



ACTIVE MANAGEMENT PERFORMANCE CYCLES

Introduction

One of the most fundamental decisions for institutional investors is the extent to which to use active managers as opposed to low-cost index funds. The primary argument for using active managers is their ability to provide investors with enhanced returns. However, realization of this benefit assumes that investors can reliably differentiate skilled investment managers from unskilled ones. The primary argument for passive management is the belief that, in aggregate, active management is a loser's game – in other words, investors have a higher likelihood of choosing a manager that underperforms a comparable low-cost index fund.

After thoroughly reviewing the literature and conducting analysis of our own, our conclusion as to whether active management pays is an admittedly unsatisfactory “it depends.” One of the most compelling reasons for reaching this conclusion is the simple fact that different asset classes exhibit different levels of market inefficiency. Therefore, the probability of success and magnitude of potential outperformance, differs materially by asset class and sub-asset class. **Figure 1** illustrates this point by showing the median excess return for different equity and fixed income sub-asset classes over several annualized periods.

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**Figure 1: Active Managers Median Annualized Excess Returns (Net of Fees)¹
(Periods Ending 12/31/2015)²**

Asset Class	3 Year	5 Year	7 Year	10 Year
US Large Cap Equity	(0.7)	(0.8)	(0.9)	(0.1)
US Small Cap Equity	0.3	0.5	1.0	0.4
Non-US Large Cap (EAFE)	0.1	0.5	0.4	0.4
Non-US Large Cap (ACWI ex US)	1.8	1.4	0.9	0.6
Non-US Emerging Markets	1.1	0.5	0.5	0.2
US Fixed Income Core	0.1	0.3	0.8	0.2

Source: Russell Investments, Bloomberg Barclays, eVestment (2016)

¹ Fee assumptions are based on eVestment Alliance peer group median given the mandate size of \$500 million for US large cap, core fixed income, and non-US large cap, and \$200 million for US small cap and emerging markets. For clients with smaller mandates, the excess return would be reduced as a result of higher fees.

² For example, median excess returns for a 10-year annualized period are calculated based on the universe of active managers with 10 years of data as of 12/31/2015; managers who do not have data for the entire 10 years are not included in the median calculation; thus this analysis has survivorship bias and end point sensitive.

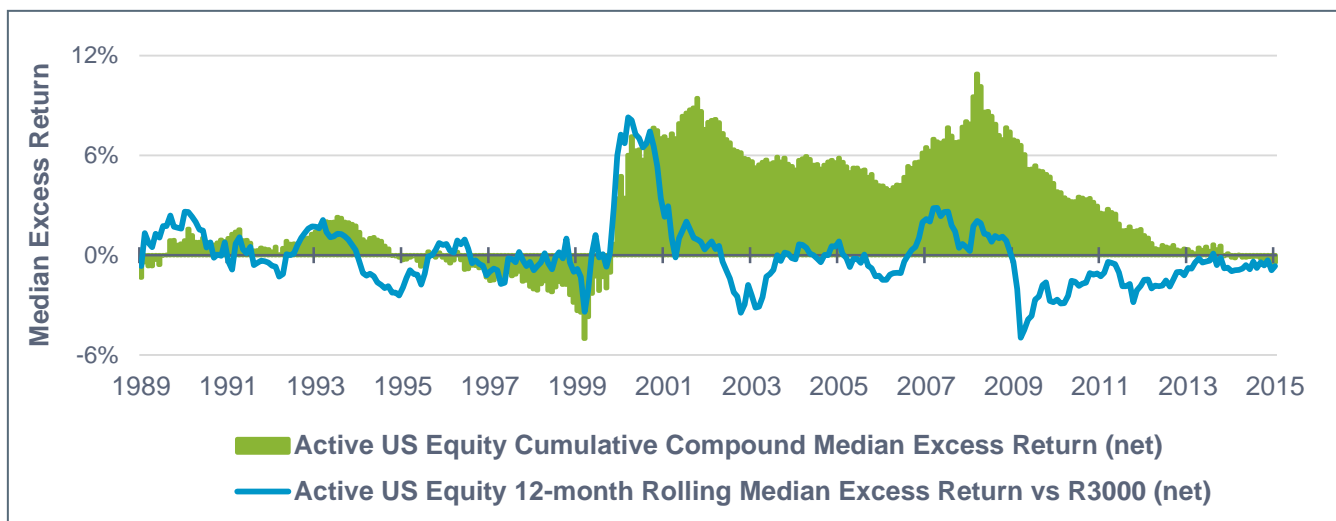
These results are unlikely to surprise many investors; it is widely known that the strength of active management opportunities differs by asset and sub-asset class. Thus, in our research, we took a deeper dive to determine if there were market attributes that could help explain or even predict when active manager usage is more likely to result in favorable outcomes. Over a 12-month period, we investigated attributes, such as market returns, market volatility, dispersion in stock returns, pairwise correlation of stock returns, small cap tilt, and international tilt for large cap managers.

Due to the sheer scope of this topic, we limited our analysis to large cap US equity. We selected this asset class because of the extended period of relative underperformance for this cohort as a whole. **Upon completion of our research, we isolated two attributes that appear to explain active manager performance cycles in the large cap equity space. The first is the strength and duration of overall market performance, and the second is the dispersion of returns within the sub-asset class.** The remainder of this paper reviews the results of this analysis. Our hope is that by providing investors with a deeper understanding of attributes that influence when active management is more or less likely to be successful, we can encourage more informed decision-making regarding the optimal active/passive mix for their portfolios.

US Equity Active Manager Performance Trends

US equity managers have endured a particularly challenging period over the past six years. Relative to their respective benchmarks, more than 50% of active managers have underperformed during this period. As illustrated in **Figure 2**, since 2009, active US equity managers have, in aggregate, underperformed the Russell 3000 Index on a rolling 12-month basis. This prolonged period of underperformance naturally prompted the question of whether the shift represents a structural change or simply an extended trough, which is part of an ongoing cycle that is likely to reverse.

Figure 2: Active US Equity Manager Performance vs. Russell 3000³
(Net of Fees, December 1989 – December 2015)

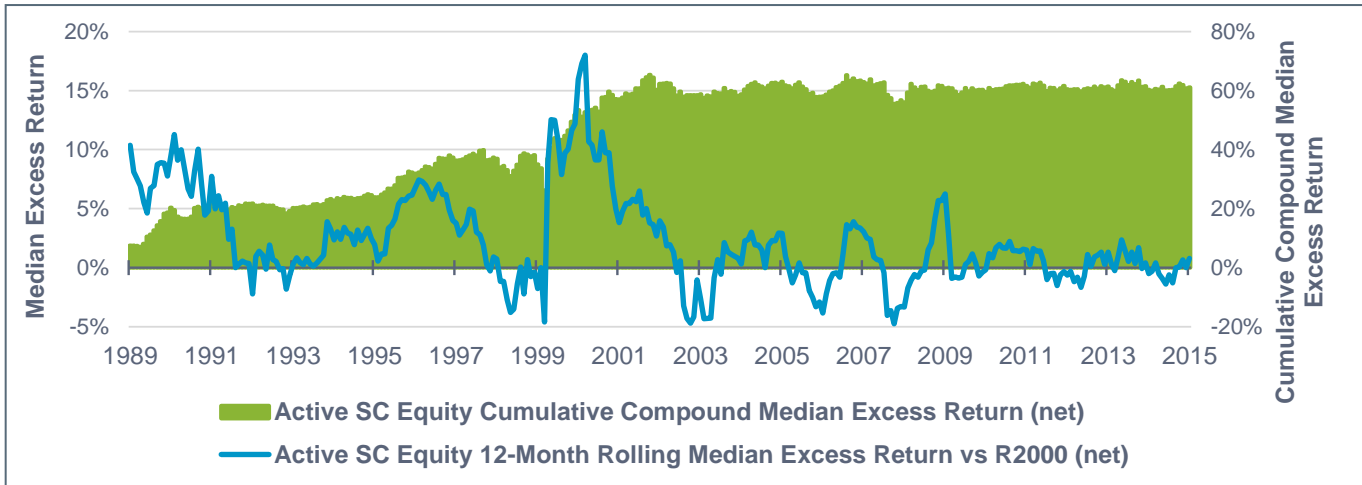


Source: RVK calculations based on Russell Investments and eVestment (2016) data

³ Excess returns are computed by comparing 12-month rolling annualized returns (gross-of-fee) for an eVestment equity universe to the universe-specific Russell Index. Median excess returns are computed by calculating the 50th percentile for the 12-month rolling annualized excess return for each rolling month. Annual fees are computed as described in Footnote 1. Cumulative compound median excess returns (net of fees) are computed by compounding monthly (net of fees) median excess returns for a specific universe.

After segmenting the US equity asset class further, we observed that the performance trend was not uniform. In fact, active US small cap equity managers fared reasonably well over this period, outperforming a broad small cap equity market index (albeit with subdued excess returns) even during the last 6 years (see [Figure 3](#)).

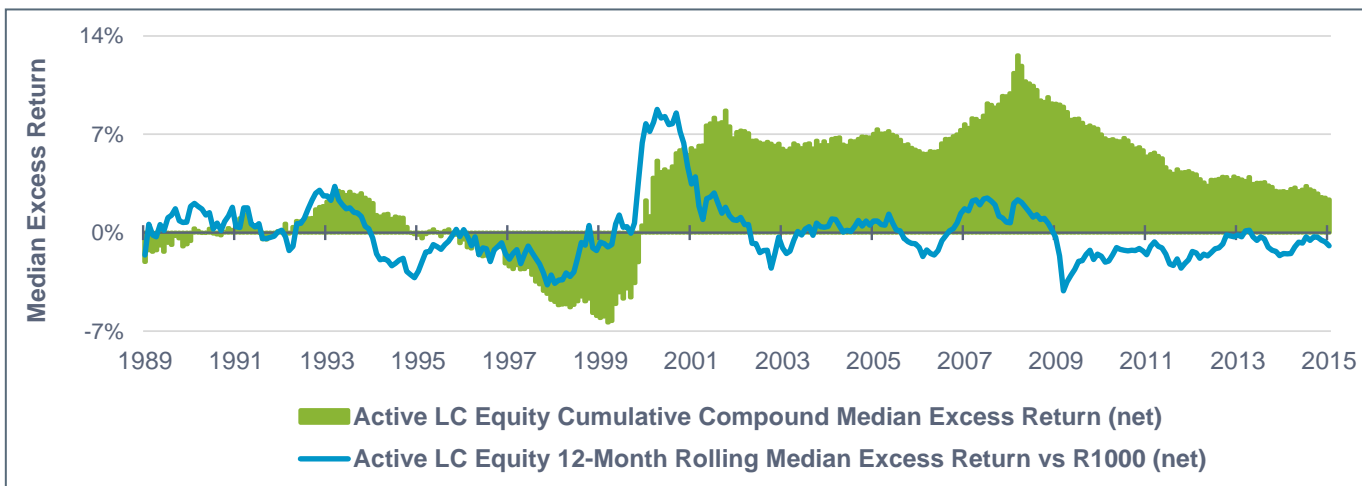
Figure 3: Active US Equity Small Cap Manager Performance vs. Russell 2000 (Net of Fees, December 1989 – December 2015)



Source: RVK calculations based on Russell Investments and eVestment (2016) data. Annual fees are computed as described in Footnote 1 and median excess returns are computed as described in Footnote 3.

The opposite trend was observed with active US large cap equity managers, which underperformed the large cap Russell 1000 index since 2009, as shown in [Figure 4](#). Due to the fact that overall US equity challenges were concentrated in the large cap segment, our research objective was to explain why US large cap equity managers have struggled over the last 6 years and provide practical recommendations for investors seeking exposure in this market segment.

Figure 4: Active US Equity Large Cap Manager Performance vs. Russell 1000 (Net of Fees, December 1989 – December 2015)



Source: RVK calculations based on Russell Investments and eVestment (2016) data. Annual fees are computed as described in Footnote 1 and median excess returns are computed as described in Footnote 3.

The Cyclical Nature of Investing

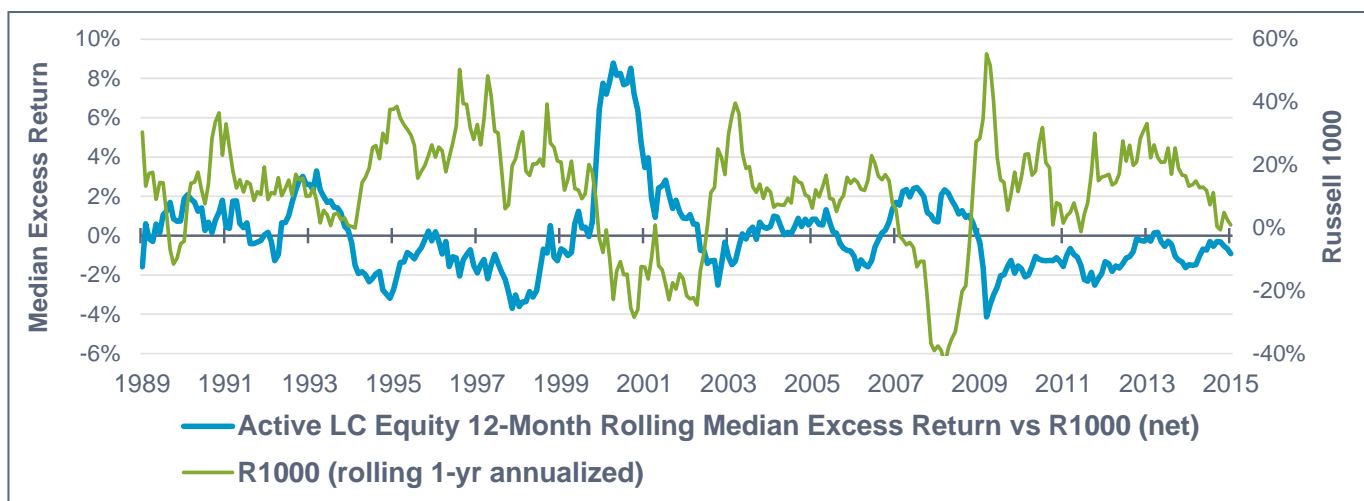
As shown in [Figures 2, 3, and 4](#), excess returns from active management are cyclical. Active large cap equity managers have experienced prolonged periods of negative excess returns, such as the 1995-2000 period. However, these periods were typically followed by a period of sustained, positive excess returns. The current period of underperformance stands out primarily because it is the longest one on record, spanning almost 6 years. However, the last 6 years have also been characterized by unique market and macroeconomic conditions that, in our view, have created major headwinds for active large cap managers.

Our research suggests two market dynamics in particular that are contributing to large cap equity manager underperformance – magnitude and longevity of the current US equity bull market, as well as low dispersion of stock returns.

Index Return Levels

A commonly held viewpoint in the industry is that during strong bull markets, actively managed funds tend to underperform their benchmarks, whereas in bear markets, active managers are more likely to deliver positive excess returns. The data supports this viewpoint. In [Figure 5](#), we compared excess returns of actively managed large cap equity funds with the Russell 1000 Index. One can clearly see the cyclical nature in the performance of active funds, and the presence of a negative correlation between excess fund returns and market performance. **In other words, active large cap equity managers tend to outperform their benchmarks when equity market returns are weak (single digits or less); and vice versa, active large cap equity managers tend to underperform their benchmarks when equity market returns are strong.**

Figure 5: Cyclical Nature of Active Large Cap Manager Excess Returns and Index Returns (December 1989 – December 2015)



Source: RVK calculations based on Russell Investments and eVestment (2016) data

To further analyze this relationship, we broke down the large cap universe into three style universes and compared their performance with appropriate style benchmarks. As seen from [Figure 6](#), the negative relationship is strongest for large cap core, although it is still robust across all styles.

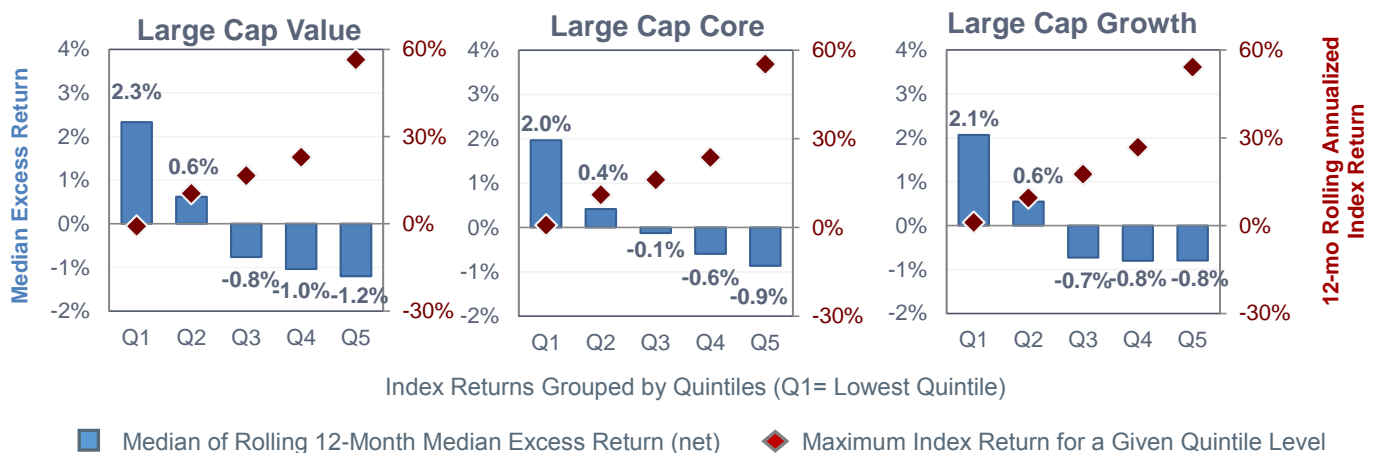
Figure 6: Correlation between Index Returns and Active Manager Relative Performance⁴

From 12/1989 to 12/2015	LCV	LCC	LCG
Historical correlation between median excess returns (net) and index return	-49%	-65%	-53%

Source: RVK calculations based on Russell Investments and eVestment (2016) data. Correlations are calculated based on 12-month rolling annualized median excess returns and 12-month rolling annualized universe-specific benchmarks. We used the Russell family of indexes for each style peer group.

In order to refine our analysis further, we segmented the data to determine how managers tended to perform in markets with different return levels. Our analysis grouped historical 12-month rolling annualized market returns into quintiles, from the lowest index returns in Quintile 1 to the highest returns in Quintile 5. We then calculated median excess returns from actively managed funds for each specific market return quintile. As **Figure 7** illustrates, active managers produce significant excess returns when overall market returns are weak (1st Quintile). As equity market returns rise, active manager outperformance diminishes. **During strong bull markets (5th Quintile), active managers experienced the greatest difficulty outperforming their respective benchmarks.**

Figure 7: Excess Returns Earned by Median Active Large Cap Manager under Varying Index Return Environments (Net of Fees, December 1989 – December 2015)

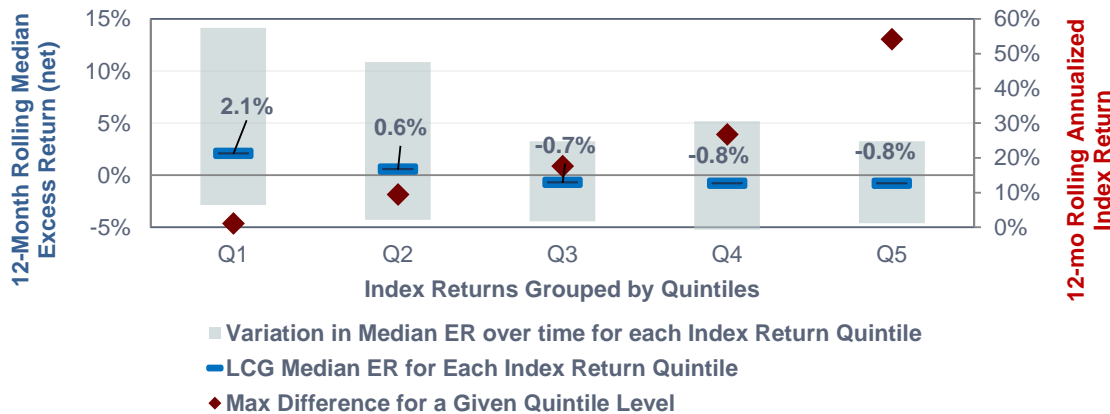


Source: RVK calculations based on Russell Investments and eVestment (2016) data

It is worth noting that excess returns in **Figure 7** show the **medians** of historical 12-month annualized excess returns for a 50th percentile manager (median manager). However, there is a substantial variation in excess return outcomes over time. We have observed the greatest variability in the active large cap growth universe. **Figure 8** illustrates the variation in median excess returns for the large cap growth universe of active managers. The blue lines in **Figure 8** represent the median values of the rolling 12-month median excess returns and correspond to the values of the blue bars in **Figure 7**, while the grey bars in **Figure 8** show all the median excess returns achieved by large cap growth universe over the period analyzed.

⁴ Herein and throughout this paper, active large cap value equity universe is stated as “LCV”, active large cap core equity universe as “LCC”, and active large growth equity universe as “LCG.”

Figure 8: Variation in Median Excess Returns for the Large Cap Growth Universe of Managers for Various Levels of Index Returns (Net of Fees, December 1989 – December 2015)



Source: RVK calculations based on Russell Investments and eVestment (2016) data

The current US equity bull market is the second longest in history (cumulative 225% return over 82 months since March 2009 based on the Russell 1000 Index). **Figure 9**, below, ranks annual Russell 1000 index returns since 2009 according to the historical quintile breakdown. In 5 out of the last 7 years the Russell 1000 Index delivered double digits returns, ranking those returns in 3rd and 5th quintiles of the historical annualized index returns since December 1979. As we have seen from the figures above, actively managed funds struggle in pronounced bull markets.

Figure 9: Russell 1000 Index Historical Ranking

	2009	2010	2011	2012	2013	2014	2015
Russell 1000 Index (annual returns)	28%	16%	2%	16%	33%	13%	1%
Quintile Ranking (based on 1979-2015 Data)	Q4	Q3	Q2	Q3	Q5	Q3	Q1

Source: Russell Investments (2016). Note: lowest index returns are grouped in Quintile 1, while the highest index returns are grouped in Quintile 5.

The observations in our research are not unique. Results produced by many other researchers reveal the negative relationship between index returns and active manager performance. However, while the relationship is generally recognized, there is no consensus on the root cause. One hypothesis is that the negative correlation reflects the fact that active managers are highly considerate of risk when building portfolios. Institutional investors are keenly aware of their fiduciary responsibilities to manage risk, and as a result, may tend to have a bias toward selecting managers that create portfolios that are positioned more conservatively relative to the benchmark. In addition to the more defensive stance, small allocations for frictional cash are required for operational and strategic needs. This may contribute to underperformance on the upside and protection on the downside.

Dispersion of Stock Returns

A second market dynamic that correlated to active manager excess returns versus their benchmark is dispersion of stock returns. Dispersion, also referred to as cross-sectional portfolio volatility, is the degree of variation in the returns of a portfolio’s components.⁵ It measures how wide the difference is between the top- and bottom-performing stocks in an

⁵ T. Edwards and C. Lazzara. December 2013. “Dispersion: Measuring Market Opportunity.” S&P Dow Jones Indices.

index. Higher dispersion means that the gap between high returning stocks and low returning stocks is wide, while lower dispersion means that the gap is narrow.

We found evidence that large cap active manager relative performance is positively correlated with dispersion in stock returns. In other words, large cap active managers generally provide higher performance when dispersion is high, and lower performance when dispersion is low. Figure 10 shows this positive relationship.

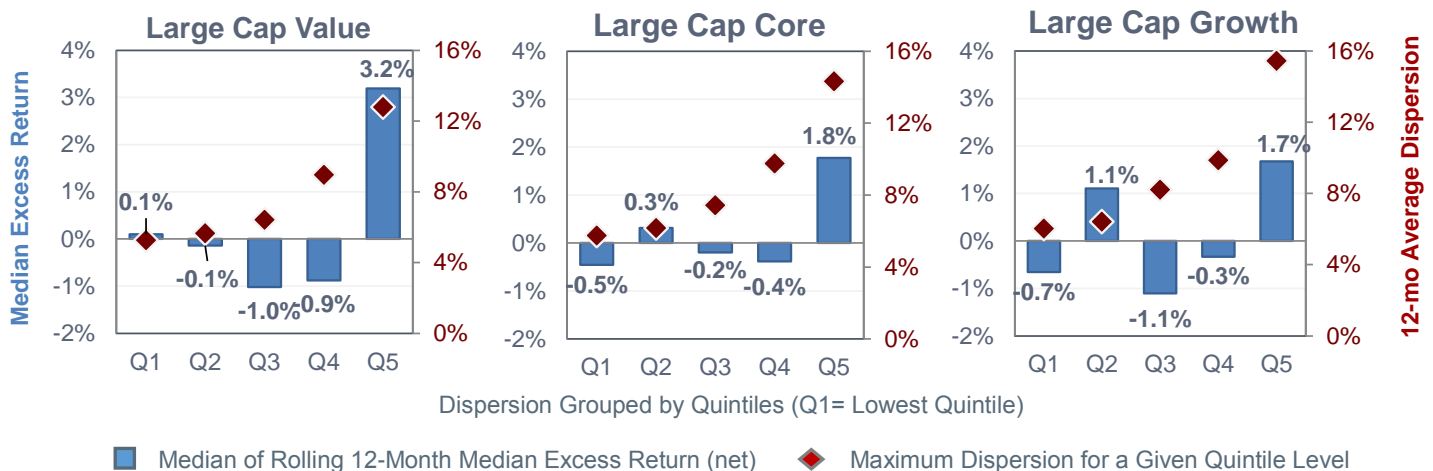
Figure 10: Correlation between Dispersion⁶ and Active Manager Relative Performance

From 07/1996 to 12/2015	LCV	LCC	LCG
Historical correlation between median excess returns (net) and dispersion	54%	56%	56%

Source: RVK calculations based on Russell Investments, S&P Dow Jones Indices and eVestment (2016) data. Correlations are calculated based on 12-month rolling annualized median excess returns and rolling 12-month average dispersion.

As with index returns, we also grouped historical rolling average dispersion in stock returns into quintiles, from the lowest instances of dispersion in Quintile 1 to the highest dispersion in Quintile 5. We then calculated median excess returns from actively managed large cap funds for each dispersion quintile. As evidenced in Figure 11, the relationship between dispersion and active manager performance is strongest at the positive extreme (represented by Quintile 5). When dispersion increases to the highest levels, so does active manager outperformance. However, incremental increases in dispersion at low/medium levels have minimal effect on relative active manager performance. Similarly to the index return analysis, there is also a variability in excess return outcomes for any given level of dispersion.

Figure 11: Excess Returns Earned by Median Active Large Cap Manager under Varying Dispersion Environments (Net of Fees, July 1996 – December 2015)



Source: RVK calculations based on Russell Investments, S&P Dow Jones Indices and eVestment (2016) data. Dispersion time series are constructed as described in Footnote 6.

⁶ For the dispersion of index stock returns, we used the Russell-Parametric Cross-Sectional Volatility (CrossVol) indexes (USA LC CrossVol, USA LC Value CrossVol, USA LC Growth CrossVol) from July 1996 through September 2015, at which point Russell discontinued the CrossVol indexes. We used S&P Dow Jones Indices dispersion calculations for the S&P 500 Index as a proxy for dispersion in large cap space starting from October 2015. Historical correlation between the Large Cap CrossVol indexes and the S&P 500 dispersion has been >92%. Both providers calculated dispersion on a monthly basis. We then calculated 12-month rolling dispersion to correspond to the 12-month rolling annualized manager excess returns.

Unlike market performance trends, the reason that return dispersion impacts active manager performance is a bit more intuitive. **Figure 12** shows market environments characterized by high dispersion and low dispersion, followed by an explanation of how this impacts active manager performance.

Figure 12: Illustration of Dispersion in Stock Returns

	Return			Return	
Stock A	20%	Higher Dispersion	Stock A	20%	Lower Dispersion
Stock B	12%		Stock B	19%	
Stock C	10%		Stock C	18%	
Stock D	5%		Stock D	17%	
Stock E	3%		Stock E	16%	
Index Return	10%		Index Return	18%	

Explanation

- In a market with high dispersion, if an index is up 10% and a manager picks Stock A, his skill will pay off bountifully as that stock would deliver an additional 10% of excess return over the index.
- In a market with low dispersion, if the same manager picks Stock A with the same return of 20%, but the index is up 18%, the excess return will only be 2%. While a manager exhibits a similar relative level of skill in both cases, the level of outperformance differs substantially.

Compounding the active management challenges associated with an extended US equity bull market, since 2010 dispersion in stock returns for all of the Russell indexes has fallen below historical averages. **Figure 13** below shows historical dispersion for the Russell 1000 Index. As we noted previously, very low dispersion creates an unfavorable environment for active managers as active deviations from an index do not result in significant payoffs. If historical patterns repeat themselves, we would expect active manager performance in large cap sectors to improve if we see a significant increase in the dispersion of stock returns in the future.

Figure 13: Historical Dispersion for the Russell 1000 Index



Source: Russell Investments and S&P Dow Jones Indices; rolling 12-month average for the Russell-Parametric Large Cap CrossVol index tracking the Russell 1000 Index prior to September 2015, and rolling 12-month average dispersion for the S&P 500 Index thereafter.

2009-2015: The Perfect Storm for Active US Large Cap Equity Managers

In the sections above, we analyzed individual market dynamics, such as market performance and dispersion, and their effects on active managers' outperformance. A close examination of the market environment since 2009 reveals that this period has been characterized by both a strong bull market and a historically low level of dispersion.

An analysis of the two dynamics combined shows that during market environments when dispersion is very low and index returns are very high (top right quadrant), active large cap managers have historically delivered practically zero median excess returns on an annual basis (see [Figure 14](#)). On the other hand, active managers have consistently produced median excess returns above 3% during bear markets with high dispersion in stock returns (bottom left quadrant). Due to the fact that the past 7 years were characterized by both high market returns and low dispersion, it is not surprising that active large cap managers struggled.

Figure 14: Active Manager Median Excess Returns under Combined Effects of Index Returns and Dispersion in Stock Returns (Net of Fees, July 1996 – December 2015)

		LCV		LCC		LCG	
		Index Return Quartiles					
		Bottom Q	Top Q	Bottom Q	Top Q	Bottom Q	Top Q
Dispersion Quartiles	Bottom Q	0.6%	-0.6%	0.0%	-0.6%	N/A	-0.5%
	Top Q	2.8%	0.9%	3.6%	-0.6%	5.9%	-1.2%

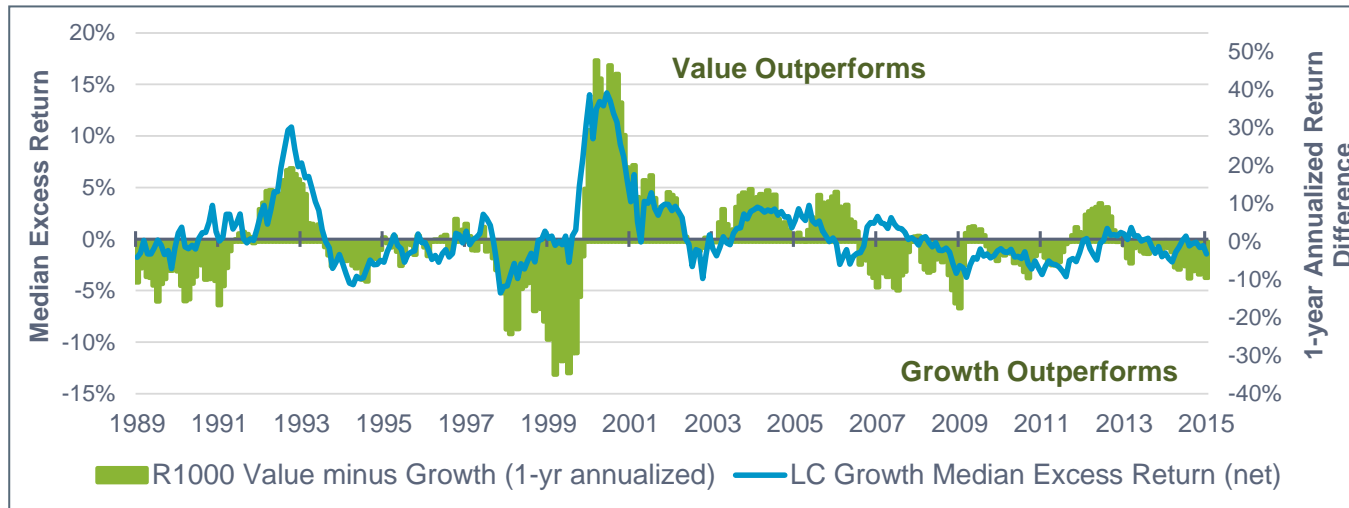
Source: Russell Investments, S&P Dow Jones Indices, and eVestment (2016). Numbers in the table show the averages of the 12-month rolling median excess returns achieved under each specific environment. "Bottom Q" indicates bottom (25th and below) quartile ranking and "Top Q" indicates top (75th and above) quartile ranking of historical index returns and dispersion. "N/A" indicates that there were no instances of both market dynamics occurring at the same time for the particular style. For example: Large Cap Value equity active managers have historically produced on average a 2.8% median excess return over a 12-month period in the environment of very low index returns (ranked 25th percentile and below) and very high dispersion (ranked in the 75th percentile and above).

Large Cap Growth Case Study: Effect of Style Cycles

In addition to the prolonged bull market and historically low dispersion, there is another performance cycle – the growth cycle – that we have observed over the last 10 years. This cycle also appears to have affected performance of the large cap growth managers in particular. As [Figure 15](#) illustrates, markets tend to go through prolonged periods in which either value- or growth-oriented companies outperform. During a growth cycle, the Russell 1000 Growth index produces returns higher than the Russell 1000 Value index and vice versa.

The recent period starting in 2006 is one of the longest periods of growth leadership, meaning that the growth benchmark has posted stronger returns relative to the value benchmark. In line with our index return analysis, when an index produces strong returns, active managers tend to exhibit weak relative performance. Looking at [Figure 15](#), active large cap growth managers' median excess returns have historically fallen below zero when growth outperforms value.

Figure 15: Active Large Cap Growth Manager Performance and Value versus Growth Cycles (Net of Fees, December 1989 – December 2015)



Source: Russell Investments, eVestment (2016). Median excess returns are computed as described in Footnote 1.

Conclusions

Our evaluation of US large cap equity manager performance suggests that the current period of underperformance by actively managed funds constitutes a prolonged trough within an ongoing cycle. The drivers of the collective underperformance appear to be market conditions, including index return levels and return dispersion. The past six years have proven especially challenging due to the fact that markets have experienced high and sustained absolute levels of return coupled with low levels of return dispersion. Both of these market characteristics are unfavorable for active managers.

The observations in this paper may tempt investors to abandon active management strategies in the US large cap equity market. While we concede that this is a prudent approach for certain investors depending on their objectives and constraints, we do not believe our observations are sufficient to warrant a wholesale abandonment of active US large cap equity. It is conceivable that the market environment will become more favorable as the bull market ages and greater return dispersion resurfaces. In addition, even in this market, skilled investors can choose active managers that outperform despite the cyclical headwind. In summary, we believe that investors should consider this research alongside their investment objectives and constraints, and make a decision that is most suitable for their strategy.

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