

# Investors on the defensive

March 2018

## Research Signals

Volatility continued to rattle equity markets and global stocks extended their losses off of January highs, posting their worst quarter in over two years. As global economic growth eased to a five-month low in March according to the J.P. Morgan Global Manufacturing PMI™ and trade tensions escalated, flight to safety was the trade of choice as low beta outperformed across our coverage universes (Table 1).

- US: Investors took cues from analysts and the securities lending market, with strong performance to 3-M Revision in FY2 EPS Forecasts and Implied Loan Rate
- Developed Europe: High risk and highly shorted names were avoided, as gauged by 24-Month Value at Risk and Demand Supply Ratio
- Developed Pacific: Regional markets outside Japan saw strong returns to high momentum names (e.g., Industry-adjusted 12-month Relative Price Strength), while hedging against high beta and highly shorted names
- Emerging markets: Industry Relative TTM Dividend Yield and 24-Month Value at Risk captured investors reliance on the risk-off trade

Table 1

## Global factor quantile return spread performance snapshot, Mar 2018

Factor	Factor Group	US Large Cap	US Small Cap	Developed Europe	Developed Pacific ex Japan	Japan Standard Cap	Emerging Markets
Book-to-Market		0.80	0.92	-0.21	-3.48	-4.04	-1.25
Forward 12-M EPS-to-Enterprise Value	Deep Value	-1.02	-1.03	0.44	-3.98	-2.49	1.11
TTM EBITDA-to-Enterprise Value		-0.10	-1.79	0.13	-1.73	-2.62	0.00
TTM Free Cash Flow-to-Enterprise Value		-2.03	-1.54	-1.59	-0.26	-0.57	1.43
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	-0.25	1.36	0.24	-2.93	-2.41	1.21
Industry Relative TTM Dividend Yield		-2.09	0.79	-0.46	-0.24	-2.54	3.64
Fixed Assets Turnover Ratio	Management Quality	-3.23	0.81	-4.01	-0.46	1.32	1.00
Inventory Turnover Ratio		-1.62	-2.87	-2.12	-0.38	3.51	-1.58
Net Operating Asset Turnover		-0.82	0.96	-3.47	-0.35	2.61	0.26
Change in Accruals to Assets	Earnings Quality	0.45	-1.73	1.89	-1.34	1.58	-0.10
Change in TTM COGS vs. Inventory Level		0.88	-0.88	0.57	-0.55	-0.43	0.47
Change in TTM Sales vs. Accounts Receivable		-0.12	1.03	0.07	0.62	-1.16	0.42
Working Capital Accruals		-0.24	-0.09	-1.52	-1.00	-1.24	-0.61
1-yr Growth in TTM Free Cash Flow	Historical Growth	-2.21	1.40	0.60	1.22	1.48	0.31
Reinvestment Rate		-1.01	1.47	0.23	3.74	0.93	-1.17
Average Monthly Trading Volume-to-Market Cap	Liquidity, Risk & Size	1.37	-1.87	-1.92	-4.55	-3.41	-0.09
60-Month Beta		4.67	3.10	2.66	4.32	7.16	1.98
Asset Quality Index		1.33	2.24	2.12	-0.74	1.76	1.10
Operating Leverage		-1.67	0.96	0.98	-1.44	1.82	-1.14
Natural Logarithm of Market Capitalization		2.96	1.95	-1.39	-1.09	-0.79	1.29
2-Year Ahead EPS Growth	Earnings Momentum	-2.01	-2.40	-2.41	0.48	-1.30	-2.34
3-M Revision in FY2 EPS Forecasts		3.72	2.84	0.73	2.67	-4.23	0.98
Real Earnings Surprise		0.88	1.08	-0.61	-0.12	-1.09	0.05
24-Month Value at Risk	Price Momentum	0.08	3.12	3.37	0.32	3.56	1.66
5-day Industry Relative Return		-1.63	0.69	-0.01	-1.28	0.01	-2.32
Industry-adjusted 12-month Relative Price Strength		-1.07	0.87	1.10	5.74	-0.73	-1.12
Rational Decay Alpha		-0.93	-0.35	0.27	4.02	2.17	0.25
Demand Supply Ratio		1.10	1.12	2.85	1.48	-1.56	-0.81
Implied Loan Rate	Short Sentiment	3.24	1.27	3.45	-0.03	-1.74	-0.20

Source: IHS Markit

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## United States

### US Large Cap

March manufacturing PMI survey data signalled a strong overall improvement in operating conditions, registering at 55.6, up from 55.3 in February and the highest level since March 2015. Output and new orders continued to rise markedly, though softening slightly from the prior month. In equity markets, the surge in volatility in February carried over into March, as stocks came off of their January highs, finishing the quarter in negative territory amid escalating trade tensions and a selloff in technology shares.

Factors which posted spread returns at the extremes among top (Table 2) and bottom (Table 3) factor performance in the US Large Cap universe in March took on differing return distributions (Figure 1). 60-Month Beta (4.67%) was the top performing factor, particularly driven by an investor bias to low beta names. Averaged Last 6-M EPS Revisions for FY2 (4.54%) was runner up, with a more even distribution of positive and negative average returns at the tails of analyst outlook. Implied Loan Rate (3.24%) factor performance demonstrates a strong disfavor for names with the highest borrowing costs, typically indicative of high demand to borrow. At the opposite extreme, Yield Curve Slope Sensitivity (-5.27%), with the highest spread in magnitude, captured an investor bias to names which tend to outperform when the yield curve flattens.

Table 2

#### US Large Cap top decile return spread factor performance, Mar 2018

Factor	Decile spread (%)	Factor group
60-Month Beta	4.67	Liquidity, Risk & Size
Averaged Last 6-M EPS Revisions for FY2	4.54	Earnings Momentum
1-Quarter Ahead EPS Growth	4.33	Earnings Momentum
Revenue per Employee	4.14	Management Quality
Lending Supply	4.01	Short Sentiment
Time Weighted Earnings Revision	3.86	Earnings Momentum
Product of Beta and Sigma	3.75	Liquidity, Risk & Size
3-M Revision in FY2 EPS Forecasts	3.72	Earnings Momentum
1-Year Ahead EPS Growth	3.53	Earnings Momentum
Slope of 3-yr TTM Cash Flow Trend Line	3.50	Historical Growth
2-Year Projected EPS Growth	3.29	Earnings Momentum
Slope of 5-yr TTM EPS Trend Line	3.27	Historical Growth
Implied Loan Rate	3.24	Short Sentiment
Inventory-to-Total Assets	3.06	Management Quality
Altman Z Score	3.03	Liquidity, Risk & Size

Source: IHS Markit

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Table 3

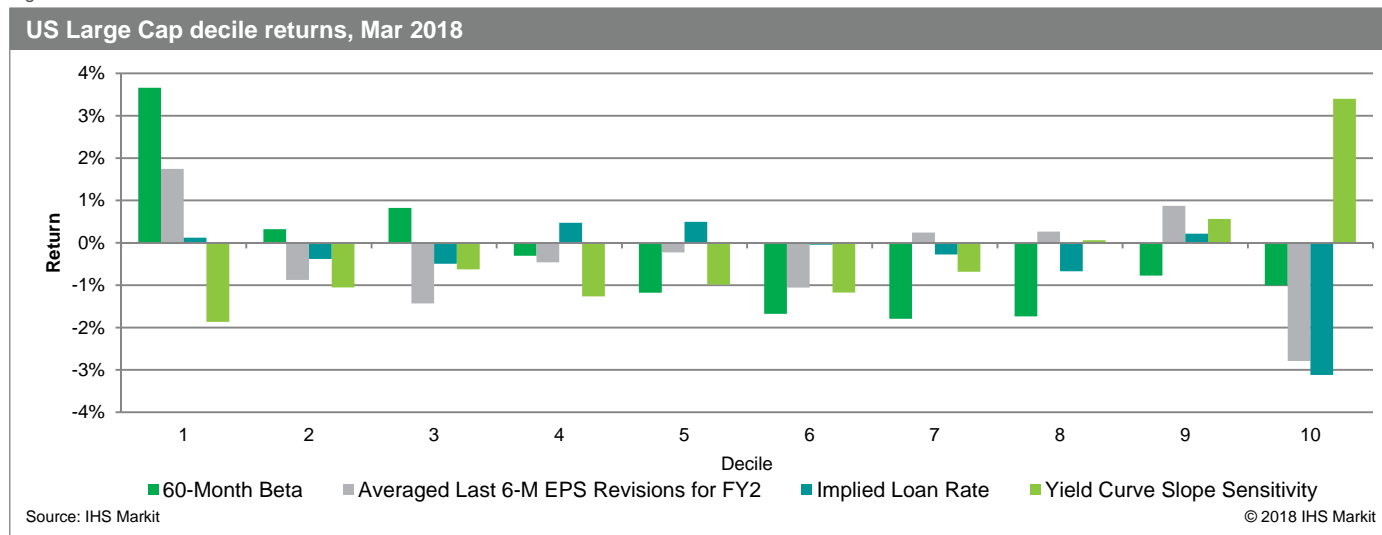
## US Large Cap bottom decile return spread factor performance, Mar 2018

Factor	Decile spread (%)	Factor group
Yield Curve Slope Sensitivity	-5.27	Macro
Industry Relative TTM EBITDA-to-Price	-4.63	Relative Value
Natural Logarithm of TTM Sales	-3.84	Liquidity, Risk & Size
TTM Capital Expenditures-to-Sales	-3.58	Management Quality
Market Cap per Analyst	-3.48	Liquidity, Risk & Size
Forward Free Cash Flow-to-Price	-3.45	Deep Value
Natural Logarithm of Total Assets	-3.42	Liquidity, Risk & Size
Total Capital Distribution	-3.29	Management Quality
Operating Liability Leverage	-3.27	Management Quality
Fixed Assets Turnover Ratio	-3.23	Management Quality

Source: IHS Markit

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Figure 1



## US Small Cap

Small cap investors continued to favor high quality names in March (Table 4), with Management Quality extending its string this year of key representation on the list of top performing factors. Top measures for the month include Dividends-to-Cash Flow (4.16%) and NOPAT Margin (4.01%). However, 24-Month Residual Return Variance (6.43%) turned in the best performance, as investors' preference for low risk names drove a 12.3 percentage point swing in spread from January to March (Figure 2). We also draw attention to Malware Server Risk (3.36%), a member of our new [Cybersecurity factor suite](#) that quantifies cyber risks to enhance stock and portfolio risk management. On the other hand, valuation played a role in the weakest performing factors for the month (Table 5), as represented by Net Current Asset-to-Price (-5.42%) and 60-Month Alpha (-4.42%).

Table 4

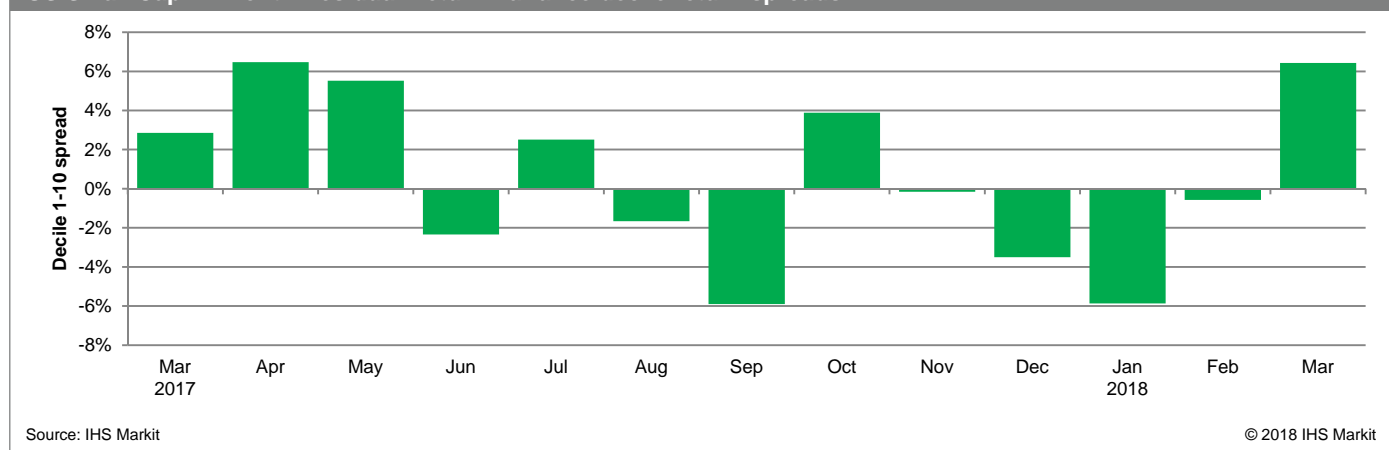
**US Small Cap top decile return spread factor performance, Mar 2018**

Factor	Decile spread (%)	Factor group
24-Month Residual Return Variance	6.43	Price Momentum
Stability of 3-yr TTM Cash Flow	4.50	Historical Growth
Dividends- to-Cash Flow	4.16	Management Quality
NOPAT Margin	4.01	Management Quality
Price Above Last 260-day Lowest Trading Price	3.89	Price Momentum
Long-term Debt-to-Equity	3.85	Liquidity, Risk & Size
TTM Growth Flow-to-Price	3.84	Deep Value
Std Dev of FY1 EPS Estimates-to-Price	3.74	Earnings Momentum
1-yr Growth in TTM Cash Flow	3.54	Historical Growth
20-Day Volume Volatility to Price Volatility	3.49	Liquidity, Risk & Size
Yearly Change in ROE - Percentage Method	3.45	Management Quality
CV of Prior 90-Day Closing Prices	3.39	Price Momentum
Malware Server Risk	3.36	Cybersecurity
5-yr Relative TTM Cash Flow-to-Price	3.35	Relative Value
Profitability Ratio	3.16	Management Quality

Source: IHS Markit

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Figure 2

**US Small Cap 24-Month Residual Return Variance decile return spreads**

Source: IHS Markit

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Table 5

**US Small Cap bottom decile return spread factor performance, Mar 2018**

Factor	Decile spread (%)	Factor group
Net Current Assets-to-Price	-5.42	Deep Value
60-Month Alpha	-4.42	Price Momentum
60-Month Active Return with 1-Month Lag	-3.71	Price Momentum
1-Year Ahead EPS Growth	-3.34	Earnings Momentum
Long-term Debt-to-Cash Flow	-3.23	Liquidity, Risk & Size
Natural Logarithm of Total Assets	-3.12	Liquidity, Risk & Size
6-Month Nominal Change in 18-Month Alpha	-3.06	Price Momentum
Accounting Accruals	-3.05	Earnings Quality
Natural Logarithm of TTM Sales	-3.04	Liquidity, Risk & Size
3-yr Compound Annual ROIC Growth	-2.97	Historical Growth

Source: IHS Markit

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## Europe

The surge in the pace of growth in the eurozone manufacturing sector last year continued to moderate in March, with the PMI easing to 56.6, down from 58.6 in February and the lowest level in eight months. While growth remains solid, led by the Netherlands, Germany and Austria, rates of expansion eased across all of the nations covered. Meanwhile, European stocks followed other major equity markets lower for the quarter, with German shares particularly hard hit.

Top (Table 6) and bottom (Table 7) factor performers in the Developed Europe universe in March echoed themes seen among US large caps. Investors tended to avoid high risk names gauged by 60-Day Residual Risk (4.63%), while Implied Loan Rate (3.45%) captured a bias against expensive to borrow names (Figure 3). Additionally, shares trading furthest from their 52-Week high (3.04%) were punished, along with names which tend to outperform when the yield curve steepens, as gauged by Yield Curve Slope Sensitivity (-4.18%).

Table 6

### Developed Europe top decile return spread factor performance, Mar 2018

Factor	Decile spread (%)	Factor group
60-Day Residual Risk	4.63	Liquidity, Risk & Size
Product of Beta and Sigma	4.20	Liquidity, Risk & Size
Stock Return Volatility	4.14	Liquidity, Risk & Size
Operating Profit Margin	4.05	Management Quality
Regression Error of 60-Month CAPM	3.86	Liquidity, Risk & Size
Operating Cash Flow Ratio	3.67	Liquidity, Risk & Size
Change in Inventory to Average Assets	3.56	Management Quality
Operating Cash Flow Profit Margin	3.48	Management Quality
Implied Loan Rate	3.45	Short Sentiment
24-Month Value at Risk	3.37	Price Momentum
Active Utilization	3.31	Short Sentiment
Unexpected Profitability	3.11	Management Quality
CV of Prior 90-Day Closing Prices	3.08	Price Momentum
Cash Flow Leverage	3.05	Liquidity, Risk & Size
52-Week High	3.04	Price Momentum

Source: IHS Markit

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Table 7

## Developed Europe bottom decile return spread factor performance, Mar 2018

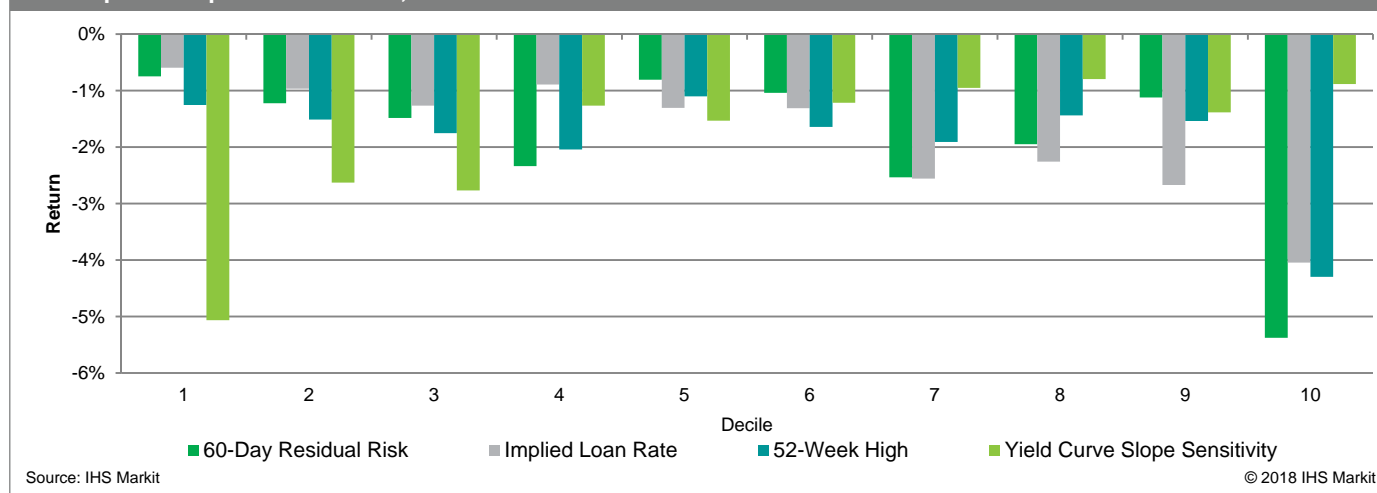
Factor	Decile spread (%)	Factor group
Yield Curve Slope Sensitivity	-4.18	Macro
Fixed Assets Turnover Ratio	-4.01	Management Quality
TTM Capital Expenditures-to-Sales	-3.78	Management Quality
Time Weighted Sales Yield	-3.77	Deep Value
Leading 12 Month Sales Yield	-3.76	Deep Value
Basic Defensive Interval	-3.72	Liquidity, Risk & Size
Net Operating Asset Turnover	-3.47	Management Quality
Operating Liability Leverage	-3.43	Management Quality
TTM Sales-to-Price	-3.42	Deep Value
TTM Sales-to-Enterprise Value	-3.37	Deep Value

Source: IHS Markit

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Figure 3

## Developed Europe decile returns, Mar 2018



Source: IHS Markit

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## Asia-Pacific

While remaining in expansionary territory, manufacturing operating conditions in the two largest Asian economies softened in March. In Japan, the PMI fell to 53.1 from 54.1 in February, though output increased for a twentieth consecutive month. In China, the manufacturing PMI edged lower to 51.0, from 51.6 in February, the weakest recording since last November. Asia-pacific equity markets ended the quarter in the red, despite solid earnings growth across many companies.

High momentum names were strongly rewarded in the Developed Pacific exJapan universe in March (Table 8). The top spread was recorded by 12-Month Active Return with 1-month Lag (6.84%) and a time series display of recent performance (Figure 4) shows a robust rebound in spread after a one-month hiatus. At the same time, pricing was of low concern for investors as measures such as Natural Logarithm of Closing Price (-5.19%), Time Weighted Sales Yield (-4.74%) and 36-Month Active Return with 1-Month Lag (4.54%) were among the bottom performing factors (Table 9). However, investors added a layer of safety by avoiding the most highly shorted names, as measured by Utilization (4.87%).

The two measures that topped the factor performance leader (Table 10) and laggard (Table 11) boards in Japanese markets exactly mimicked that of US large caps. 60-Month Beta registered a robust 7.16% spread and took on a nearly monotonic distribution across decile returns (Figure 5), suggestive of a systematic trade across this signal. Yield Curve Slope Sensitivity (-5.31%), in turn, posted the weakest spread, as investors favored names which tend to outperform as the yield curve flattens, again in a nearly monotonic fashion.

Table 8

**Developed Pacific exJapan top decile return spread factor performance, Mar 2018**

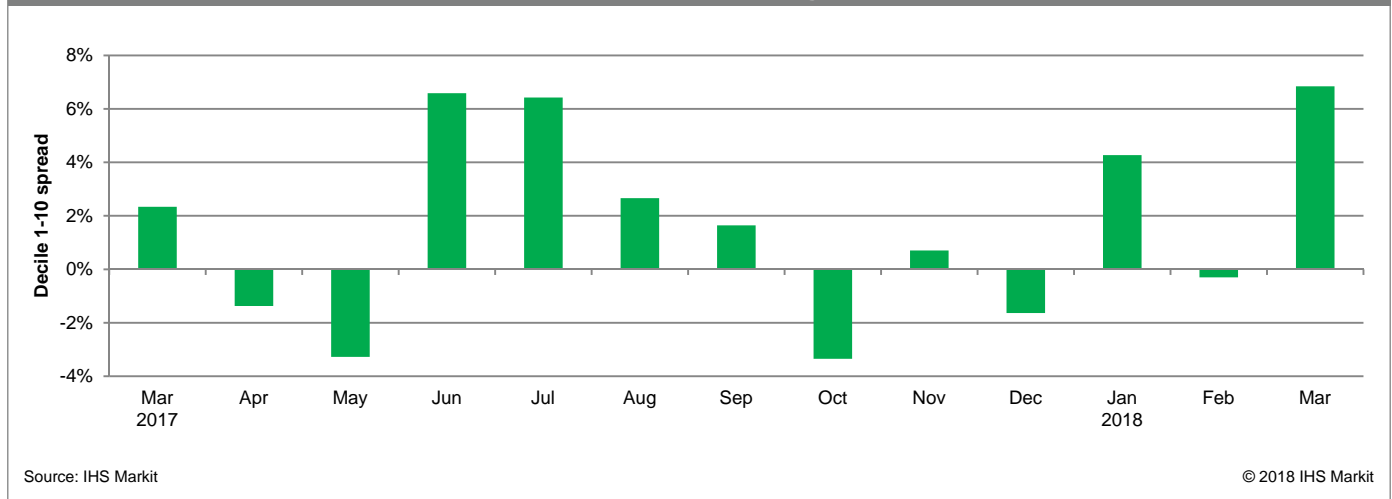
Factor	Decile spread (%)	Factor group
12-Month Active Return with 1-month Lag	6.84	Price Momentum
15/36 Week Stock Price Ratio	6.54	Price Momentum
9-Month Active Return with 1-Month Lag	6.12	Price Momentum
Industry-adjusted 12-month Relative Price Strength	5.74	Price Momentum
50-200 Day Stock Price Ratio	5.61	Price Momentum
26-Week Relative Price Strength	5.33	Price Momentum
39-Week Return with 4-week Lag	5.22	Price Momentum
Market Volatility Sensitivity	5.22	Macro
6-Month Active Return with 1-Month Lag	5.10	Price Momentum
3-yr Change in Assets-adj TTM Oper Cash Flow	4.99	Historical Growth
Utilization	4.87	Short Sentiment
Std Dev of FY1 EPS Estimates-to-Price	4.33	Earnings Momentum
60-Month Beta	4.32	Liquidity, Risk & Size
3-yr Change in Price-adj TTM FCF	4.31	Historical Growth
Product of Beta and Sigma	4.29	Liquidity, Risk & Size

Source: IHS Markit

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Figure 4

**Developed Pacific exJapan 12-Month Active Return with 1-month Lag decile return spreads**



Source: IHS Markit

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Table 9

## Developed Pacific exJapan bottom decile return spread factor performance, Mar 2018

Factor	Decile spread (%)	Factor group
Latin America Sales Exposure	-14.59	Macro
Average Payable Period	-5.81	Management Quality
Natural Logarithm of Closing Price	-5.19	Liquidity, Risk & Size
Time Weighted Sales Yield	-4.74	Deep Value
Tobin q	-4.69	Liquidity, Risk & Size
3-Month Active Return	-4.65	Price Momentum
Time Weighted Book Yield	-4.60	Deep Value
Leading 12 Month Sales Yield	-4.56	Deep Value
Average Monthly Trading Volume-to-Market Cap	-4.55	Liquidity, Risk & Size
36-Month Active Return with 1-Month Lag	-4.54	Price Momentum

Source: IHS Markit

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Table 10

## Japan Standard Cap top decile return spread factor performance, Mar 2018

Factor	Decile spread (%)	Factor group
60-Month Beta	7.16	Liquidity, Risk & Size
Product of Beta and Sigma	5.74	Liquidity, Risk & Size
Inflation Sensitivity	4.55	Macro
Average Trading Volume in Preceding 6-month	4.21	Price Momentum
6-Month Nominal Change in 12-Month Alpha	4.19	Price Momentum
Asia-Pacific Sales Exposure	3.98	Macro
R Sqr of 5-yr TTM EPS Trend Line	3.68	Historical Growth
24-Month Value at Risk	3.56	Price Momentum
Change in TTM Sales vs. EPS	3.55	Earnings Quality
Inventory Turnover Ratio	3.51	Management Quality
Trading Turnover Ratio	3.47	Liquidity, Risk & Size
3-yr Growth in TTM Cash Flow	3.40	Historical Growth
Assets Turnover Ratio	3.35	Management Quality
Cash Cycle	3.25	Management Quality
Return on Assets	3.16	Management Quality

Source: IHS Markit

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Figure 5

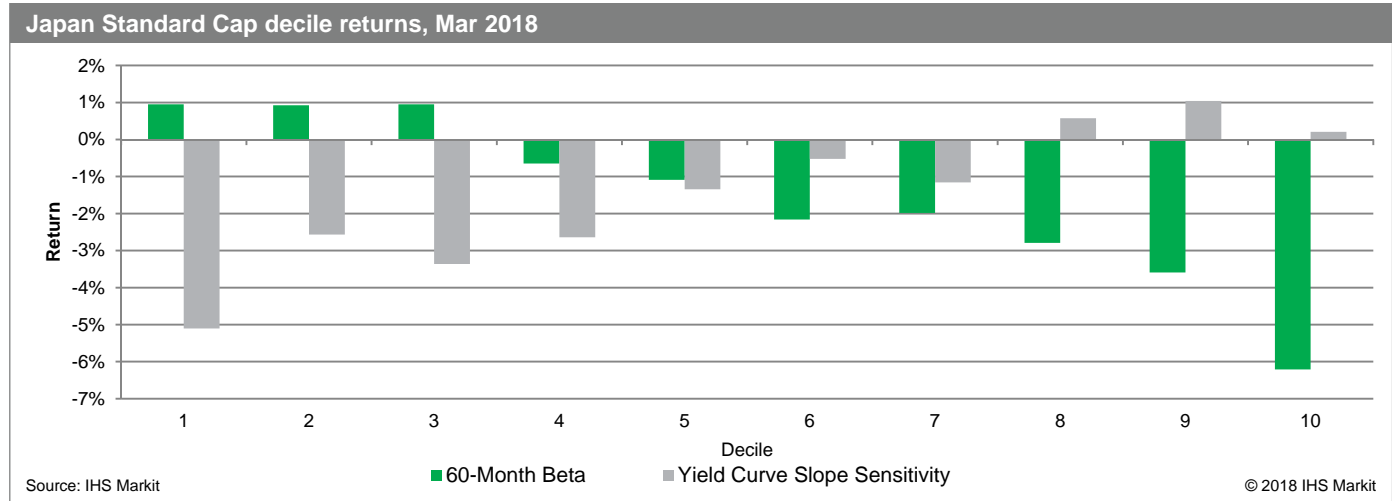


Table 11

**Japan Standard Cap bottom decile return spread factor performance, Mar 2018**

<b>Factor</b>	<b>Decile spread (%)</b>	<b>Factor group</b>
Yield Curve Slope Sensitivity	-5.31	Macro
Time Weighted Book Yield	-5.30	Deep Value
Leading 12 Month Book Yield	-5.19	Deep Value
Unexpected Profitability	-5.03	Management Quality
60-Month Active Return with 12-Month Lag	-4.94	Price Momentum
18-Month Active Return with 1-Month Lag	-4.40	Price Momentum
3-M Revision in FY2 EPS Forecasts	-4.23	Earnings Momentum
1 Year Change in Gross Profit to Assets	-4.20	Management Quality
US Dollar Value Sensitivity	-4.19	Macro
3-M Revision in FY1 EPS Forecasts: Dispersion Relative	-4.05	Earnings Momentum

Source: IHS Markit

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## Emerging Markets

We wrap up our review with an examination of top (Table 12) and bottom (Table 13) performing factors in emerging markets in March. A risk-off trade was a dominant theme among both lists. 24-Month Residual Return Variance (3.86%) was the top measure, as investors favored the lowest risk names (Figure 6). Dividend payers were also a highly rewarded group, as confirmed by TTM Dividend Yield (3.09%). Firms with the least leverage were also preferred, pushing Long-term Debt-to-Cash Flow (-2.90%) to the bottom of factor performance.

Table 12

**Emerging Markets top quintile return spread factor performance, Mar 2018**

<b>Factor</b>	<b>Decile spread (%)</b>	<b>Factor group</b>
24-Month Residual Return Variance	3.86	Price Momentum
Industry Relative TTM Dividend Yield	3.64	Relative Value
Product of Beta and Sigma	3.58	Liquidity, Risk & Size
Stock Return Volatility	3.32	Liquidity, Risk & Size
60-Day Residual Risk	3.25	Liquidity, Risk & Size
Credit Risk Premium Sensitivity	3.22	Macro
TTM Dividend Yield	3.09	Deep Value
1-Month Stock Return Interquartile Range	3.05	Liquidity, Risk & Size
Regression Error of 60-Month CAPM	2.79	Liquidity, Risk & Size
EMEA Sales Exposure	2.73	Macro
1-Month Realized Stock Return Volatility	2.71	Liquidity, Risk & Size
6-Month Nominal Change in 36-Month Alpha	2.14	Price Momentum
6-Month Nominal Change in 12-Month Alpha	2.10	Price Momentum
3-M Revision in FY1 EPS Forecasts: Dispersion Relative	2.09	Earnings Momentum
Attention Span Ratio	2.06	Management Quality

Source: IHS Markit

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Table 13

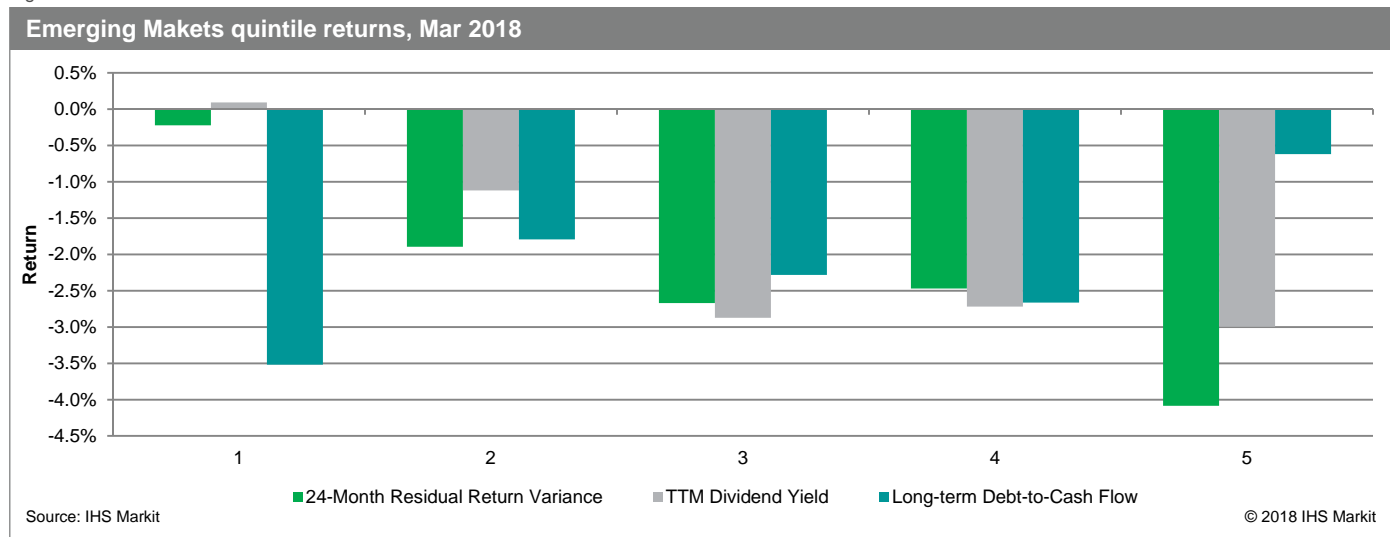
**Emerging Markets bottom quintile return spread factor performance, Mar 2018**

Factor	Decile spread (%)	Factor group
Dividend Coverage Ratio	-3.57	Liquidity, Risk & Size
Net Current Assets-to-Price	-3.51	Deep Value
Long-term Debt-to-Cash Flow	-2.90	Liquidity, Risk & Size
Net Cash to Equity	-2.86	Liquidity, Risk & Size
1-Month Active Return	-2.75	Price Momentum
4-week Industry Relative Return	-2.73	Price Momentum
Net Debt Ratio	-2.48	Management Quality
2-Year Ahead EPS Growth Percentage Change	-2.48	Earnings Momentum
SG&A Expenses-to-Sales	-2.44	Management Quality
Long-term Debt-to-Equity	-2.42	Liquidity, Risk & Size

Source: IHS Markit

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Figure 6



Source: IHS Markit

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