

The best defense is a good risk off-ense

October 2018

Research Signals

The month of October has witnessed some of the worst stock market corrections in history and this year saw it live up to this tendency toward volatility. As such, volatility-based metrics were successful signals in general, as demonstrated by positive performance from low beta in each of our developed market coverage universes (Table 1). Market participants will now wait to see if confidence can be restored from concerns of rising interest rates, trade wars and contracting growth outside the US, as confirmed by the slowdown in the J.P.Morgan Global Manufacturing PMI to a near two-year low.

- US: 60-Month Beta posted a significant double-digit spread performance among large caps, a level not seen since January 2016
- Developed Europe: Industry Relative TTM Dividend Yield sat alongside 60-Month Beta as positive indicators for the month
- Developed Pacific: 24-Month Value at Risk was a significant signal, especially in markets outside Japan, while Reinvestment Rate was a negative indicator in Japan
- Emerging markets: Large caps outperformed, as captured by Natural Logarithm of Market Capitalization, along with signals from the securities lending market such as Demand Supply Ratio and Implied Loan Rate

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Table 1

Global factor quantile return spread performance snapshot, Oct 2018

Factor	Factor Group	US Large Cap	US Small Cap	Developed Europe	Developed Pacific ex Japan	Japan Standard Cap	Emerging Markets
Book-to-Market		2.84	3.82	1.19	5.10	6.05	1.00
Forward 12-M EPS-to-Enterprise Value	Deep Value	1.92	7.01	2.56	5.75	2.37	-1.11
TTM EBITDA-to-Enterprise Value		4.06	6.44	3.20	4.81	3.06	0.59
TTM Free Cash Flow-to-Enterprise Value		-0.61	6.19	0.16	2.20	0.41	1.56
Industry Relative Leading 4-QTRs EPS to Price	Relative Value	-1.52	0.76	2.64	2.85	3.20	0.04
Industry Relative TTM Dividend Yield		2.07	1.71	2.87	3.90	3.95	-1.42
Fixed Assets Turnover Ratio	Management Quality	-2.76	1.83	-3.89	-5.15	-7.53	-0.43
Inventory Turnover Ratio		0.40	2.86	-1.34	-3.42	-0.68	3.14
Net Operating Asset Turnover		-1.49	8.06	-1.90	-5.96	-4.47	-2.63
Change in Accruals to Assets	Earnings Quality	1.69	2.97	0.43	1.69	2.01	0.72
Change in TTM COGS vs. Inventory Level		2.76	2.75	-0.19	-1.89	1.91	0.46
Change in TTM Sales vs. Accounts Receivable		0.23	-0.66	-1.28	0.27	-1.38	-0.16
Working Capital Accruals		-2.35	-0.26	-0.89	-1.24	-1.54	0.29
1-yr Growth in TTM Free Cash Flow	Historical Growth	0.49	-0.31	-1.75	1.94	0.81	2.22
Reinvestment Rate		1.55	5.06	1.34	-0.48	-5.72	2.23
Average Monthly Trading Volume-to-Market Cap	Liquidity, Risk & Size	-1.67	-7.86	-1.35	6.11	-5.86	-6.29
60-Month Beta		14.00	8.32	9.42	0.05	4.11	-1.50
Asset Quality Index		0.24	-4.23	-1.82	-4.96	0.54	-1.46
Operating Leverage		1.55	0.86	0.28	-2.60	0.43	1.98
Natural Logarithm of Market Capitalization		-2.51	-2.35	-1.82	8.66	-1.97	-2.92
2-Year Ahead EPS Growth	Earnings Momentum	-4.48	1.08	-1.51	-2.91	-1.70	2.40
3-M Revision in FY2 EPS Forecasts		-1.40	-2.54	0.10	-0.55	-2.31	-1.60
Real Earnings Surprise		0.45	0.13	0.96	1.48	0.82	-0.73
24-Month Value at Risk	Price Momentum	4.87	7.90	3.67	11.10	6.54	1.40
5-day Industry Relative Return		2.35	-0.95	-0.02	-2.04	4.24	5.83
Industry-adjusted 12-month Relative Price Strength		-0.96	-0.83	-2.39	-2.82	-3.82	-0.17
Rational Decay Alpha		-1.45	1.40	-1.32	-7.05	-3.84	-0.69
Demand Supply Ratio		1.75	6.37	2.29	7.60	1.81	6.72
Implied Loan Rate	Short Sentiment	2.26	4.31	-1.81	6.94	2.55	5.81

Source: IHS Markit

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United States

US Large Cap

The October manufacturing PMI (55.7) signalled a further pick up in growth momentum and a strong improvement in the health of the sector, broadly in line with September's reading (55.6). Highlights include an upturn in new growth order to a five-month high and the rate of job creation reaching a ten-month high, though only a fractional rise in new export orders. However concerns of the impact of the continued US-China trade dispute and Fed tightening weighed on investors, with stocks posting their steepest monthly decline since September 2011.

Not surprisingly, volatility-based metrics topped factor performance in the US Large Cap universe in October (Table 2). For example, 60-Month Beta (14.00%) recorded its highest decile spread over the past five years (Figure 1), with only January 2016 (13.48%) nearing the extreme level, a month when global markets were roiled by concerns over the Chinese economy. The weakest performing factors for the month (Table 3) include several Macro indicators including Yield Curve Slope Sensitivity (-7.69%), Oil Prices Sensitivity (-6.36%) and EMEA Sales Exposure (-5.15%) along with Price Momentum measures such as 24-Month Active Return with 1-Month Lag (-6.05%).

Table 2

US Large Cap top decile return spread factor performance, Oct 2018		
Factor	Decile spread (%)	Factor group
Product of Beta and Sigma	14.57	Liquidity, Risk & Size
60-Month Beta	14.00	Liquidity, Risk & Size
Stock Return Volatility	10.46	Liquidity, Risk & Size
24-Month Residual Return Variance	9.94	Price Momentum
At the Money Put Option Implied Volatility	8.62	Liquidity, Risk & Size
60-Day Residual Risk	8.31	Liquidity, Risk & Size
Stability of 3-yr TTM Sales	8.17	Historical Growth
At the Money Call Option Implied Volatility	7.78	Liquidity, Risk & Size
Shareholder Payout to Gross Profit	7.66	Management Quality
Edwards-Bell-Ohlson Value-to-Price	7.48	Deep Value
Distress Measure	7.14	Liquidity, Risk & Size
1-Month Realized Stock Return Volatility	6.98	Liquidity, Risk & Size
CV of Oper Income per Share in Last 12 QTRs	6.93	Historical Growth
Regression Error of 60-Month CAPM	6.86	Liquidity, Risk & Size
20-Day Volume Volatility to Price Volatility	6.78	Liquidity, Risk & Size

Source: IHS Markit

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Figure 1

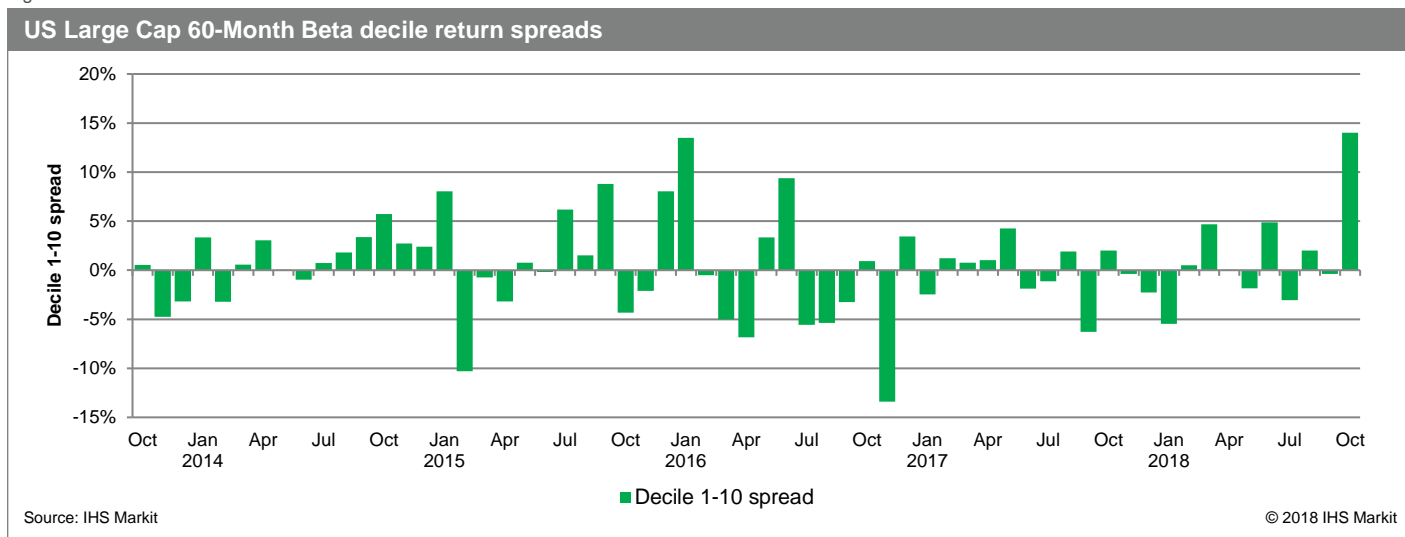


Table 3

US Large Cap bottom decile return spread factor performance, Oct 2018		
Factor	Decile spread (%)	Factor group
Yield Curve Slope Sensitivity	-7.69	Macro
Oil Prices Sensitivity	-6.36	Macro
24-Month Active Return with 1-Month Lag	-6.05	Price Momentum
1-yr Change in Sales	-5.90	Historical Growth
Yearly TTM Total Sales Growth Rate	-5.71	Historical Growth
Implied Volatility	-5.60	Liquidity, Risk & Size
EMEA Sales Exposure	-5.15	Macro
Unexpected Profitability	-4.80	Management Quality
Slope of 66 Week Price Trend Line	-4.61	Price Momentum
Operating Liability Leverage	-4.58	Management Quality

Source: IHS Markit © 2018 IHS Markit

US Small Cap

Volatility-based metrics were also key among small caps in October (Table 4), led by 24-Month Residual Return Variance (13.22%). However, Management Quality indicators also posted double-digit spreads. Operating Profit Margin (12.11%) took the lead and, like large caps, was only matched in the past five years by January 2016 performance (13.98%), though, in this case, the earlier period slightly outperformed. At the opposite end of the spectrum, several Liquidity, Risk & Size measures were among the weakest performers (Table 5), including Average Monthly Trading Volume-to-Market Cap (-7.86%) and Ohlson Bankruptcy Score (-5.55%).

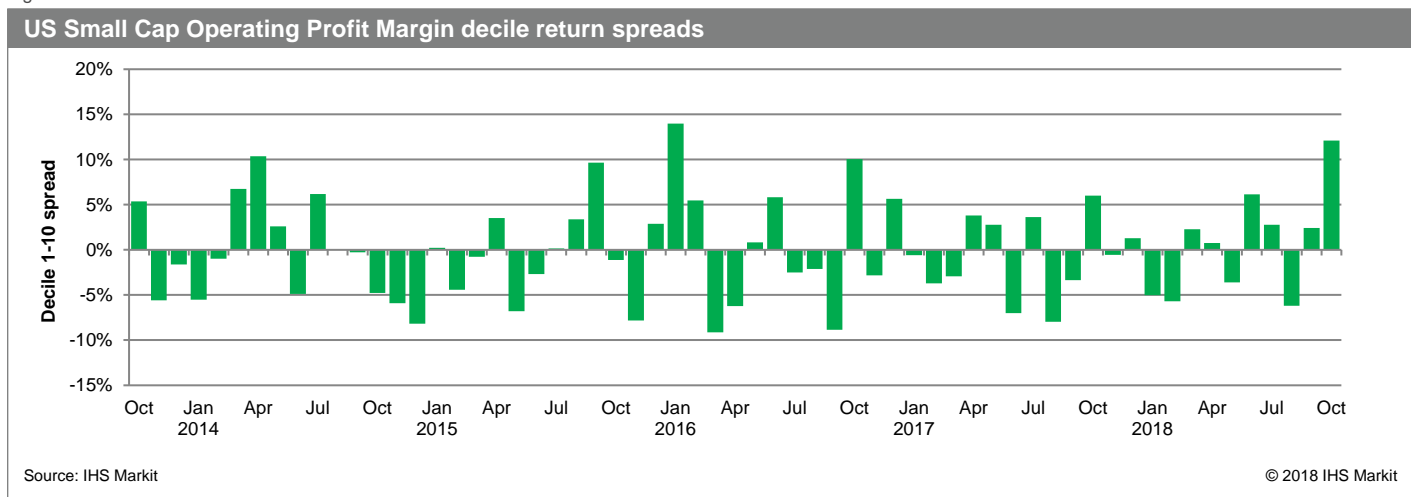
Table 4

US Small Cap top decile return spread factor performance, Oct 2018		
Factor	Decile spread (%)	Factor group
24-Month Residual Return Variance	13.22	Price Momentum
Operating Profit Margin	12.11	Management Quality
Stock Return Volatility	12.08	Liquidity, Risk & Size
3-Year Trough Operating Margin	11.61	Management Quality
NOPAT Margin	11.52	Management Quality
Regression Error of 60-Month CAPM	11.09	Liquidity, Risk & Size
SG&A Expenses-to-Sales	11.06	Management Quality
Product of Beta and Sigma	10.73	Liquidity, Risk & Size
Net Profit Margin	10.72	Management Quality
2-Year Trough Operating Margin	10.59	Management Quality
Distress Measure	10.59	Liquidity, Risk & Size
1-Year Trough Operating Margin	10.57	Management Quality
60-Day Residual Risk	10.35	Liquidity, Risk & Size
1-Month Realized Stock Return Volatility	10.22	Liquidity, Risk & Size
Operating Cash Flow Profit Margin	10.04	Management Quality

Source: IHS Markit

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Figure 2



Source: IHS Markit

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Table 5

US Small Cap bottom decile return spread factor performance, Oct 2018		
Factor	Decile spread (%)	Factor group
Advertising Intensity	-11.22	Management Quality
Attention Span Ratio	-9.41	Management Quality
Operating Liability Leverage	-9.04	Management Quality
Average Monthly Trading Volume-to-Market Cap	-7.86	Liquidity, Risk & Size
Flow Ratio	-6.70	Liquidity, Risk & Size
Implied Volatility	-5.90	Liquidity, Risk & Size
Malware Server Risk	-5.77	Cybersecurity
Ohlson Bankruptcy Score	-5.55	Liquidity, Risk & Size
Average Payable Period	-5.20	Management Quality
On Loan Value Concentration	-5.00	Short Sentiment

Source: IHS Markit

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Europe

Eurozone manufacturing growth fell to a 26-month low in October, with the PMI posting at 52.0, down from 53.2 in September, as trade concerns pushed confidence down to the lowest level since December 2012. The slowdown, linked to a fall in order books as exports declined for the first time in nearly five-and-a-half years, was broad-based, most notably with Italy slipping into contraction territory. European equities followed other global markets down during a volatile October month which saw stocks record their worst month since January 2016.

European markets followed suit with the US in October (Table 6), with Product of Beta and Sigma (9.89%) and 60-Month Beta (9.42%) topping the factor leaderboard. Leading 12 Month Total Dividend Yield (5.42%), a proprietary measure [constructed](#) based on IHS Markit Dividend Forecast's rigorous methodology, also outperformed at a five-year high (Figure 3). At the opposite extreme, medium term Price momentum factors underperformed last month (Table 7), represented by metrics such as 24-Month Active Return with 1-Month Lag (-5.06%) and 30-75 Week Stock Price Ratio (-4.05%).

Table 6

Developed Europe top decile return spread factor performance, Oct 2018		
Factor	Decile spread (%)	Factor group
Product of Beta and Sigma	9.89	Liquidity, Risk & Size
60-Month Beta	9.42	Liquidity, Risk & Size
1-Month Stock Return Interquartile Range	6.92	Liquidity, Risk & Size
Stock Return Volatility	6.49	Liquidity, Risk & Size
1-Month Realized Stock Return Volatility	6.49	Liquidity, Risk & Size
Normalized Earnings Yield	6.07	Deep Value
20-Day Volume Volatility to Price Volatility	5.51	Liquidity, Risk & Size
Net Income per Employee	5.46	Management Quality
Leading 12 Month Total Dividend Yield	5.42	Dividend Forecast
Leading 12 Month Regular Dividend Yield	5.35	Dividend Forecast
Regression Error of 60-Month CAPM	5.30	Liquidity, Risk & Size
TTM EBITDA-to-Price	5.03	Deep Value
Net Profit Margin	4.83	Management Quality
Leading 1-Year Regular Dividend Payout	4.55	Dividend Forecast
Edwards-Bell-Ohlson Value-to-Price	4.38	Deep Value

Source: IHS Markit

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Figure 3

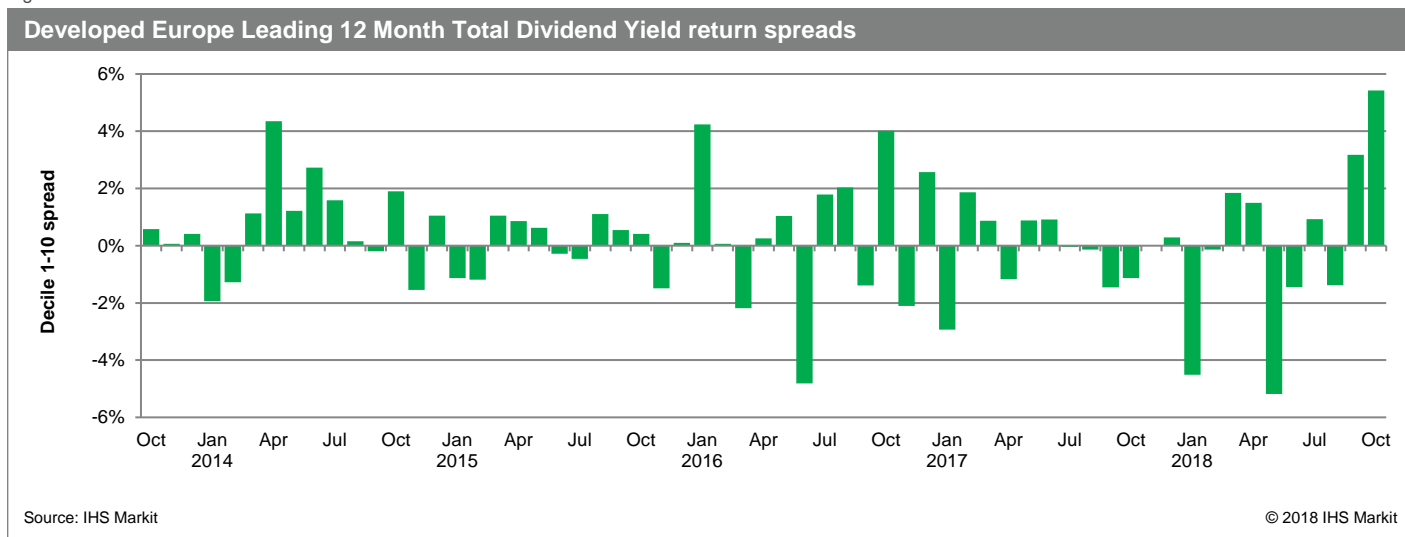


Table 7

Developed Europe bottom decile return spread factor performance, Oct 2018

Factor	Decile spread (%)	Factor group
Yield Curve Slope Sensitivity	-6.80	Macro
Attention Span Ratio	-5.51	Management Quality
24-Month Active Return with 1-Month Lag	-5.06	Price Momentum
12-Month Active Return with 1-month Lag	-4.12	Price Momentum
30-75 Week Stock Price Ratio	-4.05	Price Momentum
18-Month Active Return with 1-Month Lag	-3.97	Price Momentum
Fixed Assets Turnover Ratio	-3.89	Management Quality
9-Month Active Return with 1-Month Lag	-3.65	Price Momentum
2-Year Projected EPS Growth	-3.65	Earnings Momentum
Capital Expenditures to Depreciation Linkage	-3.59	Management Quality

Source: IHS Markit

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Asia-Pacific

Manufacturing sector growth diverged in the two largest Asian economies - Japan and China. In Japan, the PMI registered at 52.9 in October, up from 52.5 in September and marking the strongest expansion since June with foreign demand improving for the first time in five months. PMI data in China posted only a slight improvement in October (50.1) from the neutral level of 50.0 in September, with export sales declining for the seventh consecutive month and business outlook dipping to an 11-month low. As the trade war looms, several Asian markets have seen double-digit declines this year, with China, which is on track for its worst year since 2011, leading declines among major markets.

The risk off trade was also alive and well in developed Pacific markets in October. Outside of Japan, top performing factors (Table 8) included 24-Month Residual Return Variance (14.60%), whose decile returns demonstrated a mostly monotonic distribution across deciles (Figure 4), indicating systematic trading based on this signal. What is more, the decile 10 absolute return (-18.54%) hit its lowest level since October 2008. On the other hand, Price Momentum captured 5 of the bottom 10 performance positions (Table 9), accompanied by factors such as Market Cap per Analyst (-12.04%), Natural Logarithm of TTM Sales (-8.81%) and Dividend Coverage Ratio (-7.45%).

In Japan, 1-Month Realized Stock Return Volatility turned in a significant 11.69% spread, topping factor performance in October (Table 10). The decile distribution of returns (Figure 5) was again nearly monotonic, with the top five deciles outperforming the bottom five on average by 5.8 percentage points. However, unlike its regional peers, bottom performing factors (Table 11) were more concentrated among Historical Growth measures such as Reinvestment Rate (-5.72%) and 3-yr Compound Annual Sales Growth (-5.48%), picking up on a trend from the prior month.

Table 8

Developed Pacific exJapan top decile return spread factor performance, Oct 2018

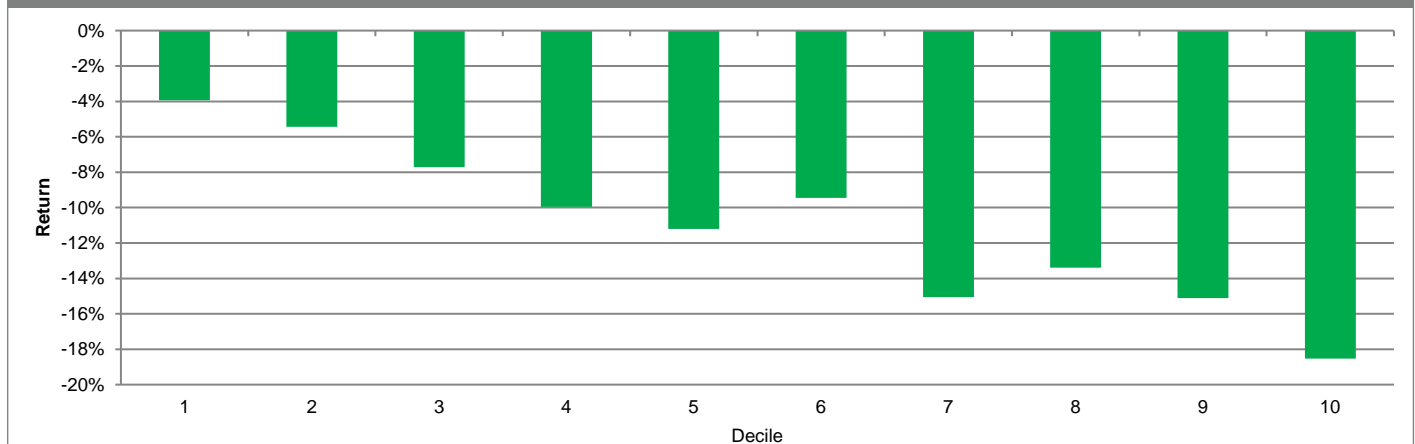
Factor	Decile spread (%)	Factor group
Average Trading Volume in Preceding 6-month	14.92	Price Momentum
24-Month Residual Return Variance	14.60	Price Momentum
Trading Turnover Ratio	13.01	Liquidity, Risk & Size
60-Day Residual Risk	13.00	Liquidity, Risk & Size
CV of Prior 90-Day Closing Prices	12.92	Price Momentum
Regression Error of 60-Month CAPM	12.61	Liquidity, Risk & Size
Stock Return Volatility	12.42	Liquidity, Risk & Size
1-Month Stock Return Interquartile Range	11.76	Liquidity, Risk & Size
24-Month Value at Risk	11.10	Price Momentum
20-Day Volume Volatility to Price Volatility	10.54	Liquidity, Risk & Size
NOPAT Margin	10.31	Management Quality
1-Month Realized Stock Return Volatility	10.19	Liquidity, Risk & Size
Stock Illiquidity	10.05	Liquidity, Risk & Size
Natural Logarithm of Closing Price	9.98	Liquidity, Risk & Size
Distress Measure	9.10	Liquidity, Risk & Size

Source: IHS Markit

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Figure 4

Developed Pacific exJapan 24-Month Residual Return Variance decile returns, Oct 2018



Source: IHS Markit

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Table 9

Developed Pacific exJapan bottom decile return spread factor performance, Oct 2018		
Factor	Decile spread (%)	Factor group
Market Cap per Analyst	-12.04	Liquidity, Risk & Size
Natural Logarithm of TTM Sales	-8.81	Liquidity, Risk & Size
Dividend Coverage Ratio	-7.45	Liquidity, Risk & Size
Slope of 66 Week Price Trend Line	-7.41	Price Momentum
Dividends- to-Cash Flow	-7.39	Management Quality
Second Preceding 6-month Return	-7.07	Price Momentum
Rational Decay Alpha	-7.05	Price Momentum
Slope of 52 Week Price Trend Line	-6.80	Price Momentum
Street Consensus Rating	-6.69	Earnings Momentum
18-Month Active Return with 1-Month Lag	-6.51	Price Momentum

Source: IHS Markit

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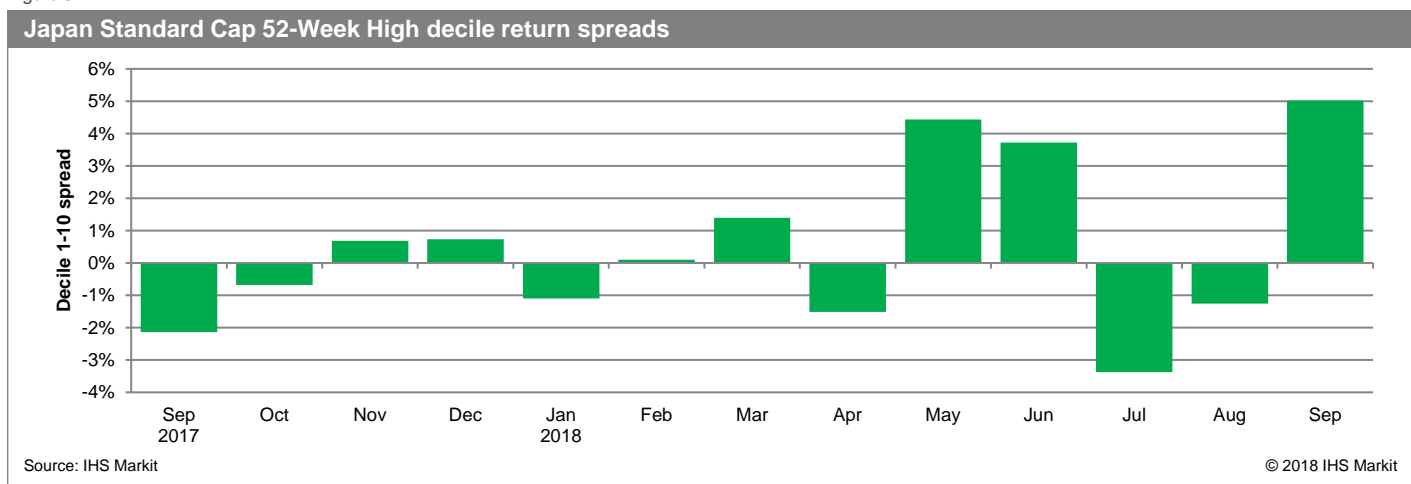
Table 10

Japan Standard Cap top decile return spread factor performance, Oct 2018		
Factor	Decile spread (%)	Factor group
1-Month Realized Stock Return Volatility	11.69	Liquidity, Risk & Size
1-Month Stock Return Interquartile Range	11.07	Liquidity, Risk & Size
Distress Measure	10.65	Liquidity, Risk & Size
60-Day Residual Risk	10.51	Liquidity, Risk & Size
TTM Dividend Yield	10.26	Deep Value
Stock Return Volatility	9.84	Liquidity, Risk & Size
CV of Prior 90-Day Closing Prices	9.23	Price Momentum
Product of Beta and Sigma	9.09	Liquidity, Risk & Size
24-Month Residual Return Variance	8.84	Price Momentum
Regression Error of 60-Month CAPM	8.34	Liquidity, Risk & Size
Price Above Last 260-day Lowest Trading Price	7.80	Price Momentum
20-Day Volume Volatility to Price Volatility	7.64	Liquidity, Risk & Size
1-yr Change in Total Assets	7.06	Historical Growth
Net Asset Value to Price	7.00	Deep Value
36-Month Active Return with 1-Month Lag	6.86	Price Momentum

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, Oct 2018

Factor	Decile spread (%)	Factor group
Fixed Assets Turnover Ratio	-7.53	Management Quality
24-Month Active Return with 1-Month Lag	-7.15	Price Momentum
Average Monthly Trading Volume-to-Market Cap	-5.86	Liquidity, Risk & Size
Sustainable Growth Rate	-5.72	Historical Growth
Reinvestment Rate	-5.72	Historical Growth
TTM Capital Expenditures-to-Sales	-5.53	Management Quality
TTM Gross Profit to Assets	-5.50	Management Quality
3-yr Compound Annual Sales Growth	-5.48	Historical Growth
Attention Span Ratio	-5.29	Management Quality
1-yr Change in Sales	-5.26	Historical Growth

Source: IHS Markit

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Emerging Markets

We round out the report with a review of top (Table 12) and bottom (Table 13) performing factors in emerging markets in October. Performance characteristics diverged from our other coverage universes, with outperformance to larger sized firms a dominant theme, captured by measures such as Natural Logarithm of Total Assets (5.19%). Conversely, North America Sales Exposure (-3.72%) turned in negative performance. Lastly, we highlight the underperformance of 3-M Revision in FY1 EPS Forecasts (-3.28%) which posted its second consecutive month of negative spreads (Figure 6), though we remark that the factor has recorded positive spreads in two-thirds of months over the past five years, with only one occurrence of a string of negative spreads in excess of two months at the start of 2014.

Table 12

Emerging Markets top quintile return spread factor performance, Oct 2018

Factor	Decile spread (%)	Factor group
Latin America Sales Exposure	7.90	Macro
Average Trading Volume in Preceding 6-month	6.31	Price Momentum
5-day Industry Relative Return	5.83	Price Momentum
Trading Turnover Ratio	5.69	Liquidity, Risk & Size
CV of Prior 90-Day Closing Prices	5.69	Price Momentum
Natural Logarithm of Total Assets (USD)	5.69	Liquidity, Risk & Size
Natural Logarithm of Total Assets	5.19	Liquidity, Risk & Size
Natural Logarithm of TTM Sales (USD)	4.89	Liquidity, Risk & Size
Asset Composition	4.86	Liquidity, Risk & Size
Distress Measure	4.85	Liquidity, Risk & Size
Yield Curve Slope Sensitivity	4.84	Macro
Net Current Assets-to-Price	4.77	Deep Value
Net Debt Ratio	4.77	Management Quality
Cash Earnings Return On Equity	4.65	Management Quality
Dividend Coverage Ratio	4.04	Liquidity, Risk & Size

Source: IHS Markit

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Table 13

Emerging Markets bottom quintile return spread factor performance, Oct 2018

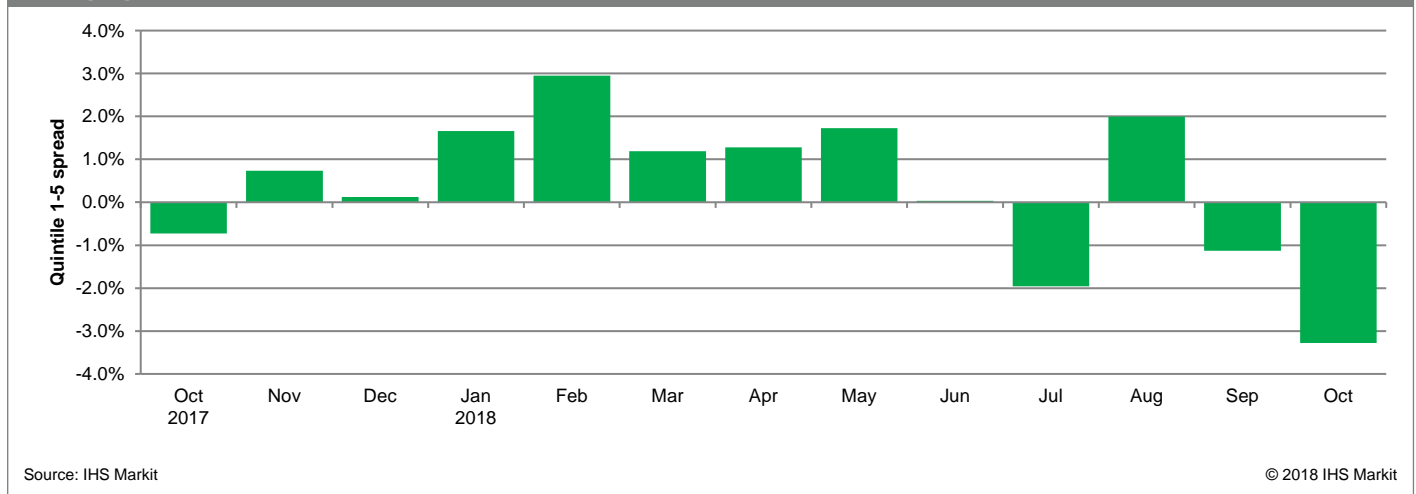
Factor	Decile spread (%)	Factor group
Average Monthly Trading Volume-to-Market Cap	-6.29	Liquidity, Risk & Size
Natural Logarithm of Market Capitalization (USD)	-5.88	Liquidity, Risk & Size
6-Month Nominal Change in 36-Month Alpha	-4.88	Price Momentum
Cash to Enterprise Value	-4.82	Deep Value
Lending Supply	-4.42	Short Sentiment
Cash-to-Price	-4.37	Deep Value
North America Sales Exposure	-3.72	Macro
Attention Span Ratio	-3.68	Management Quality
Industrial Production Sensitivity	-3.29	Macro
3-M Revision in FY1 EPS Forecasts	-3.28	Earnings Momentum

Source: IHS Markit

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Figure 6

Emerging Markets 3-M Revision in FY1 EPS Forecasts quintile return spreads



Source: IHS Markit

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