



Evidence-Based Investing

Strategies for Successful Portfolio Management

Executive summary:

The average mutual fund investor significantly underperforms the broad financial markets indexes.

Most investors would improve their long-term results, while saving both time and money, by adopting a passive index strategy based on the S&P 500 Stock Index.

Index strategies have certain intrinsic challenges, especially at the asset allocation level.

Diversification is a cornerstone of prudent portfolio construction.

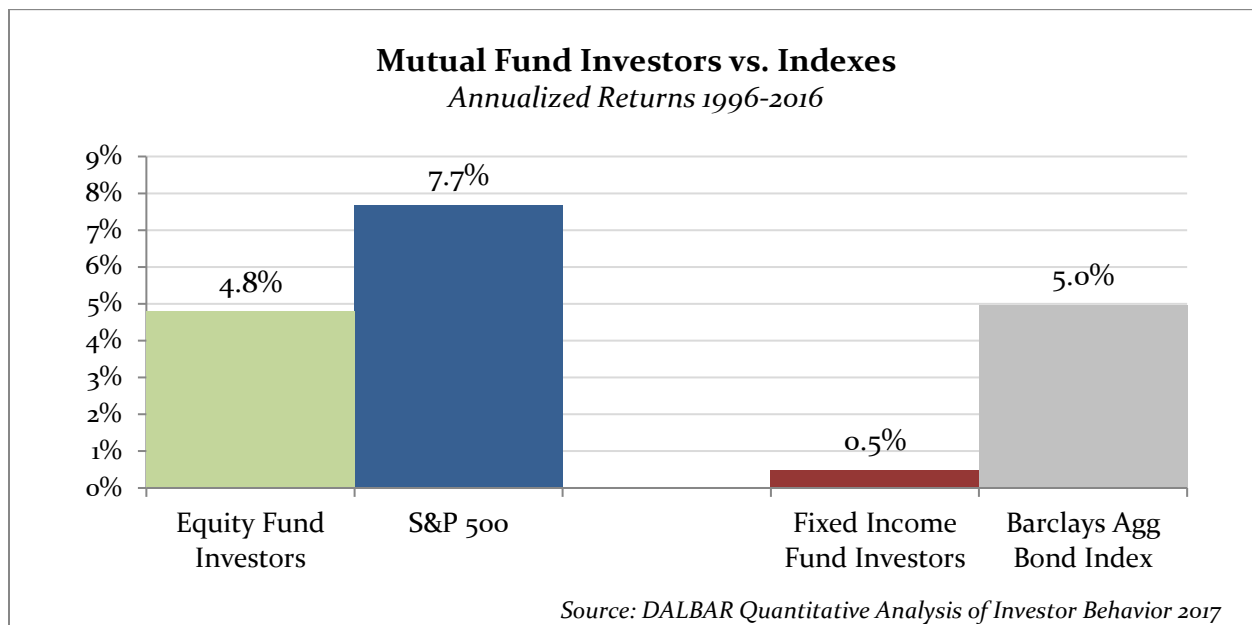
For investors seeking the potential for added performance advantage, the *Dynamic Contrarian Portfolio Strategy* is designed to flow funds toward underpriced asset classes at times of significant price divergence.

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Why do individual investors underperform?

The central, practical problem of portfolio management is the fact that the typical individual investor captures only a portion of the returns available in the financial markets. Academic research consistently documents the reality of investor underperformance, though methodologies and numbers differ.

For example, DALBAR, a mutual fund research firm in Boston, has for decades compiled data on the performance of investors in mutual funds. Here are the depressing results:



It is not the case that the average stock *mutual fund* underperformed the S&P 500 Stock index by 2.9% per year over the last twenty years, but that the average *investor* in those funds underperformed by that large margin. (As you can see, it was much worse for investors in bond funds.)

Those investors were not careless. They didn't buy bad mutual funds with inept managers. Rather, they worked hard to select funds that had recently delivered outstanding results. Most of those funds had smart, highly-trained portfolio managers, but their investors earned lousy returns, because they owned the wrong funds at the wrong times.

Why do so many mutual fund investors do so poorly? The answer is simple, though the cure may be complex. Investors *underperform* because they are trying to *outperform*. They buy the funds that have done the best in the immediate past, and sell those that have

disappointed. The usual aftermath? The fund that was just sold usually provides higher returns than the one that was purchased.¹

Past performance is no guarantee of future results. We've all heard that phrase many times. But the truth about performance is actually much more difficult. It is not simply that recent performance can't guarantee superior results—it is that today's winners may very well become tomorrow's laggards, and in some cases actually turn out to be financial disasters. (Think tech stocks from 2000 to 2003.)

Past performance is no guarantee of future results. We've all heard that phrase many times. But the truth about performance is actually much more difficult.

Markets cycle, and the investments that did best over the last three to five years are unlikely to provide similar advantage in the immediate future. This can be seen in the Callan chart on the next page, which clearly demonstrates the dangers of chasing performance.

Observe the returns on large US growth companies in the late 1990s, as measured by the S&P 500 Growth Index (the brick-red boxes):

1997: +36.5%

1998: +42.2%

1999: +28.2%

Pretty compelling results, yes? Now let's look at the subsequent three years:

2000: -22.1%

2001: -12.7%

2002: -23.6%

Building an investment portfolio by looking at recent past performance is like steering your car forward while looking in the rear view mirror. You won't get where you intend to go, and you may well end up wrecked on the side of the road.

Are there better strategies than chasing past performance? We believe there are.

¹ Even professional investors, running multi-billion dollar portfolios for institutions, suffer similar adverse results. When institutions replace one manager with another, the fired manager usually outperforms the hired manager. Charles D. Ellis, CFA, "Murder on the Orient Express: The Mystery of Underperformance," *Financial Analysts Journal*, Volume 68, no. 4 (2012): 14.

The Callan Periodic Table of Investment Returns

Annual Returns for Key Indices Ranked in Order of Performance (1997–2016)

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
S&P 500 Growth	S&P 500 Growth	MSCI Emerging Markets	Russell 2000 Value	Russell 2000 Value	Bloomberg Barclays Agg	MSCI Emerging Markets	MSCI Emerging Markets	MSCI Emerging Markets	MSCI Emerging Markets	MSCI Emerging Markets	Bloomberg Barclays Agg	MSCI Emerging Markets	Russell 2000 Growth	Bloomberg Barclays Agg	MSCI Emerging Markets	Russell 2000 Growth	S&P 500 Growth	S&P 500 Growth	Russell 2000 Value
36.52%	42.16%	66.42%	22.83%	14.02%	10.26%	56.28%	25.95%	34.54%	32.59%	39.78%	5.24%	79.02%	29.09%	7.84%	18.63%	43.30%	14.89%	5.52%	31.74%
S&P 500	S&P 500	Russell 2000 Growth	Bloomberg Barclays Agg	Bloomberg Barclays Agg	Bloomberg Barclays High Yield	Russell 2000 Growth	Russell 2000 Value	MSCI EAFE	MSCI EAFE	MSCI EAFE	Bloomberg Barclays High Yield	Bloomberg Barclays High Yield	Russell 2000	Bloomberg Barclays High Yield	Russell 2000 Value	Russell 2000	S&P 500	S&P 500	Russell 2000
33.36%	28.58%	43.09%	11.63%	8.43%	-1.41%	48.54%	22.25%	13.54%	26.34%	11.17%	-26.16%	58.21%	26.85%	4.98%	18.05%	38.82%	13.69%	1.38%	21.31%
Russell 2000 Value	MSCI EAFE	S&P 500 Growth	S&P 500 Value	Bloomberg Barclays High Yield	MSCI Emerging Markets	Russell 2000	MSCI EAFE	S&P 500 Value	Russell 2000 Value	S&P 500 Growth	Russell 2000 Value	Russell 2000 Growth	Russell 2000 Value	S&P 500 Growth	S&P 500 Value	Russell 2000 Value	S&P 500 Value	Bloomberg Barclays Agg	S&P 500 Value
31.78%	20.00%	28.24%	6.08%	5.28%	-6.00%	47.25%	20.25%	5.82%	23.48%	9.13%	-28.92%	34.47%	24.50%	4.65%	17.68%	34.52%	12.36%	0.55%	17.40%
S&P 500 Value	S&P 500 Value	MSCI EAFE	Russell 2000	Russell 2000	Russell 2000 Value	Russell 2000 Value	Russell 2000	S&P 500	S&P 500 Value	Russell 2000 Growth	Russell 2000	MSCI EAFE	MSCI Emerging Markets	S&P 500	MSCI EAFE	S&P 500 Growth	Bloomberg Barclays Agg	MSCI EAFE	Bloomberg Barclays High Yield
29.98%	14.69%	26.96%	-3.02%	2.49%	-11.43%	46.03%	18.33%	4.91%	20.81%	7.05%	-33.79%	31.78%	19.20%	2.11%	17.32%	32.75%	5.97%	-0.81%	17.13%
Russell 2000	Bloomberg Barclays Agg	Russell 2000	Bloomberg Barclays High Yield	MSCI Emerging Markets	MSCI EAFE	MSCI EAFE	S&P 500 Value	Russell 2000 Value	Russell 2000	Bloomberg Barclays Agg	S&P 500 Growth	S&P 500 Growth	Bloomberg Barclays High Yield	S&P 500 Value	Russell 2000	S&P 500	Russell 2000	Russell 2000 Growth	S&P 500
22.36%	8.70%	21.26%	-5.86%	-2.37%	-15.94%	38.59%	15.71%	4.71%	18.37%	6.97%	-34.92%	31.57%	15.12%	-0.48%	16.35%	32.39%	5.60%	-1.38%	11.96%
Russell 2000 Growth	Bloomberg Barclays High Yield	S&P 500	S&P 500	Russell 2000 Growth	Russell 2000	S&P 500 Value	Russell 2000 Growth	Russell 2000	S&P 500	S&P 500	S&P 500	Russell 2000	S&P 500 Value	Russell 2000 Growth	S&P 500	S&P 500 Value	Russell 2000	S&P 500 Value	MSCI Emerging Markets
12.95%	1.87%	21.04%	-9.11%	-9.23%	-20.48%	31.79%	14.31%	4.55%	15.79%	5.49%	-37.00%	27.17%	15.10%	-2.91%	16.00%	31.99%	4.89%	-3.13%	11.60%
Bloomberg Barclays High Yield	Russell 2000 Growth	S&P 500 Value	MSCI EAFE	S&P 500 Value	S&P 500 Value	Bloomberg Barclays High Yield	Bloomberg Barclays High Yield	Russell 2000 Growth	Russell 2000 Growth	S&P 500 Value	Russell 2000 Growth	S&P 500	S&P 500	Russell 2000	Bloomberg Barclays High Yield	MSCI EAFE	Russell 2000 Value	Russell 2000	Russell 2000 Growth
12.76%	1.23%	12.73%	-14.17%	-11.71%	-20.85%	28.97%	11.13%	4.15%	13.35%	1.99%	-38.54%	26.47%	15.06%	-4.18%	15.81%	22.78%	4.22%	-4.41%	11.32%
Bloomberg Barclays Agg	Russell 2000	Bloomberg Barclays High Yield	S&P 500 Growth	S&P 500	S&P 500	S&P 500	S&P 500	S&P 500 Growth	Bloomberg Barclays High Yield	Bloomberg Barclays High Yield	S&P 500 Value	S&P 500 Value	S&P 500 Growth	Russell 2000 Value	S&P 500 Growth	Bloomberg Barclays High Yield	Bloomberg Barclays High Yield	Bloomberg Barclays High Yield	S&P 500 Growth
9.64%	-2.55%	2.39%	-22.08%	-11.89%	-22.10%	28.68%	10.88%	4.00%	11.85%	1.87%	-39.22%	21.17%	15.05%	-5.50%	14.61%	7.44%	2.45%	-4.47%	6.89%
MSCI EAFE	Russell 2000 Value	Bloomberg Barclays Agg	Russell 2000 Growth	S&P 500 Growth	S&P 500 Growth	S&P 500 Growth	S&P 500 Growth	Bloomberg Barclays High Yield	S&P 500 Growth	Russell 2000	MSCI EAFE	Russell 2000 Value	MSCI EAFE	MSCI EAFE	Russell 2000 Growth	Bloomberg Barclays Agg	MSCI Emerging Markets	Russell 2000 Value	Bloomberg Barclays Agg
1.78%	-6.45%	-0.82%	-22.43%	-12.73%	-23.59%	25.66%	6.13%	2.74%	11.01%	-1.57%	-43.38%	20.58%	7.75%	-12.14%	14.59%	-2.02%	-1.82%	-7.47%	2.65%
MSCI Emerging Markets	MSCI Emerging Markets	Russell 2000 Value	MSCI Emerging Markets	MSCI EAFE	Russell 2000 Growth	Bloomberg Barclays Agg	Bloomberg Barclays Agg	Bloomberg Barclays Agg	Bloomberg Barclays Agg	Russell 2000 Value	MSCI Emerging Markets	Bloomberg Barclays Agg	Bloomberg Barclays Agg	MSCI Emerging Markets	Bloomberg Barclays Agg	MSCI Emerging Markets	MSCI EAFE	MSCI Emerging Markets	MSCI EAFE
-11.59%	-25.34%	-1.49%	-30.61%	-21.44%	-30.26%	4.10%	4.34%	2.43%	4.33%	-9.78%	-53.18%	5.93%	6.54%	-18.17%	4.21%	-2.27%	-4.90%	-14.60%	1.00%

Index investing: a simple, low-cost and effective strategy

The easiest way to avoid *underperforming* the market is to *own* the market. Every investor's thinking should start with index strategies.

The fundamental idea behind indexing is simple. Don't waste time and effort trying to beat the market. Instead, be content with simply capturing the return of the financial markets by owning an index fund that seeks to duplicate the return of the most representative and widely-followed equity index in the United States—the Standard & Poor's 500 Stock Index.

Such an index strategy offers several important advantages:

- **Low cost.** The typical expense ratio for index funds is much lower than for actively-managed funds, below 0.1% for the SPY exchange-traded fund.
- **Tax-efficiency.** Portfolio turnover and the resulting taxable capital gains are kept very low. Index funds work well in either taxable or tax-deferred accounts.
- **Captures core returns.** Owning the S&P 500 gives you a share in the largest public companies in the United States. Whenever US financial markets do well, you will surely participate.
- **No need to compare.** You already own the benchmark—the most widely-followed and representative equity index—so you never need to ask, “How am I doing compared to the market?”
- **Simplicity.** An index strategy eliminates the time and trouble active investors spend managing their holdings—rarely with any predictable performance advantage to show for their efforts.
- **Accessibility.** Most employer-sponsored retirement savings plans offer an S&P 500 Stock Index option. Outside your retirement account, you can easily purchase a proxy for the S&P as a mutual fund or an exchange-traded fund (ETF).

We believe that index investing should be the default strategy for every prudent investor. As professional investors, we pursue a strategy that is more systematically-diversified, which we'll outline in the pages that follow. But for many individual investors, our recommendation is the same as Warren Buffett's and John Bogle's: *Buy an S&P 500 Index Fund, hold it forever, and get on with your life.*

The limits of indexing

Serious thinking about investing should start with indexing, but we believe it need not always end there. While indexing should deliver better returns than those earned by the typical active amateur investor, having all of your invested funds in an S&P 500 Stock Index suffers from several intrinsic limitations:

- **You will have too much money in the most overpriced stocks.** The S&P 500 Stock Index is capitalization-weighted; it owns stock in 500 companies in proportion to the value of those companies in the markets. So when market pricing rises to bubble extremes, you will be loaded up with overpriced stocks.²
- **Sometimes the S&P 500 delivers poor returns, even for long periods of time.** During the decade of the 1970s, the S&P 500 Index delivered returns more than 2.5% per year below inflation, even before taxes. During the 2000s, investors in the S&P 500 actually *lost* money for the entire decade, even before inflation and taxes.
- **You have to stick with it.** Take a look at the Callan chart on the earlier page. If you were following an S&P 500 Index strategy, how would you have been feeling in early 2003, after three years of losses? How about in March 2009, with the index down more than 55% from the 2007 high? Indexing is sensible, but not always profitable, and sometimes it can get really scary. If you sell during a bear market, you will never recover the ground you lose.
- **Your opportunity set is limited.** Since 1977, US equities have represented anywhere from just under 30% of world market capitalization to just over 55%. If you only own the S&P 500, you are excluding most of the world's investment opportunities.
- Most important, **you are missing the “free money” (excess risk-adjusted return)** that investors may realize by owning more-diversified portfolios.

Let's examine the potential benefits of diversification more closely.

² After the tech bubble burst in March of 2000, during the subsequent bear market the S&P 500 index declined by 45%, even though most of the 500 stocks in the index actually *increased* in value. A small number of overpriced tech stocks went down so substantially that they dragged down the value of the entire index.

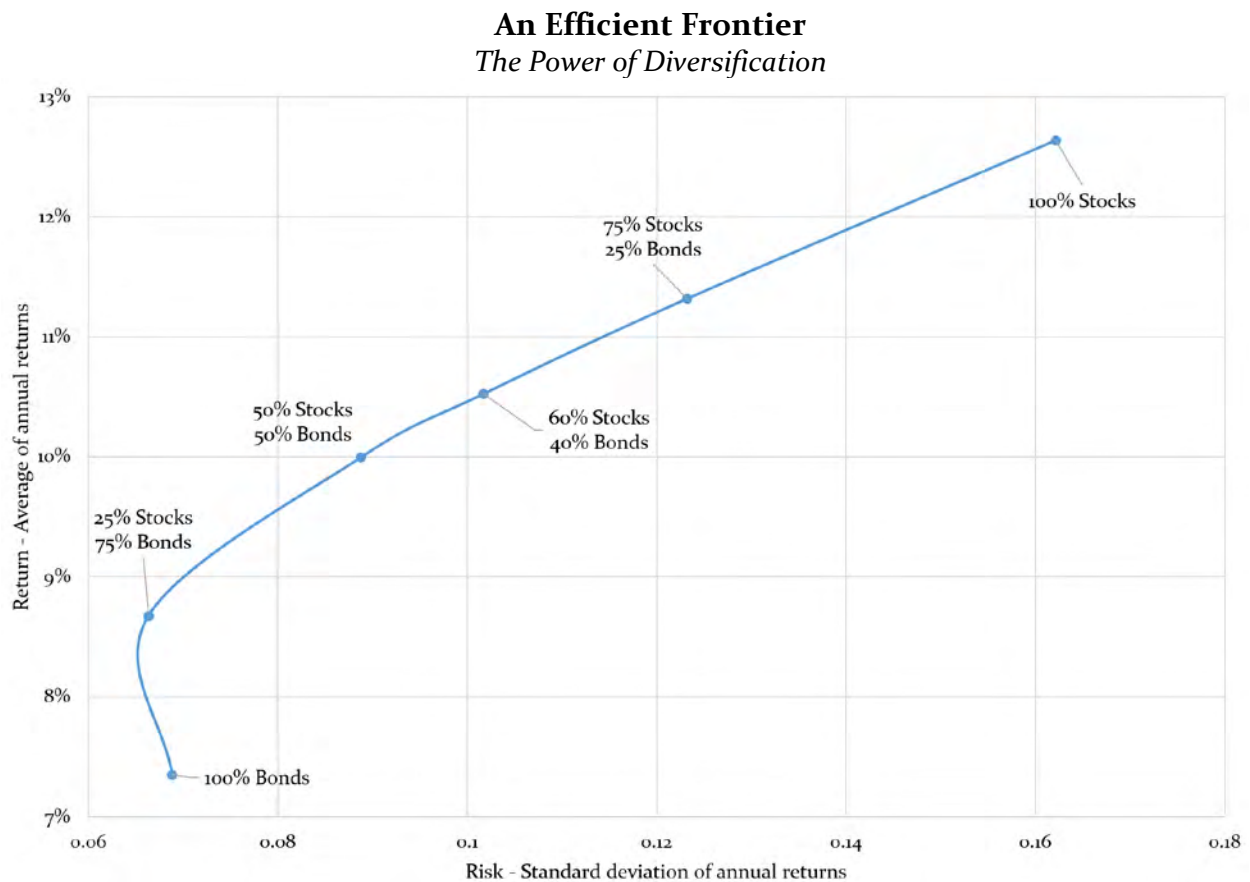
Diversification and the Efficient Frontier

Don't put all your eggs in one basket. The idea of diversification is hundreds of years old, and is based on the simple principle that you can reduce your risk by owning different things.

Over the last half century, diversification has advanced from a sensible principle to a sophisticated mathematical understanding of how best to construct investment portfolios to achieve financial objectives.

One of the key insights of Modern Portfolio Theory, which Harry Markowitz developed in the 1940s and for which he won the Nobel Prize for Economics in 1990, is that more-diversified portfolios can offer higher risk-adjusted returns, and that an optimal diversified portfolio can be described at any risk level for any combination of assets.

The benefits of diversification can be demonstrated by comparing an all-bond portfolio to an alternative portfolio that includes some higher-risk common stocks, in the form of our old friend the S&P 500 Index.



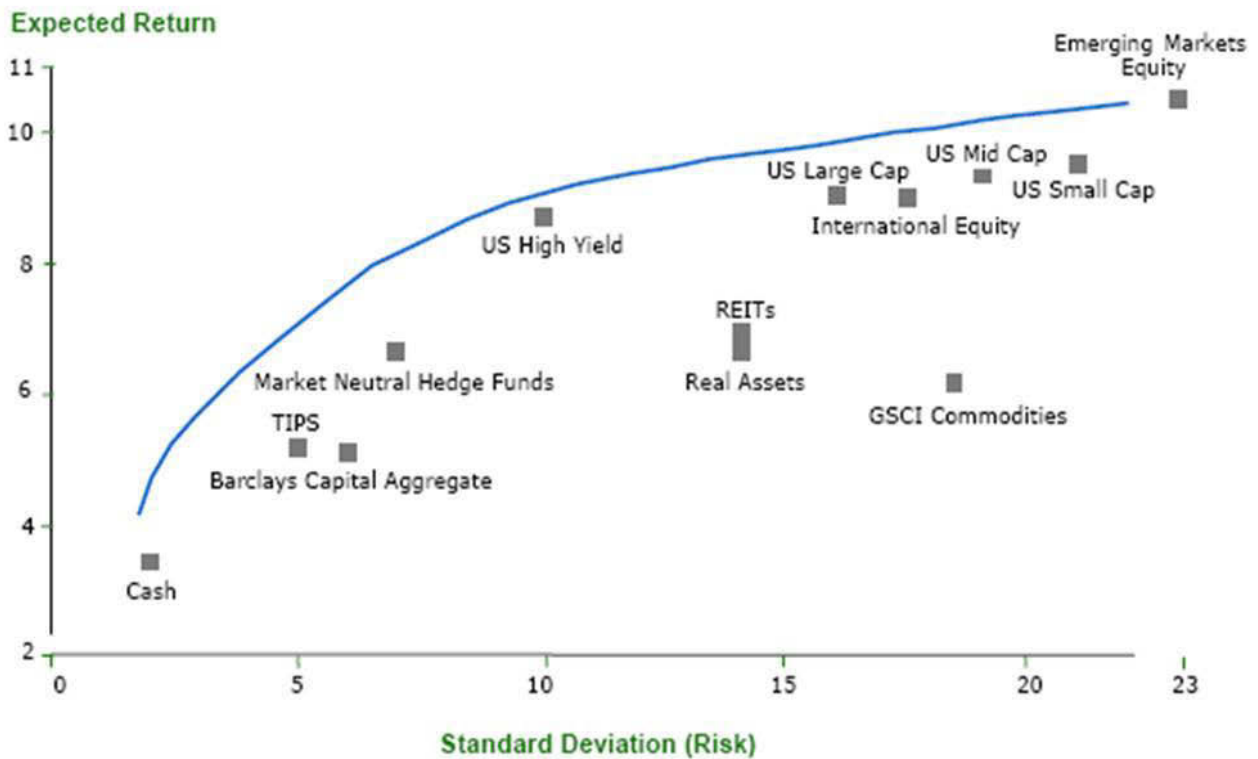
Indexes used: S&P 500 TR and SBBI Intermediate-Term Government Bonds TR. Data: 1976-2016.

The idea that owning more of the riskier asset (stocks) will produce higher returns seems obvious. What is not obvious, and is in fact highly counterintuitive, is that an investor can actually *improve returns while reducing risk*, by owning more of the riskier asset. Because stocks and bonds behave differently—in portfolio-speak, they are somewhat uncorrelated—moving from a 100% bond portfolio to a mix of 75% bonds and 25% stocks actually *reduces* the portfolio’s risk, even though stocks are an inherently riskier asset class.

This extra return without extra risk is what financial economists call the “free lunch.” Choosing to own the 100% bond portfolio instead of the lower-risk, higher-return 75/25 portfolio is an economically irrational choice. In portfolio-speak, we would say that the 75/25 bond/stock portfolio *dominates* the 100% bond portfolio.

Any of the possible portfolios between 25% stocks and 100% stocks can be a rational choice, based on a specific investor’s risk tolerance. We describe this continuum of optimally diversified portfolios, each of which offers the maximum projected return for a particular level of risk, as the *efficient frontier*. The graph below shows another efficient frontier constructed from a larger universe of possible assets:

An Efficient Frontier Complex Asset Mix



Source: State Street Global Advisors (June 30, 2009).

Again, we observe the “free lunch” provided by diversification—the whole truly is superior to any of the constituent parts.

Up to a point, adding a more diverse mix of assets can yield a portfolio with more reward per unit of risk. Choosing which assets to add, and in what proportion, is called *asset allocation*. The computation determining the best combinations of assets at each risk level is called *portfolio optimization*. Optimal portfolios can be constructed using many different investment assets, from highly-liquid index funds to Treasury Inflation-Protected Securities (TIPS) to less liquid assets like physical gold or timberland. *All* of the portfolios on the efficient frontier offer better risk-adjusted returns than *any* of the individual components within the portfolio.

Who diversifies? Almost every professional investor, from those running multi-billion-dollar university endowments or public-sector pension plans, to trained and credentialed financial advisors counseling individuals about their retirement finances. If you are a prudent person, and your assets are managed by a professional, they should be diversified.

Diversified portfolios will succeed in a broader range of market environments than a portfolio confined to any one asset class—including the large-capitalization US stocks represented by the S&P.

So now that we know it is less optimal than a well-diversified portfolio, is there any reason we should consider the S&P 500 Index strategy at all?

Absolutely. Remember, indexing should yield better outcomes than those earned by the majority of individual investors. The essential challenge of diversification, especially for the non-professional investor, lies in the fundamental tension between better theoretical investment strategy (more diversification) and the practical avoidance of error (owning the wrong thing at the wrong time).

While diversification can offer significant economic advantages, it requires you to decide how to allocate capital across the range of global investment opportunities, from stocks to

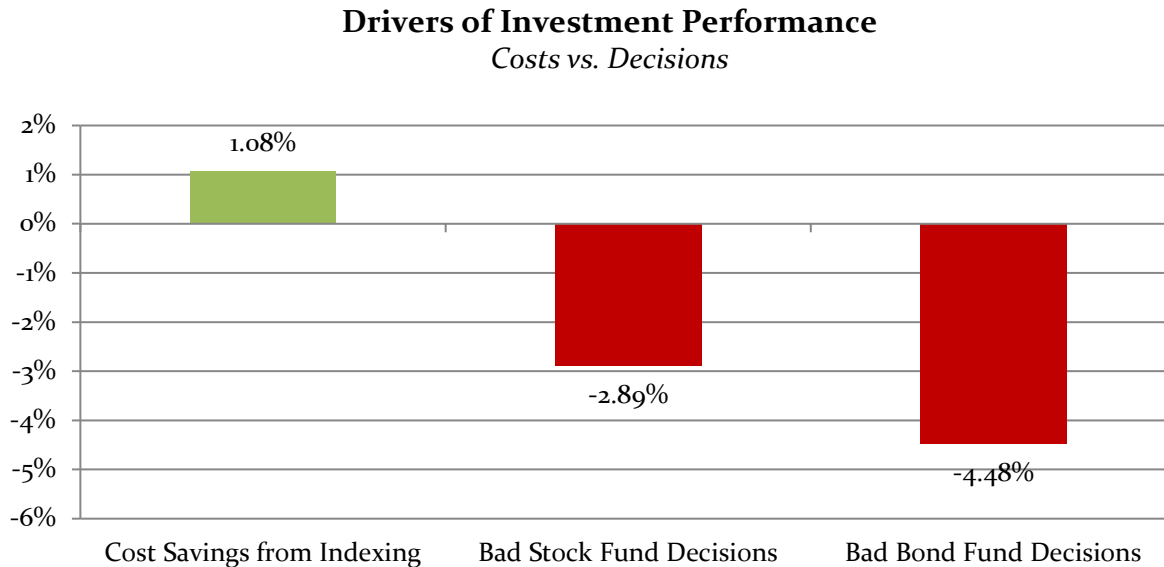
Once you decide to diversify beyond an S&P 500 Index Fund, you’re in the asset allocation business, whether you realize it or not.

bonds to real estate to cash, and to adjust those allocations as the current prices and prospective returns of those various asset classes change over time.

Once you decide to diversify beyond an S&P 500 Index Fund, you’re in the asset allocation business, whether you realize it or not. You are back to the challenge of deciding which investments to own and in what proportions. This is exactly the challenge that causes the average individual investor to fail to keep pace with the markets.

Let's revisit the DALBAR data, examining them in a format that compares the relative importance of two factors:³

- The projected *cost savings* from using a stock index fund instead of actively-managed funds.
- The *performance cost* of the errors made by individual investors when buying and selling stock and bond mutual funds.



Source: Morningstar, DALBAR QAIB 2017

The most compelling argument for choosing the S&P 500 index instead of designing your own diversified portfolio of mutual funds is not to save fees. It is to avoid investment errors, the sub-optimal decisions that compromise investment results for the average mutual fund investor.

Commit all your money to the S&P 500 and you have no other portfolio decisions to make—ever. Because indexing is cheaper than active management, you'll capture about a 1% per year cost savings. Certainly helpful, but not crucial. More importantly, you will have taken those two nasty red bars permanently off the table. With zero investment decisions to

³ Index cost advantage calculated as the difference between the average actively-managed fund at year-end 2013 (125 bps), per *Morningstar.com*, and the year-end 2014 cost of the Vanguard Index 500 Stock mutual fund (17 bps). Mutual fund investor performance disadvantages from the *DALBAR Quantitative Analysis of Investor Behavior 2017*.

make, by definition you can't make any allocation or timing errors. (Unless you abandon the strategy, for example if you panic and sell in a bear market. Don't do that.)

On the other hand, decide to diversify and you have multiple decisions to make right out of the gate. Get those decisions wrong—make asset allocation errors—and you may find yourself in underperformance hell, along with so many other individual investors.

The dangers of making the wrong asset allocation and timing decisions mean that most individual investors should probably avoid self-constructed diversified portfolios. This is a job best left to professionals—either financial advisors, or investment firms that offer packaged solutions based on age or risk level, like Vanguard's Target Date funds.

At TGS Financial Advisors, we devote most of our research time and attention to improving our diversification methodology at the asset allocation level.

Seeking advantage in relative pricing anomalies

Let's move beyond the theoretical advantages of diversification, and examine a dynamic approach to portfolio construction designed around the principle of reversion to the mean.

Our *Dynamic Contrarian Portfolio Strategy*TM goes beyond passive diversification, and seeks to take advantage of opportunities created by investor errors at market extremes. We implement a disciplined, forward-looking investment process designed to *anticipate* market moves, making decisions based on historical price and yield relationships, instead of *reacting* to market moves and chasing performance after the fact. Our approach has seven basic elements:

- **Diversification:** We track seven pairs of asset classes and flow funds systematically between them. Our baseline portfolios are adjusted to reflect five levels of risk tolerance.
- **Value and small-cap tilts:** We over-weight value-oriented investment disciplines, under-weight growth-oriented disciplines, and slightly over-weight small- and mid-sized companies.
- **Contrarian asset allocation:** We use historical price or yield data to determine the relative value of paired asset classes. When one asset class is meaningfully overvalued, we flow funds from the overpriced to the undervalued asset class.
- **Focus on costs:** In most asset classes, we use index funds, ETFs, or low-cost mutual funds from Dimensional Fund Advisors to drive down costs.

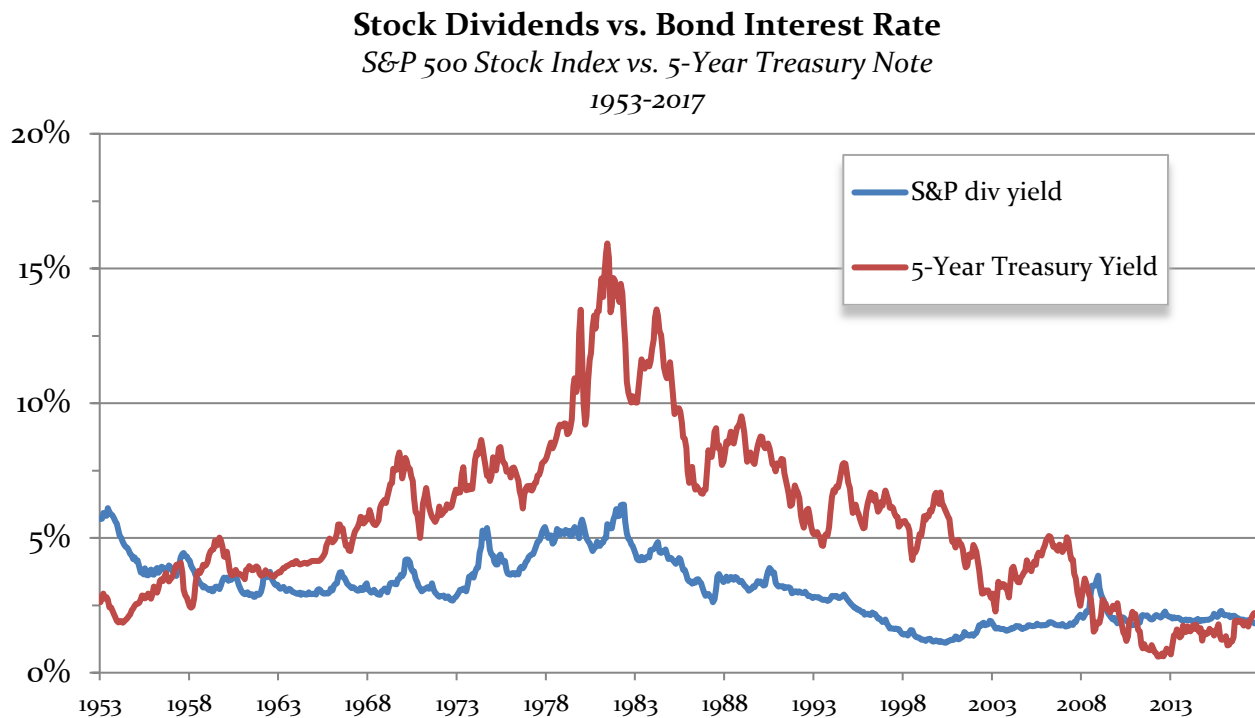
- **Discretionary portfolio management:** To make sure our strategy is implemented consistently and on a timely basis, we manage all investments on a discretionary basis.
- **Intentional tax efficiency:** We choose which investments to own, and where to hold them, in order to deliver the highest after-tax returns.
- **No black boxes.** We only invest in liquid and marketable securities that are priced and can be sold on every trading day.

Let's examine the implementation of this strategy in more detail.

Case studies from periods of market excess

To illustrate our process, let's examine two real-world examples of *Dynamic Contrarian* investing, one dating back to the financial crisis of 2008-2009, and another based on values as of year-end 2016.

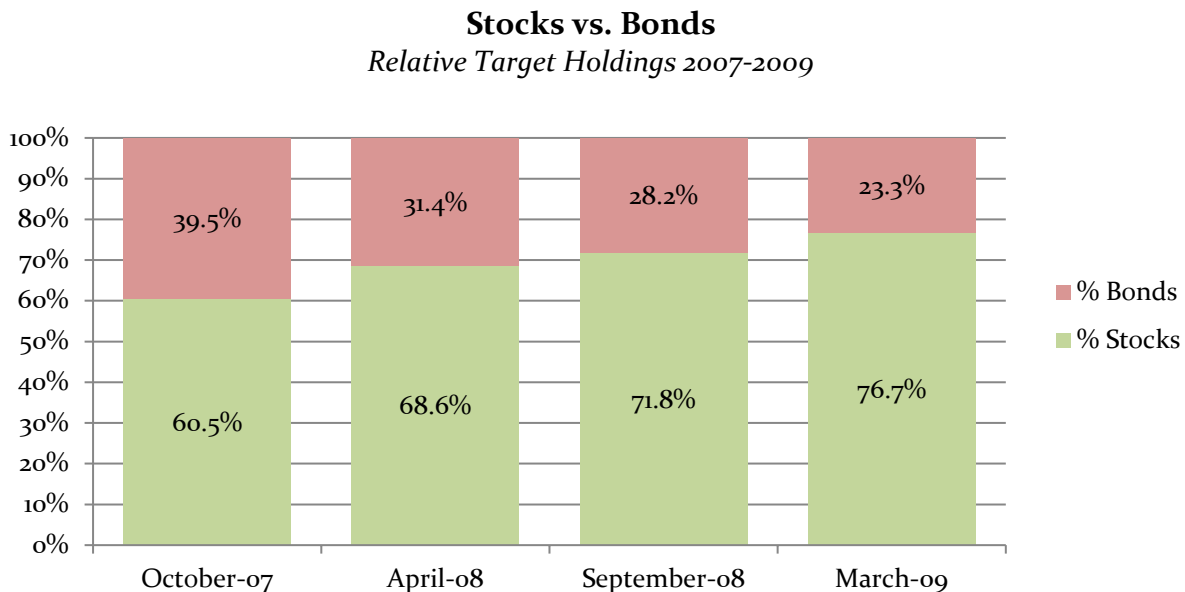
We own both stocks and bonds, with our asset class proxies being the S&P 500 and the 5-year Treasury note. In this case, we track on a yield basis, not a price basis, comparing the interest rate (coupon) on the 5-year Treasury to the dividend yield on the S&P 500 Index.



For more than half a century, starting in 1957, bond interest rates were higher than stock dividend yields—until 2008-2009, when the financial sector collapsed and worldwide stock markets crashed.

From the stock market peak in October 2007 to the trough in March of 2009, the S&P 500 declined by more than 60%, as investors abandoned stocks and bought Treasury bonds in a classic flight to safety. For the first time since the 1950s—an entire investment lifetime—stock dividends were higher than bond yields. We saw this as an opportunity, and bought stocks aggressively.

The graph below shows the relative holdings of stocks and bonds in our target portfolios from 2007 to 2009.⁴



Understand what this graphic implies: for this entire period, stock prices were going down, and for much of it, bond prices were going up. We kept buying more stock from early 2008 through early 2009, in the middle of the most severe stock market decline since the Great Depression, and we were wrong again and again.

Understanding this fact pattern is important. We are implementing a value strategy, not a timing strategy. We believe it is better to be early in acting on valuation signals than to accept excess risks (during bull markets) or miss key opportunities (during bear markets).

Since we have no ability to precisely time when trends reverse, nor to predict the tops and bottoms of market cycles, we are usually early. In 2008-2009, we bought stocks when they were cheap and we lost money. Stocks got even cheaper, meaning we lost more money, and

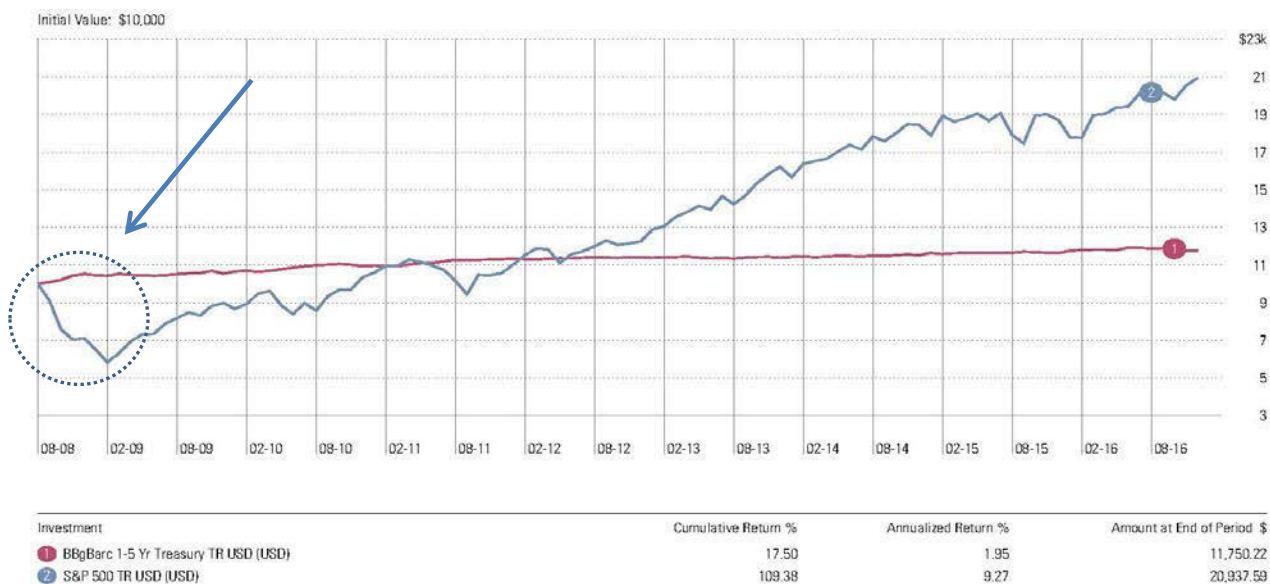
⁴ The graph shows the holdings of two components of TGS Financial Advisors’ investment target portfolio at the *Moderate Risk* level. It is not a complete picture of our target portfolio, and does not include every asset class included in a typical client portfolio. It does not precisely represent the actual allocation in the portfolio of any specific client at any point in time.

we bought again. In some portfolios, we performed four cycles of buying during the market downturn.

Why adjust our holdings if we never get the timing right? Because the long-term rewards can be so substantial, as seen below.

The plunging blue line on the left side of the graph below? That's when we were buying stocks. The blue line (stocks) climbing far above the red line (bonds) over the next five years? That's when we got paid for owning more stocks than usual.

Source: Morningstar



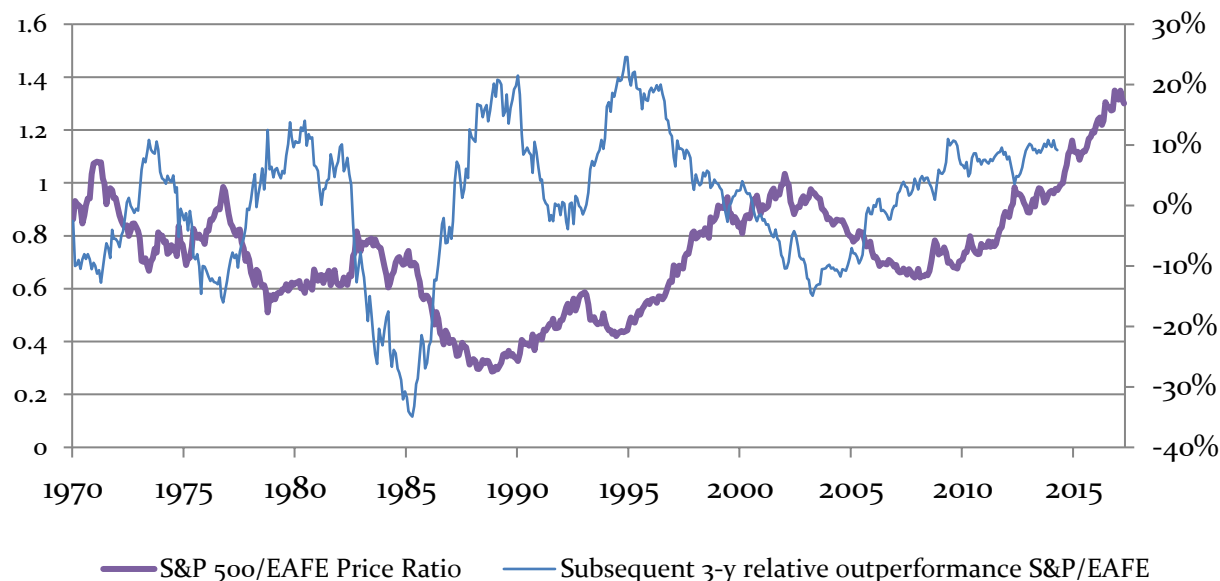
The amount of payout was significant, because the yield relationship between US stocks and bonds was, as we expected, quite robust. From the market low in March of 2009 through the end of 2016 the US stock market was up more than 220%, while intermediate-term Treasury notes had a total return below 20%.

In the end, the stock market panic of 2008-2009 represented an opportunity to buy stocks and sell bonds at uniquely favorable relative prices—but only for those with the conviction to act. As you can imagine, buying out-of-favor assets amid a crashing market, and holding them as they go down, can challenge any investor's discipline and patience. This is why *Dynamic Contrarian* investing is the right choice for some investors, but not for others.

Our second example of *Dynamic Contrarian* portfolio strategy is more contemporary, though of course based upon historical relationships, in this case measuring prices rather than yields. Among the paired assets we track are US and foreign stocks. Here we compare the *ratio* of the prices of the S&P 500 Stock Index against the MSCI EAFE index of developed-world foreign stocks. When we look at the long-term ratio of these two indices,

we see a clear pattern. When one of the indexes becomes unusually expensive compared to another (purple line), the underpriced index typically delivers higher returns over the subsequent three year period (blue line).

S&P 500 vs. MSCI EAFE
Price Ratio vs. Subsequent 3-Year Relative Returns



Looking at this chart, two things appear evident:

- First, we see strong mean-reversion; periods of divergent prices have typically been followed by converging prices. “Converging prices” is another way of saying outperformance by the cheaper asset.⁵
- Second, the ratio of the price of US equities compared to foreign stocks (purple line) shows that at year-end 2016 the *relative* price of US stocks was the highest we’ve seen since the EAFE index was created back in 1970.

Reflecting the extreme valuation of US stocks, by early 2017 our portfolios had the heaviest weighting toward foreign stocks in the history of our firm.

Every investment decision is made in the context of uncertainty about the future. We are always hostages to the unknown. As we seek a rational basis for portfolio construction, we believe that the relative-yield and relative-value measures we have described in this section present a persuasive framework for our investment decisions.

⁵ For example, after the peak of the Japanese market in 1989 (purple line is low, meaning US stocks are cheaper), US stocks outperformed foreign stocks by almost 20% per year over the subsequent three years.

As professional investors, we believe long-term investment performance is a client-selection challenge. From time to time, markets will go to extremes, creating opportunities to reduce economic risks and enhance long-term portfolio returns. Without exception, taking advantage of those opportunities will require us to make decisions different from those of the mass of individual investors. To have the chance to add value for our clients over time, we must depend on them to do three things:

- Avoid panic during down markets
- Don't get greedy and chase performance during market bubbles
- Accept that their portfolio returns may diverge significantly from those of their peers, for periods as long as several years

Do you believe that the crowd will get it wrong at the extremes of investment cycles, and that the mass decisions of millions of emotional investors driven by fear and greed may provide you with profitable opportunities? Does the chance of buying something on sale, amid the kind of bear-market disorder that causes most individuals and institutions to lose their bearings, genuinely excite you? Are you willing to turn your back on apparently easy profits during a stock market bubble, when greedy investors are bidding suspect assets up to absurd heights of over-valuation?

If so, you may be a good match with our *Dynamic Contrarian* strategy.

Summary:

In this white paper, we have intentionally avoided discussions of the performance results we've earned for individual clients over specific periods. After all, past performance is always what someone else got, and is a notoriously unreliable predictor of future results.

Instead, we have tried to communicate a few key ideas:

- As demonstrated by DALBAR's research, individual investors tend to underperform the financial markets, because they trade too frequently and chase past performance.
- There are solid arguments for choosing to invest following a Standard & Poor's 500 Index strategy, using either a mutual fund or an exchange-traded fund, but index strategies suffer from intrinsic limitations.
- Diversification offers profound benefits, including the only "free lunch" in financial economics. Diversification decisions are inevitably asset allocation decisions.
- We believe the principle of reversion to the mean may offer the potential for added return advantage.
- It is impossible to consistently time investment buy and sell decisions precisely at the inflection point, immediately before the trends reverse. This means that, in pursuing a portfolio strategy based on mean reversion, there will probably be extended periods of underperformance.

For individual investors, the stress of being out-of-sync with both the financial markets and other individual investors can be powerful. The challenge for every individual investor is to decide on a sensible strategy, and then to stick with it through thick and thin, both when it is working well and (even more urgently) during those periods when it is underperforming and out of favor. Following the crowd and changing direction in response to recent trends is an almost guaranteed way to fail as an investor.

Which strategy is right for you?

In this white paper, we've outlined three possible strategies for investors to pursue:

- **An unsystematic, performance-following strategy using mutual funds or individual securities.** This is the default strategy for most individual investors, and research by DALBAR suggests it is likely to result in long-term underperformance.
- **A passive investment strategy using an S&P 500 index fund.** This strategy is simple, low-cost, and should capture much of the core return available in the financial markets. A move toward indexing would lead to improved performance for most active investors. While index strategies have certain inherent limitations, indexing should be the default strategy for prudent long-term investors.
- **Our *Dynamic Contrarian Portfolio Strategy™ (DYCOPS)*,** which combines systematic diversification with an active policy of overweighting underperforming assets at times of significant price or yield divergence. This strategy offers the certainty of tracking error, with the possibility of higher risk-adjusted performance. For the right kind of patient, disciplined, value-oriented long-term investor, we believe it may offer long-term advantages, especially in an environment of low secular returns.

We hope this white paper has been helpful to your thinking about the challenges of long-term investment strategy. If our approach resonates, we would welcome the opportunity to meet with you, and to learn more about your finances and your lifetime goals.

TGS Financial Advisors
A Registered Investment Advisor

(610) 892-9900 | (800) 525-4075

www.tgsfin.com

Joan Hill, Communications Director
joan@tgsfin.com

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Past performance may not be indicative of future results. Different types of investments involve varying degrees of risk. Therefore, it should not be assumed that future performance of any specific investment or investment strategy (including the investments and/or investment strategies recommended and/or undertaken by TGS Financial Advisors), or any non-investment related content, will be profitable, equal any corresponding indicated historical performance level(s), be suitable for your portfolio or individual situation, or prove successful. A copy of our current written disclosure statement discussing advisory services and fees is available upon request



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