

## Compelling Evidence That Active Management Really Works

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*The following article is taken from Chapter 7 of Solow's book.*

The first half of this book offers a new way of looking at passive, strategic buy-and-hold investing. We've seen that the passive approach, rather than limiting risk, actually puts investors at increasing risk, especially as they near retirement, because the buy-and-hold strategy falsely presumes that the stock market will continue to yield historical average returns even when the stock market is expensive and experiencing a long-term secular bear market. Many of the key ideas that justify the passive, buy-and-hold approach – including Modern Portfolio Theory, the Capital Asset Pricing Model, and the Three Factor Model – depend on tortured assumptions that are simply untrue. And despite the investment industry's relentless desire to find a scientific, mathematically driven “black box” formula for successful portfolio construction, it seems that many quantitative models have their own significant problems. Fortunately, for those who are willing to think outside the black box, there is a growing body of cutting-edge academic work that now gives real credence to the practice of active portfolio management and tactical asset allocation.

One nagging issue must still be addressed: Can you prove that an active approach will actually outperform passive portfolio management, either at the asset class level (tactical asset allocation), or at the money manager level (mutual funds or separate accounts)? Even casual students of money management know the conventional wisdom: Active money managers *cannot* outperform the passive indexes. Studies consistently show that markets are efficient and managers, on average, cannot outperform. So even though the underlying assumptions that justify passive investing are doubtful, this pesky notion of efficient markets remains. Tactical asset allocation seems like a good idea in theory, but if the universe of fund managers can't beat their benchmarks, how can a tactical investor identify “good value?” Won't the market of



asset classes quickly identify value and arbitrage it away, proving that value is no easier to find at the asset class level than it is to find at the security level of portfolio construction? Put another way, if managers of individual stocks can't beat their style-specific benchmarks; is it reasonable to think that a portfolio manager can add value at the asset class level?

Surprisingly, two researchers at Yale University say "yes." Instead of looking at the performance of fund managers based on tracking error (which is the difference between managed portfolio performance and the benchmark portfolio), they came up with a second metric for comparison that throws a whole new light on the issue. Based on this new way of evaluating the differences in performance, the Yale researchers found conclusive evidence that active management consistently and significantly does add value over and above the returns generated by passive portfolio management.

### **Understanding the debate**

There is no debate more heated in the investment community than the dispute about active versus passive management. However, the context for the debate is somewhat limited. The vast majority of investors are buy-and-hold, strategic (passive) asset allocators, meaning they devise asset allocations for their portfolios that typically do not change over time. Usually the modifications made are called "lifestyle" changes, which typically occur as an investor gets closer to retirement and their portfolio asset allocation is altered to be more conservative to provide a more stable asset base for anticipated portfolio withdrawals. Once the portfolio is reallocated for retirement, there may be no further changes to asset allocation policy for the lifetime of the investor.

The portfolio asset allocation becomes the "target" allocation for the portfolio, and most investors are taught to rebalance the portfolio back to the fixed target percentages for each asset class based on either a calendar method or a rules-based method. As we have seen in earlier chapters, the academic and theoretical basis for this strategic, buy-and-hold approach has its roots in Modern Portfolio Theory and the Capital Asset Pricing Model. Because markets are considered to be efficient, and investors are considered to have perfect economic foresight, there is no need to change the asset allocation of client portfolios because the assumption is that today's capitalization-weighted allocation of global markets is always efficiently priced.

However, it is somewhat baffling that in the practical world of individual investors and investment professionals, this insistence on buying and holding asset classes due to efficient markets does not translate to the level of investing each asset class in the portfolio. The majority of investment advisors choose to use active fund managers when they invest the asset classes they have selected for their clients, as opposed to passively investing in index funds for each asset class. Apparently financial advisors believe that active fund managers, in the form of mutual fund or separate account



managers can outperform their specific asset allocation benchmarks, which ironically is a strong statement that markets are not, in fact, efficient.

Therefore, one conclusion that can be reached about this inconsistent state of affairs is that many investors believe that fund managers can beat the performance of efficient markets, but they, themselves, cannot. Why? Perhaps the two groups are somehow genetically wired so that only one can actively manage money. It is very ironic that many financial advisors will vehemently deny that they are active managers when it comes to asset allocation strategy, while at the same time vehemently defend their use of the active fund managers that they use to invest client portfolios. It is possible that in the case of some investment advisors their insistence on using active managers for the investment of asset classes is due to a very practical need to differentiate their services from other advisors. After all, if everyone is a passive, buy-and-hold, strategic asset allocator, then being able to sell “better” active managers at the asset-class level to prospective new clients becomes very important.

There is a further irony to the insistence of investors on using active fund managers for the investment of asset classes, while also insisting that they (the investors) should be passive in their asset allocation decisions regarding asset classes. The academic world has been studying the ability of active fund managers to outperform passive indexes since the late 1960's, and the results have not been kind to the idea that active managers can outperform. In fact, dozens of studies have shown that the average active fund manager cannot outperform either the Capital Asset Pricing Model, or a passive benchmark of stocks. The results of these studies have been well publicized in the media, and informed investors are well aware of them. In addition, the proponents of index fund investing often repeat the message that active management does not add value compared to passive management. These venerable and wise investment sages (John Bogle, the founder of Vanguard Investment Group, is a good example) are held up to be friends of the consumer who understand, better than the rest of us, why active management does not work. Over and over again, the message is that active management is a waste of time and money, and investors should simply own the market itself. It is a message that permeates the consciousness of professional and non-professional investors alike. Yet, the majority of investors still utilize active managers to invest the various asset classes in their strategically asset-allocated portfolios. Clearly, while the *average* fund manager may trail the passive indexes for each asset class, investors feel that *their* fund manager will not.

It is true that the majority of academic studies conclude that active management does not add value for investors. However, a closer look at how many studies were conducted reveals several flaws in their methodology that are not as well-known as the accepted conclusion about active versus passive management. For example, many of the earlier studies were based on a small universe of actively managed funds, probably because the databases to analyze large amounts of fund data were not yet available. The earliest studies evaluated less than 200 funds, hardly enough to be a meaningful



sample. Another problem with the studies had to do with choosing a benchmark. Large groups of style-specific funds were often compared to a broad market benchmark like the S&P 500 Index, which often led to conclusions that were colored by investment style as opposed to active management itself. Perhaps the biggest problem with the historical studies that attempt to answer the question of whether or not active managers can add value to portfolio performance above the expected returns as determined by the CAPM model, or broad market benchmarks, is that these studies look at one dimension of return, which is called tracking error. They compare portfolio and index performance without making any qualitative assessment about the securities that are owned in each.

What if an academic study proved that individual fund managers actually do outperform their benchmarks with persistence in a statistically significant way? If truly active fund managers, as opposed to closet indexers, were shown to be able to beat their style-specific benchmarks, then perhaps the idea that investors should put their brains to sleep because markets are efficient would become less attractive. As it happens, two researchers at Yale University have conclusively shown that the most active fund managers actually do significantly outperform their style-specific benchmarks. Their study is important because it helps to allay the fear that using judgment and experience in constructing portfolios is futile.

### **“Active Share”**

In 2007, the Yale University School of Management published an important paper called “How Active Is Your Fund Manager? A New Measure That Predicts Performance,”<sup>1</sup> by Martijn Cremers and Antti Petajisto, which has taken the air out of previous studies that say active management doesn’t work. As the authors explain, the other studies comparing fund managers to benchmarks rely on the traditional method of evaluating how funds perform compared to benchmark returns, which is to use tracking error (the amount of the volatility between a fund’s return and its passive benchmark return) as a guide. But tracking error does not explain whether fund performance is impacted by stock selection or by sector or industry selection.

Instead of merely analyzing tracking error, the authors of the Yale study did something entirely different: They compared the active fund portfolio *holdings* to its benchmark index holdings. Based on this comparison, they concluded that if a fund overweights a fund holding relative to the benchmark holding, it is considered to have an active long position in the stock. If a fund underweights an index stock or doesn’t own it at all it implicitly has a short position in that stock. With this methodology they then show that funds own 100% of the benchmark index stocks, plus or minus the implied long and short positions. They call the net total of the implied long and short positions the “Active Share” of a fund. Since mutual funds almost never take actual short positions, they find

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<sup>1</sup> K.J. Martijn Cremers, Antti Petajisto, *How Active is Your Fund Manager? A New Measure That Predicts Performance*, Yale School of Management, October 3, 2007.

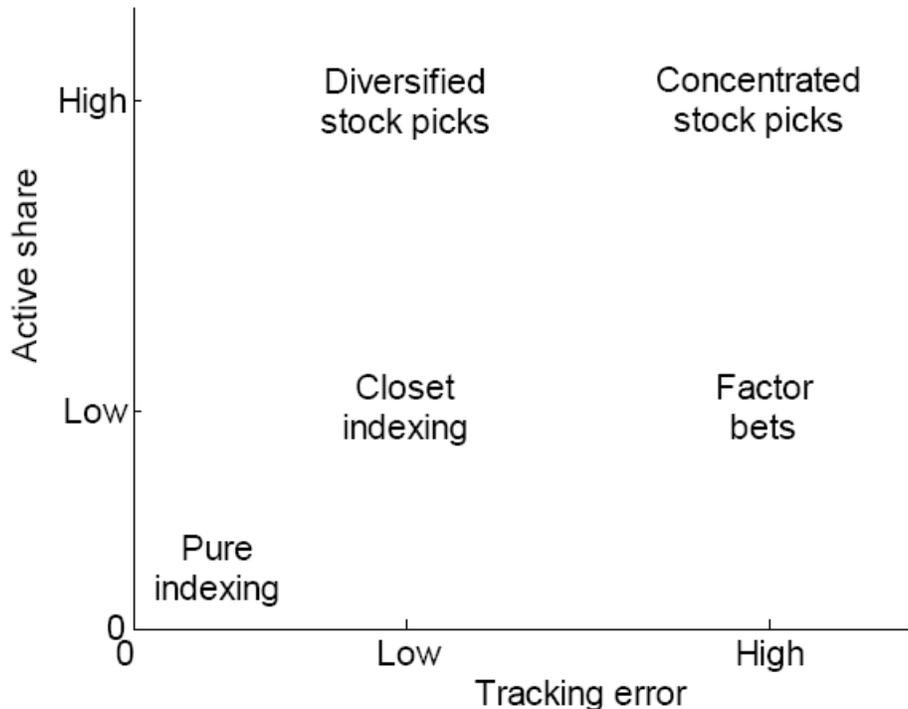


that the Active Share of funds is always between 0% and 100%. Funds with Active Share greater than 80% are considered “stock pickers.” Funds that are non-index funds with an Active Share less than 60% are considered to be closet indexers. Funds with Active Shares less than 20% are Index funds.

Cremers and Petajisto came to these conclusions after analyzing massive amounts of data. They analyzed individual stock holdings and monthly and daily returns for three different families of index funds, including the S&P/Barra, Russell, and Wilshire Indexes. They then collected an exhaustive amount of data on the universe of mutual funds, including the individual holdings of each fund and the monthly and daily returns of the funds from a variety of databases. In the end, after thoroughly scrubbing the fund data to make sure that they had a reliable sample of funds, they studied the Active Share of 2,650 funds in the period 1980-2003. Because they compared the individual holdings of the funds to the individual holdings of the benchmark indexes, they were able to choose the best possible benchmark for each fund by coming up with the closest match between fund holdings and benchmark holdings. This resolved the problems with similar studies where critics argued that active managers were not being compared to an accurate benchmark, thereby invalidating the results of the study.

The Yale study conclusions about active management are startling. They show that active management should be measured in two dimensions: tracking error and Active Share. Tracking error measures the volatility of portfolio return around a benchmark index, whereas Active Share measures the deviation of portfolio *holdings* from the holding of the benchmark index. The study’s methodology identifies different types of active management: diversified stock picks, concentrated stock picks, sector rotators (factor bets), closet indexing, and pure indexing.

Figure 7.1



Source: Yale School of Management<sup>2</sup>

The study confirms the popular belief that small funds are more actively managed than large funds. They also found that a significant percentage of large funds were closet indexers after their size increased over \$1 billion in assets. In fact, the active share of “active” all-equity mutual funds in the U.S. ranges from 30% to 100%, with an average of 66% for large-cap funds. This means that the average large-cap fund essentially indexes one third of its assets, while the worst closet indexers index two thirds of their assets. The study found that there has been a significant shift from active to passive management in the 1990’s. Prior to the 1990’s most mutual funds were truly active, while in recent years the number of actively managed funds has dropped to 20% - 30% of all funds. This is partly due to index funds, but “an even larger part is due to closet indexers and a general tendency of funds to mimic the holding of benchmark indexes more closely,” say the study’s authors. They also found that half of the active positions

<sup>2</sup> Note: Figure 7.1 shows different types of active and passive management, as revealed by a two-dimensional picture. Active Share represents the fraction of portfolio holdings that differ from the benchmark index, thus emphasizing stock selection. Tracking error is the volatility of fund return in excess of the benchmark, so it emphasizes bets on systematic risk. Active funds with concentrated portfolios of individual stocks have the highest exposure to Active Share and tracking error. Factor bets represent active managers who make bets on systematic risk relative to the index. They could be overweighting value versus growth, large versus small-cap stocks, or have an index beta different from 1.



at the fund level cancel out within the mutual fund sector, so that the entire mutual fund industry is less actively managed.

But here's the truly earth-shattering conclusion from this study. They find that not only does Active Share predict fund returns, but that funds with the highest Active Shares significantly outperform their benchmarks both before and after expenses, while funds with the lowest Active Share underperform after expenses. On average, funds with the highest Active Share exhibit some skill and pick portfolios which outperform their benchmarks by 2.00 – 2.71% per year. After fees and transaction costs, this outperformance decreases to 1.49 – 1.59% per year. However, the highest performing group of funds was the group with the highest Active Share, smallest assets, and the best prior one-year performance. This group outperformed their benchmarks by 6% per year, even after deducting fees and transaction costs. In addition, the study finds that active management, as measured by Active Share, is persistent, where tracking error is not. In other words, ranking funds by their relative performance versus a benchmark alone is not likely to predict winning funds in the future, but adding active management to the analysis does.

While Cremers and Petajisto excluded pure index funds from their study, they did find that the funds with the lowest Active Share (closet indexers) underperformed. These funds actually had lower returns than actual index funds because of their higher fees. Importantly, however, funds that were the most actively managed showed persistently higher returns, even after considering fees and expenses. In fact, they found no correlation between fund returns and fees and expenses when studying Active Share. This is an important discovery since one of the biggest objections to active management is that the added transactions involved create additional fees that are presumed to be an insurmountable headwind to beating index performance. The 6% alpha or outperformance of the best performing group, consisting of small funds that had the best performance in the prior year and the highest active share, after fees and expenses, is staggering. It gives credence to those investors who have said that while fund managers on average may not be able to outperform, the particular mutual fund manager that they own in their portfolio is simply superior to the average.

It appears that the reason that active managers couldn't outperform passive benchmarks is because they weren't really actively managing the portfolios in the first place. With the publication of Fama and French's Three Factor Model and the subsequent overwhelming concern about manager style, it is now clear that 70% of funds became either indexed or became closet indexers in their zeal to stay within their Morningstar Style Box. In such a world, the passive funds with the lowest fees would relatively outperform. It is only recently, using the methodology of Cremers and Petajisto's 2007 Yale study that we can now focus on the 30% of funds that are truly actively managed. The results show that active management does, in fact, add significant value.



Enlightened readers will consider that the question of whether active or passive management should be used to invest the individual asset classes that make up a diversified portfolio, where each active manager is compared to a single benchmark or market portfolio, has little to do with the questions of whether or not asset classes themselves are always efficiently priced on an absolute or relative basis, and whether or not it is prudent to rely on past performance rather than judgment and experience to forecast asset class returns. However, if answering that sticky question about why active fund managers can't outperform their style-specific benchmarks is a critical issue for those who are considering tactical asset allocation, they can now rest a little easier.

### **Moving on**

Given the tremendous global palette of asset classes now available to today's investors, it is pure nonsense to assume that all asset classes are fairly valued all of the time, either absolutely, based on their past metrics for value, or based on their relative value to other asset classes. Now that Cremers and Petajisto have shown us that active managers can outperform their benchmarks, and Stanford professor Mordecai Kurz and H. "Woody" Brock, founder of Strategic Economic Decisions, have given us the academic and theoretical reasons why we should spend time and money to attempt to earn excess returns, it is time to begin the practical discussion of how we can find value at the asset class level. It is one thing to say that we should be active, tactical asset allocators, but it is entirely another thing to understand how to best execute such a strategy. Part Two of this book takes on the practical challenges of becoming a successful tactical asset allocator in the real world.

*For more information about active share, read our earlier [article](#) on this topic.*

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