

The Importance of Asset Allocation

How Baird Approaches Portfolio Design

By Baird Asset Manager Research

Summary

Asset allocation establishes the framework of an investor's portfolio and sets forth a plan to specifically identify where to invest one's money. Advocates conclude that proper asset allocation has the potential to increase investment results and lower overall portfolio volatility. Critics argue that the interconnectedness of financial markets makes traditional asset allocation less beneficial. It is Baird's opinion that both are correct – asset allocation can lead to better overall results, but the implementation needs to be flexible enough to adapt to longer-term trends in the market.

In this paper we seek to answer:

- Why asset allocation is still one of the most important strategies an investor can employ.
- Why asset allocation and diversification should be addressed concurrently but thought of separately.
- How Baird views this subject and how our asset allocation models are derived.

The Value of Asset Allocation

Asset allocation is important in two distinct ways. The first is from a portfolio design standpoint. The theory asserts that in any given period, some investment styles will be winners and some will be losers, and this varies over time. The addition of investment styles that perform differently than the rest of your portfolio (i.e., have a low correlation) can reduce overall portfolio volatility. This is because individual asset classes can be volatile, but in a

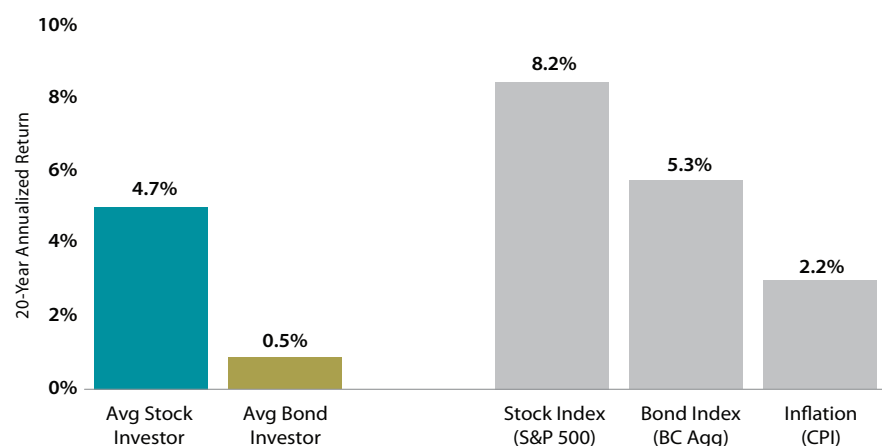
well-constructed portfolio, there will be other investments that partially offset that volatility, both on the upside and downside, thus producing a more stable return pattern.

The second reason asset allocation is important is that it helps investors keep a long-term perspective and avoid knee-jerk reactions. Investors have a tendency to chase the best-performing segments of the market

while the benchmark rose 8.2%. In other words, most investors missed nearly half the positive market performance by trying to time when to buy and when to sell. Moreover, despite being in a higher performing asset class, stock investors were barely able to keep pace with inflation. This underperformance is even more prevalent when examining bond investors, who have dramatically trailed inflation and the broad bond market.

GRAPH 1:

Performance of the Average Investor



Source: Dalbar, for the 20-year period ending 12/31/15. Please refer to page 7 for information.

and shun poor-performing areas. Yet, it is incredibly difficult to guess what areas will continue to shine and what the next market leaders will be. Trying to time the market can have perverse consequences, which are illustrated in a study conducted by Dalbar Associates (Graph 1) that shows that stock investors over the past 20 years averaged a 4.6% annualized return

Step 1: Asset Allocation

The general approach of an asset allocation strategy is to determine which asset classes to invest in based on your risk tolerance and return objectives. It is our opinion that any portfolio implementation decisions must separate two important concepts: asset allocation and diversification. Asset allocation in its most basic form is the decision of how to weight stocks, bonds and cash in a portfolio in a way that provides the potential for the best investment return for the amount of risk you're willing to accept. Setting these targets appropriately is a critical first step in portfolio construction. Too much in bonds or cash will ensure lower volatility than stocks, but may not produce enough to meet return objectives or keep ahead of inflation. Conversely, too heavy a weighting in stocks can produce higher rates of return over time, but can also result in large swings in value over shorter periods.

Expected return and acceptable risk must be viewed simultaneously – an investor must feel comfortable with the downside risk associated with higher return potential. Graph 2 illustrates how an increased stock allocation leads to the potential for larger positive returns over a 12-month period, but also the possibility of larger negative returns.¹ While an all-stock portfolio may provide the highest average returns over a 12-month period (21.3%), it also exhibits the largest average loss (13.6%). Conversely, following an all-bond approach has historically had limited downside (only 15% of the periods studied showed negative returns), but produced nearly a third of the positive returns of the all-stock approach. Identifying the upside and downside thresholds that an investor is comfortable with is an important step in ensuring that the asset allocation plan has staying power.

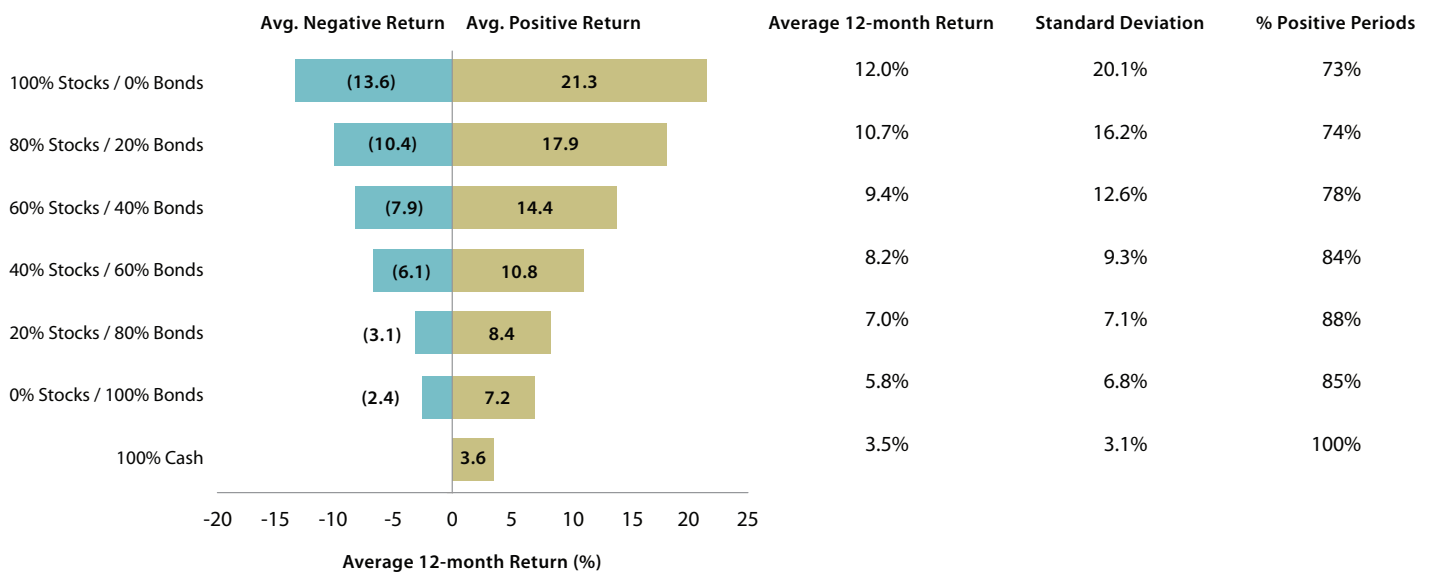
Step 2: Diversification

The first step lays the foundation for how a portfolio is to be structured. The second step, diversification, involves spreading your assets around to various investment types. The goal is to construct a portfolio that has exposure to many different areas, some of which perform independently of the others. By properly diversifying a portfolio, it is possible to achieve higher expected returns and lower overall volatility.

Diversification works best when asset classes have low correlations with one another – when some zig, the others zag. Historically, this was achieved in a relatively simple manner. Expanding a large-cap, U.S.-based stock portfolio to include small-cap or international stocks would have provided sufficient diversification. Over the past 10 years, however, the financial marketplace has become increasingly interconnected

GRAPH 2:

The Relationship Between Upside and Downside Potential



Source: Baird research, Standard and Poor's, Barclays, Citigroup. For the years ranging December 31, 1926 to December 31, 2016. Stocks are represented by the S&P 500 Index and bonds by a 50/50 mix of the IA LT Corporate and IA IT Treasury rebalanced monthly. The S&P 500 Index is a well-known gauge of stock market movements determined by the weighted capitalization of the 500 leading U.S. common stocks. The Ibbotson Associates (IA) bond indices measure the performance of U.S. gov't and corporate bonds with maturities greater than ten years. These allocations are rebalanced annually. Indices are unmanaged and are not available for direct investment. Past performance is not a guarantee of future results.

and highly correlated. One needs only to look at the dismal 2008 returns of many asset classes to be reminded how similarly different types of investments move in times of turmoil.

Figure 1 provides various examples of how a portfolio can be diversified using more traditional and alternative methods. While including less commonly used asset classes does not necessarily lead to a diversified portfolio, Baird believes that asset allocation and diversification strategies need to be flexible and accommodate both traditional and alternative methods.

How Baird Approaches Asset Allocation

At Baird, providing sound advice for our clients is our top priority, and we feel that asset allocation provides the framework of any investment strategy; therefore, a significant amount of time and resources are dedicated to this topic. To that end, Baird's Investment Policy Committee is charged with the task of preparing model asset allocation portfolios that can be used by a variety of clients. This committee consists of various leaders throughout the organization, with input from Baird's Chief Investment Strategist and the financial planning, research and asset management departments. We currently have six distinct models that are designed to offer a continuum of risk and return characteristics (Table 1).

It is important to note that these models are strategic, not tactical. Strategic models are meant to take a long-term view of investing, whereas tactical models shift allocations based on perceived opportunities in the market. It is Baird's belief that the core of a portfolio should adhere to a long-term strategic asset allocation plan with

FIGURE 1:

The Various Degrees of Asset Allocation

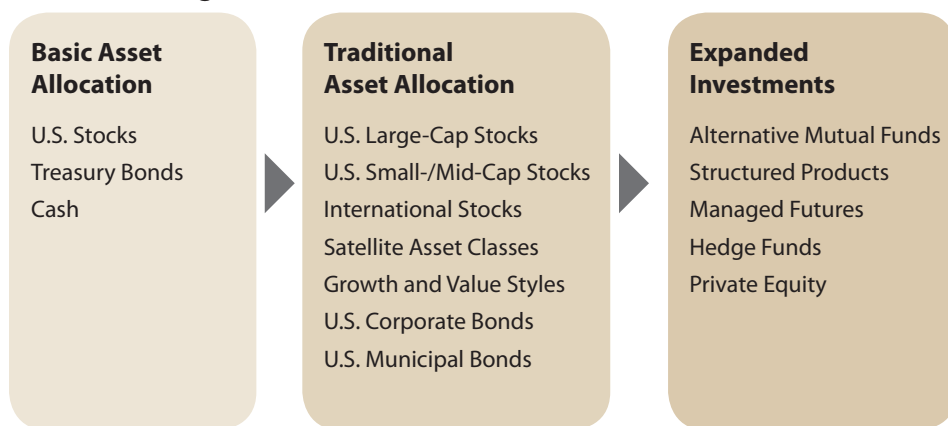


TABLE 1:

Baird's Strategic Model Portfolios*

Asset Class	Capital Preservation	Conservative Income	Income with Growth	Growth with Income	Capital Growth	All Growth
Large-Cap Value	—	7.25%	9.25%	14.00%	16.75%	20.00%
Large-Cap Growth	—	6.25%	8.00%	12.00%	14.25%	16.75%
Mid-Cap Equity	—	2.00%	5.00%	8.50%	12.50%	15.50%
Small-Cap Equity	—	—	2.00%	3.50%	5.50%	7.25%
International	—	4.50%	7.75%	14.00%	21.00%	27.50%
Satellite	—	—	8.00%	8.00%	10.00%	10.00%
Intermediate Fixed Income	50.00%	40.00%	35.00%	25.00%	11.50%	—
Short-Term Fixed Income	30.00%	25.00%	15.00%	11.00%	5.50%	—
Cash	20.00%	15.00%	10.00%	4.00%	3.00%	3.00%
Absolute Return	—	—	—	(Optional 20%)	(Optional 20%)	(Optional 10%)
Diversified Yield	—	—	(Optional 20%)	(Optional 20%)	—	—

*As of September 2016. Asset classes and weightings are subject to change.

Asset Allocation in Uncertain Times

A proper asset allocation plan provides a long-term framework to structure a portfolio. Yet, in some environments, value can be added by taking a more active approach to portfolio construction.

In the face of serious economic uncertainties, Baird's expectation for stock market returns is somewhat muted. Therefore, we believe that a dynamic asset allocation plan will benefit certain clients.

Illustrated in Figure 2, a long-term strategic asset allocation remains the foundation of the dynamic asset allocation plan. Complementing the core portfolio is the addition of alternative investments. Broadly, these investments include areas where expected returns are higher or uncorrelated asset classes that provide additional diversification. Combining these two strategies can result in a portfolio that has a more favorable risk/return trade-off. The last element is the introduction of flexible investment strategies. Used to capitalize on perceived opportunities in the marketplace, these tactical actions are typically shorter-term in nature. Setting aside 10 to 20% of assets for this purpose allows the portfolio to better react to changing trends and conditions.

Asset allocation is evolving past a traditional "buy and hold" philosophy. While not suitable for all clients, employing a dynamic asset allocation plan can create a portfolio better able to handle uncertain market environments. Importantly, a solid strategic asset allocation plan remains the core strategy.

tactical shifts made on a client-by-client basis. That being said, the committee does review new investment ideas regularly and will make revisions to the models as necessary. Asset allocation is a long-term discipline, but not a set-it-and-forget-it practice. To reflect changes in the market and to capitalize on growing opportunities for "alternative diversification," the Investment Policy Committee periodically makes more substantive changes to the model portfolios. These actions have included:

- **Increased allocation to Mid-Cap Equity.** The attractive historical risk/return characteristics of mid-cap stocks warranted an increased exposure to this area.
- **Increased allocation to International Equity.** This decision is based on the growing opportunity set of companies based outside of the United States.
- **Introduction of Satellite asset class.** We instituted a dedicated allocation to niche asset classes (emerging markets, commodities, and high-yield bonds) to provide additional diversification.
- **Introduction of optional Absolute Return asset class.** This reflects a

growing area of investment with options that have low correlation to equity and fixed income markets.

When used in isolation, some of these investments are subject to unique risks; however, when complemented with other asset classes, greater diversification can be achieved.

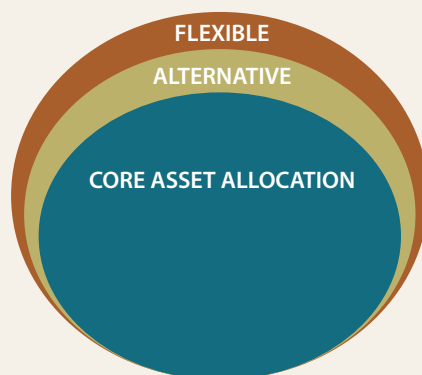
Using Asset Allocation with Financial Planning

Once an asset allocation model has been chosen, the last step is to "test drive" that model by analyzing it in the context of a comprehensive financial plan. It may be easy for an investor to choose the asset allocation model they expect will provide the greatest annual return, but how do they determine that expected return, and what is the trade-off for that higher return potential? A well-crafted financial plan will answer both of these questions. First, it will determine what level of projected investment return is necessary to allow you to meet your lifestyle goals, which can help lead you to the right mix of stocks, bonds and cash. Second, the plan will evaluate the impact of the portfolio risk associated with that mix.

For each of our model portfolios, Baird calculates a projected rate of return for the specific mix of asset classes in that model. The return projections for each asset class are based on a combination of current market data and historical performance.

- We begin with the current yield on the 10-year U.S. Treasury bond as a baseline return that can be earned with a conservative government bond.
- We then determine the additional return, or premium, that an investor would require to assume the risks associated with a particular asset class.

FIGURE 2:
Dynamic Asset Allocation Plan



For example, to justify the risks of investing in stocks, an investor would expect a return that is greater than what they could earn by investing in U.S. Treasury bonds. These premiums are calculated based on the historical performance of each specific asset class.

- The total projected return for each asset class is then equal to the sum of the baseline rate of return premiums for each asset class.

These projected returns are then used in the financial plan to determine if the portfolio return will be sufficient to support an investor's goals. For example, if the financial plan projected

that the investor's goals would not be met, one solution could be to choose a portfolio with a greater potential return (as opposed to one that altered spending or savings levels or the time horizon). However, the opportunity to achieve a greater investment return over the same time period usually requires a portfolio with a higher level of volatility, or risk.

The opposite can also be true: an investor may have sufficient resources outside their portfolio to accept a lower investment return and still meet their goals. A lower required investment return can generally be accomplished by choosing a more conservative, less volatile portfolio. A well-built financial plan will evaluate the impact of increasing or decreasing this portfolio risk on the success of the plan.

Traditionally, financial planning models focused on expected return and neglected the variability of outcomes that is associated with increased volatility. With the advent of probability-based planning tools, using techniques such as Monte Carlo analysis, investors can now see the potential impact of accepting more (or less) risk by selecting a different model. A portfolio with greater risk may provide a greater chance for exceeding one's goals, but it also increases the chance of falling far short.

When using an asset allocation approach to designing a portfolio, it is important to not focus just on the expected return of that portfolio. The risk associated with an increasing, or decreasing, portfolio return is just as important to the success of an investment strategy.

Using Monte Carlo Analysis

Probability-based analyses, such as Monte Carlo calculations, go beyond traditional "straight-line" modeling and evaluate the impact of portfolio risk on the projected outcome of the plan. These analyses allow investors to see the potential upside, and downside, of a particular portfolio's asset allocation.

Rather than assuming a portfolio will earn a constant average rate of return every year of the analysis, a Monte Carlo analysis looks at the range of possible returns for a portfolio. That range is based on the risk inherent in the portfolio, as measured by standard deviation, and could result in significantly higher or lower returns in any given year of the plan. The riskier the portfolio, the wider the range.

The analysis assumes that in every year of the plan, the portfolio return falls somewhere within that range. The entire plan is then recalculated using these different return assumptions. This process is repeated hundreds, or even thousands, of times. While each version of the plan uses different return assumptions, they are all realistic possibilities based on that portfolio.

Once all the scenarios are prepared, the Monte Carlo model determines the percentage of scenarios where the client was able to meet their goal, and this is the plan's projected probability of success. For example, if the analysis prepares 1,000 scenarios, and the investor is able to meet their goals in 750 of those, there is a 75% chance that the plan will be successful. Of course, that also means there is a 25% chance it won't be. The investor and their advisor then need to determine if that is an acceptable risk. If not, then changes need to be made, either to the client's goals or what they're doing to meet them, including modifying the asset allocation itself.

Important: The projections or other information generated by probability-based analyses such as Monte Carlo regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results.

Investments not considered in an analysis may have characteristics similar or superior to those being analyzed, and results may vary with each use and over time.

¹Hypothetical allocations computed over a 12-month period each quarter for the past 20 years ending December 31, 2012. These allocations were rebalanced each 12-month period.

If you have questions or need more information, please contact your Financial Advisor.

Important Disclosures

The performance data quoted represents past performance. Past performance does not guarantee future results. Asset allocation and diversification do not ensure against loss.

Standard Deviation: a gauge of risk that measures the spread of the difference of returns from their average. The more a portfolio's returns vary from its average, the higher the standard deviation. It is important to note that higher-than-average returns affect the standard deviation just as lower-than-average returns.

All investments involve risks, and you could lose your entire investment or incur substantial loss. The products, services and strategies referred to herein may not be suitable for all investors and are being provided on the basis that you have such knowledge and experience in financial and business matters to be capable of evaluating the merits and risks associated with such information. Further, you should consult with your Financial Advisor prior to engaging in any transaction described in this communication.

Investments in small- and mid-capitalization companies often are more volatile and face greater risks than larger, more established companies. Investments in foreign securities and ADRs involve risks such as currency rate fluctuations, different and sometimes less strict financial reporting standards and regulation, and the potential for political and economic instability. In a rising interest rate environment, the value of fixed income securities generally goes down, and vice versa. Fixed income investments are also potentially subject to credit, default and reinvestment risk. The asset class identified as "satellite" includes both traditional and non-traditional investments. However, they are typically referred to in this manner because they are typically regarded as complementary in nature to a well-diversified portfolio. Examples of satellite investments include commodities, emerging markets equity and debt, real estate and high-yield fixed income. Satellite investments include potentially complex investments and will not be suitable for all investors.

Average stock and average bond investor performance results are calculated using data supplied by the Investment Company Institute. Investor returns are represented by the change in total mutual fund assets after excluding sales, redemptions and exchanges. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses and any other costs. After calculating investor returns in dollar terms, two percentages are calculated for the period examined: total investor return rate and annualized investor return rate. Total return rate is determined by calculating the investor return dollars as a percentage of the net of the sales, redemptions and exchanges for each period.

Benchmark Definitions

Russell 1000® Value Index (Large-Cap Value): Measures the performance of those Russell 1000® companies with lower price-to-book ratios and lower forecasted growth values.

S&P 500 Index (S&P 500): A representative sample of 500 leading companies in leading industries of the U.S. economy. This is considered a large-cap index.

Russell 1000® Growth Index (Large-Cap Growth): Measures the performance of those Russell 1000® Index companies with higher price-to-book ratios and higher forecasted growth values.

Russell Midcap® Index (Mid-Cap Equity): Measures the performance of the 800 smallest companies of the Russell 1000® Index, which represent approximately 31% of the total market capitalization of the Russell 1000® Index.

Russell 2000® Index (Small-Cap Equity): Measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represent approximately 10% of the total market capitalization of the Russell 3000® Index.

MSCI EAFE Index (International): A free float-adjusted market capitalization index that is designed to measure developed market equity performance, excluding the United States and Canada. As of June 2006, the MSCI EAFE Index consisted of the following 21 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom.

Barclays Intermediate Gov't/Credit Index (Intermediate Fixed Income): Composed of approximately 3,500 publicly issued corporate and U.S. government debt issues rated Baa or better, with at least one year to maturity and at least \$1 million par outstanding. The index is weighted by the market value of the issues included in the index. The index has duration of a little more than three years and a maturity equal to slightly more than four years.

Barclays 1-3 Year Gov't/Credit Index (Short-Term Fixed Income): Includes bonds covered by the Barclays Government/Credit Index, with maturities from one up to (but not including) three years.

Citigroup 3-Month Treasury Bill Index: An unmanaged index of three-month Treasury bills.

Satellite Asset Class: An equally weighted allocation to the following indices: DJ UBS Commodity, MSCI Emerging Markets, Wilshire REIT and Merrill Lynch US Corporate High Yield.

The Russell Indices are a trademark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.