

Spotlight on performance – The India model

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Research Signals

Economic activity in India has recently been hampered by the double shock of demonetization and the introduction of the goods and services tax (GST). In light of the uncertainties added to the markets and the lingering effects on economic growth, we review the Research Signals India model which has a proven track record of providing alpha since its inception in May 2011 based on its design to exploit region-specific market attributes.

- Stocks ranked as buy candidates returned a monthly average of 1.75% from September 2006 through August 2017 on a market cap weighted basis, resulting in more than double the universe cumulative return over the full period
- The spread between top and bottom ranked stocks averaged 1.47% per month and was positive in two-thirds of months, including during the demonetization and GST events where spreads averaged 4.70%
- Stocks which were recently favored by the model include Reliance Inds and Bharti Airtel Ltd, while Alkem Lab Ltd was poorly ranked

Contacts

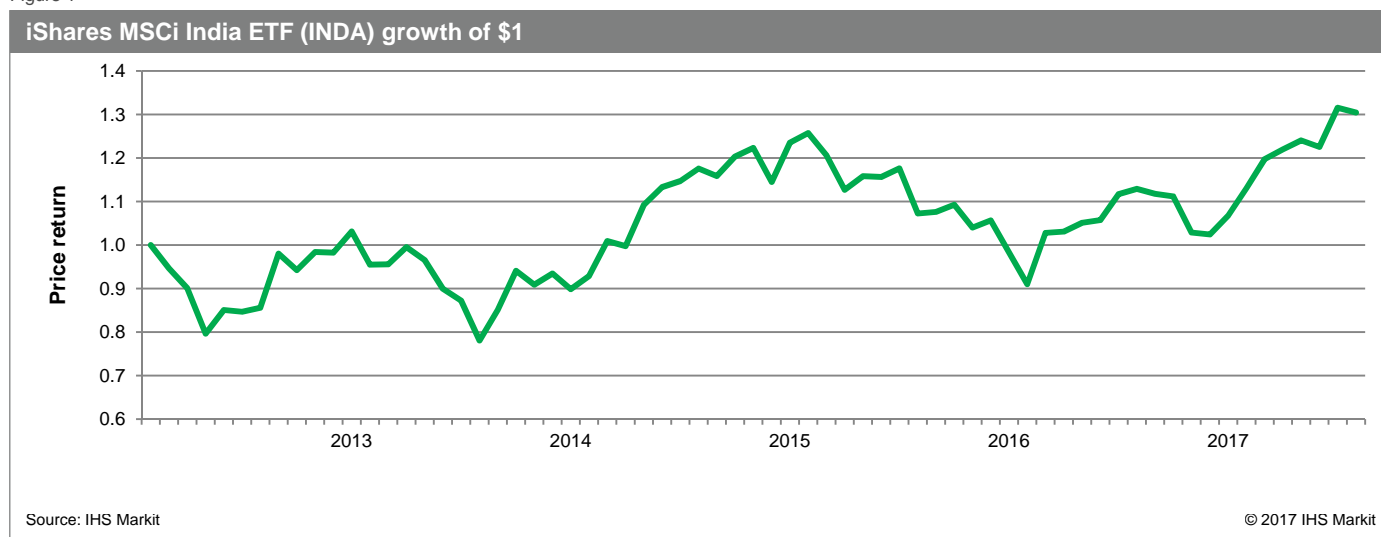
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Market overview

We begin with a brief reivew of economic and market attributes surrounding the Indian business environment. Two major events affecting the economy recently occurred including the demonetization and GST. First, on November 8th 2016, the government announced the recall of the two largest currency denominations issued by the Reserve Bank of India (RBI) in an attempt to combat the black market economy. The disruption caused by reduced currency in circulation was a particular strain on rural communities with limited access to financial services to swap or deposit the notes. Subsequently, year-on-year growth in the Indian economy registered at 6.1% during the March 2017 quarter, the last quarter of the fiscal year 2016, down from 7.0% the prior quarter.

The initial response in equity markets was a sharp decline in prices as gauged by the iShares MSCI India ETF (Figure 1). However, stocks recovered handsomely leading up to the next market disruption on July 1st 2017 which marked the rollout of the GST regime. Following over a decade of negotiations, the GST replaced the complex scheme of multiple national and state-specific indirect taxes with just three components – central GST, state GST and integrated GST. Industries that are expected to benefit the most under the new regime include large-scale manufacturers and retailers in fast-moving consumer goods, logistics and warehousing, automotive and the power sectors.

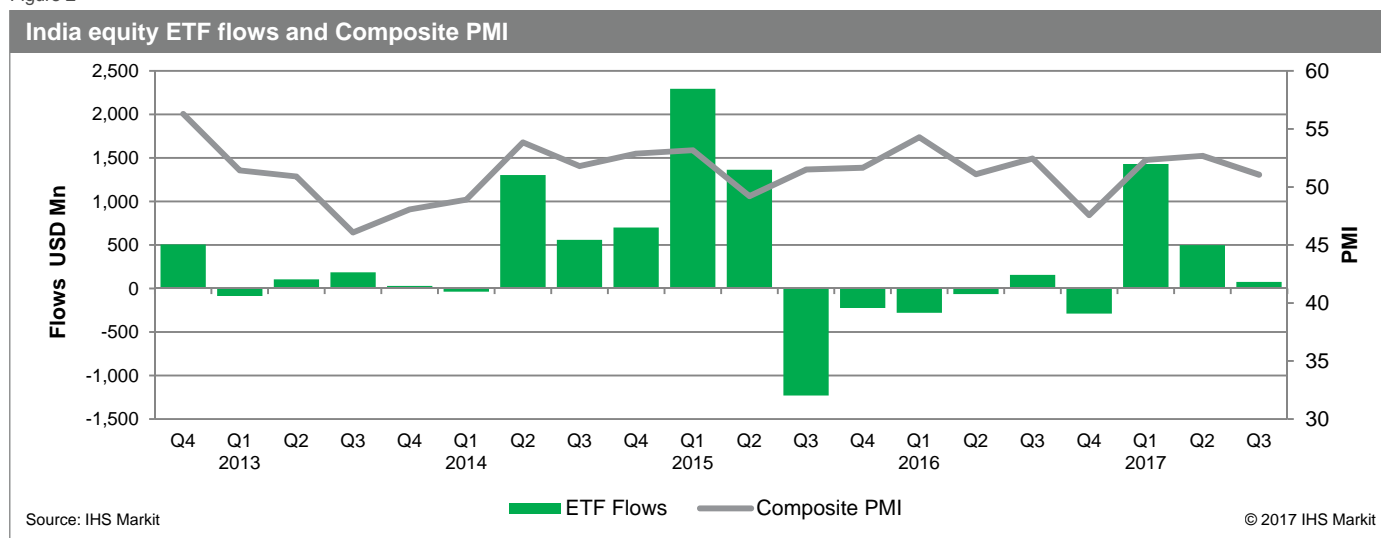
Figure 1



The economy responded with a plunge in activity as indicated by the July IHS Markit Nikkei PMI for both manufacturing (47.9, down from 50.9 in June) and services (45.9, down from 53.1 in June). The oil refinery industry is just one example in which the demand for petroleum products contracted by 0.4% year-on-year for the period through August, according to IHS Markit's economists, partly related to the effects of demonetization followed by the introduction of the GST. Furthermore in August, the RBI cut its leading repurchase rate by 25 basis points to 6% as inflation eased to record lows on softer domestic demand, partly due to steep discounts ahead of the GST. However, by September the PMI readings recovered from the GST-related contractions, with a renewed increase in the services sector (50.7, up from 47.5 in August), while the manufacturing sector (51.2, unchanged from August) continued to rebound from July's decline.

Equity ETF investors responded differently to the two different events based on IHS Markit ETF analytics (Figure 2). In the immediate months following the demonetization, funds flowed out of equity ETFs in India, resulting in a Q4 aggregate outflow of USD 288 million. However, the reaction was shortlived as investors poured money back into the ETF market, contributing to a Q1 2017 inflow of USD 1.4 billion, the highest level since Q1 2015. On the other hand, the GST had less impact on ETF investor sentiment, with positive flows in July 2017 supporting an aggregate Q3 2017 inflow of USD 75 million.

Figure 2



Data and methodology

We now review the Research Signals India model built from our 300+ global factor library which includes a collection of proprietary regional and industry-specific models, complemented by IHS Markit's Dividend Forecast dataset which provides announcements and forecasts for dividend amounts and dates for more than 8,000 stocks globally. The model is calibrated for the India market and is a multifactor combination of value, growth, momentum, quality and earnings revision related factors (see the Appendix for the full model definition).

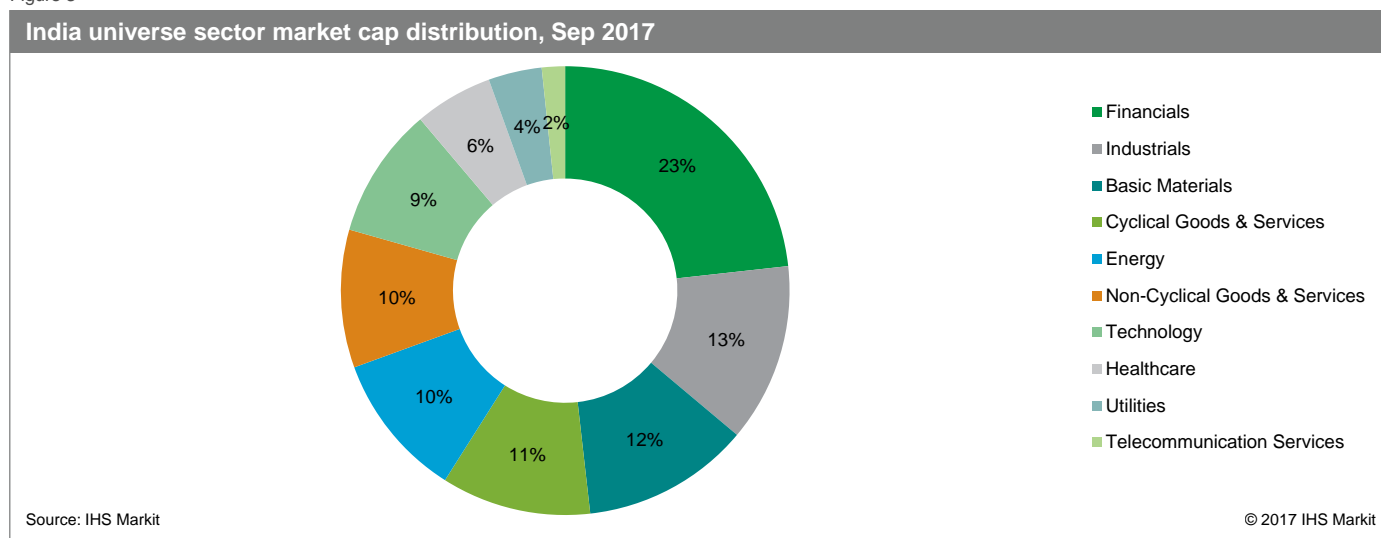
For a brief overview, the valuation module seeks to identify companies that are undervalued relative to other companies in the universe using factors such as TTM Operating Cash Flow-to-Price, Dividend Yield and Sales-to-Price. We also incorporate quality factors that demonstrate the strength of management and company operations to identify companies that manage their capital structure well and achieve a high return on invested capital and assets, including TTM Free Cash Flow-to-Sales, Retained Earnings-to-Total Assets and Free Cash Flow Return on Invested Capital.

Earnings momentum factors are additionally employed to differentiate companies where profitability is expected to increase from those where profitability is decelerating. Price momentum factors round out the model, using short-term technical indicators identifying stocks where the market is starting to recognize a turning point.

To test factor efficacy, we capture performance at the extremes by computing quintile returns in excess of the market (local currency). The long-short spread is also calculated based on an investment strategy going long the highest ranked stocks (Q1) and shorting the lowest ranks (Q5). The information coefficient (IC) measures the correlation between model ranks (percentile) and subsequent returns, representing the cross-sectional predictive power of the signal.

Performance results are reported pre- and post-financial crisis period beginning in September 2006, spanning just over 10 years (note that the model went live in May 2011). The universe is the Research Signals India universe consisting of approximately 450 constituents on average over the reporting period and sits at 490 names as of September 30th 2017. The Financials sector has the largest representation with a 23% weight by market cap (Figure 3). Note that for this report we exclude ADRs from our analysis in order to focus only on those stocks trading on the exchanges in India.

Figure 3



Model performance

We now present performance of the Research Signals India model. In Table 1 we outline monthly and annualized statistics including the average, standard deviation and CAGR along with the information ratio (IR) capturing the risk-adjusted performance and hit ratio gauging the number of months with positive performance. Market cap weighted results are reported below and equal weighted results are included in the Appendix.

Stocks which the model identified as buy candidates or to overweight (Q1) posted an average monthly return of 1.75% and, on a risk-adjusted basis, we report an IR of 0.23. This compares with a universe return of 1.21% and IR of 0.17. Conversely, stocks which the model recommended to avoid, underweight or sell recorded an average monthly return of just 0.28% and with higher risk (standard deviation: 8.87) than Q1 and the universe, translating to a weak IR of 0.03.

For a long-short strategy, the average monthly Q1-Q5 spread reached 1.47%, with positive results in two-thirds of months (hit rate: 67%). This strategy has desirable characteristics of low volatility (standard deviation: 4.15%) and low negative correlation with the market (-0.25).

Table 1

India model market cap weighted performance, Sep 2006 – Aug 2017					
	Q1	Q5	Q1-Q5 spread	Universe	IC
Monthly					
Average	1.75%	0.28%	1.47%	1.21%	0.06
Cumulative	577%	-14%	514%	254%	
Standard deviation	7.73	8.87	4.15	7.06	0.09
IR	0.23	0.03	0.35	0.17	0.66
Hit rate	62%	54%	67%	60%	76%
Annual					
CAGR	19.0%	-1.4%	17.9%	12.2%	
Standard deviation	26.8	30.7	14.4	24.4	
IR	0.71	-0.05	1.25	0.50	

Source: IHS Markit

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We also present time series displays of Q1 and Q5 cumulative returns (Figure 4) and monthly ICs (Figure 5). Monthly returns for Q1 stocks cumulated to 577% over the full analysis period compared with 254% for the universe, in other words, annualized returns of 19.0% and 17.9%, respectively. Q1 was also more attractive on a risk-adjusted basis with an IR of 0.71 versus 0.50 for the universe. At the opposite extreme, stocks which were disfavored by the model largely underperformed, registering a cumulative return of -14%, CAGR of -1.4% and IR of -0.05.

From a cross-sectional perspective, monthly ICs also point to positive model performance, with an average IC of 0.06 and a notable hit rate of 76% over the analysis period. The quintile return distribution (see Figure A1 in the Appendix) further confirms the breadth of the signal efficacy with a monotonically decreasing trend from the top ranked group to the bottom.

Focusing specifically on the demonetization and GST events, we remark that while the market underperformed in November 2016, the model held up quite well with a positive Q1 excess return of 2.64% while Q5 trailed the market by 2.54%. Additionally, the model recorded an IC of 0.09. In July 2017, we also find positive model performance with a Q1 (Q5) excess return of 0.69% (-3.54%) and an IC of 0.13.

Figure 4

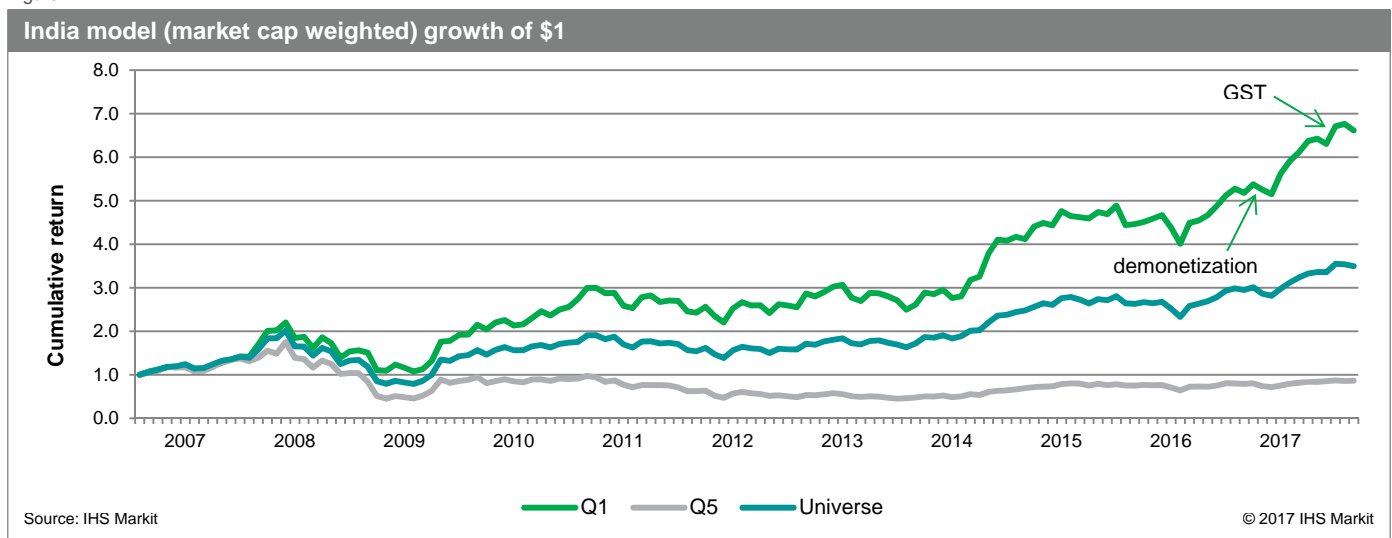
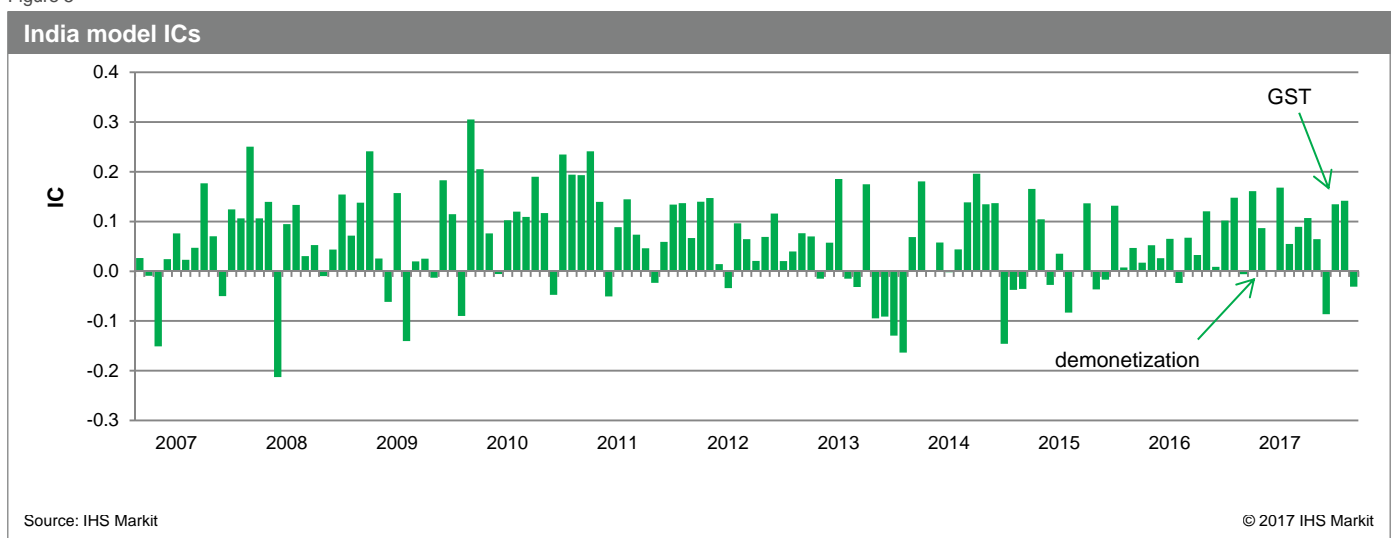


Figure 5



Lastly, we remark on equal weighted performance results. In this case, we find similar levels of performance with an average monthly Q1 return of 2.00% (CAGR: 21.3%) compared with 1.27% (CAGR: 11.5%) for the universe. With a Q5 return of just 0.28% (CAGR: -1.9%), the Q1-Q5 spread averaged 1.72% monthly (CAGR: 21.9%) and resided in positive territory in just over three-fourths of months (hit rate: 77%).

Stock level detail

We round out the report with stock level detail for the India model to provide a current snapshot of model positioning. We report the top 10 names by market cap for the best and worst positioned names in the India universe (Table 2). Financials are well represented among the top ranks, while healthcare firms populate several of the worst ranked stocks. Favorably ranked names which scored in the top quintile include Reliance Inds, Indian Oil Corp, Kotak Mahindra Bank and Bharti Airtel Ltd. At the other extreme, bottom scores for the model are associated with Dr Reddys Labs and Alkem Lab Ltd.

Table 2

India model largest market cap top and bottom quintile ranks, Sep 30 2017

Name	Sedol	Sector
Top ranks		
Reliance Inds	6099626	Energy
HDFC Bank	B5Q3JZ5	Financials
Housing Devel Fin	6171900	Financials
Maruti Suzuki Ind	6633712	Cyclical Goods & Services
Indian Oil Corp	6253767	Energy
Kotak Mahindra Bank	6135661	Financials
Icici Bank	BSZ2BY7	Financials
Larsen & Toubro	B0166K8	Industrials
Bharti Airtel Ltd	6442327	Telecommunication Services
Wipro	6206051	Technology
Bottom ranks		
Britannia Inds	6124777	Non-Cyclical Goods & Services
Dr Reddys Labs	6410959	Healthcare
United Spirits	6576992	Non-Cyclical Goods & Services
Bajaj Hldg & Inves	6124142	Cyclical Goods & Services
MRF	6214128	Cyclical Goods & Services
Kansai Nerolac Pai	BWGW724	Basic Materials
Emami Ltd	6741035	Healthcare
Berger Paints	BV8TBJ1	Basic Materials
Alkem Lab Ltd	BY2WB4	Healthcare
Glaxo Smithkline P	6117982	Healthcare

Source: IHS Markit

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Conclusion

Developed using our 300+ global factory library, the Research Signals India model is one of many proprietary models designed to exploit region-specific market attributes. The aim of the model is to identify undervalued, well managed firms with signs of fundamental improvement with positive price trends.

Reviewing market cap weighted model performance since September 2006, buy-rated stocks posted an average monthly (CAGR) return of 1.75% (19.0%), compared with 1.21% (12.2%) for the universe. Stocks which were disfavored by the model returned 0.28% (-1.4%), resulting in a Q1-Q5 spread of 1.47% (17.9%). Equal weighted performance was also of similar levels.

Recent results have held up to the double shock of demonetization and the GST, where the former resulted in a sharp market decline and ETF outflows while the latter's effects were more isolated to economic data. Although the market underperformed in November 2016, the model recorded a Q1 (Q5) excess return of 2.64% (-2.54%) and an IC of 0.09. In July 2017, we also find positive model performance with a Q1 (Q5) excess return of 0.69% (-3.54%) and an IC of 0.13.

Lastly, we drill down to the stock level with focus on the top 10 names by market cap for the best and worst positioned names based on recent scores. Reliance Inds, Indian Oil Corp, Kotak Mahindra Bank and Bharti Airtel Ltd are among the favorably ranked names, while Dr Reddys Labs and Alkem Lab Ltd are poorly ranked.

Appendix

India model definition

- 1-Year Price Momentum Indicator
- 1-Year Change in Sales
- 3-M Revision in FY1 EPS Forecast
- 60-Month Alpha
- Average Trading Volume in preceding 6-Months
- Book Leverage
- Management Quality
 - Equity Turnover Ratio
 - Fixed Assets Turnover Ratio
 - Free Cash Flow Return on Invested Capital
 - Net Debt Ratio
 - Operating Cash Flow Profit Margin
 - Retained Earnings-to-Total Assets
 - Revenue per Employee
 - TTM Free Cash Flow-to-TTM Sales
- Value
 - Tobin q
 - TTM Cash Flow-to-Price
 - TTM Dividend Yield
 - TTM EBITDA-to-Enterprise Value
 - TTM Sales-to-Price

Model performance

Table A1

India model equal weighted performance, Sep 2006 – Aug 2017					
	Q1	Q5	Q1-Q5 spread	Universe	IC
Monthly					
Average	2.00%	0.28%	1.72%	1.27%	0.06
Cumulative	733%	-19%	787%	230%	
Standard deviation	8.81	9.29	3.34	8.49	0.09
IR	0.23	0.03	0.52	0.15	0.66
Hit rate	61%	56%	77%	60%	76%
Annual					
CAGR	21.3%	-1.9%	21.9%	11.5%	
Standard deviation	30.5	32.2	11.6	29.4	
IR	0.70	-0.06	1.90	0.39	

Source: IHS Markit

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Figure A1



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