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An Investment Newsletter from
Monticello Associates

February 2015
First Quarter

"*The Ghost in the Machine*"

I grew up in a house with a lot of books – there were books everywhere. Obviously there were books in the library, but they were also stacked in piles throughout our house.

Both of my parents loved to read and tore through books on a variety of subjects. In fact they both self-published books: my mother wrote about Cicero's orations and my father published a book on psychology and another on the Kennedy assassination. To the best of my knowledge, none of the three have ever been read, including by me.

As a child, I was keenly interested in St. Louis Cardinals box-scores and paid little attention to our working library. Occasionally, I would become enchanted with a certain book. My level of interest was based upon the color of a dust-jacket, whether the author had a funny name, or the name of a certain book I found interesting or amusing. One such book was *The Ghost in the Machine*, which was prominently featured in my father's psychology library. This book was published in 1967, written by Arthur Koestler. I remember being enchanted with the title, however I had little interest in it otherwise.

That changed in 1981 when the famed rock band, The Police, released their best-selling fourth album titled (surprise) *The Ghost in the Machine*. By this time I was in college and The Police were my favorite band. Sting, the band's lead singer, bass player and principal songwriter loved philosophy and had become enamored with Koestler's book.

This gave me a reason to do a bit of research where I discovered Arthur Koestler pioneered a philosophical theory based upon the thought that as the human brain evolved it lacked the ability to fully coordinate the areas of the brain responsible for reason and emotion – leading to mankind's ability to incorrectly use reason, ultimately resulting in self-destruction. In other words, *The Ghost in the Machine* is about the faulty wiring in our brains that allows us to continually make bad decisions, allowing emotion to override reason. Another way of looking at it is that Koestler was a precursor to the new popular field of Behavioral Economics, a discipline that has emerged in the past twenty years that attempts to explain why investors make so many bad decisions.

So, it is with this thought in mind that I turn to the subject of this quarter's newsletter, Active versus Passive investing.

Active versus Passive

As most investors are aware, passive investing involves buying a specific index and simply replicating the structure and performance of that index. Active investing places its emphasis upon "actively" constructing a portfolio of fewer, hand-picked companies, in an attempt to beat a given index. Passive investing, more commonly known as indexing, is a valid and often outperforming investment strategy. Over almost all longer time periods, between 50% to 80% of active investment managers fail to beat the S&P 500. When you make the decision to index you more or less guarantee that you will have at least average performance and will probably outperform over time. The longer you stay invested in the index the greater the probability you outperform the average equity manager. There are several reasons for this, but fees and cash are the principal headwinds facing active management. Fees dominate discussions on why active managers tend to underperform, but overall cash levels within portfolios are equally important. Cash has become an even bigger drag on performance in recent years as the U.S. Federal Reserve has maintained its zero percent interest rate policy and money market funds have effectively offered a zero percent return. An active manager who has maintained a 10% cash allocation over the past two years has given up over 400 basis points cumulatively, or 2.0% per annum, on just this position. The index is always 100% fully invested and in roaring bull markets it sets a torrid pace, making it even tougher for active managers to beat.

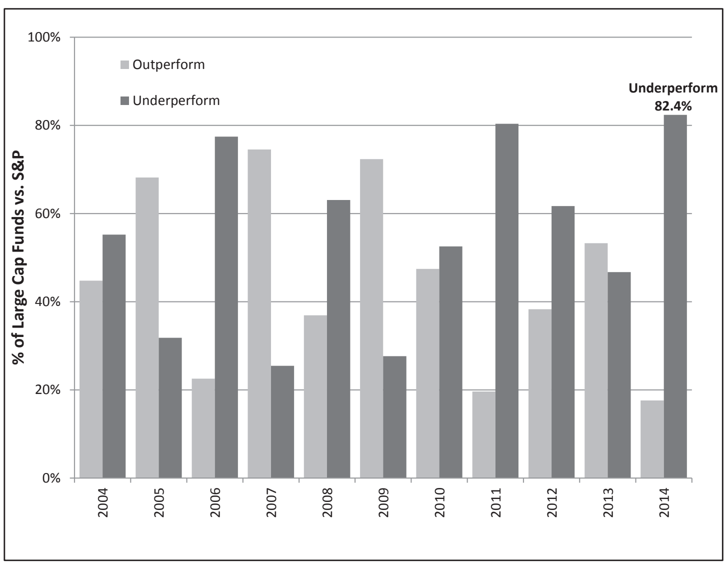
At Monticello, we believe in both strategies and many of our clients maintain both in their portfolios. We tend to endorse indexing specifically in U.S. large cap equities, as history has shown us that the other primary indices (the Russell 2000 Index, MSCI EAFE

Index, and MSCI Emerging Market Index) are much easier for active managers to consistently outperform. Additionally, all of the above mentioned indices can be very volatile and post stunningly negative returns. Consequently, investors are often comfortable with the much lower volatility and risk levels that active management can offer in those specific areas.

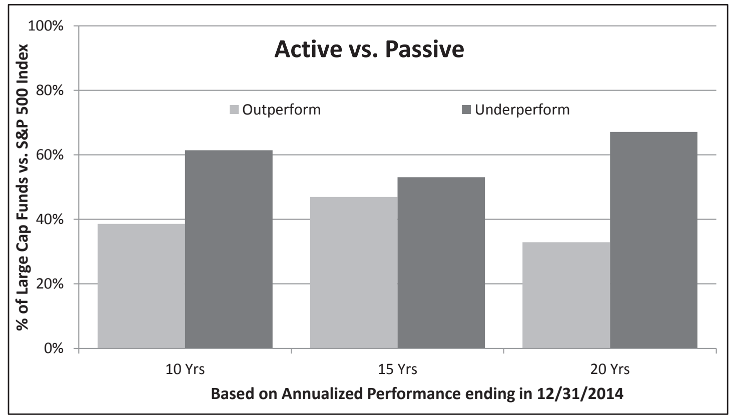
Indexing had its greatest year in 2014, outperforming over 82% of U.S. Large Cap active managers. As you can see in the graph below, 2014 was the single worst year for active management in the past decade, although 2006 and 2011 both were close. It should also be noted that there were three years when active managers dominated the index – 2005, 2007 and 2009 – implying it's not just a one-way street. Furthermore, other studies looked as far back as thirty years and 2014 remains as the single worst year for active underperformance. 2014 was such a bad year that only 18% of the active managers outperformed the S&P 500.

S&P 500 Index – Active Managers

Performance of U.S. Actively Managed
Large Cap Mutual Funds vs. S&P 500 Index



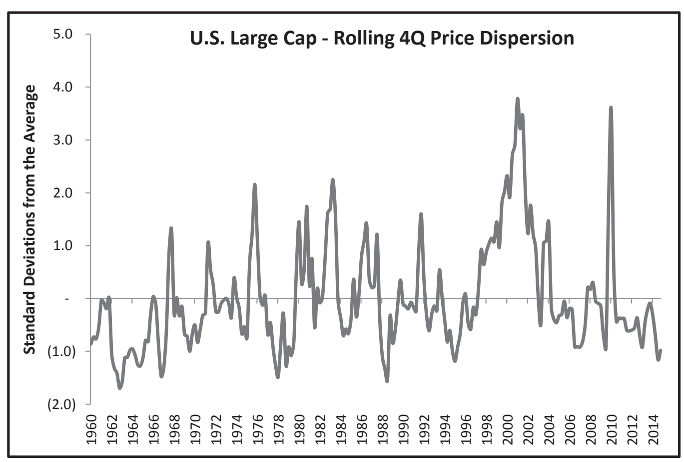
Upon examining the data for longer time periods, active management does much better at representing itself. The following graph looks at active versus passive performance over ten, fifteen and twenty year time periods ended December 31, 2014. You'll note for ten years, 40% of the stock pickers outperform; for fifteen years it's almost a dead-heat between active and passive; and for twenty years it drops down to roughly 35% of the active managers outperforming.



When compared to 2014's 18%, there is an obvious big difference between 35% to 50% of the active managers outperforming. In our opinion, a substantial reason that active managers have underperformed in recent years has been the record low dispersion of stock returns within the S&P 500.

Dispersion, which measures the range of individual company returns within the S&P 500, is an important driver of relative performance for active managers. The higher the dispersion the greater the opportunity for active managers to select securities that outperform the overall market. Conversely, the lower the dispersion the more difficult it becomes to select individual winners, as a high percentage of individual stocks have similar returns, giving active managers little chance to outperform.

As you can see in the graph below, dispersion is at or near an all-time low. The most likely drivers of this trend have been the strong bull market of the past six years, with cumulative performance of almost 250%, and the Federal Reserve's quantitative easing (QE) program. QE placed a safety net under the stock market, allowing an unusually large number of weak companies to re-finance their weak balance sheets and generate outstanding stock performance.



Active Management

Over the past decade academics have spent considerable time on the issue of active management. Two professors affiliated with the International Center for Finance at the Yale School of Management, K.J. Martijn Cremers and Antti Petajisto, seem to have made the most progress on understanding why certain active managers outperform.

The fundamental concept they've discovered (Cremers & Petajisto, 2009) centers on a formula they created named Active Share. Active Share defines the percentage of a portfolio that does not replicate the index. A manager that does not own a single stock represented in the S&P 500 would have an Active Share of 100%. Alternatively, a manager that duplicates the S&P 500 would score a zero.

Cremers and Petajisto concluded that investment managers who have the highest Active Share have the greatest probability of outperforming the index. This makes intuitive sense as well: the best way to outperform the index is to not be the index.

This can either be accomplished by concentration in a much smaller number of stocks in the portfolio, or by overweighting or underweighting the individual stocks and sectors that comprise the S&P 500.

The problem for investors is concentration produces a much higher tracking error. Tracking error is defined as the degree to which a portfolio "tracks" the S&P 500. A low tracking error can often mean closet indexing and a high tracking error, although greatly increasing the odds of market beating outperformance over the long-term, can try the patience of investors in the short-term.

Almost by definition, a manager with high Active Share will tend to underperform the market from time to time. The reason is simple – they have designed a portfolio that does not replicate the market in an effort to beat the market. Consequently, there are going to be periods of underperformance.

This is a subject that we've spent a considerable amount of time researching at Monticello and the end result is somewhat surprising. For the 25-year period ending December 31, 2014, there have only been 70 mutual funds in the Morningstar U.S. Large Cap category that have beaten the S&P 500 Index. These 70 funds have beaten the index by approximately 1% on average (94 basis points). However, the average fund in this select group only outperformed the index about 60% of the time on a rolling five-year basis. That's right, the 70 funds that outperformed the index for the lengthy time-period of twenty-five years spent 40% of all rolling five-year periods underperforming.

We performed another study which looks at actual active managers our clients have employed during the past twenty years. We identified seven highly pedigreed firms that substantially outperformed the S&P 500. Over the 20-year period, ending December 31, 2014, these firms earned on average, an 11.6% per annum return, outperforming the index return of 9.9% by 170 basis points per year. If an investor placed $10 million in the S&P 500 Index on January 1st, 1995, the investment would have grown to $66 million by the end of 2014. On the other hand, if the investor placed the capital with the seven firms we studied, the initial $10 million investment would have grown to $89 million on average. Obviously, that's a pretty big difference and probably worth fighting for.

However, the seven active firms spent considerable time underperforming over short to intermediate periods. In fact, they only outperformed on average in 76% of the rolling five-year time periods, underperforming in almost one-quarter of the five-year periods. So, in order to generate 1.7% of outperformance over two decades, mostly by concentrating and not replicating the index, investors had to underperform for a number of five-year periods. For many equity investors that's tough to stomach, hence the attraction of indexing.

It is this factor that makes active management emotionally difficult for investors, as they hate to tolerate underperformance. In this case underperformance happens for a specific reason: portfolios are designed to own higher quality assets than the index by concentrating their bets. It is this strategy that has the best chance to outperform over the longer term. However, it can prove frustrating to investors as performance can lag, leading to termination right before a sustained period of outperformance. This is a clear case of *The Investment Ghost in the Machine*, letting emotion conquer reason.

Passive Investing

There is an additional, and very important, reason why indexing has outperformed to such an extent over the past five years: Index funds have received a record high level of funding.

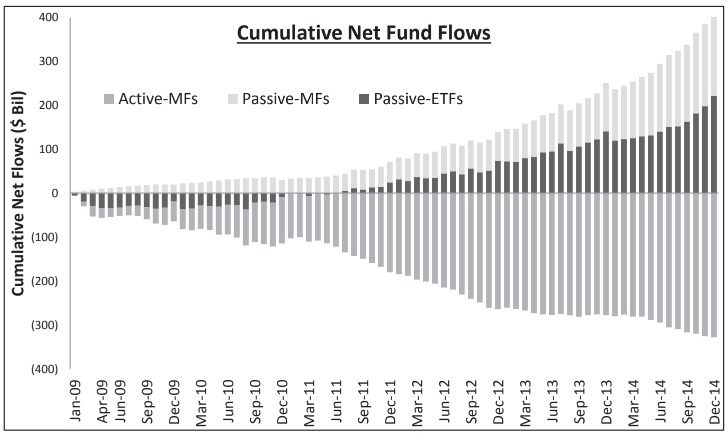
One of the simplest lessons you need to learn as an investor is that all markets, regardless of their seeming complexity, share fundamental factors in common. The most important concept is that you need more buyers than sellers (demand vs. supply) for markets to appreciate. Conversely, for an investment to go lower you need more sellers than buyers (supply vs. demand).

This is true for the market for baseball cards, rare cars or stocks. More buyers than sellers is the critical factor in driving markets or investments higher, especially in the short-term.

There is no doubt that indexing has received a disproportionate amount of funding in the past five years, helping to create an automatic demand for more indexing and funneling the S&P 500's performance higher.

Vanguard, the pre-eminent firm with regard to passive investing, set an American record in 2014 for the amount of assets gathered by a mutual fund company in a single year. Vanguard raised $233 billion last year, $129 billion of which found its way into just four passive funds. Vanguard's Total Stock Market Index Fund gathered an impressive $40 billion in one year.

These impressive and extreme fund flows into indexing have been gathering steam for years. The graph below depicts active and passive open ended mutual fund cash flows for the past six years; this time period begins with the end of the 2008 – 2009 financial crisis.



Source: Macrobond, Morningstar and Monticello Associates

The results are simply stunning. Since 2009, more than $328 billion has flowed out of active large cap domestic funds, while at the same time over $400 billion has been placed in passive funds. Clearly, there has been a movement at the retail level to redeem active managers and replace them with index strategies. Additionally, this phenomenon undoubtedly had a great impact on dispersion as substantial cash flows have been channeled into the S&P 500 Index, further narrowing the dispersion of individual equity returns as the money on the way up has all been placed in the same approximate 500 names within the S&P 500.

However, when you look closer at this graph another startling conclusion emerges: more than one-half of the capital allocated to passive management during this period have been to Exchange Traded Funds (ETFs).

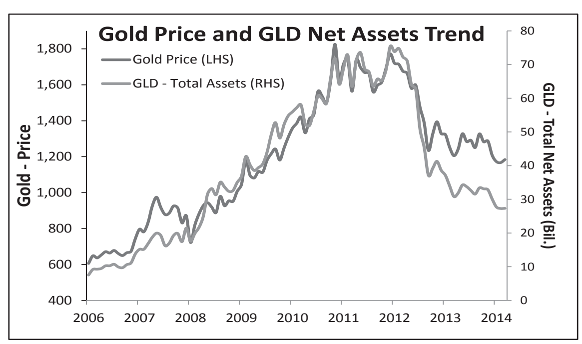
I believe this trend to be very disconcerting and the importance of ETFs within passive strategies has the potential to dramatically affect the performance of indexing in the future.

Indexing as an investment strategy was created and developed by Vanguard's legendary founder Jack Bogle. Following up on work Bogle originally developed as a Princeton undergraduate, Vanguard established the very first Index fund available for investment in 1976. Vanguard became an immediate success and Bogle became the public face of indexing, a role he still holds today.

ETFs developed much later in the game, not becoming fully investable until 1993 when the world's largest ETF, the SPDR, or "Spyder" debuted. The impetus behind the development of the ETF industry was to create a series of index funds that traded similarly to that of individual equities, allowing investors to buy and sell their index funds much more frequently, in fact, second by second throughout the trading day. Prior to the development of ETFs, open-ended index funds could only be bought and sold at the conclusion of the trading day.

From the start, I remember Bogle was very critical of indexing through ETFs, frequently writing and speaking about the dangers of short-term trading. Bogle, a great man and easily one of the professionals I admire the most in the investment industry, actually advocated a two-prong strategy: passive investing coupled with investing for the long-term. At the inception of ETFs he was very worried that ETFs would severely impact investor behavior by allowing investors to dramatically ramp up their short-term trading of what was supposed to be a very long-term strategy. Bogle was so skeptical of ETFs that Vanguard was a delayed entrant into the ETF marketplace, not entering until 2001, allowing State Street and Barclays to dominate the early fund raising.

I believe there is little doubt that ETFs have the ability to drive prices in the short-term. The graph below summarizes this nicely by depicting the eight year history of the Gold ETF (GLD). The dark line and the axis on the right represent overall assets for GLD. Beginning at $10 billion in 2006, the gold ETF had massive inflows, growing to almost $80 billion by 2012. This huge rise in GLD assets coincided with the price of gold almost tripling, moving from $600 to $1,800. However, once gold hit its all-time high it struggled to retain momentum and GLD investors became restless and began redeeming. Once there were more sellers than buyers even more sellers were created and redemptions escalated. By the end of 2014, assets in GLD had plunged from $80 billion to just under $30 billion. Given the selling pressure in the ETF, the price of gold non-surprisingly plunged by almost one-third, falling from $1,800 per ounce to just under $1,200.



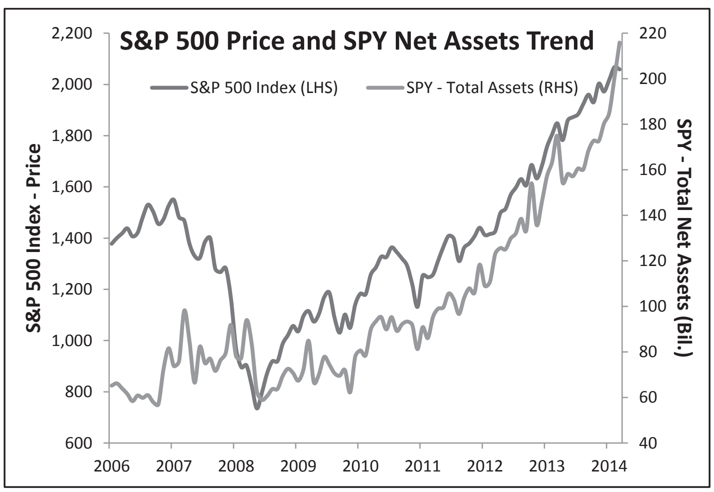
Source: Macrobond, Morningstar and Monticello Associates

My immediate concern with the current environment for equity indexing is the large cash flows into ETFs over the past six years have the potential to change the nature of indexing by adding a much higher percentage of short-term traders looking for near-term price appreciation, as opposed to traditional passive fund investors, many of whom were greatly influenced by Jack Bogle's wisdom and instruction to invest for the long-term.

Additionally, the massive increase in indexing has happened during the past six years in an environment where the S&P 500 has appreciated nearly 250% cumulatively, while also reaching record low levels of volatility.

S&P 500 Index Price and Fund Flows

The graph below outlines the same fund flow data and price appreciation for the Spyder ETF and the S&P 500. Eerily similar to the first part of the GLD graph, you can see investors have sharply increased their cash flows to the S&P 500 ETF while prices have been moving much higher. However, the burning issue is, how are they going to respond when the market moves lower, as it inevitably will. Fortunately, that question is simple to answer.



They will sell. They will sell quickly and furiously because that's what ETFs are designed for – to allow investors to sell immediately, theoretically avoiding a large downdraft. The problem will be that not all investors will sell immediately, but once those who remain invested see that the market is down 5% or 10% they will probably sell too, propelling the declines even further. Once this negative performance self-fulfillment kicks in it will likely hang around awhile, and usher in an environment in which active management could easily outperform. This happened during both the 2000 – 2002 and 2008 – 2009 bear markets, and I expect it will happen again. It's always important to remember that the toughest overall environment for active managers to outperform the S&P 500 is in a high performing, low volatility market – exactly what we've had the past six years.

Conclusion

First, let me begin by saying what I'm not saying. I am not saying indexing is a bad strategy. In fact, I think indexing is a great strategy for patient long-term investors.

I am saying that it's perfectly natural for active managers to underperform – It's never failed to happen and, as we discussed, even for firms that have generated terrific twenty-year plus track records, they are destined to spend 20% - 40% of the time underperforming the index for time periods as long as three to five years. Thus, if you are invested in active managers it is critical to be patient, understanding that history strongly suggests you must periodically accept near-term underperformance in an effort to generate outstanding long-term returns.

Additionally, I am saying that indexing all of your equity allocation the year after the S&P 500 beat the highest percentage of active managers in its history; the year after Vanguard received an all-time record high level of funding for one mutual fund company in a single year; and after six years of a stock market that's gone up almost 250% coupled with no down years, very few corrections and record low levels of volatility; is probably not a very good idea. Without question, this recent pattern will reverse itself and you'll be happy you have maintained your allocation to active managers. Why? Well, I've spent considerable time outlining what may drive this to happen, but, there's also a simpler answer. More often than not, the exact opposite of current and recent market dynamics begins to unfold. What investors thought was a sure thing winner becomes an unexpected failure and what was a short-term failure, becomes an outperformer. **It is this dynamic, often times disguised as regression to the mean, that should empower investors to stay the course, dominating emotion with reason and not allowing that nasty Ghost and its destructive tendencies anywhere near your precious, well-maintained Machine.**

B. Grady

I am pleased to announce that Westley M. Hays has recently joined Monticello as a Senior Analyst. Wes was previously a Managing Director in Trading and Operations at Charles Schwab and Company. Prior to that Wes spent seven years with Connecticut based hedge fund, Graham Capital. At Graham, Wes was the Chief Administrative Officer, Research helping to oversee the firm's quantitative research. Wes attended Washington & Lee University where he was Captain of the lacrosse team, an All-American and an Academic All-American. He holds an MBA from the University of Denver, Daniels School of Business. Wes and his wife, Katie, live in Denver and have a two-year old son, Graham.

Our Cleveland office has moved and can be reached at the following address:
Key Tower
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Currency Impacts – Major Markets

Select Currency and Stock Market Index Performance

			2014 Equity Market Performance	
Country / Currency Region	Currency Value Change	Major Equity Market Index	Local Currency	USD
U.S.	-	S&P 500	13.7%	13.7%
Europe	-12.0%	Euro Stoxx	4.9%	-7.9%
Japan	-12.1%	Nikkei	8.9%	-4.2%
South Africa	-9.3%	FTSE/JSE Africa Top 40	9.4%	-0.4%
Russia	-45.9%	MICEX	-2.1%	-42.1%

- The Euro deteriorated in 2014 as concerns about Eurozone recession and Greece resurfaced. Similarly, Japan's continued quantitative easing caused further declines in the Yen relative to the USD.
- The significant move in the Russian currency caused the MICEX index to return -42% in USD terms, while it was down only -2% in Ruble terms.

Source: Bloomberg and Monticello Associates

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