



# Investment Perspective

Invesco Global Quantitative Equity



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## Active Manager Performance During the Financial Crisis

Three years ago, Invesco Global Quantitative Equity did a comprehensive study about the long-term historical performance of active equity managers. At that time, the conclusion was that enhanced indexing may offer consistent value-added with minimal levels of risk and high information ratios. This article looks at active manager returns over the past three years, a period that was overlaid by the financial crisis.

This study of active manager performance adds the most recent three-year-period, starting on December 31, 2005, and ending on December 31, 2008. It extends our most recent study by adding the 10th three-year window. The full history now consists of roughly 4,700 track records over 10 three-year windows, i.e., 30 years. The universe consists of institutional managers self-described as benchmarked to the S&P 500 Index. It includes all managers categorized as enhanced indexers to highly active managers. Index funds were excluded from the universe.

While the financial crisis was a huge challenge for many investors, equity managers did quite well on average. We analyzed the track records of 697 managers of which 509 outperformed their benchmark, the S&P 500 Index. This means that approximately three out of four managers beat their benchmark. This is above the historical average of slightly more than half the managers outperforming their benchmark.

We also found that, over the past three years, the median manager added 1.41% annualized on a gross-of-fee basis. This is a very strong result compared to the long-term median active return of 0.64% per annum.

Exhibit 1 shows the median values for each period since the beginning of the analysis.

<b>Exhibit 1: Median values of active manager returns</b>					
Three years ended	Median value added	Median tracking error	Median information ratio	Number of observations	% leading the index
2008	1.41%	4.22%	0.37	697	73.00%
2005	0.98%	3.17%	0.39	554	63.90%
2002	3.14%	7.05%	0.63	753	77.00%
1999	-1.63%	6.43%	-0.32	770	39.00%
1996	-1.06%	3.72%	-0.3	666	36.60%
1993	1.67%	5.16%	0.37	502	68.10%
1990	-0.07%	4.93%	-0.03	310	49.00%
1987	0.27%	5.40%	0.06	216	53.70%
1984	2.70%	5.77%	0.46	149	67.80%
1981	4.54%	6.05%	0.81	75	93.30%

Source: PSN, eVestment Alliance. Data for the period January 1, 1979, until December 31, 2008.

### **Performance biases**

By looking at the three-year periods during which managers did extremely well on average, it appears that these can be characterized by market cycles with a negative absolute performance of the S&P 500 Index, i.e., the three-year period ending December 31, 2002, with an annualized return of negative 14.55%, or the recent period ending December 31, 2008, with an annualized return of negative 8.36%. By looking at details of active manager returns during the most recent three calendar years, it appears that the outperformance was mainly generated in months in which equity markets performed negatively.

Out of 14 months with negative returns, only three months saw more than half the managers underperforming. On the other hand, out of 22 months with positive returns, only 11 months saw the average manager outperforming. This observation was confirmed by a negative correlation of 0.30 between the monthly return of the S&P 500 Index and the monthly median active return. Historically, in periods of strongly rising markets as observed during the 1990s, the average manager tends to underperform. This performance pattern can be partly explained by a cash bias that helps managers to outperform in a negative market environment, and that hurts performance in a positive market trend.

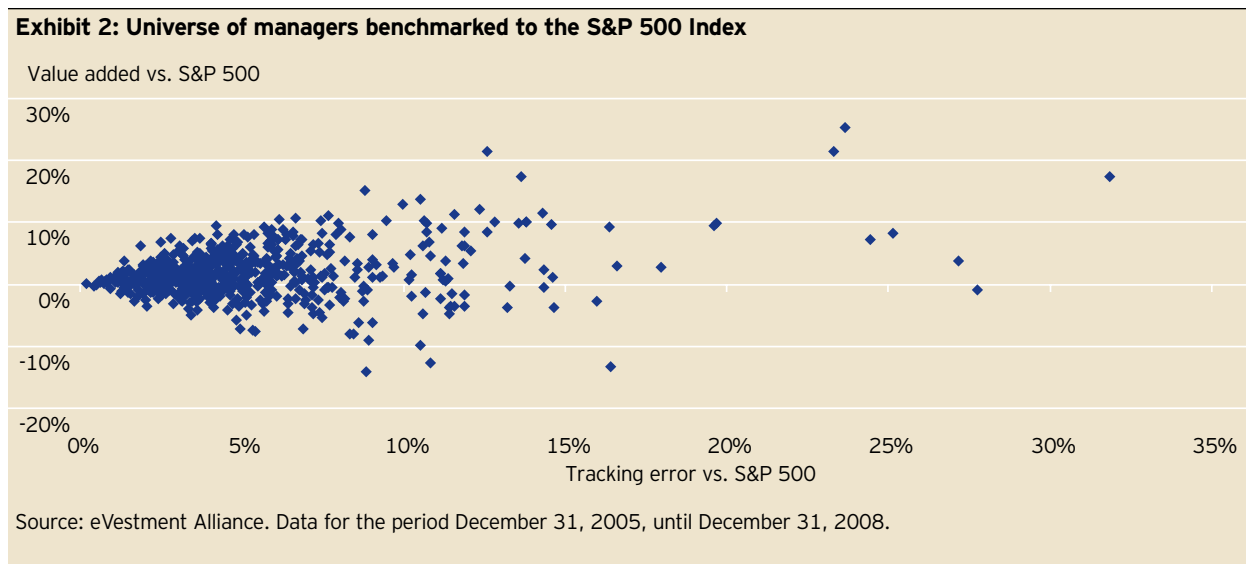
Other typical biases are value bias or small cap bias. Over the past three calendar years, the performance of value stocks or small cap stocks did not differ dramatically from that of the S&P 500 Index. As a proxy for value stocks, the Russell 2000 Value Index returned a negative 7.49% per annum, outperforming the S&P 500 Index by 170 basis points. However, the performance of value stocks was very positive during the first half of the period under consideration, but negative over the subsequent half. There was no strong correlation between the active return of value stocks and the median active return of managers.

Small cap stocks as measured by the Russell 2000 Index also outperformed during the first 18 months of the period under consideration. However, small caps ended the period almost flat versus the S&P 500 Index with an annual return of negative 8.29%. The correlation of active returns of small cap stocks versus the median active return of managers was positive with 0.26. By looking at different levels of risk, the small cap bias became more evident for those managers with higher tracking errors. The tracking error of the Russell 2000 itself versus the S&P 500 Index was 8.70% per annum.

### **Taking risk into account**

On average, investors' experience with active managers over the past three years has been positive. On a risk-adjusted basis, the median information ratio (IR) was 0.37 over the past three calendar years. This compares to a long-term median IR of 0.17. Investors should be aware this IR is a calculation which is done before the deduction of management fees.

Exhibit 2 illustrates the full-period depiction of the relationship between active risk and active return. It shows the realized tracking error on the x-axis and the valued added (gross of fees) on the y-axis.



While on average the performance of active managers has been historically high, we observed differences in the level of risk-adjusted returns across the manager universe. Consistent with our analysis three years ago, we took a closer look at active manager returns in three different ranges of risk. For that purpose, we divided the universe into managers with a maximum tracking error of 2% p.a., managers with a tracking error between 2% and 8% p.a., and managers with tracking errors above 8% p.a.

For low tracking error managers, the median alpha was 0.59% p.a. with a median IR of 0.49. For the medium tracking error managers, the median alpha was 1.52% with a median IR of 0.39. For high tracking error managers, the median alpha was 2.70% with a median IR of 0.18. Managers with a tracking error above 12% did especially well in the context of a very challenging market environment. Their median IR was 0.46.

**Exhibit 3: Median values for different levels of risk**

TE range (%)	Alpha	TE	IR	# of track records	% leading the index	Alpha	TE	IR	# of track records	% leading the index
0-2	0.59%	1.40%	0.49	80	81.3%	0.59%	1.40%	0.49	80	81.3%
2-4	1.40%	3.11%	0.41	242	73.6%	1.52%	4.12%	0.39	518	73.2%
4-6	1.71%	4.82%	0.35	189	72.5%					
6-8	2.33%	6.82%	0.33	87	73.6%					
8-10	1.17%	8.80%	0.13	32	56.3%	2.70%	11.16%	0.18	99	65.7%
10-12	1.63%	11.16%	0.15	35	62.9%					
Above 12	8.31%	14.60%	0.46	32	78.1%					
<b>All</b>	<b>1.41%</b>	<b>4.22%</b>	<b>0.37</b>	<b>697</b>	<b>73.0%</b>					

TE = tracking error; IR = information ratio  
Source: eVestment Alliance.

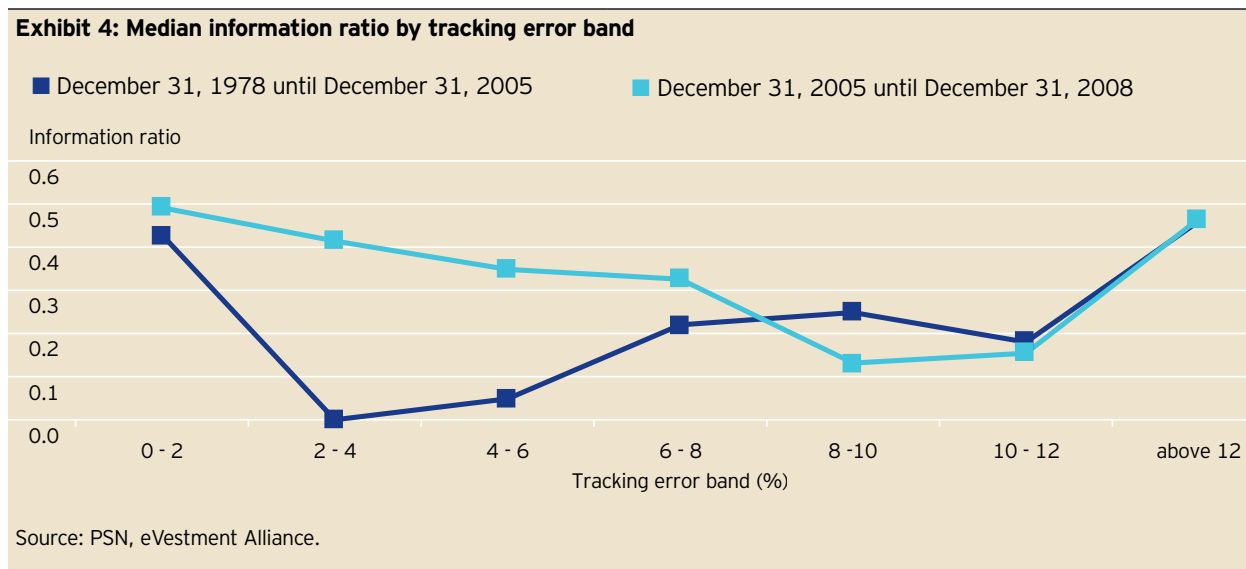
The low tracking error band between 0 and 2% is generally represented by enhanced index strategies. Most of these strategies have a significant quantitative element to their process. Sixty percent of low tracking error managers consider themselves to be pure quants. Low tracking error strategies account for approximately 11% of all track records.

Roughly three-quarters of all track records can be found in the second band of managers (between 2% and 8% annual tracking error). Because this band represents the bulk of managers, their risk and return characteristics are more or less identical to those of the whole universe. More than half of these managers claim to apply a “fundamental” investment approach.

The remaining managers, approximately 14% of the universe, realized a tracking error of more than 8% per annum. Managers operating in the highly active space are typically more aggressive with respect to their active bets in the portfolio. For the 99 track records in the high tracking error band, we observed a bias towards both small caps and value. “Fundamental” managers account for more than 60% of the universe. Quant managers are underrepresented in the high tracking error field as only one-ninth of these strategies are managed by quants.

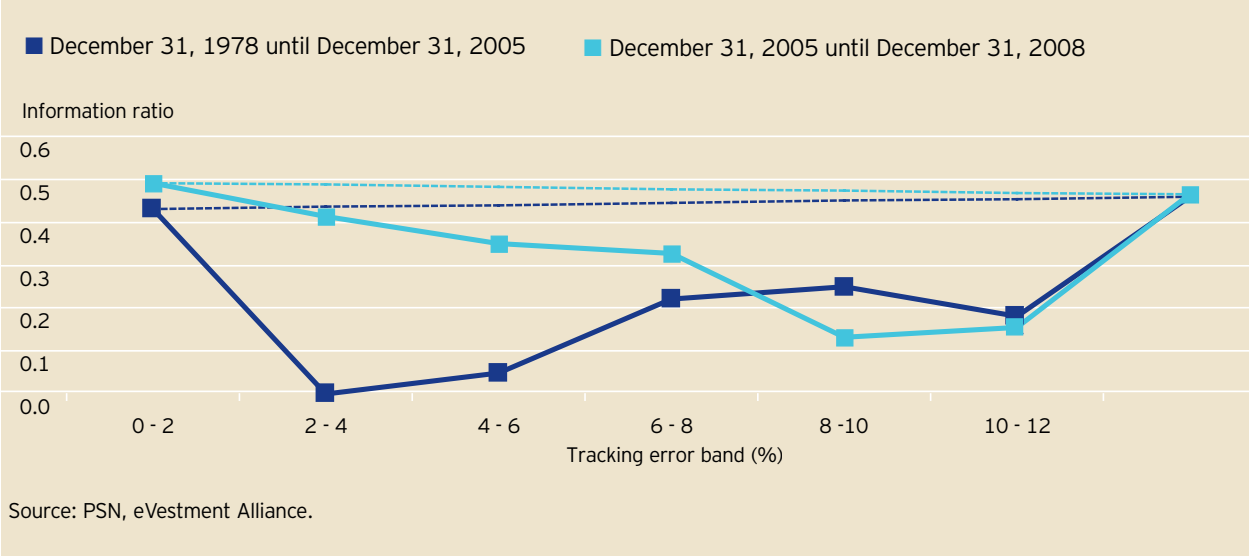
### Utilization of risk budget

By looking at the detailed results, it still appears as if low tracking error managers are attractive given their realized information ratio and their potentially lower fees compared to the rest of the manager universe. Even though the recent three-year period was also a favorable environment for medium TE managers, their long-term track record looks less convincing. In the high tracking error band, the risk-adjusted performance of managers with a tracking error above 12% per annum has been exceptionally good both in the long-term perspective but also in the most recent past.



For an investor who has to decide how to utilize his risk budget, the decision how to potentially spread his risk budget across several managers can be supported by reviewing Exhibit 5. A combination of a low tracking error or enhanced index manager with a highly active manager may deliver favorable results than hiring a manager from the medium tracking error space. Assuming a perfect correlation between the median alphas, the combination of a low tracking error manager with a highly active manager delivers a better risk-return trade-off than hiring a medium active manager. The dotted lines in Exhibit 5 show the information ratio of combinations of active manager returns during the periods under consideration. It also appears that the information ratio for both the group of enhanced index managers and the group of highly active managers is quite stable.

**Exhibit 5: Median information ratio by tracking error band and combinations thereof**



### Other considerations

The performance numbers in this article are based on gross-of-fee performance. Investors should bear in mind that fees are typically higher with a higher level of active risk. This may lead to an even more favorable result for low tracking error managers in comparison to higher tracking error managers. For those investors who currently make use of index trackers it may be worthwhile to hire an enhanced index manager as those seem to offer an attractive relative return at a marginal increase in relative risk.

### Conclusion

Besides the fact that a combination of low tracking error managers with highly active managers has delivered favorable risk-adjusted returns in the past, it is also a reduced research effort that makes the combination attractive for an investor. This is due to the fact that less than one-quarter of all track records can be found on the extreme ends of the tracking error range. Also, since the relative risk associated with enhanced index strategies is much lower than that of traditional managers, plan sponsors potentially have the flexibility to reallocate a portion of the portfolio's risk budget, either to other asset classes with more attractive risk/return characteristics, or to managers with higher tracking error targets.

For those investors who want to avoid underperformance by active managers and opt for a passive implementation of their investment strategy, it is instructive to note that low tracking error strategies delivered favorable returns compared to pure index replicators, i.e. passive strategies. Index fund investors who moved to enhanced index strategies have enjoyed nearly all of the benefits with limited risk.

The long-term pattern of active manager performance supports core-satellite approaches that are already employed by many investors. The recent positive trend in active manager performance appears to be supported by a less favorable market environment. While small cap and value biases have delivered added value over the long-term, historically, their effects on performance have been minimal over the recent three-year period.

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