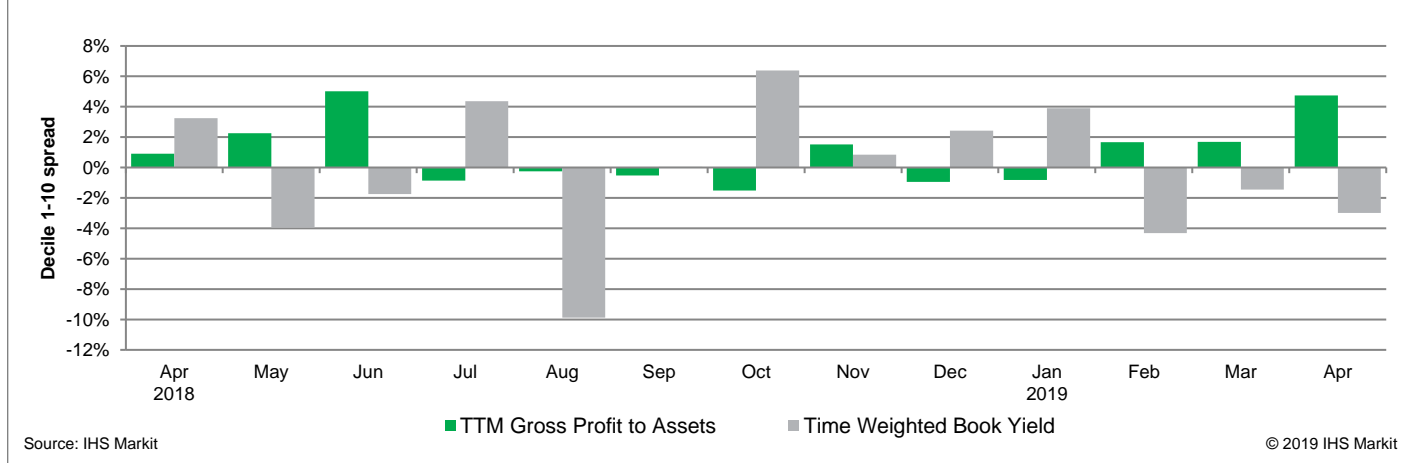
Factor	Decile spread (%)	Factor group
Oil Prices Sensitivity	-5.05	Macro
Long-term Debt-to-Equity	-4.05	Liquidity, Risk & Size
Average Payable Period	-3.68	Management Quality
Asia-Pacific Sales Exposure	-3.48	Macro
Time Weighted Book Yield	-2.98	Deep Value
Time Weighted Earnings Yield	-2.89	Deep Value
NOPAT Margin	-2.69	Management Quality
Long-Term Growth Rate Estimates	-2.48	Earnings Momentum
Leading 12 Month Book Yield	-2.44	Deep Value
Graham Number Fair Value Premium	-2.40	Deep Value

Source: IHS Markit

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Figure 4

Developed Pacific exJapan decile return spreads



Source: IHS Markit

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Table 10

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

Factor	Decile spread (%)	Factor group
Number of Analyst Coverage	5.44	Liquidity, Risk & Size
Profitability Ratio	4.86	Management Quality
Working Capital Accruals	4.76	Earnings Quality
4-week Industry Relative Return	4.57	Price Momentum
3 Year Change in Gross Profit to Assets	3.88	Management Quality
Fixed Assets Turnover Ratio	3.73	Management Quality
5-yr Relative TTM EBITDA-to-Price	3.64	Relative Value
TTM Operating Income to Enterprise Value	3.54	Deep Value
3-yr Compound Annual Sales Growth	3.42	Historical Growth
Cash to Enterprise Value	3.40	Deep Value
5-yr Relative TTM Sales-to-Price	3.34	Relative Value
5-yr Relative TTM Cash Flow-to-Price	3.29	Relative Value
1 Year Change in Gross Profit to Assets	3.09	Management Quality
Leading 12 Month EBITDA/ EV	3.06	Deep Value
5-yr Relative TTM Earnings-to-Price	3.02	Relative Value

Source: IHS Markit

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Table 11

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

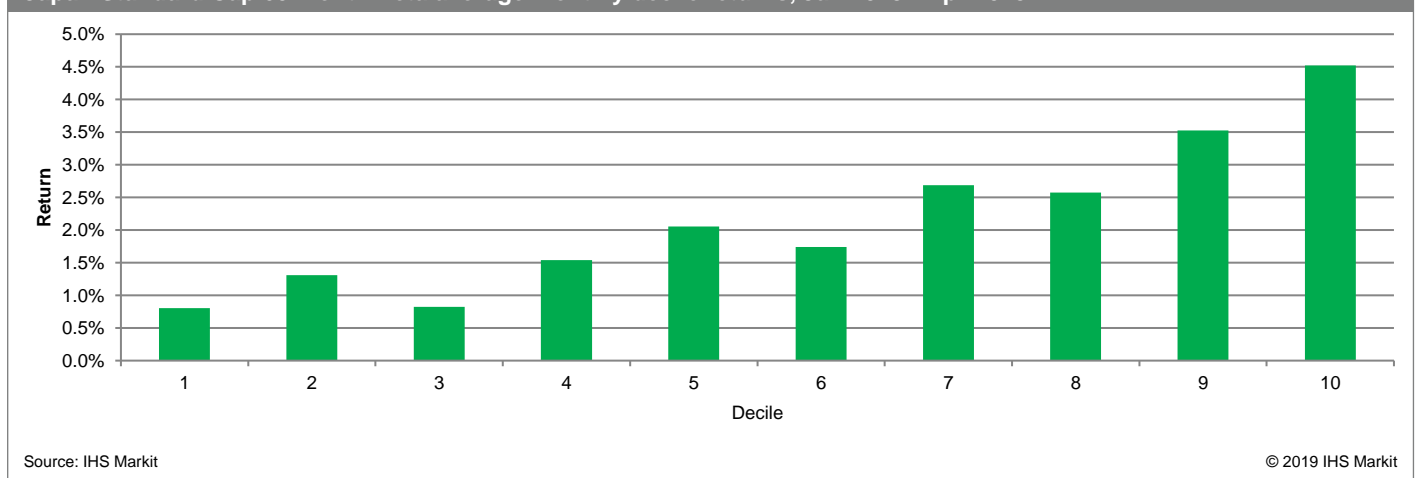
Factor	Decile spread (%)	Factor group
60-Month Beta	-8.01	Liquidity, Risk & Size
Fama-French Momentum	-7.99	Price Momentum
12-Month Active Return with 1-month Lag	-7.58	Price Momentum
30-75 Week Stock Price Ratio	-7.05	Price Momentum
Product of Beta and Sigma	-6.92	Liquidity, Risk & Size
24-Month Value at Risk	-6.69	Price Momentum
Stock Return Volatility	-6.60	Liquidity, Risk & Size
6-Month Active Return with 1-Month Lag	-6.60	Price Momentum
Slope of 52 Week Price Trend Line	-6.14	Price Momentum
Market Cap per Analyst	-6.03	Liquidity, Risk & Size

Source: IHS Markit

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Figure 5

Japan Standard Cap 60-Month Beta average monthly decile returns, Jan 2019 - Apr 2019



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 April. Technical measures were among the top performing factors, captured by factors such as 1-Month Active Return (2.86%), Stock Return Volatility (2.44%) and Liquidity Coefficient (1.84%). Investors also favored smaller corporations (Figure 6), sending factors such as Market Cap per Analyst (-2.55%) and Natural Logarithm of Total Assets (-1.76%) to the bottom tail of the performance spectrum.

Table 12

Emerging Markets top quintile return spread factor performance, Apr 2019

Factor	Decile spread (%)	Factor group
1-Month Active Return	2.86	Price Momentum
Regression Error of 60-Month CAPM	2.76	Liquidity, Risk & Size
9-Month Active Return with 1-Month Lag	2.57	Price Momentum
Stock Return Volatility	2.44	Liquidity, Risk & Size
Industry Relative TTM Dividend Yield	2.14	Relative Value
24-Month Residual Return Variance	2.06	Price Momentum
Natural Logarithm of Closing Price	2.03	Liquidity, Risk & Size
Long-Term Growth Rate Estimates	1.90	Earnings Momentum
Average Monthly Trading Volume-to-Market Cap	1.84	Liquidity, Risk & Size
Liquidity Coefficient	1.84	Liquidity, Risk & Size
Stability of 5-yr TTM Earnings per Share	1.80	Historical Growth
TTM Operating Income to Enterprise Value	1.74	Deep Value
6-Month Active Return with 1-Month Lag	1.72	Price Momentum
TTM Free Cash Flow-to-TTM Sales	1.71	Management Quality
1-Month Realized Stock Return Volatility	1.65	Liquidity, Risk & Size

Source: IHS Markit

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Table 13

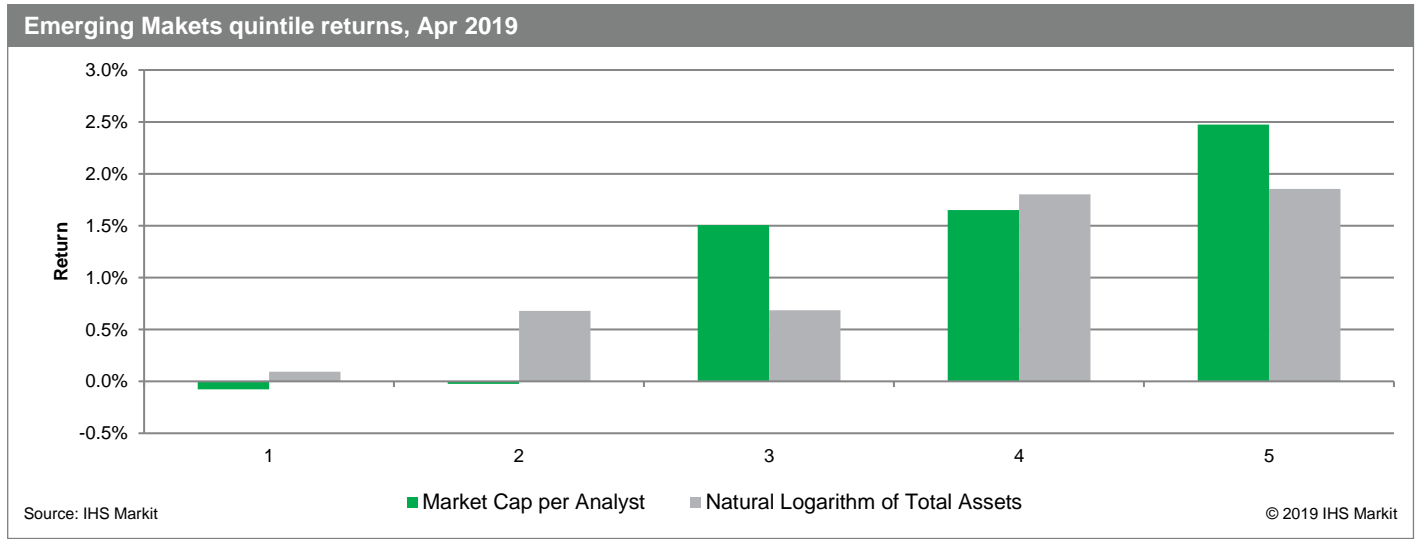
Emerging Markets bottom quintile return spread factor performance, Apr 2019

Factor	Decile spread (%)	Factor group
Dividend Coverage Ratio	-2.68	Liquidity, Risk & Size
Market Cap per Analyst	-2.55	Liquidity, Risk & Size
6-Month Nominal Change in 36-Month Alpha	-2.15	Price Momentum
SG&A Expenses-to-Sales	-1.94	Management Quality
2-Year Projected EPS Growth	-1.90	Earnings Momentum
Natural Logarithm of Total Assets	-1.76	Liquidity, Risk & Size
Natural Logarithm of TTM Sales	-1.69	Liquidity, Risk & Size
1-yr Change in Assets-adj TTM Cash Flow	-1.53	Historical Growth
3-Month Active Return	-1.53	Price Momentum
3-yr Growth in TTM Cash Flow	-1.48	Historical Growth

Source: IHS Markit

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Figure 6



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