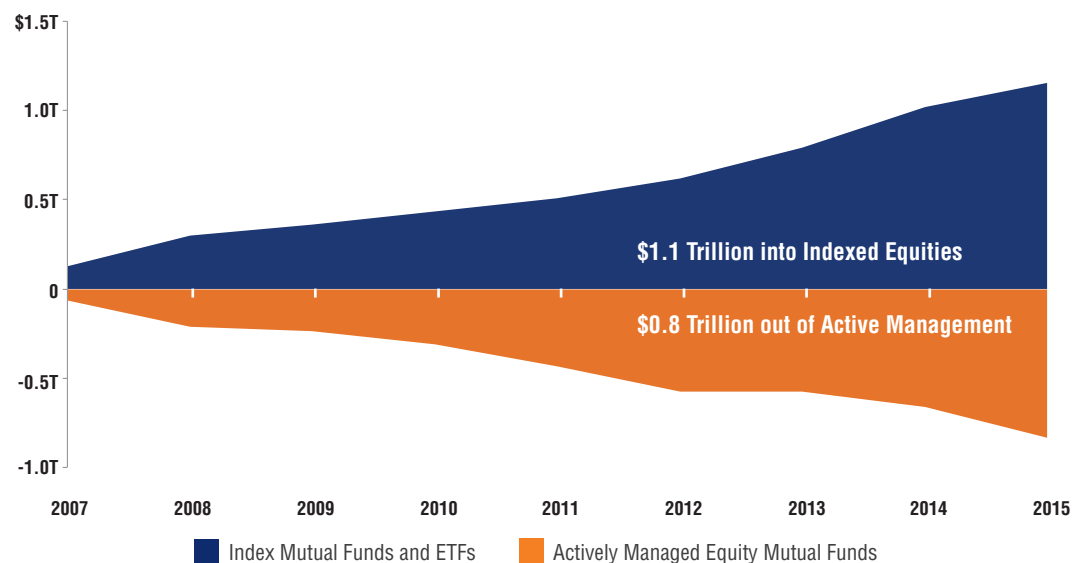


Key Considerations for Active Investors

FIGURE 1 Fund Flows of Indexed Equities vs. Actively Managed Equities



Source: Investment Co Institute, July 2017

The debate between active and passive investing (either through index mutual funds or index exchange traded funds) has been argued publicly for quite some time now. Many papers before this one have argued the pros and cons of each side. This piece is not intended to echo or continue that debate as most have already made up their minds on the subject. The purpose of this paper is to identify the key considerations impacting the under or outperformance of actively managed equity funds in hopes that investors and advisors can make more informed decisions when evaluating active strategies. We've identified the following patterns:

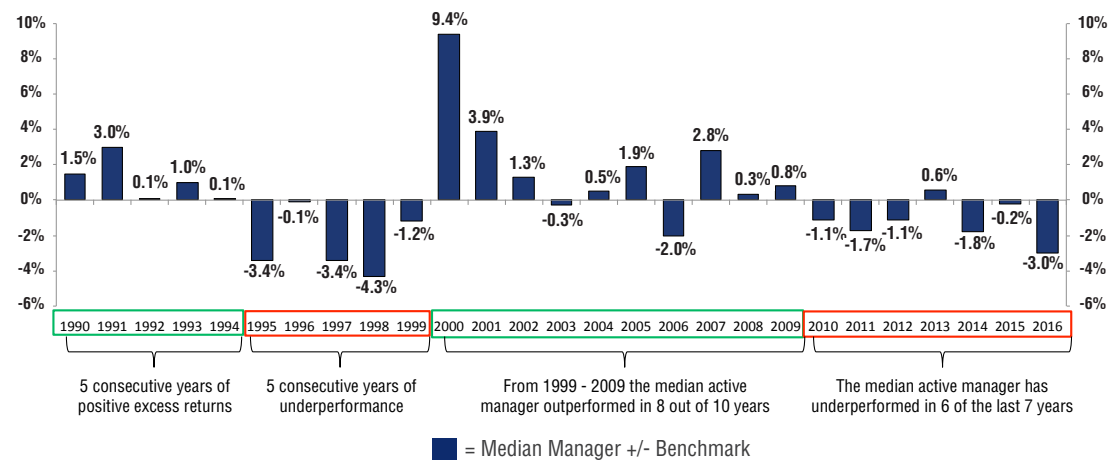
- Active management outperformance is cyclical
- Active management tends to outperform when “value” is in favor
- Active management historically pulls ahead during market corrections
- Active managers need to be different to outperform (tracking error is REALLY important)

Cyclicality of Active Management

Like many things financial, the outperformance of active management tends to be cyclical, going in and out of favor for periods at a time. Looking back nearly 30 years to 1990, there are 4 distinct active cycles:

- The period from **1990 – 1994** where active management outperformed for 5 years in a row
- The period from **1995 – 1999** where active management underperformed for 5 years in a row
- The period from **2000 – 2009** where active management outperformed in 8 out of 10 years
- The period from **2010 – present** with 2013 being the only year of active management outperformance

FIGURE 2 There Have Been 4 Distinct Alpha Cycles Since 1990
Median Excess Return vs. Benchmark; Includes Actively Managed, Large-Cap, Long-Only, U.S. Funds



Source: eVestment, Goldman Sachs Investment Research, July 2017

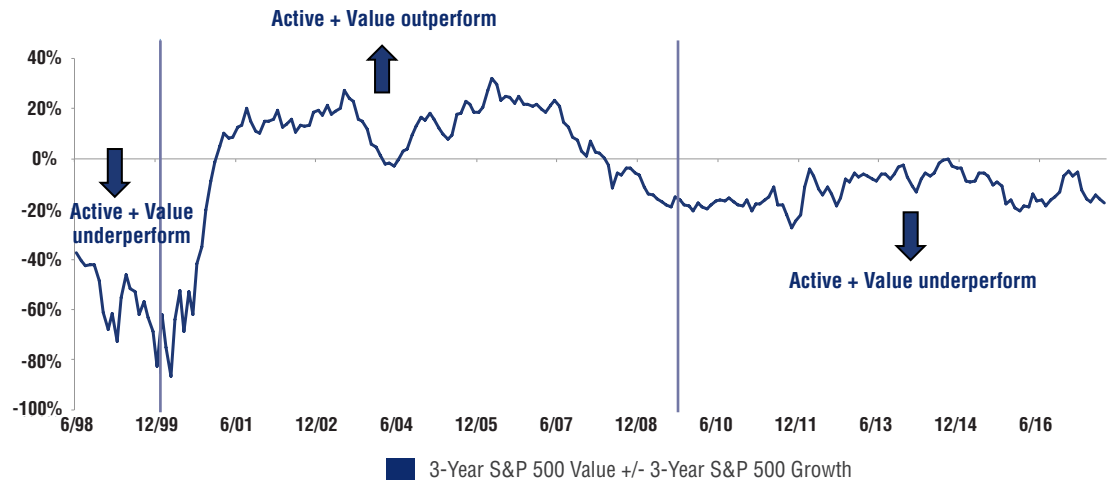
Not surprisingly, the current environment has been quite lackluster for active management. Going back to 2010 there has only been one year (2013) with outperformance for active management (+0.6%) and 2016 marked the worst year for active management since 1998 when the U.S. tech bubble was in full force.

The rise in popularity of index ETFs and record low interest rates have both played a role in exacerbating this underperformance cycle. However, we believe advisors should begin to prepare client portfolios to take advantage of the next upward cycle and active rebound.

Active Management and Value Investing

The cyclicality of active management previously discussed draws many parallels to the cyclicality of value stocks. In fact, when we looked at the periods when active and value both outperformed, there seemed to be substantial overlap. According to Goldman Sachs Investment Research, there's a high (~64%) correlation between active management and value outperformance. Another interesting takeaway from Figure 3 (see next page) is that since 2008 there hasn't been a single 3-year period where value has outperformed growth, which represents the longest growth regime since 1975.

FIGURE 3 Active + Value Performance

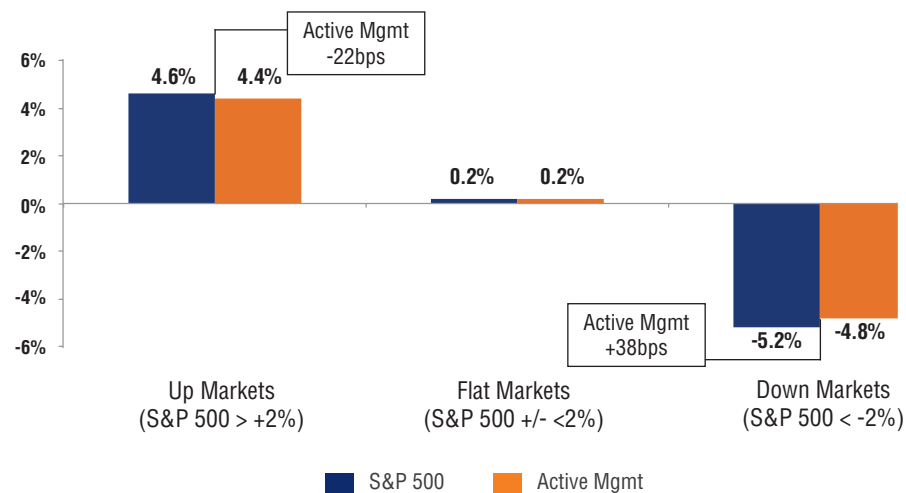


Source: Bloomberg, eVestment, Goldman Sachs Investment Research, July 2017

Active Management Positioned to Excel with Market Pullback

On average, active management tends to have an attractive “capture ratio” through cycles of up and down markets. The capture ratio measures how much downside a fund participates in versus how much upside the fund participates in. Ideally you’d like to capture more upside than downside for a capture ratio greater than 1 (upside capture/downside capture). Going back to 1990, we see that active management keeps up during up markets (underperforming slightly) but outperforms by a greater degree during down markets, achieving an attractive capture ratio. Since the current bull market commenced more than 8 years ago, indexes have risen over 250% according to Bloomberg. The data reveals that active management will typically lag in periods like these, as it has, but should eventually catch up and outperform when the market pulls back.

FIGURE 4 Active Management Lags in Up Market and Outperforms in Down Market
Average Benchmark of Fund Performance (1990-2017)



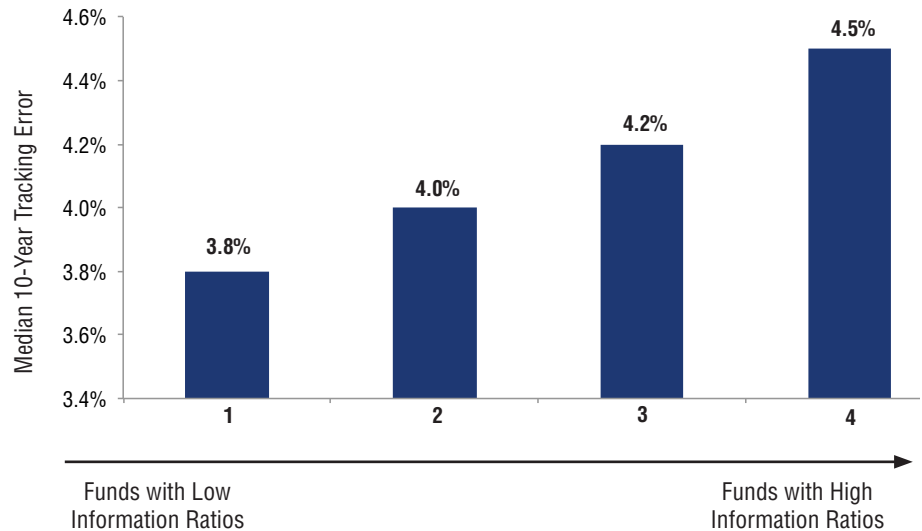
Source: eVestment, Goldman Sachs Investment Research, July 2017



Active Management: Dare to be Different (Active Share + Tracking Error = “Skill”)

The goal of active management, and its intended role in a portfolio, is to generate alpha over an index or benchmark. In order to be active and generate alpha, the manager needs to be different from the index. One way to measure how different a manager is from the index (and to weed out “index huggers”) is through the fund’s tracking error. Tracking error is the standard deviation of the difference between the fund’s returns and the benchmark’s returns. The higher the tracking error, the more the fund differs from the index. According to Goldman Sachs Investment Research, high tracking error has also been highly correlated to active outperformance as shown in Figure 5 below. Historically, data shows that the periods of active outperformance have occurred when tracking error was the highest. Higher tracking error also points to funds with greater information ratios (IR) or skill. IR measures a fund’s active return (excess return over a benchmark) per unit of active risk (the tracking error) and is used as a proxy for manager skill. Looking at the trailing 10-year, funds with the highest information ratios also had the highest tracking error.

FIGURE 5 Funds With The Highest Information Ratio Also Have Highest Tracking Error
High Tracking Error = More Skill (High IR)
Median 10-Year Tracking Error; Bracketed by 10-Year IR Quartiles (Low to High)



Source: eVestment, Goldman Sachs Investment Research, July 2017



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Another way to measure how different a Fund is from a benchmark is the holdings-based active share. Active share measures the percentage of stock holdings in a fund that differs from the benchmark index. Research from Lazard Asset Management reveals that the highest active share quintile corresponds to the highest average outperformance.

FIGURE 6 Active Share and Performance for Global and International Funds (2007-2011)

Active Share Quintile	Average Active Share (%)	Gross Excess Return (%)	Net Excess Return (%)
High	92.8	2.33	1.17
	86.2	1.69	0.44
	81.1	1.52	0.37
	75.1	1.26	0.17
Low	59.3	0.10	-0.95

Source: Lazard Asset Management; Morningstar, 2013

Conclusion: Now is the Time to Benefit from Active Management Outperformance

The recent trend in fund flows seems to indicate a bias toward passive styles of investing. However, our studies show that active investing is worth another look. Active investing has historically been cyclical, tending to outperform during periods when value stocks are in favor. Looking over the last 30 years of cycles, the recent period from 2010 to present has favored growth stocks, but that cycle may be due for a change toward value. In addition, it is useful to look at fund tracking error, as tracking error is instructive in identifying active portfolio managers with experience in outperforming the benchmark index. Now may be a good time for advisors to take a look at opportunities with active management.

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