Active beats passive in down markets

24 March 2019

Active managers outperform broad markets when the chips are down

While we are all focused on keeping ourselves and our loved ones healthy during the COVID-19 pandemic, many of us are also taking the time to ensure that our financial portfolios are well taken care of. For that reason, Style Analytics investigated the performance of active management compared to passive investments during market downturns. **The conclusion: quality active managers significantly beat the broad market in down months and especially in the worst four market crises over the past twenty-five years.**

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We examined over 1,000 actively managed US funds from 1995 through 2020 and found that, on average, they consistently beat the broad Russell 1000 index. In falling markets, the top 25% of managers (by performance) beat the market 60% of the time while the top 5% of managers beat the market 75% of the time.

Conventional wisdom says that because passive investments have no awareness of tail risk events while active managers do (or at least should), that good active management should outperform passive investments during times of market stress. Our analysis shows that quality active managers not only beat passive investment during downturns, but that the outperformance grows with larger market losses.

We examined the eVestment Large Cap US Equity manager universe from 1995 through 2020 and compared the monthly manager returns, corrected for survivorship bias (for details on the correction methodology, please see the appendix), to the monthly returns of the Russell 1000. Figure 1 shows the frequency with which managers, in increasing 'quartiles', outperformed the broad index for both up markets (blue) and down markets (orange). The median manager underperforms the Russell 1000 46% of the time in up markets and outperforms the Russell 1000 51% of the time in up markets, showing that the average manager does indeed provide near-benchmark returns. However, the top 25% of managers, who outperformed the benchmark only 51% of the time in up markets, beat the benchmark 60% of the time in down markets. The spread between up and down markets grows when considering the top 5% of managers who beat the benchmark 75% of the time in down markets but outperformed up markets only 60% of the time. This means that downside risk protection is a core benefit of top performing active equity managers.

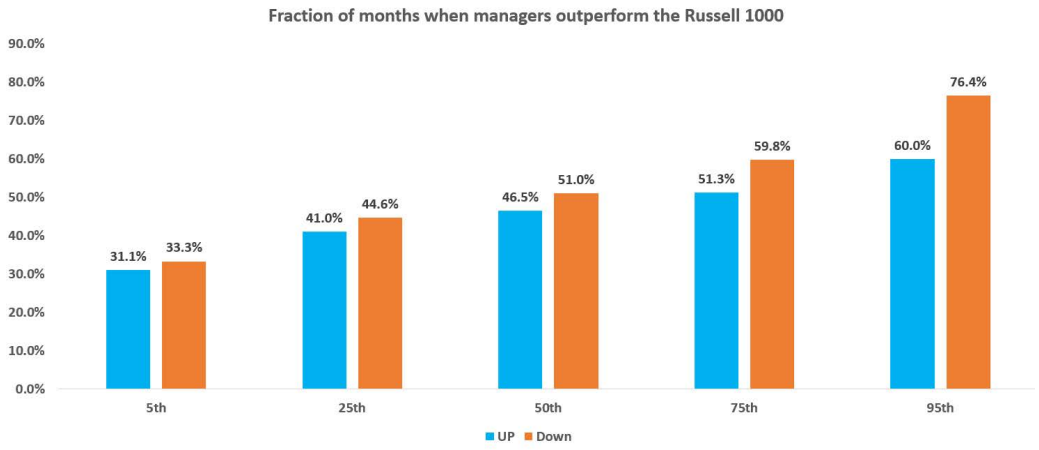

Figure 1: Fraction of months during which active managers beat the Russell 1000 index in up (blue) and down (orange) markets.

IN BRIEF

Active in down markets

Active managers outperform the Russell 1000 index significantly during market downturns over the past 25 years.

More benefit in worse markets

Active management adds more value the worse the market conditions get

Crisis Alpha

The average active manager provides about 0.3% outperformance in each month during the worst market crises.

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We next identified four periods of market crisis over the past 25 years as shown in Figure 2: The Tech Bubble from August 2000 through September 2002 (with a 41% loss), the Global Financial Crisis from October 2007 through February 2009 (with a loss of 50%), the Debt Downgrade from April through September 2011 (with a loss of 15%) and the Taper Tantrum from September through December of 2018 (with 13% loss).

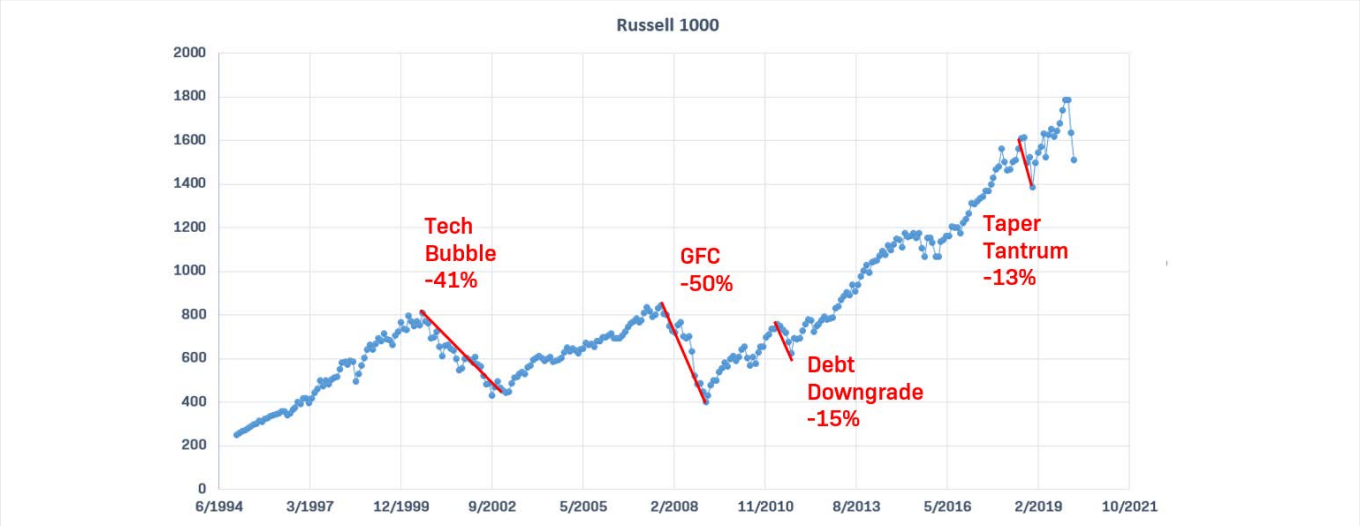

Figure 2: Russell 1000 from Jan 1995 through Feb 2020 with four crises identified in the chart.

When we examined each of these downturns, as shown in Figure 3, we saw that active management did better than in the average down-market months. In times of large market losses, the best 25% of managers and the best 5% of managers each increased the fraction of time they beat the index.

Good managers outperform the passive index in market downturns and outperform even more during crisis periods.

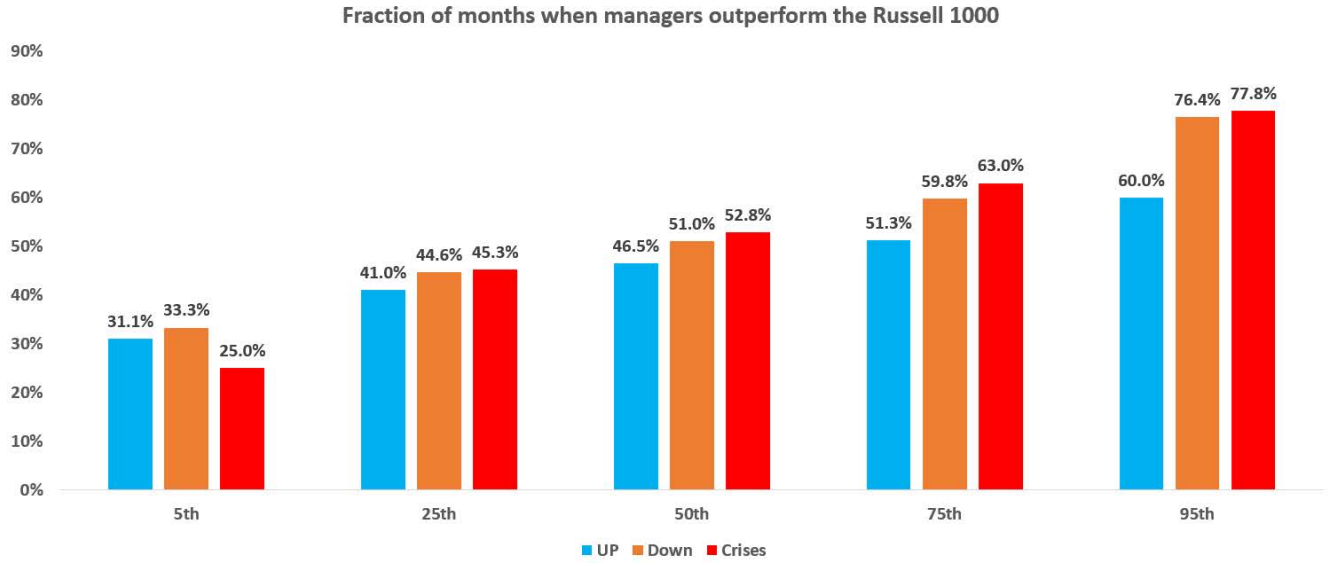

Figure 3: Same as Figure 1 with additional red bar showing under/over performance during times of crisis.

Focusing on the four market crises identified in Figure 2, we measured the average monthly underperformance / overperformance of the five percentile categories: 5th percentile (lowest performers), 25th, 50th percentile, 75th and 95th percentile (best 5%), during each of the four crises. The results are shown in Figure 4. Of the four crises studied, the Tech Bubble had the largest outperformance by managers, likely because its epicenter was an easily identifiable

and 'hedgeable' industry. Each of the other crises shows a consistent outperformance of over 40bps per month for the top 25th percentile and well over 140 bps per month for the top 5th percentile.

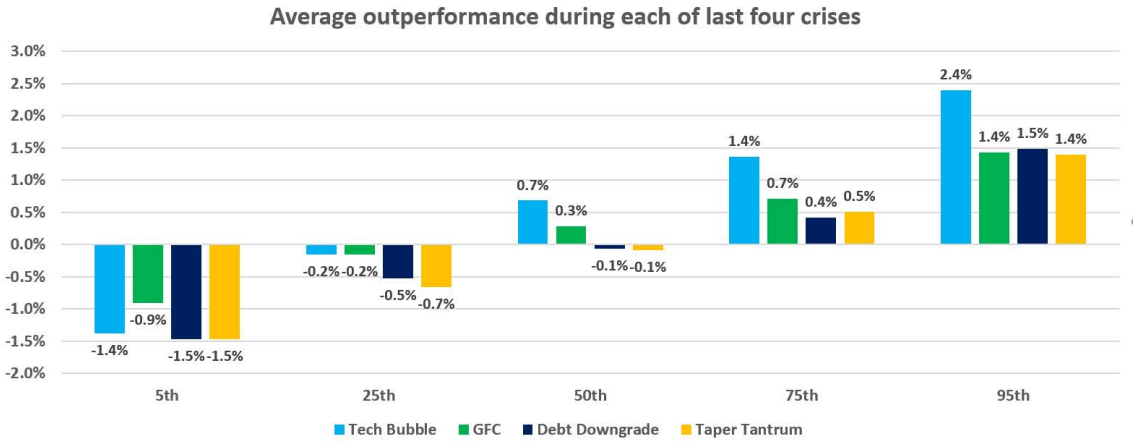

Figure 4: Average monthly outperformance of active managers during each of the crises identified in the text.

The four crises and the total outperformance of the top managers is summarized in the table below.

Crisis	Peak to Trough for Russell 1000	Average monthly drop Russell 1000	Length of downturn (months)	75th Percentile Active Return	95th Percentile Active Return
Tech Bubble	-41%	-1.86%	26	-17%	+6%
GFC	-50%	-3.86%	17	-44%	-37%
Debt Downgrade	-15%	-2.53%	6	-12%	-7%
Taper Tantrum	-13%	-3.44%	4	-12%	-9%

Finally, we organized the overall active manager outperformance of the Russell 1000 into four quartiles, presented in Figure 5, to show that the outperformance of the average active manager increases with severity of downturn. During the most severe downturns, active managers as a group provide market outperformance of almost 30bps per month.

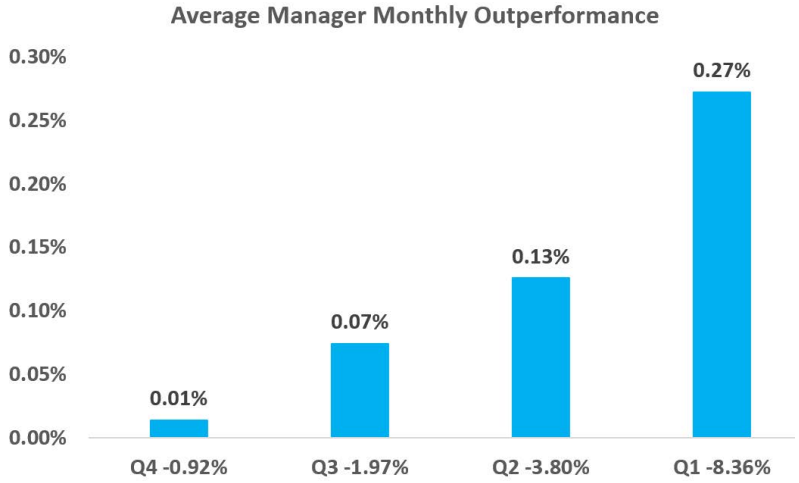

Figure 5: Active manager outperformance increases with increasing severity of market crisis.

These results show that active equity portfolio management provides downside protection that increases with worsening market downturns.

As the COVID-19 pandemic causes significant disruption in global markets, the temptation to reallocate from active to passive should be tempered by the realization that active management often provides a level of downside protection not observed in core passive investments.

Further Research

This topic deserves further research and we plan on exploring the following themes in subsequent papers.

- The role of cash management by active equity managers in providing downside protection. We expect that those managers who provide more downside protection are more active in their opportunistic use of cash.
- Active management manifests itself in a higher tracking error. Does higher tracking error correspond to more downside protection?
- Size of fund should matter: larger funds should have a harder time adjusting to downward trends and therefore should provide less downside protection. Do smaller AUM funds provide more protection?

Appendix - Survivorship Bias Correction

We started with the eVestment US Large Cap monthly return database, containing about 150 managers in 1995 and about 1,600 in 2020 (including simulated managers who had previously stopped reporting returns). We employed a modified version of the survivorship bias correction method described in Allen, Cliff and Meerschaert's paper *Picking Through the Alpha Graveyard*[1].

Rather than re-allocating the hypothetical investment in managers which ceased reporting their returns to the surviving managers, as proposed in their paper, we filled the 'deceased' managers' missing monthly returns with a Gaussian random number generated to preserve the known mean and standard deviation of the surviving managers in each month. In other words, we computed the mean and standard deviation of the reporting managers and used those values as inputs to the Gaussian random number generator to fill the missing managers' returns. This way, we produced a fully dense matrix of manager returns for each month since the manager's inception.

Figure 6 shows the number of managers, month by month, with reported returns (grey), filled returns (blue) and the sum of the two (orange). By the end of the time period, almost half of the managers' returns are filled.

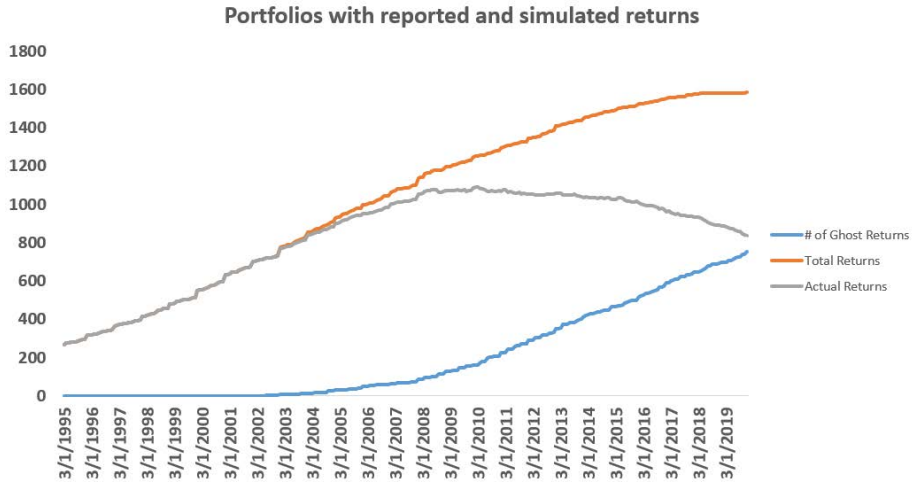

Figure 6: Number of managers, by month, for which we used their reported / actual returns (grey), filled returns (blue) and the total (orange). The number of managers needing survivor bias starts to grow with the Global Financial Crisis in 2008.

Figure 7 and Figure 8 show, respectively, the mean and standard deviations of the set of managers both before (orange) and after (blue) the filling routine was run, showing no systematic difference between those variables.

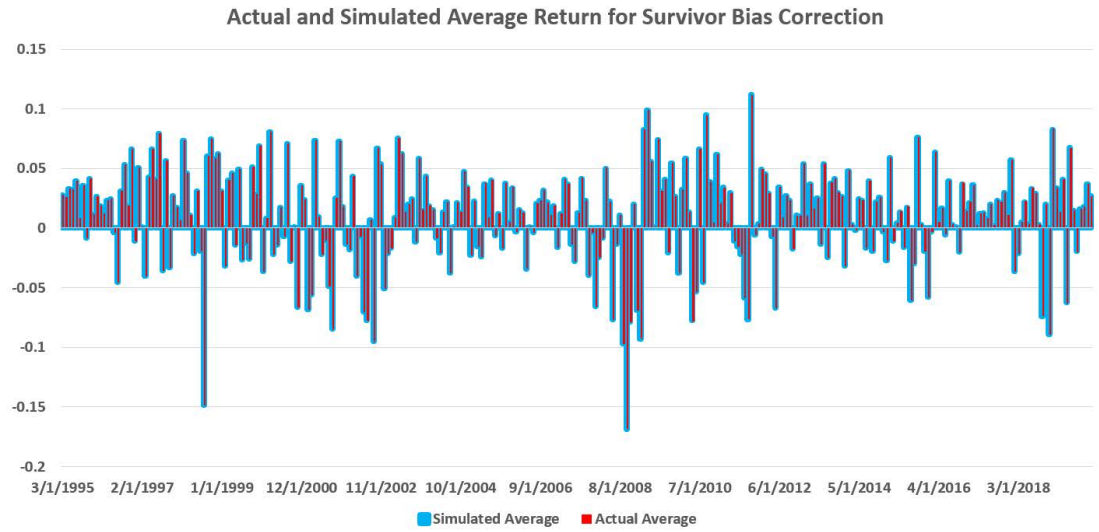

Figure 7: Average returns of actual managers (red) and simulated after a manager stopped reporting (blue).

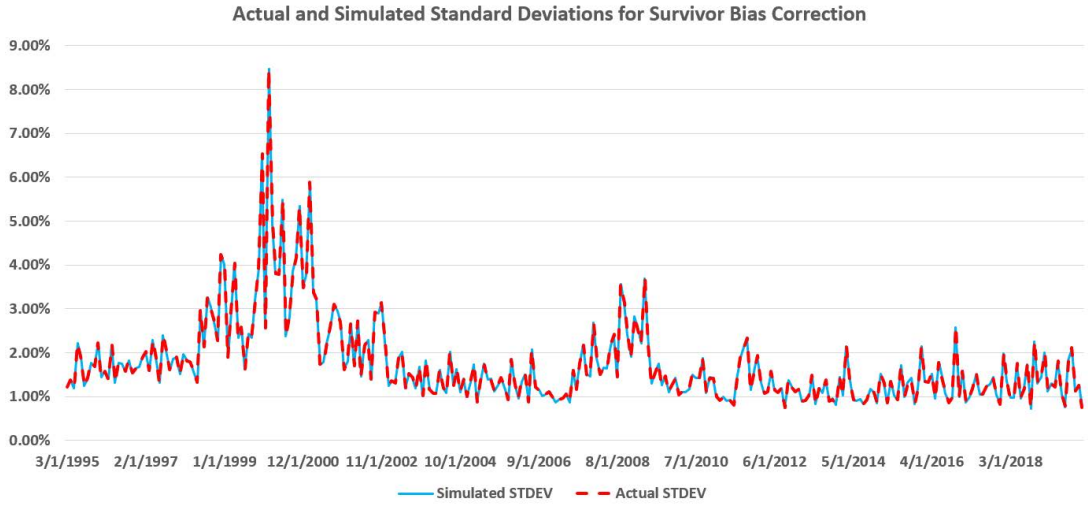

Figure 8: Standard deviation of monthly return: actual (red, dashed) and simulated (blue, solid).

We did not preserve correlations in this correction method.

As expected, we observe that the means of the pre- and post- correction data sets are the same and that the distribution of returns pre- and post- correction is different.

[1]G.C. Allen, et. al., Journal of Investment Management, Vol. 16, No. 3 (2018), pp 46-57.

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