The 2017 reflation trade

January 2018

Research Signals

The global economic upturn extended through the end of 2017, as output growth accelerated in both the manufacturing and service sectors, with manufacturing the stronger of the two. The J.P.Morgan Global Manufacturing & Services PMITM posted at 54.4, the highest level since March 2015, and the IHS Markit Global Sector PMITM indicated that the technology sector was the fastest-growing sector over 2017 as a whole. With this economic backdrop, we review factor and model performance in 2017 (Table 1).

- US: Growth factors outperformed (reported) value factors, as demonstrated by Reinvestment Rate and Book-to-Market, respectively, and contributed to the Historical Growth model's superior results among our style models
- Developed Europe: Industry-adjusted 12-month Relative Price Strength posted strong performance, suggesting that investors preferred stocks that participated in the best annual stock market gains since 2013
- Developed Pacific: Japanese investors rewarded a broad spectrum of style factors, including Net Operating Asset Turnover, 2-Year Ahead EPS Growth and Forward 12-M EPS-to-Enterprise Value, and this positive trend was captured by the Value Momentum model's multi-style construction
- Emerging markets: 3-M Revision in FY2 EPS Forecasts was one of several Earnings Momentum factors that performed well over the course of 2017, while the corresponding style model consistently outperformed over the past five years with positive montly performance in 82% of months

Heading into 2018, IHS Markit expects sustained solid global growth in the world economy, matching the growth rate of 2017 and well above 2016. The global expansion is now stronger and more synchronized, particularly driven by the US, eurozone and Japanese economies, and with low probability of risks. The reflation trade, that helped push global stocks to lofty heights in 2017, is expected to face three additional US Federal Reserve rate hikes in 2018, followed by three more in 2019. In addition, IHS Markit expects upward pressure on the US dollar as the Fed is well ahead of most other central banks in its tightening cycle.



Table 1

Global factor and style model quantile return spread monthly average performance snapshot, Jan 2017 – Dec 2017

Factor	Factor Group	US Large	US Small	Developed	Developed Pacific ex	Japan Standard	Emerging Markets
Book-to-Market	ractor Group	-1.19	-0.48	Europe -0.08	-0.39	-1.52	0.05
Forward 12-M EPS-to-Enterprise Value	_	1.49	0.67	0.61	-0.28	0.97	0.32
TTM EBITDA-to-Enterprise Value	 Deep Value 	-0.02	0.50	0.32	0.40	0.88	0.66
TTM Free Cash Flow-to-Enterprise Value	_	0.72	-0.33	0.07	0.79	0.65	0.52
Industry Relative Leading 4-QTRs EPS to Price	_ Relative Value	0.71	1.20	0.03	0.37	0.37	0.05
Industry Relative TTM Dividend Yield	_ Relative value	-0.41	-0.88	-0.49	-0.02	0.31	-0.53
Fixed Assets Turnover Ratio		1.67	0.95	0.45	0.50	2.02	0.72
Inventory Turnover Ratio	 Management Quality 	-0.12	-0.15	-0.60	-0.99	0.56	0.21
Net Operating Asset Turnover	_	0.97	-0.08	0.06	1.01	2.05	0.72
Change in Accruals to Assets		-0.06	-0.25	0.08	0.54	-0.33	0.47
Change in TTM COGS vs. Inventory Level	_	0.37	-0.28	-0.20	0.03	-0.07	0.14
Change in TTM Sales vs. Accounts Receivable	Earnings Quality	0.54	0.10	0.23	0.37	-0.06	0.27
Working Capital Accruals	-	-0.28	-0.23	0.82	-1.13	0.54	-0.54
1-yr Growth in TTM Free Cash Flow	LP-to-de-al-Queenth	1.00	0.21	0.10	1.02	0.58	0.46
Reinvestment Rate	 Historical Growth 	1.56	1.05	0.61	0.82	0.78	1.00
Average Monthly Trading Volume-to- Market Cap	_	-0.98	-0.64	-0.02	-0.32	1.43	0.09
60-Month Beta		-0.27	0.11	-0.18	-0.79	-0.21	-0.96
Asset Quality Index	Liquidity, Risk & Size	-0.24	-1.01	0.46	0.54	0.20	-0.26
Operating Leverage	<u>-</u>	0.18	0.41	-0.12	-0.21	0.29	0.16
Natural Logarithm of Market Capitalization		-0.53	-1.36	0.62	-0.29	0.60	-0.14
2-Year Ahead EPS Growth		-0.16	-0.34	-0.14	0.45	1.30	0.58
3-M Revision in FY2 EPS Forecasts	Earnings Momentum	0.05	0.07	0.61	0.54	0.71	0.43
Real Earnings Surprise		0.38	0.21	-0.21	0.10	0.34	0.29
24-Month Value at Risk		0.09	0.19	0.21	-0.15	-0.73	-0.66
5-day Industry Relative Return		0.17	0.14	0.64	-0.69	0.04	-0.08
Industry-adjusted 12-month Relative Price Strength	Price Momentum	0.71	0.78	0.96	1.28	0.74	1.25
Rational Decay Alpha		-0.86	-1.63	0.00	-0.27	0.37	0.84
Demand Supply Ratio	 Short Sentiment 	0.89	0.52	0.44	-0.23	0.45	-0.02
Implied Loan Rate	Onort Gentiment	0.45	1.03	0.16	0.52	0.02	0.32
Style model							
Deep Value		1.14	0.53	0.23	1.16	0.86	0.58
Earnings Momentum		0.79	0.39	0.91	0.71	0.71	0.72
Price Momentum		0.79	0.71	0.44	1.28	0.56	0.37
Relative Value		0.92	0.20	0.22	0.01	0.61	0.10
Value Momentum		0.79	0.11	0.25	0.58	1.06	0.44
Historical Growth		2.19	1.07				

United States

US Large Cap

Business confidence among US manufacturers remained robust in December, with the PMI registering at 55.1, up from 53.9 in November, supported by faster increases in output and new orders. However, business activity growth in the services sector softened to a seven-month low in December, with the PMI registering at 53.7, down from 54.5 in November. In equity markets, stocks ended 2017 on a high note, finishing the year with the best annual gains since 2013, with investors optimistic that tax cuts and fiscal stimulus will continue to support business and consumer confidence and drive growth higher. Indeed, IHS Markit's forecast for 2018-20 GDP growth has been revised up modestly to reflect inclusion of the Tax Cuts and Jobs Act, with a pick up beginning in the second quarter of 2018 as consumers and businesses gradually respond to tax cuts.

Looking back at trends in factor performance in 2017, Historical Growth measures were among the most consistent winners (Table 2). Yearly TTM Total Sales Growth Rate (1.98%) and 1-yr Chg in Assets-adj TTM Oper Cash Flow (1.67%) are two such factors with strong average monthly spreads for the year, capturing growth in sales and operating cash flow, respectively. In turn, the Historical Growth model was our top performing style model for the year, recording an average monthly spread of 2.25% and cumulative spread of 28.6% (Figure 1). We remark, however, that the first four months of the year benefitted from a negative active (D1-D10) exposure to the Energy sector, though this active exposure reversed over the remainder of the year.

Likewise, the weakest performing factors for the year included long-term price momentum metrics (Table 3) which were also characterized by active exposures to the Energy sector (in this case postive) which negatively impacted performace. For example, 60-Month Active Return with 1-Month Lag (-2.55%), the weakest performing factor on average for the year, sported a consistent positive active exposure to Energy which averaged 44% over the course of the year.

Table 2

actor	Decile spread (%)	Factor group
0-Month Trading Volume Trend	2.12	Liquidity, Risk & Size
early TTM Total Sales Growth Rate	1.98	Historical Growth
ttention Span Ratio	1.79	Management Quality
Year Percentage Growth in Regular Dividend	1.77	Dividend Forecast
sia-Pacific Sales Exposure	1.68	Macro
yr Compound Annual Sales Growth	1.68	Historical Growth
yr Chg in Assets-adj TTM Oper Cash Flow	1.67	Historical Growth
red Assets Turnover Ratio	1.67	Management Quality
r Change in Sales	1.65	Historical Growth
ward Return on Equity	1.63	Management Quality
r Change in Assets-adj TTM Oper Cash Flow	1.62	Historical Growth
vidend Coverage Ratio	1.57	Liquidity, Risk & Size
investment Rate	1.56	Historical Growth
r Growth in TTM Earnings per Share	1.55	Historical Growth
1 EPS Estimates Dispersion	1.55	Earnings Momentum

Figure 1

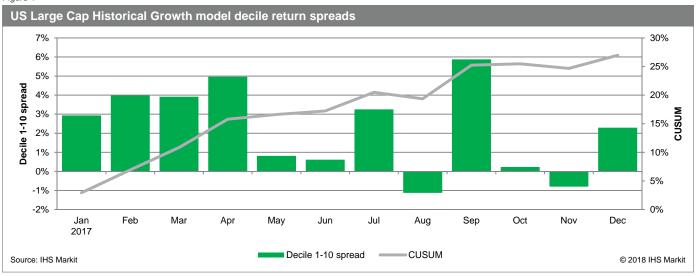


Table 3

US Large Cap bottom decile return spread monthly average factor performance, Jan 2017 – Dec 2017			
Factor	Decile spread (%)	Factor group	
60-Month Active Return with 1-Month Lag	-2.55	Price Momentum	
36-Month Active Return with 1-Month Lag	-2.44	Price Momentum	
Net Cash to Equity	-2.16	Liquidity, Risk & Size	
Net Current Assets-to-Price	-2.12	Deep Value	
60-Month Alpha	-2.03	Price Momentum	
Altman Z Score	-1.95	Liquidity, Risk & Size	
Asset Composition	-1.94	Liquidity, Risk & Size	
Net Debt Ratio	-1.87	Management Quality	
1-yr Change in Total Assets	-1.83	Historical Growth	
Leading 1-Year Regular Dividend Payout	-1.78	Dividend Forecast	

US Small Cap

Source: IHS Markit

Historical Growth measures also topped the list of best performing factors on average for small caps (Table 4). Sales-based metrics were the most highly rewarded with 1-yr Change in Sales (2.08%) taking the lead. On the other, an interesting differentiating characteristic was seen between purely price-based Price Momentum factors which outperformed on average such as 24-Month Active Return with 1-Month Lag (1.59%) and Rational Decay Alpha (-1.63%) which incorporates a market risk-adjusted component in its construction and was among the weakest performing factors on average for the year (Table 5).

Turning to style models, not surprisingly, the Historical Growth model was the most consistent performer for the year with a cumulative 12.8% spread. Weaker spread performance was posted by Price Momentum (8.47%) and Deep Value (6.31%); however, all three models were similarly successful in identifying underperforming names with cumulative D10 excess returns of -8.75%, -8.22% and -8.30% respectively (Figure 2).

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Table 4

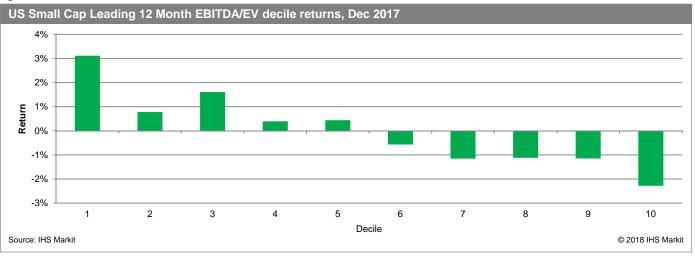
actor	Decile spread (%)	Factor group
yr Change in Sales	2.08	Historical Growth
rly TTM Total Sales Growth Rate	1.86	Historical Growth
Compound Annual Sales Growth	1.78	Historical Growth
A Sales Exposure	1.70	Macro
Change in Price-adj TTM EPS	1.62	Historical Growth
onth Active Return with 1-Month Lag	1.59	Price Momentum
ar Change in Gross Profit Margin	1.34	Management Quality
Change In Gross Profit Margin	1.29	Management Quality
Growth Flow-to-Price	1.27	Deep Value
erly Change in Gross Profit to Assets	1.27	Management Quality
eek Return with 4-week Lag	1.23	Price Momentum
onth Active Return with 1-Month Lag	1.23	Price Momentum
eek Relative Price Strength	1.23	Price Momentum
pected Change in Accounts Payable	1.20	Earnings Quality
stry Relative Leading 4-QTRs EPS to Price	1.20	Relative Value

Source: IHS Markit

Table 5

US Small Cap bottom decile return spread monthly average factor performance, Jan 2017 – Dec 2017			
Factor	Decile spread (%)	Factor group	
Leading 12 Month Book Yield	-2.37	Deep Value	
36-Month Active Return with 1-Month Lag	-2.11	Price Momentum	
Quick Ratio	-1.87	Liquidity, Risk & Size	
Asset Composition	-1.77	Liquidity, Risk & Size	
Price-to-Total Assets	-1.68	Deep Value	
Current Liabilities-to-Price	-1.63	Liquidity, Risk & Size	
Rational Decay Alpha	-1.63	Price Momentum	
Cash & Equivalents-to-Current Liabilities	-1.60	Liquidity, Risk & Size	
Current Ratio	-1.54	Liquidity, Risk & Size	
Treynor Index	-1.43	Price Momentum	

Figure 2



Europe

Eurozone economic growth ended 2017 at the highest level since early-2011. The IHS Markit Eurozone Composite PMI® posted at 58.1 in December, up from 57.5 in November, spurred on by a near-record expansion of manufacturing production and the steepest increase in service sector activity for over six-and-a-half years. The positive economic environment, which continued to surprise on the upside, led to improved business confidence in the euro area and helped push stocks to their best year since 2013. While the economic growth momentum is poised to carry over into 2018, IHS Markit expects the ECB to proceed gradually with its tapering of bond purchases through the end of the year which could become a mild headwind.

Investors in developed European markets looked favorably on analyst outlook in 2017 (Table 6). Street Consensus Rating (1.37%) was the top performing factor on average for the year, with a cumulative spread of 16.4% and positive results in all but one month, reversing negative trends in the prior year. The Earnings Momentum model was also the top performing style model, with an average monthly spread of 0.91% and 12-month cumulative spread of 10.9% (Figure 3). At the opposite extreme, factors which underperformed on average for the year (Table 7) include long-term price reversal and relative value measures such as 36-Month Active Return with 1-Month Lag (-0.97%) and 5-yr Relative Book-to-Market (-0.95%), respectively, suggesting that investors tended to avoid stocks that did not participate in the stock market rally.

Table 6

Developed Europe top decile return spread monthly average factor performance, Jan 2017 – Dec 2017			
Factor	Decile spread (%)	Factor group	
Street Consensus Rating	1.37	Earnings Momentum	
24-Month Active Return with 1-Month Lag	1.23	Price Momentum	
30-75 Week Stock Price Ratio	1.11	Price Momentum	
Yearly TTM Total Sales Growth Rate	1.10	Historical Growth	
18-Month Active Return with 1-Month Lag	1.08	Price Momentum	
1-yr Change in Asset Turnover Ratio	1.02	Historical Growth	
1-yr Change in Sales	1.01	Historical Growth	
Second Preceding 6-month Return	0.97	Price Momentum	
Industry-adjusted 12-month Relative Price Strength	0.96	Price Momentum	
Unexpected Profitability	0.92	Management Quality	
3-M Revision in FY1 EPS Forecasts	0.91	Earnings Momentum	
Time Weighted Earnings Yield	0.87	Deep Value	
Street Revision Magnitude	0.86	Earnings Momentum	
1-yr Chg in QTR Inventory as % of Sales	0.85	Historical Growth	
Net # of Revisions for Fiscal Year 2	0.84	Earnings Momentum	

Figure 3

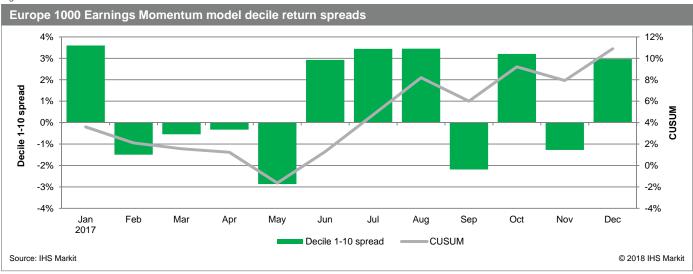


Table 7

Factor	Decile spread (%)	Factor group
36-Month Active Return with 1-Month Lag	-0.97	Price Momentum
5-yr Relative Book-to-Market	-0.95	Relative Value
Asset Composition	-0.85	Liquidity, Risk & Size
Shareholder Payout to Gross Profit	-0.77	Management Quality
Natural Logarithm of Total Assets	-0.75	Liquidity, Risk & Size
Cash & Equivalents-to-Current Liabilities	-0.75	Liquidity, Risk & Size
60-Month Alpha	-0.72	Price Momentum
60-Month Active Return with 1-Month Lag	-0.70	Price Momentum
3-Month Active Return	-0.66	Price Momentum
Short Concentration Ratio	-0.65	Short Sentiment

Asia-Pacific

Manufacturing operating conditions in the two largest Asian economies ended the year on an uptrend. Japanese economic growth maintained solid momentum, with the December Nikkei Composite PMI™ Output Index holding steady at 52.2, signalling a positive end to the year. Manufacturing activity was buoyed by solid export gains and, while the service sector maintained a modest rate of increase, business conditions were noticeably better in 2017 compared with the previous year. The Caixin China Composite PMI™ Output Index also improved to 53.0 in December, up from 51.6 in November, its highest level for the year, bringing the 2017 average to the highest for seven years. Inflows of new business saw the strongest monthly rise for nearly five years, suggesting a robust start to 2018. A widening gap in expansion in the service sector compared with manufacturing may also extend into the new year. Chinese stocks were the clear winners in 2017, and Japanese shares had their best year since 2013. However, the possibility of a tightening in monetary policy given further signs of improvement in economic activity and rising prices, especially in Japan, may increase risk and give the bull run a rest.

Factor performance in 2017 in the Developed Pacific exJapan universe (Table 8) was led by Price Momentum factors. 6-Month Nominal Change in 36-Month Alpha (2.49%) recorded the highest average monthly spread with positive spreads in 10 months and cumulating to 29.8%. The Price Momentum model was also the top performing style model, with a cumulative spread of 15.4%, particularly driven by identifying underperforming low momentum (D10) names (Figure 4). Factors which underperformed on average for the year (Table 9) include several dispersion-based Earnings Momentum signals such as Std Dev of FY2 EPS Estimates-to-Price (-1.36%), suggesting that investors were willing to take on more uncertainty in terms of earnings outlook.

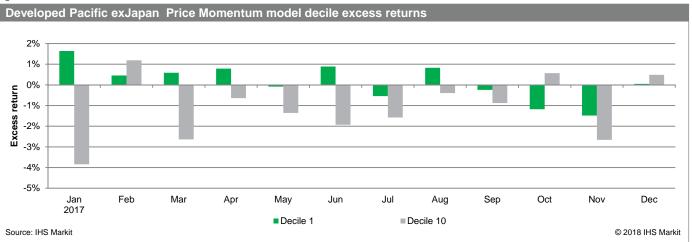
In the Japan Standard Cap universe, the top performing factors on average in 2017 spanned a broad spectrum of styles (Table 10), represented by Assets Turnover Ratio (2.58%), TTM Sales-to-Enterprise Value (1.85%), Profitability Ratio (1.57%) and 12-Month Active Return with 1-month Lag (1.47%). Perhaps not surprisingly, the Value Momentum model, a comprehensive approach including factors that span value, quality and price and earnings momentum, was the top performing style model, extending a string of strong performance since July 2016 cumulating to 41.2% (Figure 5). Lastly, while Deep Value factors were weak performers on average for the year (Table 11), the multi-factor combination of factors in the Deep Value model provided the second highest 12-month cumulative spread of 10.3%.

Table 8

Developed Pacific exJapan top decile return spread monthly average factor performance, Jan 2017 - Dec 2017			
Factor	Decile spread (%)	Factor group	
6-Month Nominal Change in 36-Month Alpha	2.49	Price Momentum	
26-Week Relative Price Strength	1.79	Price Momentum	
Cash Earnings Return On Equity	1.57	Management Quality	
Number of Analyst Coverage	1.49	Liquidity, Risk & Size	
Reciprocal of Dividend Yield-adjusted PEG	1.48	Earnings Momentum	
Cyclically Adjusted Earnings-to-Price	1.39	Deep Value	
Inverse of PEG Ratio	1.35	Earnings Momentum	
Change in QTR SG&A Expenses vs. Sales	1.31	Earnings Quality	
Short Concentration Ratio	1.30	Short Sentiment	
Industry-adjusted 12-month Relative Price Strength	1.28	Price Momentum	
Flow Ratio	1.27	Liquidity, Risk & Size	
Yearly TTM Total Sales Growth Rate	1.27	Historical Growth	
1-yr Growth in TTM Cash Flow	1.22	Historical Growth	
50-200 Day Stock Price Ratio	1.21	Price Momentum	
The Visibility Ratio	1.21	Price Momentum	

Figure 4

Source: IHS Markit



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Table 9

Developed Pacific exJapan bottom decile return spread monthly average factor performance, Jan 2017 – Dec 2017 Decile spread (%) Factor group Std Dev of FY2 EPS Estimates-to-Price -1.36 Earnings Momentum **FY1 EPS Estimates Dispersion** -1.34**Earnings Momentum** 3-yr Compound Annual FCF Growth -1.33 Historical Growth FY2 EPS Forecast Dispersion -1.31 **Earnings Momentum** 3-Month Active Return -1.30 Price Momentum Natural Logarithm of Closing Price -1.29 Liquidity, Risk & Size Average Trading Volume in Preceding 6-month -1.22 Price Momentum 2-Month Active Return -1.16 Price Momentum Working Capital Accruals -1.13 Earnings Quality 1-yr Change in Total Assets Historical Growth -1.13

Source: IHS Markit © 2018 IHS Markit

Table 10

ctor	Decile spread (%)	Factor group
sets Turnover Ratio	2.58	Management Quality
y Turnover Ratio	2.19	Management Quality
Pperating Asset Turnover	2.05	Management Quality
Assets Turnover Ratio	2.02	Management Quality
Capital Expenditures-to-Sales	1.99	Management Quality
Gross Profit to Assets	1.93	Management Quality
ned Earnings-to-Total Assets	1.89	Management Quality
ales-to-Enterprise Value	1.85	Deep Value
Price Momentum Indicator	1.76	Price Momentum
Week Stock Price Ratio	1.72	Price Momentum
ebt to EBITDA	1.67	Management Quality
DA-to-Debt	1.60	Liquidity, Risk & Size
ability Ratio	1.57	Management Quality
nth Active Return with 1-month Lag	1.47	Price Momentum
ry Relative TTM Sales-to-Price	1.45	Relative Value

Figure 5

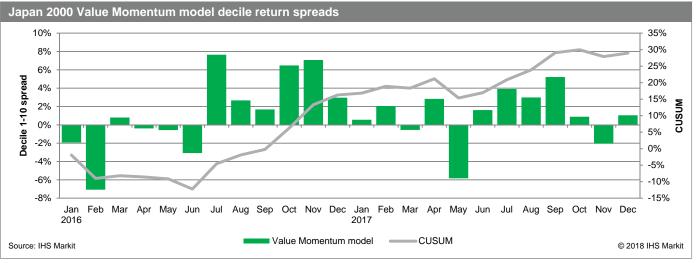


Table 11

ctor	Decile spread (%)	Factor group
ce-to-Total Assets	-1.98	Deep Value
Asset Value to Price	-1.83	Deep Value
n q	-1.82	Liquidity, Risk & Size
ket Cap per Analyst	-1.79	Liquidity, Risk & Size
ncial Leverage	-1.69	Liquidity, Risk & Size
onth Residual Return Variance	-1.63	Price Momentum
tory-to-Total Assets	-1.56	Management Quality
ating Cash Flow Profit Margin	-1.56	Management Quality
to-Market	-1.52	Deep Value
Above Last 260-day Lowest Trading Price	-1.51	Price Momentum

Source: IHS Markit © 2018 IHS Markit

Emerging Markets

We round out our report with a review of emerging markets. Economic growth in 2016 was the weakest since the financial crisis; however, since then, external factors such as the considerable pick up in developed market economic growth and commodity price inceases in excess of 60% have contributed to a rebound in emerging market growth, and IHS Markit expects this growth rate will be sustained in 2018.

Investors in turn took on an optimistic stance, consistently rewarding Price Momentum factors for the year (Table 12). Fama-French Momentum (1.89%) posted the top average spread with positive performance in all but one month of the year. Investors also moved out on the risk curve (Table 13), as demonstrated by underperformance to 24-Month Residual Return Variance (-1.24%) in 10 of the past 12 months. However, the strongest performing style model in 2017 was Earnings Momentum (Figure 6), with a cumulative quintile spread of 8.6% and 75% hit rate (percent of months with positive spreads), indicating that investors were attuned to analyst outlook. In fact, over the past five years, the model has posted an average monthly spread of 0.98% and 82% hit rate.

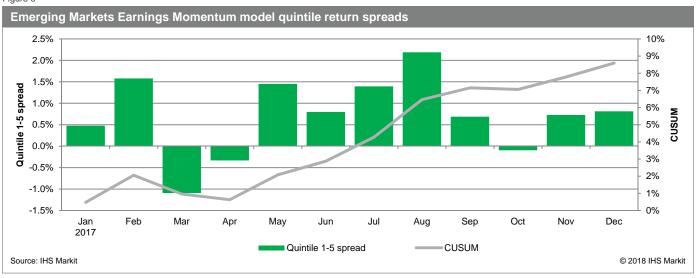
Table 12

Emerging Markets top quintile return spread monthly average factor performance, Jan 2017 – Dec 2017		
Factor	Decile spread (%)	Factor group
Fama-French Momentum	1.89	Price Momentum
Cash Earnings Return On Equity	1.85	Management Quality
-Year Price Momentum Indicator	1.85	Price Momentum
0-75 Week Stock Price Ratio	1.80	Price Momentum
lope of 52 Week Price Trend Line	1.78	Price Momentum
9-Week Return with 4-week Lag	1.70	Price Momentum
expected Profitability	1.68	Management Quality
Month Active Return with 1-Month Lag	1.65	Price Momentum
pe of 66 Week Price Trend Line	1.56	Price Momentum
200 Day Stock Price Ratio	1.52	Price Momentum
cond Preceding 6-month Return	1.50	Price Momentum
Month Active Return with 1-month Lag	1.36	Price Momentum
M Revision in FY1 EPS Forecasts: Dispersion Relative	1.36	Earnings Momentum
-Week Relative Price Strength	1.33	Price Momentum
5/36 Week Stock Price Ratio	1.26	Price Momentum

Table 13

Table 13			
Emerging Markets bottom quintile return spread monthly average factor performance, Jan 2017 - Dec 2017			
Factor	Decile spread (%)	Factor group	
Price Above Last 260-day Lowest Trading Price	-2.09	Price Momentum	
-Year Change in the Average Trading Volume	-1.33	Price Momentum	
24-Month Residual Return Variance	-1.24	Price Momentum	
Product of Beta and Sigma	-1.16	Liquidity, Risk & Size	
rading Turnover Ratio	-1.15	Liquidity, Risk & Size	
0-Day Volume Volatility to Price Volatility	-1.13	Liquidity, Risk & Size	
6-Month Active Return with 1-Month Lag	-1.10	Price Momentum	
CV of Prior 90-Day Closing Prices	-1.09	Price Momentum	
-yr Relative Book-to-Market	-1.09	Relative Value	
Stock Return Volatility	-1.09	Liquidity, Risk & Size	

Figure 6



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