Market Trend Analysis

Learning Goals

- Understand what Trending Analysis is and what can be learned from it

- Understand what is unique about Aapryl's approach

- Understand how trends are calculated in Aapryl

- Understand how to interpret Aapryl's Trending Analysis used in Aapryl

Trending Analysis

- Trending Analysis is the procedure of viewing investment returns in the context of different market environments.

- It allows investors to create expectations on how a manager will perform in up & down-market environments.

- In manager analysis, up & down market capture ratios are most frequently used.

- Aapryl provides the capture ratios, but further breaks them into segments based on trends.

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Capture Ratios

- Capture ratios separate market (benchmark) returns into up and down periods.

- They most commonly use monthly returns.

- **Up Capture Ratio** is the ratio of the total portfolio return in months when the market (benchmark) is positive to the total market (benchmark) return in the same months.

- **Down Market Capture Ratio** is the ratio of the total portfolio return in months when the market (benchmark) is negative to the total market (benchmark) return in the same months.

Aapryl's Trending Analysis

- Trending Analysis examines managers during the general trend of the market rather than just up and down months.

- It separates the market environment into 3 distinct categories:

  - Up Trending

  - Down Trending

  - No Trend or Flat

- Aapryl calculates up and down capture ratios during each trend.

Defining Trends

- A market trend is a sustained direction in the markets' prices & performance.

- To be useful, a trend needs to be identifiable (in a systematic way) and persist long enough after identification to be actionable.

- Aapryl relies on technical analysis methods identified through research.

- Aapryl uses a momentum signal to determine trends.

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Determining Trends

Aapryl applies a 3 step approach to determine trends:

1
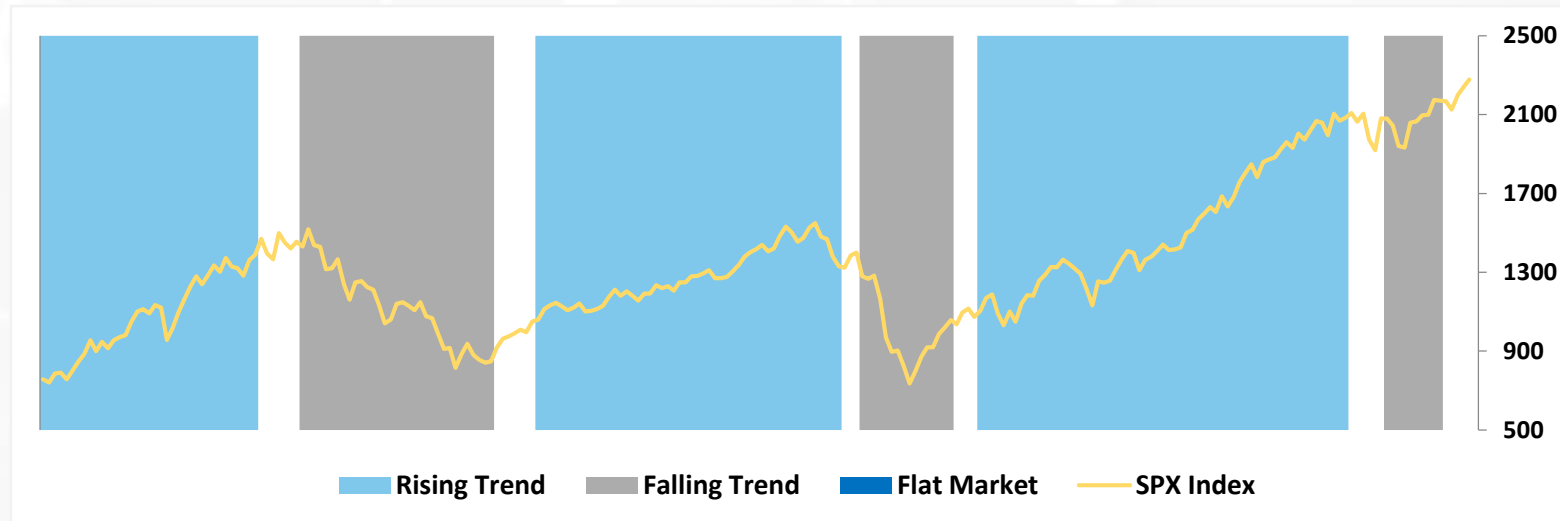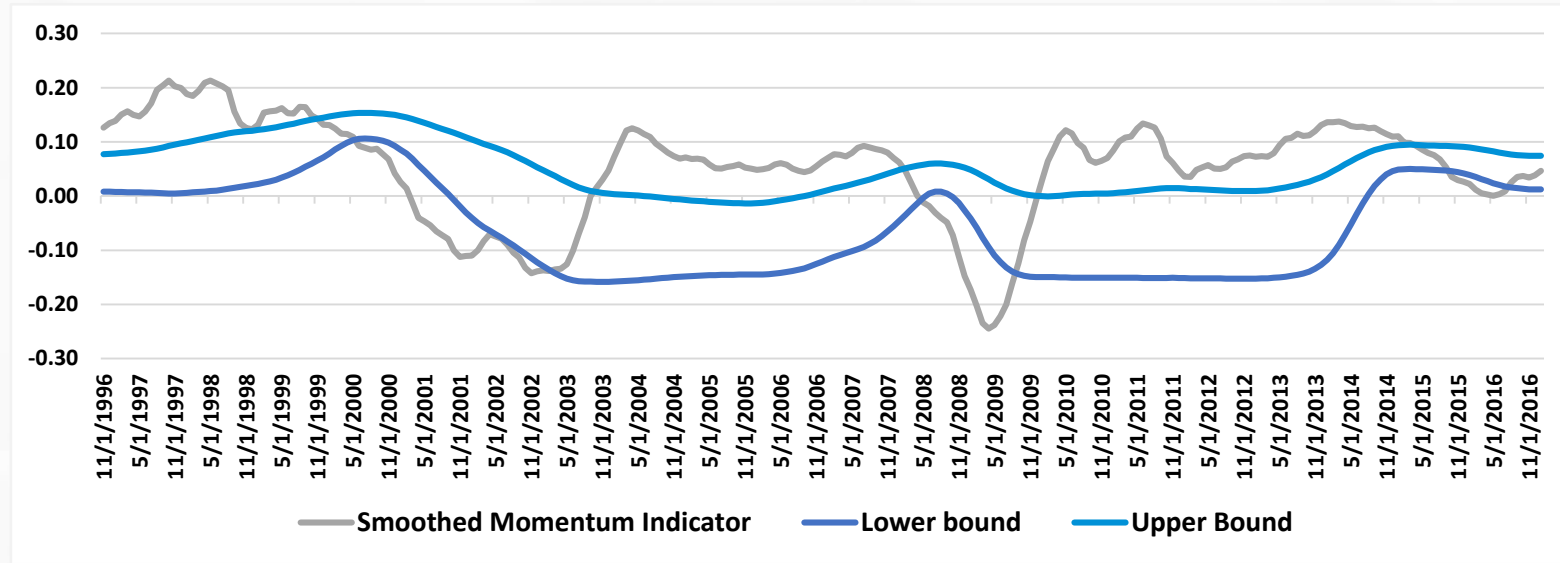- Calculates the raw signal by determining the average of the intermediate-term and short-term momentum signal.

2
- Calculates a statistically relevant upper & lower bounds for the signal
  - Compares raw signal to long-term average

3
- Generates trending signals by comparing the smoothed momentum indicator with the pair of bounds
  - Rising Market Trend = Smoothed momentum indicator is > the upper bound
  - Falling Market Trend = Smoothed momentum indicator is < the lower bound
  - No Trend = Smoothed momentum indicator is between the upper and lower bound (including being equal to the bound).

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Example of Bounds

February, 2019

Trending Analysis from Skill Analysis Module

Market Trend Analysis ?

Invesco Powershares Capital Mgmt LLC - PSR - PowerShares Actively Managed Excha ▾

	Manager				Default Benchmark				Peer Group Median			
	Total	**Rising**	**Falling**	**No Trend**	**Total**	**Rising**	**Falling**	**No Trend**	**Total**	**Rising**	**Falling**	**No Trend**
Average Return (Annualized)	19.59%	14.92%	41.76%	24.53%	12.83%	13.86%	3.74%	16.02%	8.75%	11.84%	-3.33%	6.67%
Standard Deviation (Annualized)	21.58%	14.92%	45.63%	18.2%	14.39%	12.19%	25.26%	12.35%	12.47%	10.43%	19.13%	13.15%
Sharpe Ratio	0.91	1	0.91	1.35	0.89	1.14	0.15	1.3	0.77	1.22	-0.11	0.6
Period Count (In Months)	116	83	15	18	116	83	15	18	116	83	15	18
Upside Capture	106.08%	87.82%	153.01%	130.61%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Downside Capture	68.32%	64.8%	60.23%	105.82%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Skewness	0.5	-0.05	0.12	0.46	-0.51	-0.23	-0.44	-0.12	-0.48	-0.31	-0.2	-0.02
Excess Kurtosis	1.71	-2.47	-2.76	-3.06	-1.74	-2.25	-3.58	-3.4	-0.85	-1.77	-2.36	-2.48

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Trending Analysis from Style Analysis Module

Market Trend Analysis ⓘ

Invesco Powershares Capital Mgmt LLC - PSR - PowerShares Actively Managed Excha ▾

	Manager Clone				Default Benchmark				Peer Group Median			
	Total	**Rising**	**Falling**	**No Trend**	**Total**	**Rising**	**Falling**	**No Trend**	**Total**	**Rising**	**Falling**	**No Trend**
Average Return (Annualized)	14.87%	16.16%	5.43%	17.14%	12.83%	13.86%	3.74%	16.02%	10.05%	13.58%	-6.38%	12.49%
Standard Deviation (Annualized)	14.7%	12.17%	25.87%	13.76%	14.39%	12.19%	25.26%	12.35%	12.72%	10.47%	20.33%	11.49%
Sharpe Ratio	1.01	1.33	0.21	1.24	0.89	1.14	0.15	1.3	0.83	1.32	-0.24	1.08
Period Count (In Months)	116	83	15	18	116	83	15	18	116	83	15	18
Upside Capture	102.13%	103.31%	93.1%	107.55%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Downside Capture	90.79%	88.84%	87.27%	109.07%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Skewness	-0.36	-0.21	-0.25	0.18	-0.51	-0.23	-0.44	-0.12	-0.61	-0.24	-0.1	0.08
Excess Kurtosis	-1.62	-2.42	-3.26	-3.4	-1.74	-2.25	-3.58	-3.4	-1.33	-2.62	-2.53	-2.72

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