



# Market Return Dispersion & Opportunities For Active Managers

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## Summary

The dispersion of stock returns within any given investment universe is a fact that is often overlooked, but one that can have a meaningful impact on the performance of investment strategies. It provides a real opportunity for active managers to extract superior returns from the opportunity set, and deliver outperformance relative to underlying benchmarks and competing passive strategies even after adjusting for management fees.

In order to identify the best performing stocks ex-ante, it is necessary to augment the fundamental and quantitative analysis with well tested trend analytics that can capture momentum in a robust manner. Security price trends can remain detached to underlying fundamentals for significant periods of time as they are not designed to qualify the direction and strength of price trends.

The opportunity to effectively select the winners and limit exposure to losers is real and a new generation of models & technology offer the framework to integrate valuable trend analysis into the investment workflow in a disruption free & seamless manner. We present in this paper a **20 year** analysis of recurrent return dispersion across **six** different investment universes.

## 1 Introduction

Markets exhibit significant **return dispersion** in all types of market conditions and Trendrating's assertion is that this cross-sectional dispersion in returns makes a compelling case in support of active management as the opportunities to outperform underlying benchmarks is real. Yet according to SPIVA<sup>1</sup>, 80% of US active funds and 79% of European funds underperform their respective benchmarks.

A SPIVA analysis on the number of best-performing active managers who continue to remain in the top quartile in subsequent years, finds that of the best performing managers that number **703** at the start, only **146** remain in the top quartile after one year, **49** after two years, **13** after 3 years, and only **2** are present in the top quartile after four years. This suggests that active managers are missing consistency of returns in their investment process because their current set of information and tools are proving ineffective. Active managers need to incorporate new tools and information into their process because the opportunity to outperform exists but the vast majority are falling short of their desired goals.

We believe that this underperformance can be mitigated by adding a layer of intelligent trend analysis to most fundamentally focused investment processes. We have investigated a cross-section of securities that constitute the investible portion of the market across a range of investment universes; *Global Developed, USA, Developed Europe, Developed Asia, Natural Resource*<sup>2</sup>, and *Global Emerging*.

Each investment universe shows wide dispersion in returns between the top performing group of stocks and the bottom performing group. The top performing group in all the investment universes have a consistently positive exposure to the Trendrating **Smart Momentum (SM)**<sup>3</sup> score, whilst the bottom performing group in all cases has a consistently negative exposure to **SM** score. The strong correlation between **SM** and returns offers investors a robust framework for improved stock selection and hence increased return capture.

<sup>1</sup>S&P Indexes vs. Active

<sup>2</sup>Canada, Australia, New Zealand, & South Africa

<sup>3</sup>Trendrating's continuous momentum stock scoring framework

## 2 Framework

Each investment universe analysed in this paper, the universe of stocks is ranked in descending order of calendar year performance from **1998** to **2017** on an annual basis. Depending on the size of the universe, the ranked universe is then segmented into deciles or quintiles based on annual performance. We focus our attention on the best and worst performing groups as well as on the performance of the universe in an effort to show the return dispersion between the best and worst performing stocks as well as their comparison to the return of the universe.

All returns are price returns as we are seeking to highlight the effect of price performance and its validation of the significant stock picking opportunities that abound in the market. Our intent is to highlight that the endemic underperformance of active management is not due to lack of stock selection opportunities but rather due to the use of an incomplete information set that results in sub-optimal decisions.

## 3 Return Dispersion

In this section we present the calendar year performance for the top quantile<sup>4</sup>, bottom quantile, and the overall universe for all the investment universes that we have analysed in this study. In each universe, the top performing group displays an annual return pattern that is significantly higher to the return of the bottom quantile and to that of the universe.

Table 1a contains the results for the Global Developed universe while Table 1b contains results for the USA universe. It is interesting to note that the difference in return between the top and bottom quantiles is significant in each calendar period and is impervious to the market phase that is dominating a particular year. This validates our premise that the opportunity set exists for active management to outperform the wider market or benchmarks against which it is measured.

This pattern of return dispersion repeats itself in all other investment universes as shown by tables 2a & 2b as well as by tables 3a and 3b.

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<sup>4</sup>Deciles for Global Developed & quintiles for all other investment universes

**Table 1: Return Dispersion**

<b>(a) Global Developed</b>				<b>(b) USA</b>			
<b>Period</b>	<b>Universe Return (%)</b>	<b>Decile1 Return (%)</b>	<b>Decile10 Return (%)</b>	<b>Period</b>	<b>Universe Return (%)</b>	<b>Quintile1 Return (%)</b>	<b>Quintile5 Return (%)</b>
1998	11.70	107.05	-37.33	1998	19.44	96.10	-28.16
1999	33.43	244.25	-39.18	1999	22.60	140.89	-37.21
2000	6.55	89.77	-54.35	2000	8.40	76.42	-46.04
2001	-2.93	59.86	-49.10	2001	-1.31	37.37	-37.90
2002	-17.28	30.34	-63.56	2002	-19.16	15.61	-58.88
2003	32.27	119.13	-12.75	2003	36.65	100.67	-1.57
2004	17.34	85.92	-23.31	2004	17.23	70.50	-17.20
2005	25.42	119.74	-21.29	2005	6.02	44.38	-22.38
2006	18.86	92.15	-25.72	2006	15.29	58.11	-17.01
2007	9.34	131.99	-41.14	2007	7.76	75.78	-37.24
2008	-34.38	14.49	-72.54	2008	-35.46	-0.17	-68.80
2009	41.81	187.98	-22.26	2009	43.24	137.17	-8.23
2010	16.18	91.51	-23.06	2010	20.21	61.56	-10.85
2011	-7.13	47.97	-46.83	2011	-0.66	35.36	-35.20
2012	19.74	87.25	-20.99	2012	19.79	66.79	-10.48
2013	32.58	130.10	-21.07	2013	33.21	78.58	-5.07
2014	14.74	89.78	-26.16	2014	16.10	54.96	-13.09
2015	8.15	93.18	-35.26	2015	-0.02	32.43	-29.40
2016	8.64	73.00	-27.43	2016	10.95	46.60	-18.40
2017	19.33	95.18	-20.62	2017	18.25	65.77	-18.43

**Table 2: Return Dispersion**

<b>(a) Developed Europe</b>				<b>(b) Developed Asia</b>			
<b>Period</b>	<b>Universe Return (%)</b>	<b>Quintile1 Return (%)</b>	<b>Quintile5 Return (%)</b>	<b>Period</b>	<b>Universe Return (%)</b>	<b>Quintile1 Return (%)</b>	<b>Quintile5 Return (%)</b>
1998	3.29	55.12	-33.94	1998	9.80	67.94	-27.64
1999	28.00	97.21	-18.63	1999	49.53	239.09	-32.65
2000	3.19	50.69	-34.66	2000	7.18	74.40	-49.13
2001	-7.58	25.03	-40.67	2001	-5.38	41.56	-39.57
2002	-24.66	9.42	-58.64	2002	-11.87	23.65	-41.33
2003	25.80	72.36	-6.36	2003	37.85	101.43	-3.28
2004	17.08	53.66	-12.18	2004	14.45	50.79	-13.94
2005	24.83	61.27	-4.13	2005	50.99	144.33	-1.42
2006	27.06	73.89	-5.45	2006	13.02	67.71	-25.83
2007	1.97	49.69	-31.93	2007	18.09	123.21	-30.79
2008	-38.34	-6.21	-67.21	2008	-33.38	7.54	-65.05
2009	41.34	122.88	-6.51	2009	42.18	146.24	-22.29
2010	20.50	88.79	-19.45	2010	10.35	55.99	-18.60
2011	-11.45	26.03	-42.30	2011	-11.63	25.89	-39.84
2012	21.13	66.66	-13.36	2012	20.37	64.20	-12.08
2013	27.10	77.92	-7.95	2013	40.54	128.13	-13.14
2014	9.36	47.53	-19.03	2014	18.23	82.95	-21.20
2015	11.87	63.69	-24.82	2015	10.86	63.21	-24.84
2016	8.88	58.33	-22.14	2016	2.75	38.42	-21.46
2017	17.52	57.28	-11.58	2017	24.18	78.76	-7.30

**Table 3: Return Dispersion**

<b>(a) Natural Resource</b>				<b>(b) Global Emerging</b>			
<b>Period</b>	<b>Universe Return (%)</b>	<b>Quintile1 Return (%)</b>	<b>Quintile5 Return (%)</b>	<b>Period</b>	<b>Universe Return (%)</b>	<b>Quintile1 Return (%)</b>	<b>Quintile5 Return (%)</b>
1998	4.72	59.98	-36.28	1998	2.97	54.57	-36.96
1999	33.03	142.43	-26.77	1999	26.82	87.57	-5.60
2000	10.22	68.34	-35.07	2000	-3.64	69.78	-52.45
2001	13.96	69.25	-24.27	2001	1.54	37.02	-30.52
2002	-4.37	32.36	-42.57	2002	4.22	50.94	-35.09
2003	22.82	75.10	-12.43	2003	40.50	91.30	3.22
2004	25.47	83.97	-18.06	2004	20.59	61.77	-16.08
2005	20.12	62.93	-17.16	2005	26.21	81.42	-15.36
2006	23.83	60.82	-2.64	2006	27.79	71.49	-6.60
2007	9.85	67.16	-27.42	2007	36.02	146.11	-13.96
2008	-23.37	17.99	-56.63	2008	-28.50	12.17	-60.96
2009	37.14	119.35	-7.45	2009	72.84	175.38	3.75
2010	11.69	45.79	-15.82	2010	23.02	74.85	-14.11
2011	-3.66	34.32	-35.82	2011	-6.25	40.43	-40.63
2012	14.32	49.93	-16.83	2012	29.94	102.09	-14.07
2013	18.24	75.87	-28.90	2013	9.35	56.33	-22.56
2014	12.49	43.77	-18.24	2014	24.20	101.27	-15.88
2015	20.51	138.13	-30.52	2015	4.93	67.92	-31.61
2016	18.22	73.84	-15.13	2016	14.86	62.69	-14.18
2017	11.68	51.46	-14.00	2017	19.64	55.40	-7.33

## 4 Dispersion Spread Analysis

Figure 1a plots the return performance of the top performing group, the bottom performing group along with the performance of the Global Developed universe for the 5 years that had the highest spread between the top and bottom performing groups whilst Figure 1b plots the comparative return performance for the 5 years that had the lowest spread between the top and bottom performing groups.

**Figure 1: Global Developed**

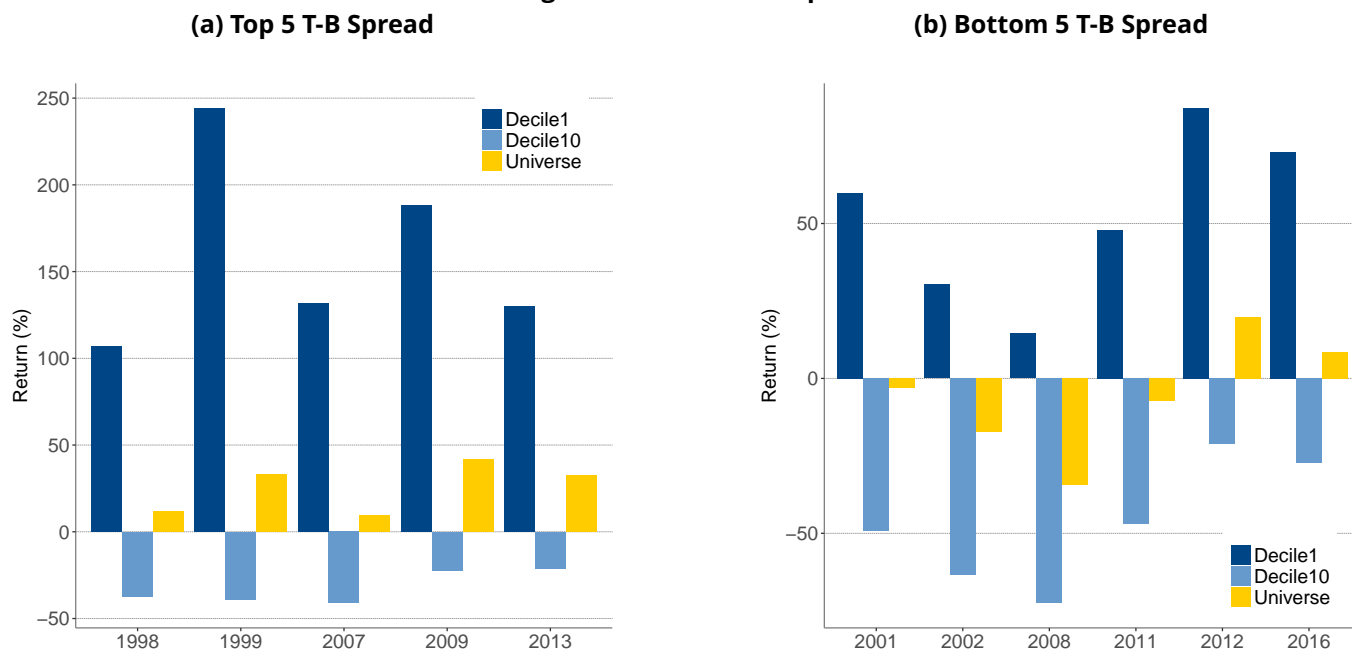


Figure 2a and Figure 2b plot the performance for the best 5 and worst 5 return dispersion spread years for the USA, and once again the top performing group significantly outperforms the bottom performing group as well as the universe highlighting the ample stock selection opportunities available in the US market; this provides further validation of our thesis that return dispersion exists in all types of market conditions.

**Figure 2: USA**

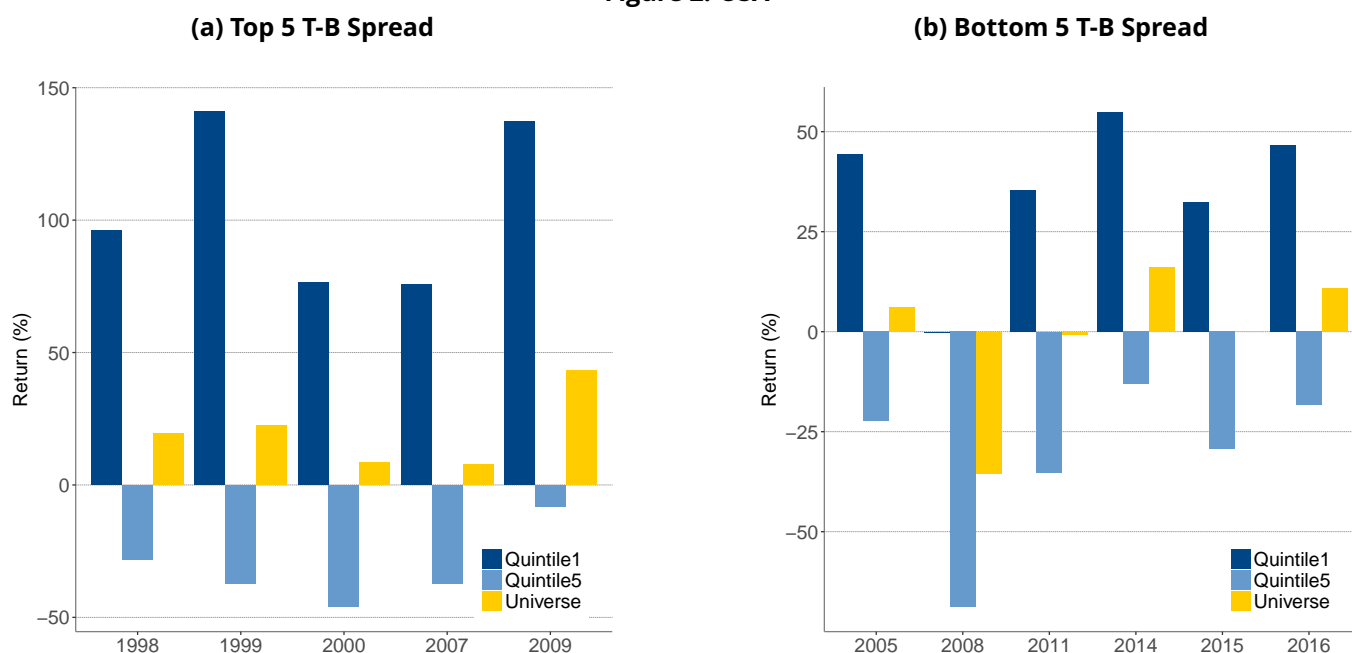
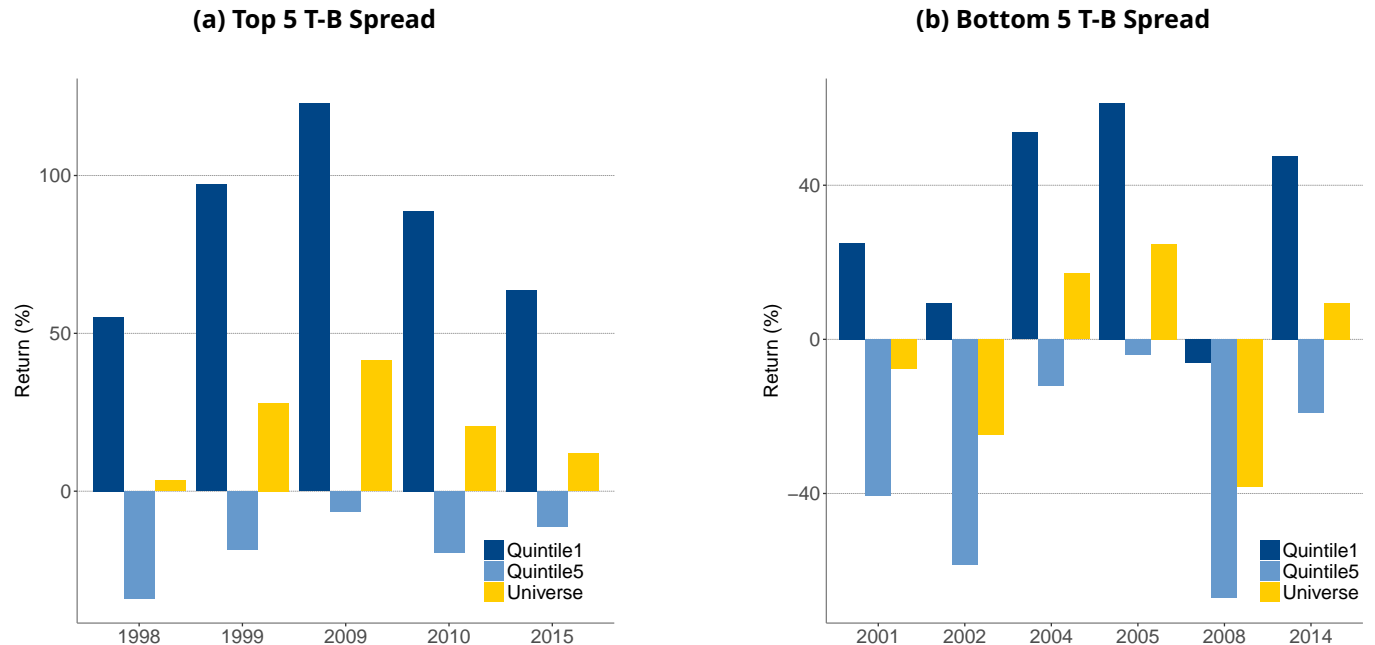


Figure 3a, Figure 3b, Figure 4a, Figure 4b, Figure 5a, Figure 5b, Figure 6a, and Figure 6b plot comparative performance for the best 5 and worst 5 spread years for the remaining regions that have been analysed in this paper. The charts for all regions show that the best performing group's performance is superior to bottom group as well as to the overall universe.

**Figure 3: Developed Europe**



**Figure 4: Developed Asia**

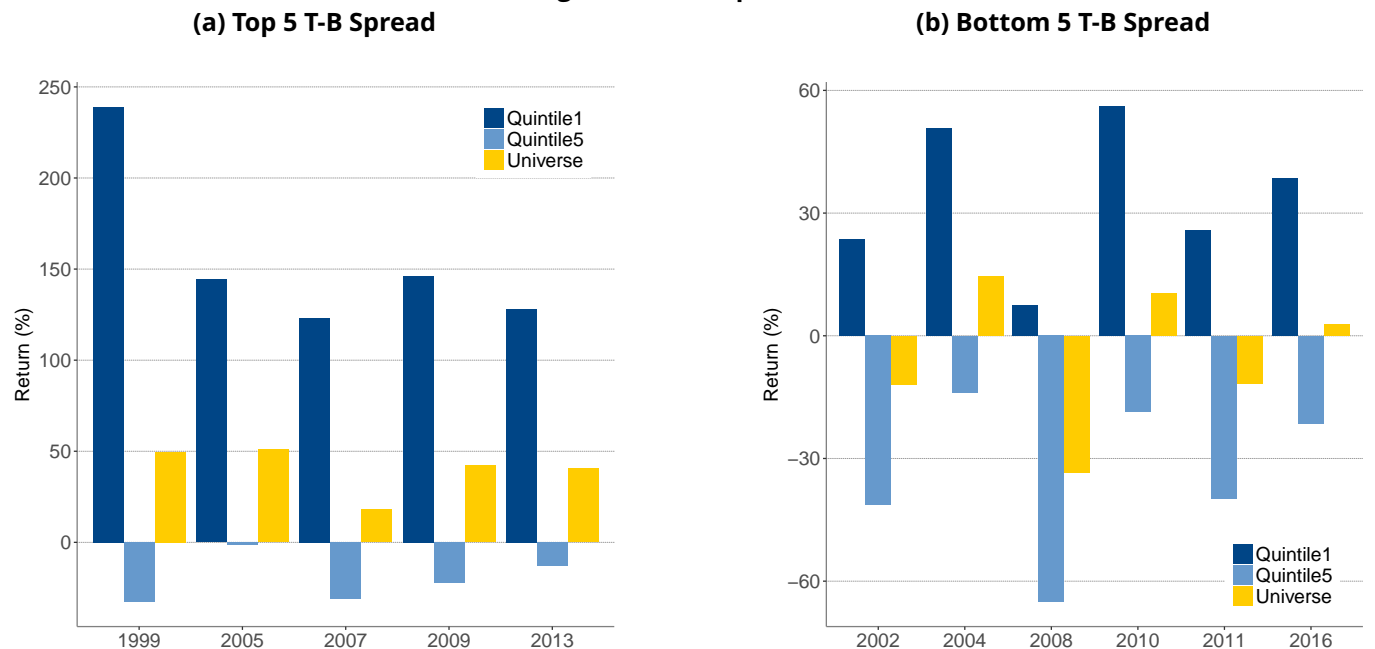




Figure 5: Natural Resource

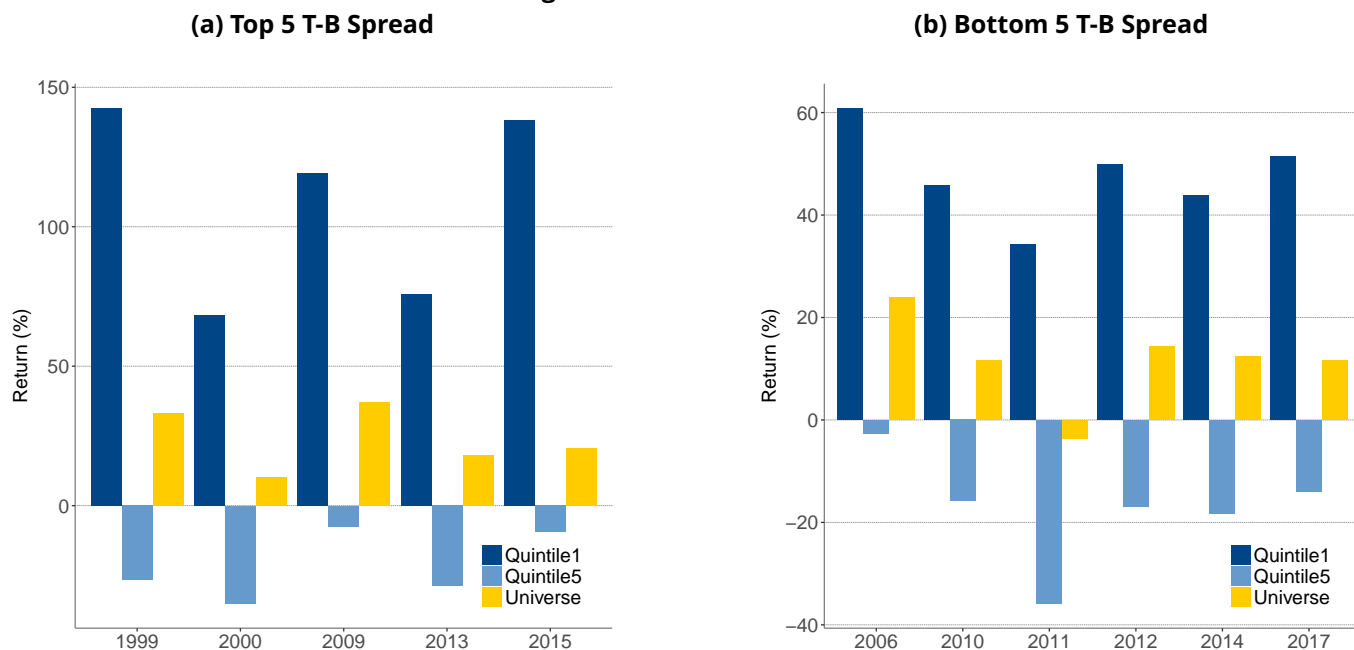
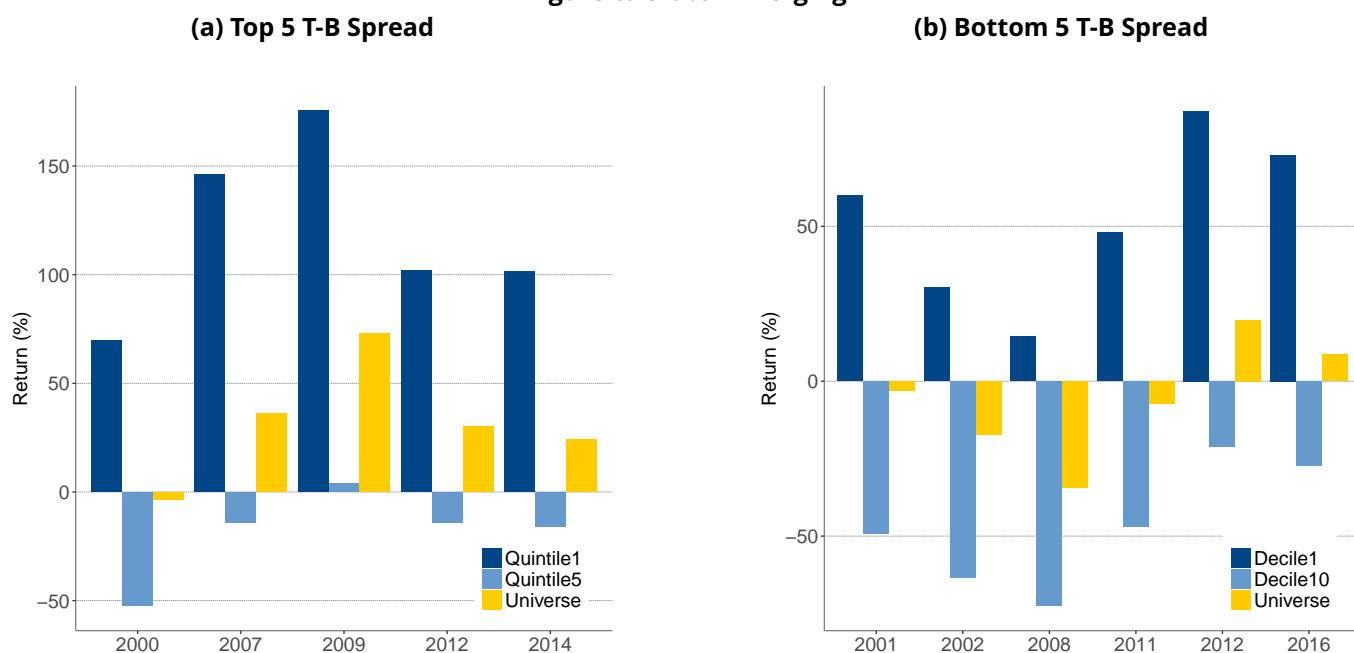


Figure 6: Global Emerging



## 5 How to Profit from Return Dispersion

The empirical evidence is irrefutable that markets exhibit dispersion in stock returns in all market phases, so it is the responsibility of active managers to find ways to profit from this return dispersion. Trendrating offers cutting edge momentum capture technology that can be seamlessly integrated into existing investment workflows with no disruption. Aligning long/overweight positions in investment portfolios with a positive exposure to securities that are exhibiting positive trends, and avoiding/underweighting securities that are exhibiting negative trends is an effective and efficient framework for consistent return capture.

Trendrating's trend capture model first identifies the absolute directional trend of each security to identify whether the security is in an uptrend, a rating of **A**<sup>5</sup> or **B**<sup>6</sup>, or in a downtrend, a rating of **C**<sup>7</sup> or **D**<sup>8</sup>. The next step is to add granularity to the discrete rating to enable users to rank securities within a particular rating bucket, through the **Smart Momentum** score, which is constructed by combining each security's discrete rating with the security's scaled performance in the trend i.e. a security with a rating of **A** and absolute performance in trend of **25%** will have an **SM** of **2.2083**.

Trendrating has conducted detailed empirical research to validate the efficacy of ranking an investment universe by **SM**. In our study, we segment several investment universes into quantiles ranked by **SM** quantiles<sup>9</sup> and we find that in each universe, the top quantile exhibits the best absolute return that is comfortably higher than that of the universe, with an added bonus that the delivered return also offers the best risk-return trade-off.

## 6 Trendrating Smart Momentum & Return

The Trendrating **Smart Momentum** score is a powerful analytic for stock selection. The scatter plots in this section confirm the strong linear relationship that exists between **SM** and portfolio return. For each investment universe analysed in this paper, we plot the annual mean **SM** score of each quantile portfolio and the annual return of the respective quantile.

We can deduce from the scatter plots that quantile portfolios with higher scores exhibit higher returns and vice-versa, and we know from the prior section analysis that the best performing group of stocks in each universe exhibited the highest mean **SM** score. The yellow line visualises the strong linear relationship between the portfolio **SM** score and portfolio return, which would suggest that positioning long positions in the direction of a high **SM** and short positions in the direction of a low **SM** will improve the stock selection process.

**Figure 7: Smart Momentum Score vs. Return: Global Developed**

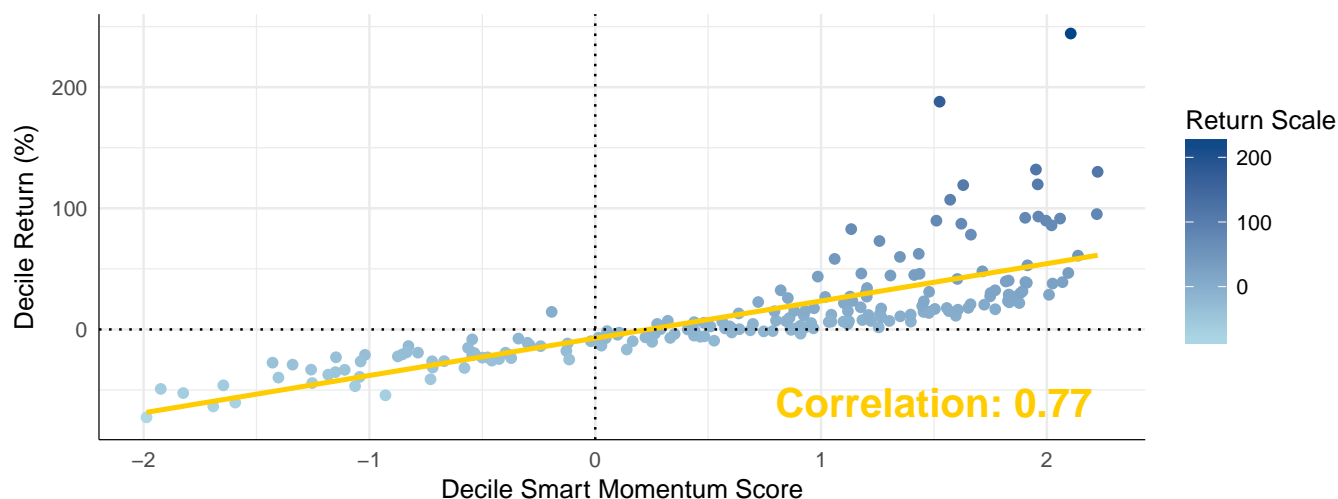


Figure 7 and Figure 8 illustrate this strong linear relationship and we observe strong **correlation coefficients**<sup>10</sup> of **0.77** and **0.79** respectively for Global Developed & USA.

<sup>5</sup>Discrete numeric rating of 2

<sup>6</sup>Discrete numeric rating of 1

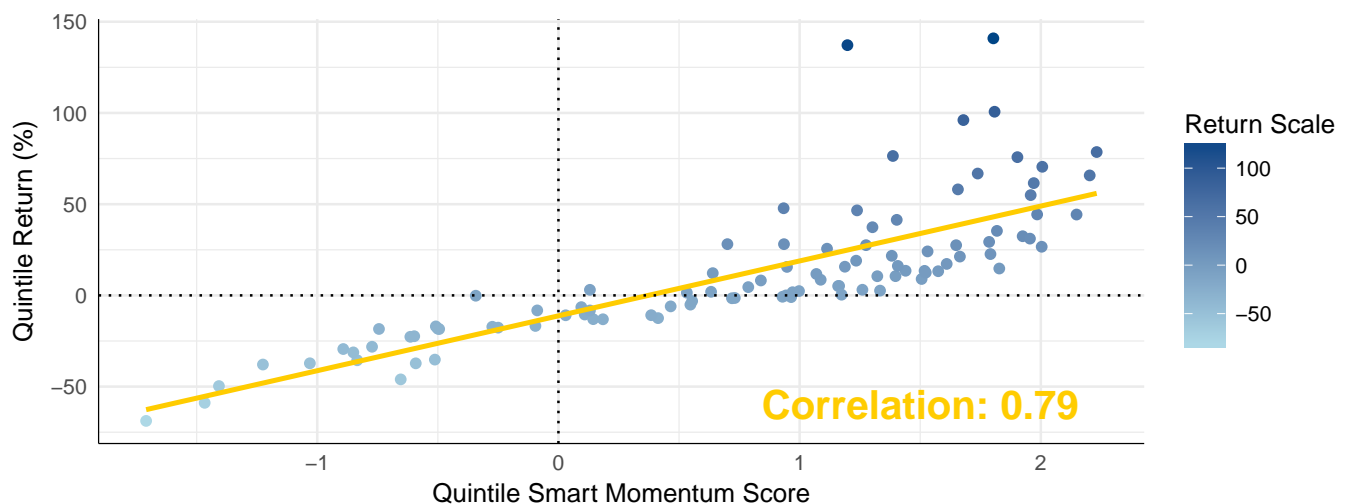
<sup>7</sup>Discrete numeric rating of -1

<sup>8</sup>Discrete numeric rating of -2

<sup>9</sup>Deciles, quintiles, quartiles etc.

<sup>10</sup>Between Quantile **SM** & Quantile Return

Figure 8: Smart Momentum Score vs. Return: USA



We see that all regions analysed in this paper exhibit a strong linear relationship between **SM** and return. The correlation coefficient between **SM** and return is very strong across every region, rendering the **Trendrating Smart Momentum** a very effective stock selection metric. Figure 9, Figure 10, Figure 11, and Figure 12 plot the relationship between **SM** and return for Developed Europe, Developed Asia, Natural Resource, and Global Emerging universes respectively.

Figure 9: Smart Momentum Score vs. Return: Developed Europe

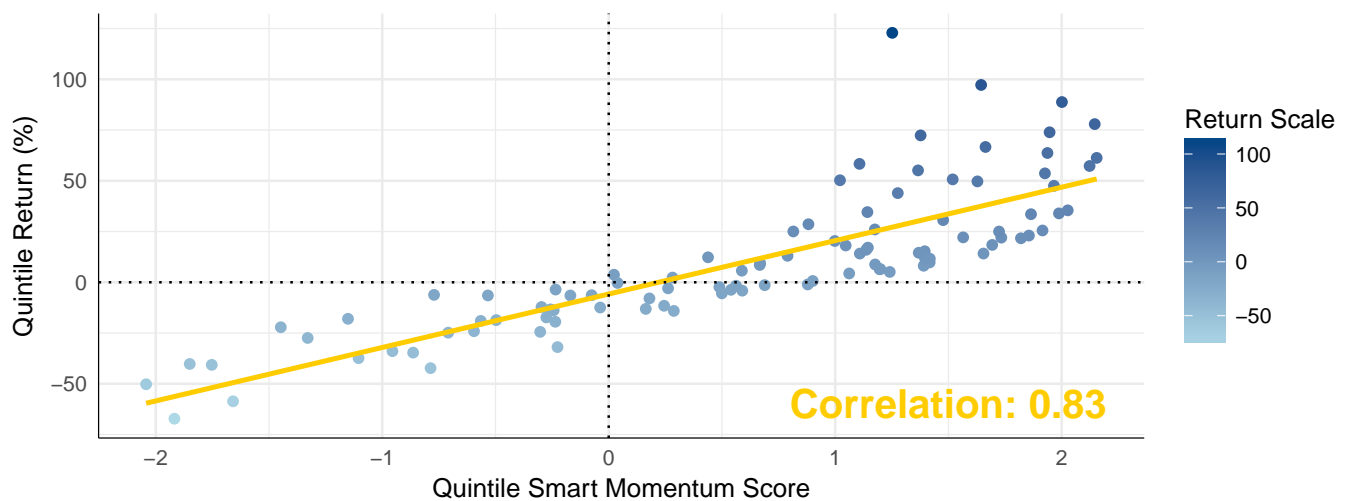


Figure 10: Smart Momentum Score vs. Return: Developed Asia

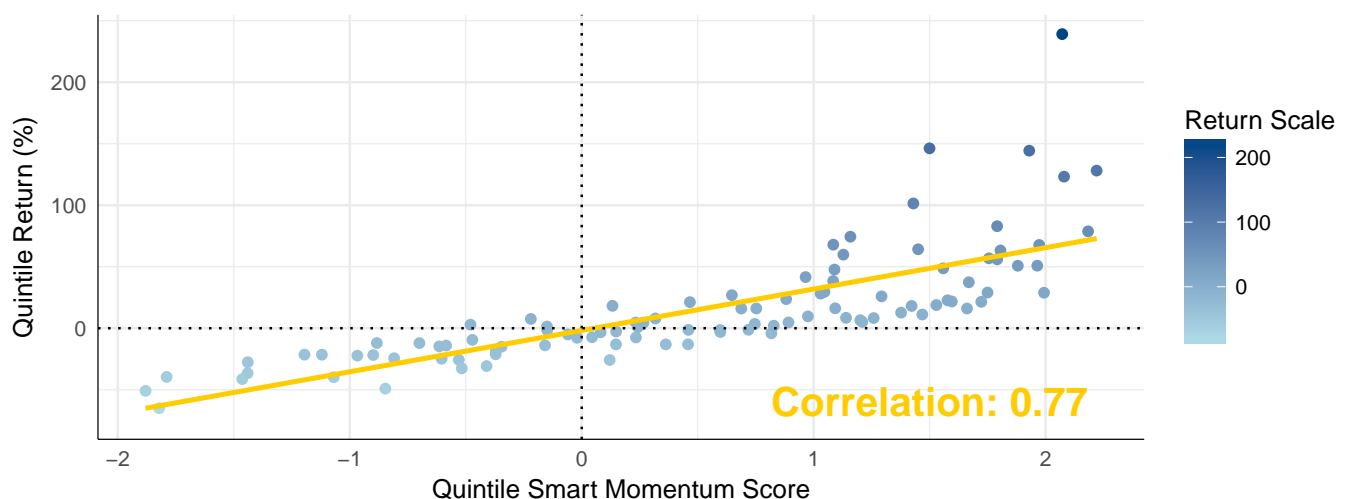


Figure 11: Smart Momentum Score vs. Return: Natural Resource

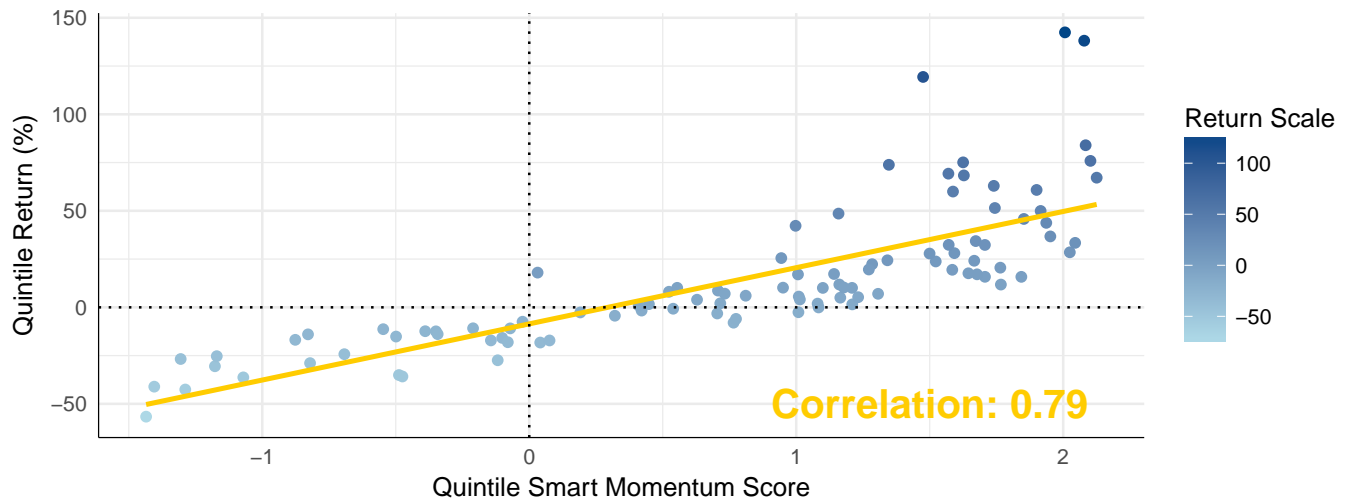
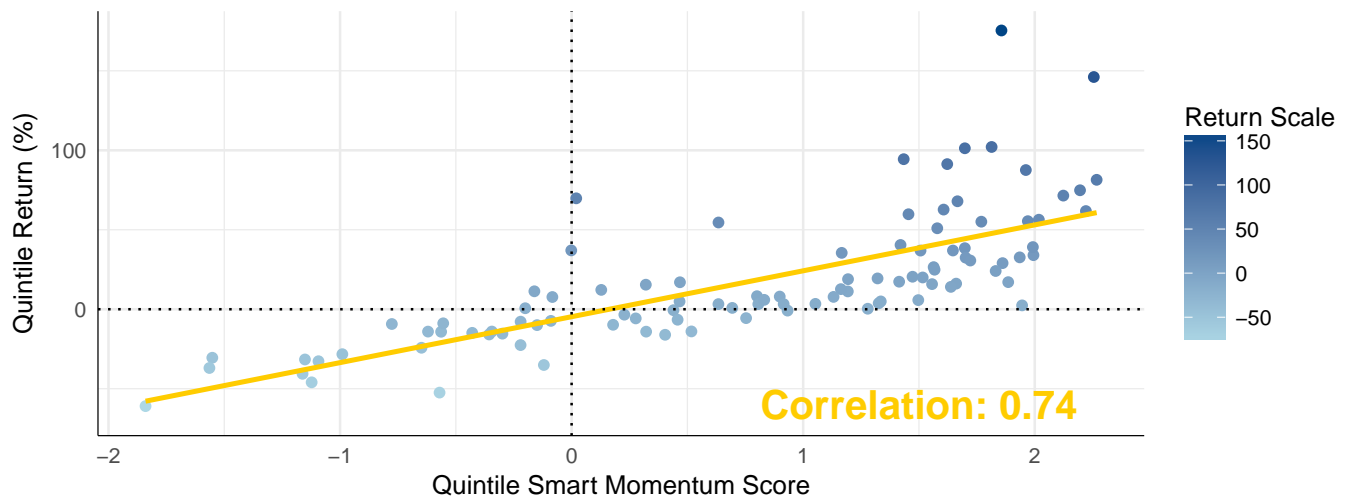


Figure 12: Smart Momentum Score vs. Return: Global Emerging



## Appendix

## A Detailed Return Dispersion - Developed Global

Period	Universe Return (%)	Decile1 Return (%)	Decile2 Return (%)	Decile3 Return (%)	Decile4 Return (%)	Decile5 Return (%)	Decile6 Return (%)	Decile7 Return (%)	Decile8 Return (%)	Decile9 Return (%)	Decile10 Return (%)
1998	11.70	107.05	44.94	25.90	15.32	7.16	0.32	-7.17	-15.19	-22.97	-37.33
1999	33.43	244.25	78.20	45.92	29.70	15.16	4.54	-3.49	-13.39	-23.67	-39.18
2000	6.55	89.77	46.18	26.82	14.98	5.49	-1.40	-9.78	-19.93	-31.44	-54.35
2001	-2.93	59.86	17.47	6.04	0.85	-0.02	-4.42	-11.01	-19.16	-29.06	-49.10
2002	-17.28	30.34	6.94	-1.09	-7.96	-13.79	-19.47	-26.26	-33.36	-44.28	-63.56
2003	32.27	119.13	62.40	44.50	34.16	27.07	21.75	15.15	9.47	2.44	-12.75
2004	17.34	85.92	38.49	28.00	20.79	15.14	10.01	5.26	0.21	-6.81	-23.31
2005	25.42	119.74	52.93	39.12	28.78	20.41	13.63	7.02	0.76	-6.52	-21.29
2006	18.86	92.15	40.31	30.09	23.21	16.89	11.93	6.48	0.64	-6.96	-25.72
2007	9.34	131.99	31.48	16.27	7.01	1.74	-1.34	-9.30	-16.55	-24.84	-41.14
2008	-34.38	14.49	-8.20	-18.85	-26.45	-33.18	-39.74	-46.15	-52.55	-60.36	-72.54
2009	41.81	187.98	82.81	58.22	43.62	32.32	22.59	13.21	4.54	-4.39	-22.26
2010	16.18	91.51	39.60	27.33	19.33	12.80	6.76	1.61	-3.40	-10.28	-23.06
2011	-7.13	47.97	14.45	6.17	-0.70	-6.03	-11.97	-17.79	-24.46	-31.80	-46.83
2012	19.74	87.25	41.66	31.04	23.52	17.27	12.15	7.31	2.53	-3.72	-20.99
2013	32.58	130.10	60.92	46.61	37.87	29.83	22.41	14.76	6.41	-1.59	-21.07
2014	14.74	89.78	32.31	23.45	17.68	12.27	7.74	2.94	-2.49	-9.75	-26.16
2015	8.15	93.18	27.29	17.81	10.83	4.48	-0.36	-5.12	-11.63	-19.20	-35.26
2016	8.64	73.00	27.11	18.29	11.50	6.38	1.49	-2.65	-7.54	-13.70	-27.43
2017	19.33	95.18	39.05	28.62	21.80	16.66	11.31	6.43	0.94	-5.67	-20.62

**Table 4: Detail Return Dispersion: Global Developed**

## B Detailed Return Dispersion - USA

Period	Universe Return (%)	Quintile1 Return (%)	Quintile2 Return (%)	Quintile3 Return (%)	Quintile4 Return (%)	Quintile5 Return (%)
1998	19.44	96.10	27.51	8.18	-6.02	-28.16
1999	22.60	140.89	25.59	1.75	-16.75	-37.21
2000	8.40	76.42	28.08	3.05	-18.24	-46.04
2001	-1.31	37.37	4.54	-0.00	-8.26	-37.90
2002	-19.16	15.61	-3.09	-17.68	-31.24	-58.88
2003	36.65	100.67	41.41	27.54	15.72	-1.57
2004	17.23	70.50	21.27	10.51	1.48	-17.20
2005	6.02	44.38	12.48	2.37	-6.44	-22.38
2006	15.29	58.11	21.70	11.74	1.98	-17.01
2007	7.76	75.78	13.45	0.38	-13.02	-37.24
2008	-35.46	-0.17	-22.69	-35.55	-49.70	-68.80
2009	43.24	137.17	47.77	28.09	12.20	-8.23
2010	20.21	61.56	29.32	16.16	5.19	-10.85
2011	-0.66	35.36	10.55	-1.42	-12.46	-35.20
2012	19.79	66.79	24.12	13.50	5.11	-10.48
2013	33.21	78.58	44.33	31.12	17.25	-5.07
2014	16.10	54.96	22.65	13.25	3.09	-13.09
2015	-0.02	32.43	9.00	-0.94	-10.89	-29.40
2016	10.95	46.60	19.02	8.57	-0.75	-18.40
2017	18.25	65.77	26.67	14.73	2.62	-18.43

**Table 5: Detail Return Dispersion: USA**

## C Detailed Return Dispersion - Developed Europe

Period	Universe Return (%)	Quintile1 Return (%)	Quintile2 Return (%)	Quintile3 Return (%)	Quintile4 Return (%)	Quintile5 Return (%)
1998	3.29	55.12	16.00	-1.70	-17.31	-33.94
1999	28.00	97.21	43.93	18.13	0.64	-18.63
2000	3.19	50.69	14.13	-0.31	-13.11	-34.66
2001	-7.58	25.03	3.73	-3.58	-18.00	-40.67
2002	-24.66	9.42	-12.43	-24.10	-37.39	-58.64
2003	25.80	72.36	34.58	20.34	8.52	-6.36
2004	17.08	53.66	25.52	14.54	4.35	-12.18
2005	24.83	61.27	33.94	21.68	11.79	-4.13
2006	27.06	73.89	33.54	22.12	11.63	-5.45
2007	1.97	49.69	8.15	-1.42	-14.10	-31.93
2008	-38.34	-6.21	-27.43	-40.23	-50.23	-67.21
2009	41.34	122.88	50.26	28.59	12.31	-6.51
2010	20.50	88.79	25.00	9.77	-1.07	-19.45
2011	-11.45	26.03	-2.36	-13.78	-24.42	-42.30
2012	21.13	66.66	30.63	17.07	5.71	-13.36
2013	27.10	77.92	35.43	22.00	8.77	-7.95
2014	9.36	47.53	15.29	6.50	-2.97	-19.03
2015	11.87	63.69	18.40	6.41	-3.71	-24.82
2016	8.88	58.33	13.04	2.31	-6.49	-22.14
2017	17.52	57.28	23.01	14.16	5.10	-11.58

**Table 6: Detail Return Dispersion: Developed Europe**



## D Detailed Return Dispersion - Developed Asia

Period	Universe Return (%)	Quintile1 Return (%)	Quintile2 Return (%)	Quintile3 Return (%)	Quintile4 Return (%)	Quintile5 Return (%)
1998	9.80	67.94	18.20	2.89	-12.03	-27.64
1999	49.53	239.09	48.70	8.28	-13.09	-32.65
2000	7.18	74.40	21.22	4.51	-14.75	-49.13
2001	-5.38	41.56	1.38	-7.79	-21.78	-39.57
2002	-11.87	23.65	-2.67	-14.06	-24.40	-41.33
2003	37.85	101.43	47.67	28.15	16.08	-3.28
2004	14.45	50.79	22.72	11.15	2.05	-13.94
2005	50.99	144.33	56.83	37.37	18.10	-1.42
2006	13.02	67.71	21.49	6.50	-4.18	-25.83
2007	18.09	123.21	12.64	-1.30	-13.15	-30.79
2008	-33.38	7.54	-21.53	-36.52	-50.92	-65.05
2009	42.18	146.24	59.81	26.89	0.89	-22.29
2010	10.35	55.99	16.19	3.50	-5.06	-18.60
2011	-11.63	25.89	-3.10	-15.05	-25.72	-39.84
2012	20.37	64.20	29.56	16.02	4.64	-12.08
2013	40.54	128.13	50.83	28.97	8.45	-13.14
2014	18.23	82.95	21.73	9.62	-1.35	-21.20
2015	10.86	63.21	18.86	4.71	-7.50	-24.84
2016	2.75	38.42	7.95	-1.56	-9.47	-21.46
2017	24.18	78.76	28.84	16.03	5.15	-7.30

**Table 7: Detail Return Dispersion: Developed Asia**

## E Detailed Return Dispersion - Natural Resource

Period	Universe Return (%)	Quintile1 Return (%)	Quintile2 Return (%)	Quintile3 Return (%)	Quintile4 Return (%)	Quintile5 Return (%)
1998	4.72	59.98	17.28	0.95	-13.87	-36.28
1999	33.03	142.43	48.56	10.10	-5.98	-26.77
2000	10.22	68.34	27.86	4.07	-10.86	-35.07
2001	13.96	69.25	24.37	7.08	-2.53	-24.27
2002	-4.37	32.36	5.58	-3.18	-12.37	-42.57
2003	22.82	75.10	28.07	17.06	8.07	-12.43
2004	25.47	83.97	36.74	20.55	6.02	-18.06
2005	20.12	62.93	33.40	17.64	5.25	-17.16
2006	23.83	60.82	32.32	19.60	10.27	-2.64
2007	9.85	67.16	17.10	1.93	-7.94	-27.42
2008	-23.37	17.99	-11.32	-25.31	-41.09	-56.63
2009	37.14	119.35	42.24	25.51	8.68	-7.45
2010	11.69	45.79	19.45	10.09	-0.05	-15.82
2011	-3.66	34.32	5.00	-4.35	-17.14	-35.82
2012	14.32	49.93	23.76	11.82	3.94	-16.83
2013	18.24	75.87	28.51	15.80	1.53	-28.90
2014	12.49	43.77	24.13	11.79	2.07	-18.24
2015	20.51	138.13	10.07	-1.68	-10.91	-30.52
2016	18.22	73.84	22.35	10.19	1.67	-15.13
2017	11.68	51.46	15.81	7.01	-0.72	-14.00

**Table 8: Detail Return Dispersion: Natural Resource**

## F Detailed Return Dispersion - Global Emerging

Period	Universe Return (%)	Quintile1 Return (%)	Quintile2 Return (%)	Quintile3 Return (%)	Quintile4 Return (%)	Quintile5 Return (%)
1998	2.97	54.57	16.97	2.42	-8.86	-36.96
1999	26.82	87.57	36.91	17.33	5.91	-5.60
2000	-3.64	69.78	7.69	-9.29	-28.28	-52.45
2001	1.54	37.02	11.29	0.63	-7.81	-30.52
2002	4.22	50.94	15.43	0.84	-9.99	-35.09
2003	40.50	91.30	55.07	35.46	19.98	3.22
2004	20.59	61.77	30.64	20.45	7.76	-16.08
2005	26.21	81.42	39.11	24.06	3.38	-15.36
2006	27.79	71.49	36.94	24.86	12.64	-6.60
2007	36.02	146.11	34.02	14.07	0.31	-13.96
2008	-28.50	12.17	-14.03	-32.72	-45.99	-60.96
2009	72.84	175.38	94.41	59.75	32.45	3.75
2010	23.02	74.85	32.64	17.05	4.92	-14.11
2011	-6.25	40.43	3.23	-9.79	-24.23	-40.63
2012	29.94	102.09	38.43	19.38	4.89	-14.07
2013	9.35	56.33	15.80	3.22	-5.77	-22.56
2014	24.20	101.27	26.49	11.21	-0.87	-15.88
2015	4.93	67.92	7.97	-3.43	-14.86	-31.61
2016	14.86	62.69	18.92	8.21	-0.60	-14.18
2017	19.64	55.40	29.01	16.10	5.74	-7.33

**Table 9: Detail Return Dispersion: Global Emerging**