

A Case for Active Asset Allocation

APRIL 2014

Executive Summary

We think that active asset allocation, a strategy that rotates among asset classes based on expectations of return and risk, can offer some investors a more attractive overall portfolio option than a static or formulaic approach. In our view, the major problem faced by asset allocators is that the asset class with the highest historical real return, equities, has an annoying tendency to provide highly negative returns periodically. We suggest that a strategy which focuses on trying to avoid big losses while harvesting the high average real returns of risky assets might provide a better combination of return and risk than a static 60% stocks, 40% bonds portfolio, and we present some evidence to support this contention.

Innovation in Asset Class Strategies Over the Past Two Decades

ORIGINS OF ASSET ALLOCATION: 60/40

Investors have long understood the importance of asset allocation in constructing portfolios with attractive expected returns at acceptable levels of risk. For many years, the standard approach was to create a diversified portfolio of traditional assets, consisting of 60% stocks, 40% bonds (henceforth 60/40), which seemed to offer a reasonable combination of the higher returns typical of stocks with the lower volatility typical of bonds.

Over the past two decades, however, investors have experimented with different approaches, sometimes to extremes. During the great bull market of the 1990s, a paper published in the *Financial Analysts Journal* asked, "Why Not 100% Equities?"¹ The bear market of 2000 – 2002 answered that question.

BEYOND STOCKS AND BONDS

The bear market to start the 21st century, in fact, spurred many changes to thinking about asset allocation among institutional investors. Pioneers like the Yale endowment fund had already reached far beyond stocks and bonds to invest in timber, hedge funds, commodities, and other alternative asset classes to both add diversification and enhance returns of their portfolios. Their success during the 2000 – 2002 bear market attracted more institutions to alternative assets. Prior to the bear market, some pension funds had begun structuring their expected return stream to better match their forecasted liabilities. Their success during the bear market inspired others to follow their lead. These concepts were new 15 to 20 years ago, but have become mainstream today.

RISK PARITY

The second bear market of the 21st century, in 2008 – 2009, further stimulated efforts to find alternatives to the 60/40 portfolio. Advocates of what became known as risk parity argued that a levered portfolio of lower volatility assets like bonds could provide equal or higher expected returns with lower risk compared to stocks. Although this idea quickly gained traction with investors and attracted substantial assets in the wake of the financial crisis, some have wondered whether the impressive backtest and early live results were largely driven by the 30-year bull market for bonds from 1981 – 2011². Although the jury is still out, some risk parity strategies did struggle to keep up with 60/40 during the strong equity market and weak bond market in 2012 – 2013.

ENHANCEMENTS WITHIN EQUITY

Much work has also been done over the past few decades to improve asset allocation within the equity portion of the 60/40 portfolio. The first step was to enhance diversification relative to an S&P 500 portfolio by adding small cap, tilting towards value, and adding international developed and emerging markets exposure. This more diversified approach to equity investing has become fairly common today.

SMART BETA

More recently, some investors have found that, historically at least, equity portfolios that weighted stocks differently than the standard market capitalization approach could improve the return/risk equation. Nowadays these strategies tend to be lumped together under the rubric "smart beta." The weighting schemes might favor stocks with lower volatility, higher sales or dividends, lower valuations, etc. As with risk parity, these ideas are supported by impressive backtests and solid early real-world results that have generated a significant following. As with all these innovations, time will tell which will generate lasting value and which are time-period specific.

TARGET DATE FUNDS

For individual investors, the biggest change in asset allocation over the past couple of decades has been the strong growth in target date funds. The basic idea is that 60/40 might make sense on average for investors, but generally a younger investor who is far from retirement can afford to take more equity risk in pursuit of higher expected

¹Thaler, Richard H., and Williamson, J. Peter, "College and University Endowment Funds: Why Not 100% Equities?" *The Journal of Portfolio Management* Fall 1994, Vol. 21, No. 1, pp. 27-37.

²Anderson, Robert M., Bianchi, Stephen W., Goldberg, Lisa R., "Will My Risk Parity Strategy Outperform?" Working Paper #2012-01, March 27, 2012.

returns, while an older investor close to or in retirement might be better served with a less volatile, more bond-rich portfolio.

MOST APPROACHES RELY ON FORMULAS DERIVED FROM HISTORY

Each of the asset allocation strategies designed to improve upon the 60/40 portfolio has its pros and cons, its advocates and detractors. Most of the new approaches have certain things in common. They examine the history of investment results and seek to identify a strategy that would have provided an acceptable or superior average result. The resultant strategies tend to be relatively static or formulaic.

We Think An Active Asset Allocation Strategy Can Offer An Attractive Alternative

THE ACTIVE ASSET ALLOCATION ALTERNATIVE

Another approach might be to rotate into and out of assets without a pre-set formula, in pursuit of higher returns at acceptable levels of risk. These sorts of strategies are referred to as global unconstrained, global macro, or global tactical asset allocation (GTAA). Each of these terms might mean somewhat different things to different investors, but in general the idea is to dynamically manage a portfolio to achieve a solid combination of expected asset returns and risks.

60/40 VS. A CRYSTAL BALL

The hypothetical attractiveness of such a portfolio might be illustrated with a simple exercise, displayed in Figure 1. Using data from Ibbotson, we show the annual returns of large-cap stocks, government bonds, and a 60/40 portfolio, as well as the arithmetic averages of each series. The appeal of 60/40 becomes clear: the 60/40 offers a lower return than 100% stocks, but with much lower volatility and a much better return/risk ratio.

1 / DIVERSIFICATION HELPS INVESTORS, FORESIGHT COULD HELP MORE

January 1926 through December 2013

Return	Actual Performance of Bonds and Stocks		Hypothetical Performance		
	Long-Term Government Bonds	S&P 500	60/40	Perfect Foresight	Limited Foresight
Average	5.91	12.05	9.59	18.45	14.75
Standard Deviation	9.85	20.19	12.71	13.54	16.90
Ratio	0.60	0.60	0.75	1.36	0.87

Source: QMA using data from Ibbotson Associates. Long-Term Government Bonds are represented by the Ibbotson Associates SBBI Series (Stocks, Bonds, Bills, & Inflation) - Long-Term US Government Bond Index. Shown for illustrative purposes only. This exhibit does not constitute investment advice.

Then we show the results that could be achieved with perfect foresight; that is, if an investor knew in advance which asset class would return the most each year. Not surprisingly, this “crystal ball” portfolio shows much higher returns and a much better return/risk ratio than a static 60/40. Of course, none of us have a crystal ball. Suppose, however, that an investment manager could successfully identify years in which stocks would underperform bonds by a wide margin, say 30% or more. There have been six such years since

1926, shown in detail in Figure 2. Buying bonds instead of stocks in those years (and holding 100% stocks in the other years) would have increased returns by about five percentage points above a static 60/40 portfolio, with about four percentage points increase in volatility.

2 / DIVERSIFICATION HELPS INVESTORS, FORESIGHT COULD HELP MORE

Example portfolio performance during the six years where equities underperformed bonds by more than 30%

	Actual Performance of Bonds and Stocks		Hypothetical Performance		
	Long-Term Government Bonds	S&P 500	60/40	Perfect Foresight	Limited Foresight
1931	-5.31	-43.34	-28.13	-5.31	-5.31
1937	0.23	-35.03	-20.93	0.23	0.23
1974	4.35	-26.47	-14.14	4.35	4.35
2000	21.48	-9.10	3.13	21.48	21.48
2002	17.84	-22.10	-6.12	17.84	17.84
2008	25.87	-37.00	-11.85	25.87	25.87

Source: QMA using data from Ibbotson Associates. Long-Term Government Bonds are represented by the Ibbotson Associates SBBI Series (Stocks, Bonds, Bills, & Inflation) - Long-Term US Government Bond Index. Shown for illustrative purposes only. This exhibit does not constitute investment advice.

Avoiding the worst equity markets would add significant value. Said another way, an investor who favored stocks most of the time but who had the skill to switch to bonds during the worst bear markets, which historically come around about once or twice in a generation, would have delivered higher returns with modestly higher risk and an improved Sharpe ratio versus 60/40.

We don't know any investors who have a continuous 88-year track record in asset allocation, and these big bear markets happen so rarely that it is tough to find statistically significant evidence that some investors can successfully identify big bear markets. But we do think that this hypothetical analysis suggests that skillful active asset allocation would be quite helpful to investors. And as we will show below, we do think that there is some evidence that active asset allocation strategies have added value over the past decade.

NO ONE CAN TIME THE MARKET—OR CAN THEY?

Another way to address this issue is to ask: are asset returns predictable? The conventional answer is NO. One of the most shop-worn sayings on Wall Street is, “No one can time the market.” According to research by Morningstar, this aphorism has the ring of truth for the average investor. Actual returns achieved by mutual fund investors typically run two percentage points or worse below the average returns of all mutual funds. Morningstar's explanation is basically that most investors are very bad at asset allocation: they buy hot funds and sell cold funds, both at the wrong time.

Of course, it is difficult to earn alpha in financial markets by following the conventional wisdom or mimicking the average investor. Indeed, if the average investor is bad at asset allocation, that suggests to us that an opportunity exists to add value through sensible asset allocation.

The academic research on the predictability of asset returns is mixed. Some academics claim that predicting the market is probably impossible. For example, they look at factors proposed by others

(e.g. the dividend yield) and find little evidence of predictability (e.g. A. Goyal and Welsh, 2003)³. Since other equally distinguished professors reach different conclusions, the disparate findings are likely mostly due to methodological differences. Another argument (Robertson and Wright, 2009) looks at the time series and distribution properties of historical return data to conclude that it is unlikely that any predictive factor could exist that would be better than a historical moving average, especially over longer time horizons⁴.

However, other prominent academics believe that asset returns have a predictable component, and they have some practical credibility to support their claims. For example, Robert Shiller of Yale, John Campbell of Harvard, and their colleagues have argued in a series of papers that valuation factors can help predict asset returns. One of those papers vigorously argued that stocks were substantially overvalued; it was published shortly before the crash of 2000⁵. Shiller is also widely credited with predicting the collapse of the housing bubble in 2007 and 2008. In addition, “Stocks for the Long Run” bull Jeremy Siegal published an Op-Ed piece in the Wall Street Journal claiming “Big Cap Tech Stocks Are A Sucker’s Bet” on March 14, 2000, the very day that the NASDAQ peaked and started its long, steep fall.

We Think Effective Asset Allocation Requires a Dynamic Approach

From our perspective, there are at least four key reasons why differences of opinion about the predictability of asset returns exist, and why we think that returns are at least somewhat predictable:

1. TIMING

Valuation is a good long-term predictor of returns. When valuation metrics like P/E ratios have been higher, future returns have been low, and visa versa. Buy low, sell high is just as important for the overall market as it is for individual stocks, in our opinion. The trouble is, valuation is not an especially good timing tool. Stocks started to look more expensive than average in the mid-1990s. Alan Greenspan’s famous talk, musing about possible “irrational exuberance,” was made in December of 1996, more than three years and thousands of Dow points before the market peaked. A well-respected Wall Street quantitative strategist turned bearish in 1998, only to see the market climb rapidly in 1999, with the Nasdaq up 85%. The dot-coms crashed in March of 2000, but the big cap tech stocks rebounded through the summer, only to start a lasting downtrend in August. Markets can sometimes stay expensive (or cheap) for a long time before they revert to normal levels.

2. TIME HORIZON

A problem related to timing is specifying a period under which returns might be predictable, and determining how much value we

can add through predictability. In the very long run, stock prices at about the rate that nominal GDP rises, though these days we can debate about whether we should look at national or global GDP or a mix of both. Although growth can be fast or slow in the short run, as the economy cycles through recessions and recoveries, the long-run growth potential, derived from hours worked and productivity, changes relatively slowly over time. This implies that the long-run average probably is a good enough predictor at very long horizons (say 50 years) that other predictors have little room to add value. Similarly, at short horizons, say a few days to a month or so, we concede that there is enough noise in market movements to make prediction challenging. So we tend to adopt a time horizon of 3 – 12 months. We look for evidence that returns might deviate from historical averages over that time horizon.

3. CONTINUOUS PREDICTABILITY

What are we trying to predict? The academic studies tend to look at continuous predictability. A typical study might look at the ability of factor A to forecast returns at a fixed horizon. If our forecast of returns for stocks is 12% over the next year, for example, and actual returns are 30%, that looks like a poor forecast. From our perspective, however, it is quite a good forecast. If we had expected stocks to perform somewhat better than average, we will generally be overweight equities in our portfolios. If stocks do much better than we thought they would (2013 is a good example), well, so much the better. As long as we overweight the better-performing asset, we will be adding value. If value-added turns out to be more than we forecast, that’s a good thing. It is much more important to forecast losses, especially big losses, than it is to forecast the magnitude of gains. That’s why in our 2014 TT piece we looked closely at the possibility of a bear market starting, and we suggest that the actual calls of Campbell, Shiller, Siegel, and others show that bear markets can be predicted under some circumstances.

4. FACTOR CHANGE OVER TIME

Predictive factors can and do change over time. Imagine we had constructed a market timing model based on data from 1945 – 1972. We would have had no reason to include a variable on oil prices, since prices had generally been low and steady for many years. But the 1973 OPEC embargo and the subsequent tripling of oil prices was perhaps the dominant cause of the bear market that started in 1973 and ended in December of 1974 – one of the sharpest bear markets in U.S. history. Our model might have included proxies that would have helped anticipate this bear market; for example, inflation, which had flared up a couple of times previously in the post-war period, had caused drops in equity prices. But in 1973, immediately after the price hike, the conventional wisdom was that increases in oil prices would not necessarily lead to an increase in the general price level. After all, classical economics suggested that an increase in the price of one commodity would lead to drops in other prices, leaving the overall price level about the same. Similarly, credit spreads in the mortgage-backed securities market or the prices of credit default swaps might not have been

³Goyal, A., and Welch, I., 2003, “Predicting the Equity Premium with Dividend Ratios,” *Management Science* 49, 639-654.

⁴Robertson, Donald, and Wright, Stephen, “The Limits to Stock Return Predictability,” September 7, 2009.

⁵Campbell, J. Y., and R. J. Shiller, 1998, “Valuation Ratios and the Long-Run Stock Market Outlook,” *Journal of Portfolio Management* 24 (2), 11-26.

in predictive models constructed before 2007, but they would be critical factors during and after the bear market of 2008 – 2009.

Research that focuses on one variable at a time over a long period might have a hard time making successful predictions. Active asset allocation is art as well as science. The world changes, and we must be actively seeking evidence that factors that haven't been important in the past might be critical in the future.

There Is Evidence That Active Asset Allocation Can Add Value

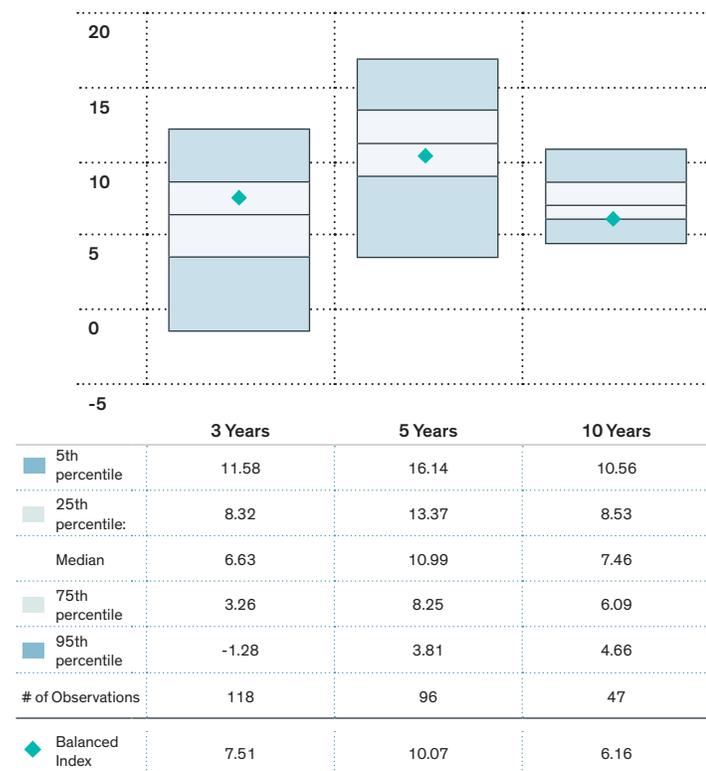
ACTIVE ASSET ALLOCATIONS HAVE ADDED VALUE

Can practicing investment managers running active asset allocation funds beat a 60/40 portfolio? There is some empirical data available to address this question. Figure 3 shows the trailing 3-, 5-, and 10-year performance of the Global Tactical Asset Allocation category in the eVestment universe relative to a 60/40 portfolio. The 3-year results have been unimpressive, perhaps due to the very strong equity market of 2012 – 2013. But the longer time periods show significant value-added over the up and down market conditions of the past decade.

3 / GLOBAL TACTICAL ASSET ALLOCATION CATEGORY

Returns as of December 31, 2013

◆ Balanced Index: 60% MSCI World / 40% Citi WGBI

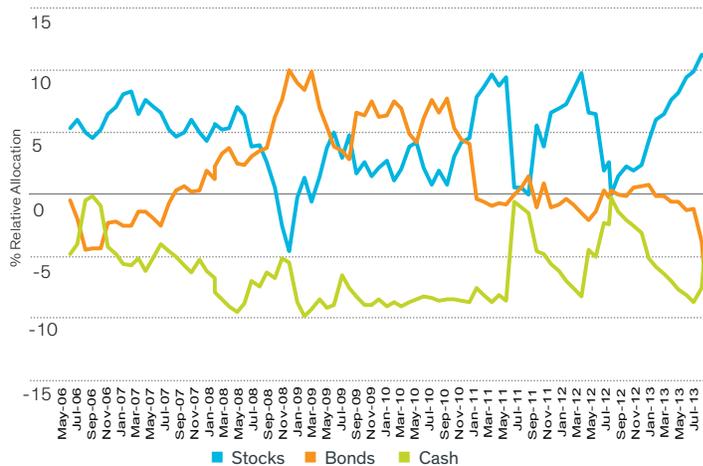


Results displayed in US Dollar (USD).

Source: eVestment Alliance. As of 12/31/2013. Universe: eVestment Alliance Global Tactical Asset Allocation. eVestment Alliance is an outside vendor whose software has been used to create this exhibit. QMA pays a fee for this software. QMA has made efforts to confirm accuracy/reliability of the data provided by eVestment Alliance but we disclaim responsibility for its accuracy or completeness. Shown for illustrative purposes only. Past performance is not a guarantee or a reliable indicator of future results.

4 / ACTIVE ASSET ALLOCATION CATEGORY

Relative Allocations, May 2006 through September 2013



	Average Annual Return (%)			
	1 Year	3 Year	5 Year	10 Year
Portfolio* (net):	16.15	10.56	12.63	6.43
Lipper (1):	14.14	8.34	11.96	6.28
Portfolio* (gross):	16.83	11.21	13.29	7.06
Blended (2)	14.31	9.41	10.88	5.95

*Example portfolio is a QMA-managed portfolio of stocks/bonds whose objective is to outperform a blended benchmark: S&P 500/Barclays Agg/T-Bill 3 Month Blend (Alloc: 50/40/10).

(1) Lipper VIP Mixed-Asset Target Alloc Moderate Funds Classification Median

(2) S&P 500/Barclays Agg/T-Bill 3 Month Blend (Alloc: 50/40/10)

Source of allocations data: QMA. Source of returns data: Prudential. Shown for illustrative purposes only. Allocations are subject to change.

ACTIVE ASSET ALLOCATION—EXAMPLE PORTFOLIO

Figure 4 shows one example of the tactical positions of an actual asset allocation fund, managed for more than a decade by QMA, with a table at the bottom summarizing results. Not all the fund's moves were successful, but underweighting stocks and overweighting bonds in the second half of 2008, overweighting stocks starting in 2009, and moving from bonds to cash in the back-half of 2013 seemed like appropriate calls. On average, this fund seems to have navigated the shoals of the market over the past 10 years reasonably well, providing above-benchmark results net of fees. We believe that we can add value through active asset allocation, and we think that this example offers some supporting evidence.

THE OUTLOOK FOR ACTIVE ASSET ALLOCATION

Of course, past returns do not necessarily indicate future success. Might an active asset allocation strategy have a solid probability of beating a 60/40 portfolio over the next several years? Of course no one can say for sure, but we think that the environment might be favorable for active asset allocation. If returns settle back into a "normal" pattern, with little volatility and returns close to historical averages with small differences between the returns of various asset classes, then active asset allocation will have little opportunity to add value. But we have dubbed this decade the "Turbulent Teens" (TT). The past 15 years have produced some of the widest swings in the relative

performance of stocks versus bonds in history. Returns could settle back down, but we think that might not happen soon.

In addition, although bond yields have risen modestly from their all-time lows a year or so ago, they remain very low by historical standards. As we have shown in previous TT pieces (reproduced in Figure 5), yields in this range historically have led to weak real returns in the future. Investors looking to bonds to provide strong real returns over a lengthy retirement might be disappointed, especially if inflation accelerates. Equities do not look cheap either; after delivering 25% average annualized gains since the low in March of 2009, equity valuations are about in line with or slightly above historical averages. But if bonds are rich and stocks are roughly fairly valued, an active asset allocation strategy that favors stocks while keeping an eye open for the start of a bear market could offer significant value over a 60/40 portfolio. This might be aided by a “reverse 1970s” effect – increased US energy production might have multiple unexpected positive consequences⁶.

5 / STOCKS HAVE HISTORICALLY OUTPERFORMED BONDS WHEN YIELDS WERE THIS LOW

Nominal Yields - UST 10 Year	Avg. Yield	LT Government Debt Returns			S&P 500 Total Returns		
		1 Year	5 Year	20 Year	1 Year	5 Year	20 Year
Total: 0-4%	2.82%	1.60%	1.32%	-0.31%	12.51%	7.89%	7.98%
Total: 4-8%	5.50%	3.23%	2.34%	1.66%	4.82%	3.45%	2.10%
Total: 8+%	9.71%	4.72%	4.70%	6.23%	9.36%	8.71%	9.13%
All Interest Rates Cycles	5.29%	2.91%	2.41%	1.81%	8.66%	6.21%	5.80%

Real, inflation-adjusted returns.

Chart based on our 2011 Turbulent Teens: “The Debt Dichotomy, or ‘Gentlemen Prefer Bonds.’”

Source of data: Ibbotson Associates, QMA. Data as of 2011. Long-Term Government Debt Returns are represented by the Ibbotson Associates SBB1 Series (Stocks, Bonds, Bills, & Inflation) - Long-Term US Government Bond Index. Past performance is not a guarantee or reliable indicator of future results.

CONCLUSION

The past eight years have seen some of the most violent swings in the relative performance of stocks and bonds since the period from the late 1920s through the Great Depression. Ad hoc asset allocation decisions of the sort practiced by the average investor are unlikely to be any more successful in this environment than the dismal past record documented by Morningstar, it seems to us. Having a sensible static plan like 60/40 or a target date fund – and sticking with it – seems like a big step up to us.

We believe an even better approach for some investors is to have an active asset allocation strategy, using skilled portfolio managers who look globally for opportunities and scrutinize economic, geopolitical, and market events every day. No one can see the future 20/20, but we think that valuations, economic and business events, and public policy changes offer clues to future performance. The ability to move a portfolio away from 60/40 if, for example, inflation accelerates or the globe falls back into recession gives an investor the possibility at least of avoiding calamity. We think the record of the past decade, despite its ups and downs, is that active asset allocation can serve investors well in a volatile world.

⁶We discuss the energy effect at length in our December 2011 Turbulent Teens piece, “Can the World Pull Back from the Brink Again?”

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