

*What's wrong with asset allocation today?*

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## WHAT'S WRONG WITH ASSET ALLOCATION TODAY?

In a recent research piece entitled, [“Where is the Investment Management industry headed, and why should you care?”](#) I wrote extensively about the state of the Investment Management industry, and more specifically about some of the pitfalls of the current asset allocation process. In this paper, I will expand upon those pitfalls, add some numerical support for my arguments, and offer an alternative to the current asset allocation approach.

First, I would like to highlight some of the problems I see with the current asset allocation process, so a comparison can be made between the current process and my alternative. Next, I would like to examine some performance data for various indices, spanning a broad range of investment approaches, to support my position that the current asset allocation approach is faulty, and to further support my alternative. Finally, I will conclude this paper with a summary of my thinking on the current state of the economy, financial markets, and investment opportunities.

### Historical averages

So let's take a quick look at the current method of producing an asset allocation, so we may understand the specifics of the process and the problems with it. The current asset allocation approach is based on software packages that use long-term historical averages for returns and risk factors for each asset class. Normally, these software packages use twenty-five years of data, if available, and then take a simple average for the returns and risk factors, again for each asset class. So, for example, a software package will take quarterly performance returns and their associated risk factors (usually standard deviations) for large-cap growth stocks, possibly using the Barra large-cap growth stock index or another similar index.

Then, a simple average over the twenty-five year time-frame will be taken for the returns and for the risk factors (with four quarters per year and twenty-five years, the software would add-up all of the returns over the twenty-five year period (all one hundred), and then divide by one hundred to get the simple average. The same would be done for the risk factors.) The same would be done for each asset class. Each quarter, the software is typically updated with the most recent quarter's data, and the first quarter, going back twenty-five years, would be dropped (replaced by the most recent quarter's data), so that you would always have one hundred data points. This is called a simple moving average.

Here's the problem with this approach: The use of a simple moving average waters-down the many fluctuations each asset class will experience in terms of performance, over time. Additionally, standard deviation can change over time, as the volatility of returns increases or decreases. Taking an average of the standard deviation also waters-down the risk factor as well (standard deviation is already an average of the

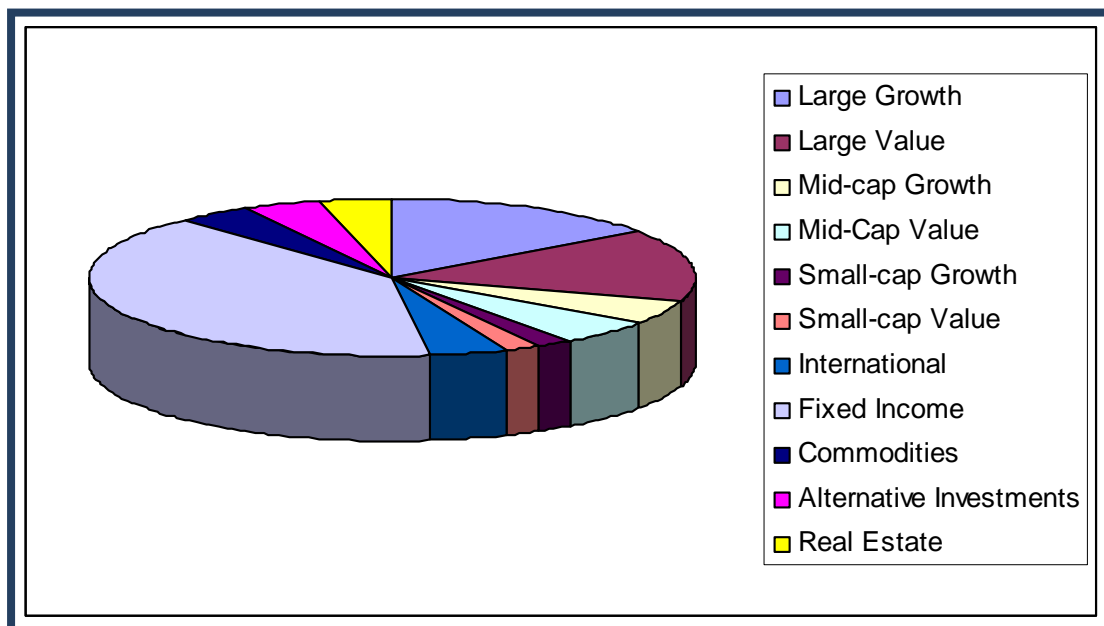
deviations from the average of returns over time). Without getting too deeply involved in the math of these calculations, I want to simply make the point that when you start taking averages, you lose a lot of the integrity of the data series, so that the usefulness of the data is diminished.

The most important shortcoming of this historical data approach is that there is no guarantee that what happened in the past will happen in the future. The first thing one will see on any marketing materials for any investment is a statement that reads something like this: Past performance is no guarantee of future results. Exactly!

What is most important in terms of making asset allocation decisions is *not* what happened in the past, but incorporating what is most likely to happen in the future. Would we buy a house in Santa Barbara today, based on what house prices have done over the past fifteen years, or based on what we think will happen in the next fifteen? By doing our homework on the current economic and financial market environment, we stand the best chance of making judgments on what is most likely to happen in the future. Based on our assessment of the current environment and how that environment is likely to impact the various asset classes, we can make our asset allocation decisions based not on historical information, but on the information that will have a direct influence on the investment vehicles we choose.

#### Traditional Asset Allocation versus the Core / Satellite Asset Allocation approach

The current asset allocation approach, using the software packages I discussed above, will typically produce a pie chart, with the individual slices of the pie representing the recommended percentage weightings in each asset class, with the whole pie representing the investor's entire portfolio. It will normally look similar to this:



The traditional asset allocation approach, or what I refer to as the old way, has some serious shortcomings, in addition to those already explained above. First, there is no coordination among the various asset classes. For example, if the investor hires a different investment manager, or chooses a different mutual fund or ETF, for each asset class, there will be no communication among the various investment managers. One will have no idea what the others are doing, and frankly won't care.

This leads me to one of the most significant problems within the investment management industry today, so please allow me to step onto my soap box. About twenty years ago, right around the time I entered the investment management business, asset allocation (the traditional approach) was just gaining popularity. Around this time, the software packages that I discussed above were just being developed. Once the software was adopted by the investment management industry, it didn't take long for investment managers to realize that, if they wanted to increase their assets under management, (to make more money), they had better conform to what the software was recommending, otherwise they would be out of a job because they would not only not get new assets to manage, but they would lose what they had to those managers who did conform.

For example, if a manager used an investment strategy that was not clearly defined as an asset class that was recommended by the software, all brokerage firms and other advisors would not include them in their recommendations to their clients, and so, the manager would not get new business. So, as a manager, if you wanted to stay in business and wanted to succeed, you found out real fast that you had better fit within the structure of the software. This led very quickly to the managers choosing very defined styles, which conformed perfectly to the individual asset classes within the software packages.

If a manager had previously moved from large-cap to mid-cap to small-cap, and from value to growth, depending on market conditions, he or she would have to pick one asset class to focus upon, in order to stay in business. This led to specialization, wherein managers selected the asset class they felt they had the most expertise within, and to their focus upon only that asset class. Advancements within the industry in terms of monitoring the asset allocation process and the performance of the individual managers further delineated the divisions between managers, so that today, if a manager deviates ever so slightly outside his specified asset class, he faces a high probability that he will be fired for style drift.

The upside of this specialization is the increased level of expertise for the manager within their area of specialization. The downside is reduced flexibility to adopt their strategies to the ever-changing investment environment. For example, a value manager is stuck with value investing, whether the current and future investment environment favors value investing, or does not (favors growth instead). A value approach in a growth environment will likely result in substantial underperformance, but a value manager cannot deviate from his stated investment approach. If he or

she does deviate, the entire asset allocation process falls apart. Again, even if the manager believes that value investing is out of favor, and will remain out of favor for a long time, he or she must continue to invest in value. It should be clear to anyone reading this, that this level of inflexibility is less than ideal.

Another problem with the current asset allocation approach is the lack of coordination among the various managers. Each knows nothing of what the other is doing, and even with very distinct and varied investment approaches, there is always the possibility of duplication of positions. If positions are duplicated, the risk to the investor is increased to unacceptable levels and diversification is reduced.

Costs are another major drawback to the old asset allocation approach. The more individual investment vehicles contained within the portfolio, typically the more expensive the portfolio will be to establish and manage over time. Also, any opportunity for breakpoints on fees may be lost as the amount managed by each manager will be less, the more managers there are. Finally on costs, the more managers included in the portfolio, the more difficult it will be to monitor the performance and risk parameters of each manager and of the portfolio as a whole, and the less likely it will be that the investor could manage the asset allocation process themselves, potentially resulting in the additional cost of a consultant.

With the old approach, it is virtually impossible to have a coordinated tax strategy, so tax efficiency is drastically reduced or completely eliminated. Each manager is not aware of what the others are doing, so there can be no coordination of harvesting tax losses, matching gains and losses, offsetting other gains the investor may have taken on outside assets such as real estate or a stake in a private company, etc. Each manager, in keeping with their specialization, is trying to maximize the returns of their investment approaches, on a pretax basis. They have no idea of the individual tax needs of the multitude of individual investors, corporations, institutions, foundations, etc, whose assets they manage. For non-taxable investors, obviously this is not a concern. But for those who pay taxes, the lack of tax coordination is a big negative.

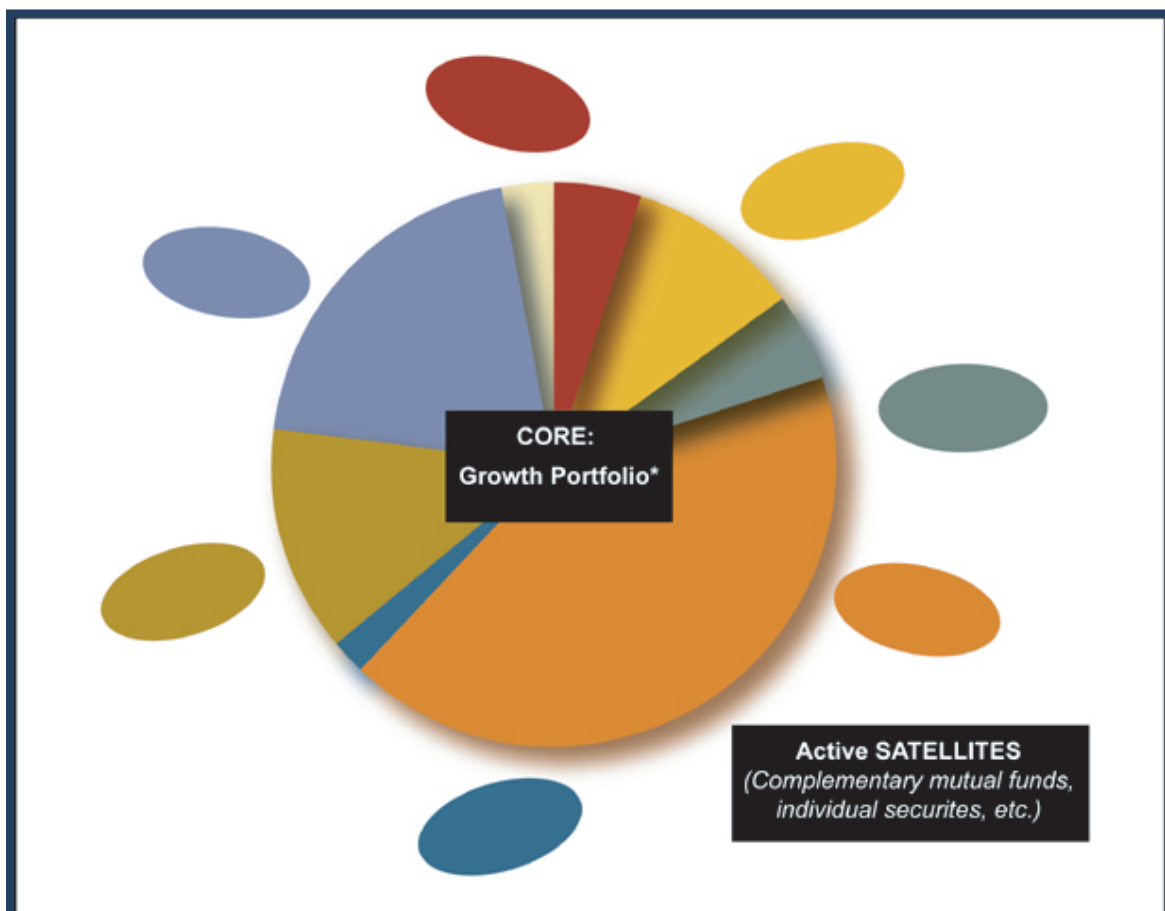
Also, there is no customization within each asset class. For example, a large-cap growth manager manages money exactly one way—each portfolio the manager runs holds the same positions in the same weightings, regardless of the owner of the portfolio. Again, they have no motivation to customize portfolios, and in fact, will be punished severely if they deviate from their stated investment objective (they will be fired in all likelihood).

Finally, there is no direct communication between the investor and the people managing their money. I cannot understand how anyone can believe that the best way for a person to have their money managed is to separate the investor completely from the people making the decisions about how the money is invested, but that's exactly what happens using the old approach. Without direct communication, you

cannot have responsibility and accountability. And, in most cases, the investor will have a difficult time understanding what is being done with their money, and why. This is not ideal for the investor, to say the least.

### Core / Satellite

There is a new way of structuring an asset allocation that is gaining popularity today, which is called the Core / Satellite approach. I have written extensively about this new approach already. In simple terms, it involves choosing a core investment vehicle, which could be an index mutual fund or ETF, an actively managed mutual fund or ETF, or an investment manager, either with a separate account approach (as I use), or a hedge fund approach. This core investment vehicle, which typically accounts for about 75% of the total portfolio weighting, would then be surrounded by satellite investments, chosen specifically for their individual characteristics and how these characteristics enhance the risk-adjusted performance potential of the overall portfolio. This asset allocation approach would look something like this:



There are some potential problems with the core / satellite approach as well. First, if an index fund, mutual fund, ETF, or an investment manager with a specific specialty,

as outlined above, is used for the core strategy, just as with the old way, there will be no internal coordination of the investment process (the investor will be responsible for the coordination, unless they hire a consultant or financial advisor to do it for them). There will be no tax efficiency, and duplication of positions is still a possibility.

The investor will still either need to monitor the performance and risk of each investment vehicle himself or herself, or hire a consultant to perform this task. However, the cost would be lower with fewer investment vehicles to keep track of, or doing it oneself, the process will be much less complicated. And, as with the old approach, there is no direct communication between the investor and the managers, which does not foster accountability, responsibility, transparency, or communication.

However, costs may be considerably lower, as there will be fewer investment vehicles overall, and if an index fund is used for the core strategy, which again typically will account for about 75% of the total asset allocation, the ongoing cost of the portfolio can be a fraction of the costs associated with a portfolio structured using the old asset allocation process.

#### Historical Asset Class Performance

Just to highlight a point I made above concerning out of favor asset classes, let's take a look at some annual returns of various asset classes (see table below). What you will find is that during different periods of time, some asset classes will outperform, while others underperform. I highlighted the top performing asset class in green and the worst performer in yellow, for each year. I also separated the top three (S&P 500, S&P 400 Mid-cap, and Russell 2000) from the rest. These top three represent large, mid, and small-cap, with no designation between growth and value.

INDEX	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
S&P 500	22.96%	33.36%	28.58%	21.04%	-9.11%	-11.89%	-22.10%	28.68%	10.88%	4.91%	15.80%	5.49%
S&P 400 MID-CAP	19.20%	32.25%	19.11%	14.72%	17.51%	-0.60%	-14.51%	35.62%	16.48%	12.56%	10.32%	7.98%
RUSSELL 2000	16.49%	22.36%	-2.55%	21.26%	-3.02%	2.49%	-20.48%	47.25%	18.33%	4.55%	18.37%	-1.57%

MSCI U.S. Large-cap Growth	23.61%	36.83%	49.73%	39.79%	29.12%	-22.49%	-28.04%	27.33%	6.15%	3.30%	9.10%	11.73%
MSCI U.S. Large-cap Value	22.78%	32.41%	17.59%	6.95%	6.91%	-5.28%	-18.15%	28.38%	13.25%	6.11%	23.36%	1.17%
MSCI U.S. Mid-cap Growth	18.93%	20.60%	17.26%	70.53%	26.29%	-20.43%	-23.33%	40.26%	13.82%	15.02%	9.67%	17.40%
MSCI U.S. Mid-cap Value	21.46%	37.08%	1.52%	2.20%	22.47%	8.79%	-9.69%	37.91%	27.17%	12.85%	17.82%	-4.41%
MSCI U.S. Small-cap Growth		14.56%	6.63%	49.55%	-8.25%	-6.29%	-29.31%	50.37%	16.13%	8.71%	12.03%	9.71%
MSCI U.S. Small-cap Value	23.52%	34.73%	-5.12%	-2.17%	21.22%	12.95%	-6.63%	44.34%	23.72%	6.28%	19.44%	-6.94%
MSCI EAFE Index (Intl. Index)				25.27%	15.20%	-22.61%	-17.52%	34.49%	18.27%	11.92%	22.26%	8.67%

\* Returns are price change only (no dividends or distributions included), except for the SPX, MDX, and RUT.



An asset class that outperforms one year may very well be the one that underperforms during the next. Just to punctuate this point, look at the returns for the MSCI U.S. small-cap growth index for 2002 and 2003. In 2002, this index had the worst performance, relative to all others, with a loss of 29.31%. The very next year, the same index returned 50.37%, and was the best performer of all. Ideally, an investor would have wanted to avoid this asset class in 2002, but to be overweight it in 2003.

(Keep in mind that these are calendar year returns. Normally, the period of time that an asset class outperforms or underperforms will not exactly coincide with the calendar year, so to some extent, these returns are not as pronounced as they would otherwise be, if for example I used the exact time-periods during which the asset class under or outperformed. But, these data serve to prove my point well-enough.)

I have also added a piece from Fidelity at the end of this paper, which shows a similar grid, but ranks all asset classes from best performer at the top of the page, to worst at the bottom, for each year. If you take a look at that grid, you will see the same characteristics I have identified in the table above, which is that asset classes that are in favor one year, may be the worst performers the next, and vice versa.

## Conclusions

Now, some would say that it is not possible to anticipate which asset classes will do well and which will do poorly, from one time-period to the next. If this were the case, there would be no reason to ever pay a manager to invest, and investors would do the only rational thing, which would be to buy an index fund and forget about it. Clearly there are many managers out there that consistently make money, and beat their respective benchmarks, so I reject this entire line of thinking.

As I have repeatedly written, this whole line of thinking regarding the efficient market theory and passive investing is based on faulty statistical data from a study some academicians performed, where they said if an investor missed the best performing ten days in the stock market (S&P 500), over the previous ten years, their returns would have dropped from about 12% annualized, to about 4% annualized. Their conclusion: market timing doesn't work, so therefore everyone should just invest passively (with an index fund).

There are so many problems with this study that I don't want to waste two pages writing about it (again). You can visit my website for more details on the study, but the key thing I would point-out is that the study assumes that the best ten days would be missed, but they also assume that the worst ten days would not be missed. In other words, they assume the investor would miss the best ten days but stay invested during the worst ten. They also used the returns of the S&P 500, which obviously does not relate directly to what an active manager would invest in. Clearly the conclusions of this study depend on assumptions that fall apart in the stark light of reality.



So what's the answer?

What I have tried to do is to take the best of both asset allocation approaches—traditional and core / satellite—and combine them into an asset allocation strategy that works, providing coordination, flexibility, low cost, tax efficiency for taxable investors, transparency, communication, and most importantly direct accountability to the investor. I also apply the overall asset allocation strategy to a sector rotational strategy, which is just a fancy way of saying that I overweight those sectors of the economy that I believe, based on my expectations for the economy and financial markets, will perform well, and under, zero, or negative weight (short) those sectors which I believe will not perform well.

By using a core / satellite approach, with an active manager as the core manager, who performs the functions necessary to provide coordination, flexibility, communication, etc, and adding satellite asset classes that enhance the risk-adjusted returns of the overall portfolio, particularly in asset classes that compliment the expertise of the core manager, I believe the investor will have the best opportunity to accomplish their true, long-term financial goals.

Where are we now?

Those of you reading this that are also members of my email commentary list will already have a good sense of my expectations for the markets and the economy, but I would like to summarize my current thinking, as it related directly to making an appropriate asset allocation decision. As stated above, the asset allocation decision should be based, not on historical average returns and risk factors, but on current economic and financial market data, and expectations of future performance of the economies and financial markets of the world, based on this current data.

On the economic front, I expect the dollar to continue to strengthen slightly over the next few quarters, relative to the euro and Asian currencies. I expect the U.S. economy to begin to recover by early 2009, with the U.S. housing market starting to show the first signs of bottoming sometime in 2009. I would expect foreign economies of developed countries to follow the U.S. recovery fairly quickly, with emerging markets to lag.

Given this overall economic view, I would overweight U.S. investments for the next few quarters, looking to invest in developed economies starting early in 2009, and emerging markets sometime around mid-2009. Within the U.S, mid-cap and large-cap growth will be my focus, as small-cap growth has already outperformed year-to-date. Although I expect small-cap to continue to do pretty well, mid and large-caps look more attractive. Within U.S. mid and large-cap names, I continue to prefer the Financials, Technology, Industrials, and Consumer Discretionary sectors. I just added some small positions in the energy sector, as these stocks have been hammered recently, and will likely anticipate a bottoming in oil prices to come shortly.



On the commodities front, I remain short oil and gold, and believe all commodities will fall further in price for the near-term. I look for oil to find some support in the mid-\$80s, and believe we will see oil in that range by the end of 2008. Falling demand worldwide should provide continuing pressure on most commodities prices. If you couple falling demand with the extreme high prices we have witnessed this year, it is easy to see how commodities prices can continue to drop from here.

I do not expect home prices to start to form a bottom until late in 2009 at the earliest, and even then, I do not expect any material upside in prices to develop for several years. Home prices will likely overshoot to the downside, and there could be a bounce from that overshoot, but then a flat market will likely follow for as many as five years. Without the upward pressure of speculators, who accounted for the vast majority of upside during the boom, I do not expect to see home prices rising by much more than the rate of inflation, even after the bottom forms and a few years pass.

The take-away should be that real estate, as an asset class, will not be an attractive asset class in a general sense again for many years. With that said, as in any market, for professionals who understand the market and have expertise in identifying and purchasing distressed properties, or for contractors who buy properties and remodel them, there will always be opportunities. But, for the average person, real estate just won't offer much in the way of returns, at least not compared with stocks.

On the bond market, prices are very expensive, and yields are very low historically speaking. Bonds have been rallying in price in recent days as they are being perceived as a safe haven, given the financial crisis, which makes these securities unattractive. Treasury bills actually briefly went to a negative yield last week, meaning that purchasers of T-bills were paying the government to hold their money. The current prices of bonds make them unattractive compared with stocks.

If you can't buy bonds, commodities, or real estate, stocks are the only asset class left. This is my focus.

I hope this paper has been informative, and will provide the reader with a starting point with which to develop a useful asset allocation. Investors should understand the asset allocation process so that, should they hire a consultant or financial advisor to assist them in developing an asset allocation, they can ask the right questions and avoid some of the pitfalls I have outlined above. I wish you great success in your quest to achieve your financial goals.

*Craig D. Allen, CFA, CFP, CIMA*  
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# Annual Returns of Key Indices

WHY DIVERSIFICATION<sup>2</sup> MATTERS

ANNUAL RETURNS<sup>1</sup>  
1988–2007

## BEST- TO WORST-PERFORMING INDICES, FROM 1988–2007

1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Russell 2000 Value 29.47%	Russell Top 200 Growth 37.68%	LB Aggregate Bond 8.96%	Russell 2000 Growth 51.19%	Russell 2000 Value 29.14%	MSCI EAFE Index 32.56%	MSCI EAFE Index 7.78%	Russell Top 200 Value 40.03%	Russell Top 200 Growth 25.57%	Russell Top 200 Value 35.47%	Russell Top 200 Growth 45.10%	Russell 2000 Growth 43.09%	Russell 2000 Value 22.83%	Russell 2000 Value 14.03%	LB Aggregate Bond 10.25%	Russell 2000 Growth 48.54%	Russell 2000 Value 22.25%	MSCI EAFE Index 13.72%	MSCI EAFE Index 26.53%	Russell Top 200 Growth 12.15%
MSCI EAFE Index 28.27%	S&P MidCap 400 35.55%	Russell Top 200 Growth 1.37%	S&P MidCap 400 50.10%	Russell 2000 Index 18.41%	Russell 2000 Value 23.77%	Russell Top 200 Growth 4.85%	Russell Top 200 Growth 38.65%	S&P 500 Index 22.96%	Russell Top 200 Growth 33.73%	S&P 500 Index 28.58%	Russell Top 200 Growth 29.68%	S&P MidCap 400 17.51%	LB Aggregate Bond 8.44%	Russell 2000 Value -11.43%	Russell 2000 Index 47.25%	MSCI EAFE Index 20.42%	S&P MidCap 400 12.56%	Russell 2000 Value 23.48%	MSCI EAFE Index 11.33%
Russell 2000 Index 25.02%	S&P 500 Index 31.69%	S&P 500 Index -3.10%	Russell 2000 Index 46.05%	S&P MidCap 400 11.91%	Russell Top 200 Value 19.76%	S&P 500 Index 1.32%	S&P 500 Index 37.58%	Russell Top 200 Value 22.31%	S&P 500 Index 33.36%	Russell Top 200 Value 21.24%	MSCI EAFE Index 27.22%	LB Aggregate Bond 11.63%	Russell 2000 Index 2.49%	S&P MidCap 400 -14.51%	Russell 2000 Value 46.03%	Russell 2000 Index 18.33%	S&P 500 Index 4.91%	Russell Top 200 Value 22.99%	S&P MidCap 400 7.98%
Russell Top 200 Value 22.02%	Russell Top 200 Value 26.66%	Russell Top 200 Value -3.67%	Russell 2000 Value 41.70%	Russell Top 200 Value 9.07%	Russell 2000 Index 18.91%	Russell 2000 Value -1.54%	Russell 2000 Growth 31.04%	Russell 2000 Value 21.37%	S&P MidCap 400 32.25%	MSCI EAFE Index 20.27%	Russell 2000 Index 21.26%	Russell Top 200 Value 2.32%	S&P MidCap 400 -0.60%	MSCI EAFE Index -15.74%	MSCI EAFE Index 38.97%	S&P MidCap 400 16.48%	Russell 2000 Value 4.71%	Russell 2000 Index 18.37%	Russell 2000 Growth 7.05%
S&P MidCap 400 20.87%	Russell 2000 Growth 20.17%	S&P MidCap 400 -5.12%	Russell Top 200 Growth 39.40%	Russell 2000 Growth 7.77%	S&P MidCap 400 13.95%	Russell 2000 Index -1.82%	S&P MidCap 400 30.95%	S&P MidCap 400 19.20%	Russell 2000 Value 31.79%	S&P MidCap 400 19.11%	S&P 500 Index 21.04%	Russell 2000 Index -3.02%	Russell Top 200 Value -8.79%	Russell Top 200 Value -18.02%	S&P MidCap 400 35.62%	Russell 2000 Growth 14.31%	Russell Top 200 Value 4.60%	S&P 500 Index 15.79%	LB Aggregate Bond 6.97%
Russell 2000 Growth 20.37%	Russell 2000 Index 16.26%	Russell 2000 Growth -17.41%	S&P 500 Index 30.47%	S&P 500 Index 7.62%	Russell 2000 Growth 13.37%	Russell Top 200 Value -1.90%	Russell 2000 Index 28.44%	Russell 2000 Index 16.49%	Russell 2000 Index 22.36%	LB Aggregate Bond 8.69%	S&P MidCap 400 14.72%	S&P 500 Index -9.10%	Russell 2000 Growth -9.23%	Russell 2000 Index -20.48%	S&P 500 Index 28.68%	Russell Top 200 Value 13.34%	Russell 2000 Index 4.55%	Russell 2000 Growth 13.35%	S&P 500 Index 5.49%
S&P 500 Index 16.61%	LB Aggregate Bond 14.53%	Russell 2000 Index -19.51%	Russell Top 200 Value 18.16%	LB Aggregate Bond 7.40%	S&P 500 Index 10.08%	Russell 2000 Growth -2.43%	Russell 2000 Value 25.75%	Russell 2000 Growth 11.26%	Russell 2000 Growth 12.95%	Russell 2000 Growth 1.23%	Russell Top 200 Value 10.95%	MSCI EAFE Index -14.01%	S&P 500 Index -11.89%	S&P 500 Index -22.10%	Russell Top 200 Value 26.75%	S&P 500 Index 10.88%	Russell 2000 Growth 4.15%	S&P MidCap 400 10.32%	Russell Top 200 Value 0.25%
Russell Top 200 Growth 10.88%	Russell 2000 Value 12.43%	Russell 2000 Value -21.77%	LB Aggregate Bond 16.00%	Russell Top 200 Growth 3.89%	LB Aggregate Bond 9.75%	LB Aggregate Bond -2.92%	LB Aggregate Bond 18.47%	MSCI EAFE Index 6.05%	LB Aggregate Bond 9.65%	Russell 2000 Index -2.55%	LB Aggregate Bond -0.82%	Russell 2000 Growth -22.43%	Russell Top 200 Growth -20.48%	Russell Top 200 Growth -27.98%	Russell Top 200 Growth 26.63%	LB Aggregate Bond 4.34%	Russell Top 200 Growth 2.88%	Russell Top 200 Growth 8.56%	Russell 2000 Index -1.57%
LB Aggregate Bond 7.89%	MSCI EAFE Index 10.53%	MSCI EAFE Index -23.45%	MSCI EAFE Index 12.13%	MSCI EAFE Index -12.17%	Russell Top 200 Growth -0.07%	S&P MidCap 400 -3.58%	MSCI EAFE Index 11.21%	LB Aggregate Bond 3.63%	MSCI EAFE Index 2.01%	Russell 2000 Value -6.45%	Russell 2000 Value -1.49%	Russell Top 200 Growth -24.53%	MSCI EAFE Index -21.27%	Russell 2000 Growth -30.26%	LB Aggregate Bond 4.10%	Russell Top 200 Growth 3.74%	LB Aggregate Bond 2.43%	LB Aggregate Bond 4.33%	Russell 2000 Value -9.78%

- **S&P 500 Index** measures the performance of large-capitalization U.S. stocks.
- **S&P MidCap 400 Index** measures the performance of 400 medium-capitalization stocks.
- **Russell Top 200 Growth Index** measures the performance of the growth style of investing in large-cap U.S. stocks.
- **Russell Top 200 Value Index** measures the performance of the value style of investing in large-cap U.S. stocks.
- **Russell 2000 Index** measures the performance of small-capitalization U.S. stocks.
- **Russell 2000 Value Index** measures the performance of the value style of investing in small-cap U.S. stocks.
- **Russell 2000 Growth Index** measures the performance of the growth style of investing in small-cap U.S. stocks.
- **MSCI EAFE Index** measures the performance of the developed stock markets of Europe, Australia, Asia, and the Far East.
- **Lehman Brothers Aggregate Bond Index** measures the performance of U.S. government, corporate, and mortgage-backed securities with maturities up to 30 years.

FOR INVESTORS



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