Nationwide Funds®

A Nationwide Financial® White Paper

ASSET ALLOCATION MATTERS

EXECUTIVE SUMMARY

- Asset allocation is critical to matching a portfolio with the return expectations and risk tolerance of an investor.
- There are several challenges to implementing a disciplined asset allocation framework, including resistance caused by human nature, the reliance on historical data and expenses associated with rebalancing.
- An outcome-oriented focus of a portfolio is a way to address the specific needs and goals of an investor while avoiding some of the challenges of a traditional asset allocation strategy.

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HISTORICAL VIEWS

Asset allocation is an investment strategy that aims to balance risk and reward by adjusting the percentage of each asset in an investment portfolio according to the investor's risk tolerance, goals and investment time frame. The simplest allocation combines equities and bonds, raising the bond exposure with age and risk aversion. Critical to an effective allocation is a strong understanding of the investor's willingness to accept volatility and the current opportunities in the market. Decisions also need to be made about the frequency of rebalancing the portfolio.

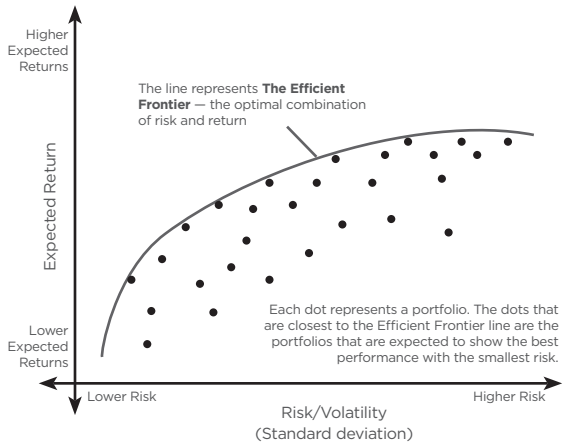
The benefit of strategic asset allocation is explained by modern portfolio theory. Introduced by Nobel prize winning economist Harry Markowitz in 1952, it is the mathematical formulation of the effectiveness of diversification in investing. By combining non-correlated assets in different weightings, it is possible to maximize the return relative to risk, customized to the risk tolerance of the investor. The line that connects all of the optimized combinations is referred to as the efficient frontier. Figure 1 below shows a correlation table consisting of some of the largest asset classes available, while Figure 2 illustrates the concept of the efficient frontier.

Figure 1. Correlation table consisting of some of the largest asset classes available

	Large-Cap Domestic	Small-Cap Domestic	Developed International	Emerging Market	High Yield Bond	Commodities	Domestic Bond
	Russell 1000	Russell 2000	MSCI EAFE	MSCI EM	Barclays HY	S&P GSCI	Barclays U.S. Aggregate
Russell 1000	1.00	0.90	0.81	0.69	0.65	0.07	-0.09
Russell 2000		1.00	0.74	0.73	0.67	0.03	-0.16
MSCI EAFE			1.00	0.69	0.56	0.14	-0.10
MSCI EM				1.00	0.62	0.14	-0.19
Barclays HY Bond					1.00	0.12	0.05
S&P GSCI						1.00	-0.16
Barclays U.S. Agg							1.00

Source: FactSet Research Systems

Figure 2. The efficient frontier



Source: smart401k.com

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS.

Historic discussions of asset allocation often focused primarily on domestic stocks and domestic bonds. Asset class options for investors have expanded greatly in recent years, allowing greater diversification and customization to the specific return expectations and risk tolerance of the investor. Globalization has caused an increase in correlation between domestic and international asset classes. This convergence has forced investors seeking a diverse portfolio to expand their asset class exposures beyond the traditional domestic asset class set.

Currently, investors have access to a more diverse set of potential asset classes than at any point in history, including Commodities, Real Estate, Collectibles, Insurance, Derivatives, FX, VC, PE and Distressed Securities. Mutual funds and ETFs have packaged nontraditional asset classes previously only available to institutional investors. Assets should be considered in a portfolio if they improve the portfolio's mean-variance efficient frontier. This occurs if the asset class Sharpe ratio exceeds the product of the existing portfolio's Sharpe ratio and the correlation between the asset class return and the portfolio's return.

IMPORTANCE OF ASSET ALLOCATION

There has been extensive academic research focused on the degree to which asset allocation impacts portfolio performance. One that is often referenced, Brinson, Hood & Beebower (BHB, Determinants of Portfolio Performance) in 1986, found that the strategic asset allocation accounts for 93.6% of the portfolio's variation versus a control portfolio. Many in the market misquote this as indicating incorrectly that 94% of fund's performance results from asset allocation decisions. Ibbotson & Kaplan published a paper in the Financial Analyst Journal in 2000 concluding that the performance impact is likely to be around 40%. Vardharaj & Fabozzi published a study in 2007 that reinforced this conclusion, estimating the impact of asset allocation on portfolio performance at 33 to 75%. While there is no definitive calculation for the impact of asset allocation on a portfolio's performance, academic research seems to suggest that the impact is meaningful, and therefore necessary to contemplate as part of the portfolio management process.

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STRATEGIC VS. TACTICAL

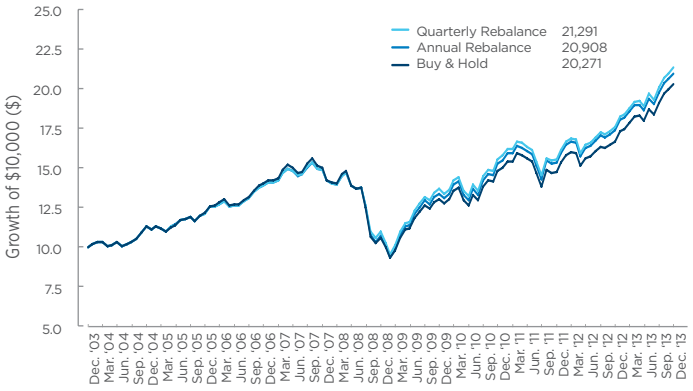
The implementation of an asset allocation can be done in different ways. Strategic asset allocation attempts to match the portfolio to the long-term goals and risk tolerance of the investor, rebalanced on a regular basis to maintain the portfolio in the targeted allocation. In strategic asset allocation, superior returns come from having a large universe of available investments, and skill at forecasting long-term market assumptions. Strategic allocations are revisited only periodically or when the investor's circumstances change.

Disciplined rebalancing can mute the impact on a portfolio from market volatility, like the environment experienced over the past decade. Figure 3 compares three hypothetical portfolios, each initially invested $10,000 in a portfolio consisting of 30% large-cap domestic equity (Russell 1000), 15% mid-cap domestic equity (Russell Midcap), 5% small-cap domestic equity (Russell 2000), 20% international equity (MSCI EAFE) and 30% domestic fixed income (Barclays U.S. Aggregate Bond Index) in March 2004. One portfolio was rebalanced back to the original allocation on an annual basis, the second was rebalanced on a quarterly basis, and the third was not rebalanced at all.

Through the 10-year measurement period, the annually rebalanced portfolio delivered a greater return, ending 4.8% higher than the portfolio that was not rebalanced, as the impact from the difficult market environment during 2007 and 2008 had a less severe impact. The annually rebalanced portfolio outperformed the quarterly rebalanced portfolio by 1.8% during the period, as a less frequent rebalance was a positive contributor during the strong period of equity performance between 2009 and 2014.

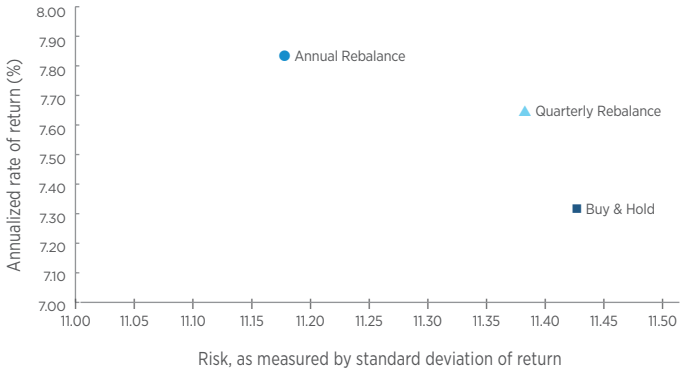
Figure 4 details the balance of return versus risk for the same three portfolios during the same time period. The results were somewhat unusual, in that the annual rebalance had superior return and risk compared with the other two options. Theoretically, a more frequent rebalance should act to dampen overall volatility, as rebalancing locks in the benefits of diversification. This was not the case during the past decade, but during certain time periods, actual results diverge from theory.

Figure 3. Performance of diversified fund using different rebalancing strategies (2004-2013)



Source: FactSet Research Systems

Figure 4. Risk vs. return of diversified portfolios using different rebalancing strategies (2004-2013)



Source: FactSet Research Systems

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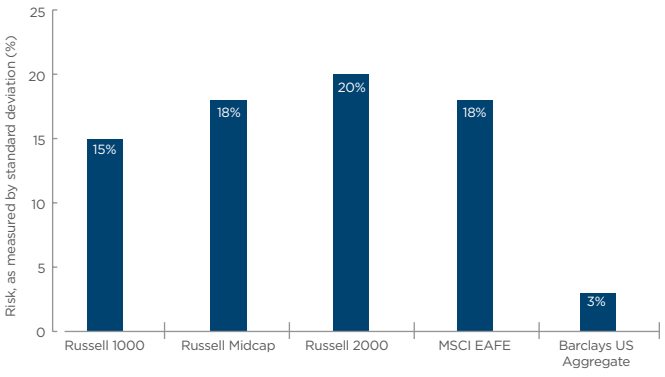
Figure 5 shows the observed volatility of the asset classes used in the hypothetical portfolios on the previous page. Small-cap stocks have experienced the greatest volatility over the past decade, while domestic fixed income has been the least volatile. Figure 5 details the benefit to overall portfolio volatility observed through annual rebalancing. As the efficient frontier shows, a portfolio consisting of diversified assets can result in a superior risk/return balance than the underlying asset classes due to diversification. Without rebalancing, an investor does not take advantage of the individual movements of the asset classes, and therefore does not maximize the benefit of diversification. Figure 6 illustrates that point, showing the improvement in overall portfolio volatility experience through rebalancing.

Tactical asset allocation is an active and ongoing investment discipline, attempting to exploit short-term market movements for greater return. It is inherently contrarian and is based on the theory of mean reversion. While strategic allocation techniques are commonly used by investors, the premise that tactical allocation can consistently drive performance results is more controversial given the difficulty in adding value through market timing.

Beyond strategic and tactical allocation, there are other asset allocation techniques that are less common.

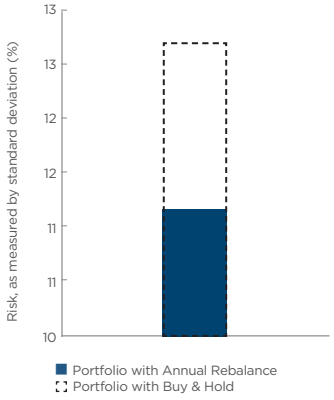
- Dynamic Asset Allocation constantly adjusts the asset mix according to the direction of the market and/or the economy. The investor would sell assets as they decline, and buy assets as they rise. This is the inverse outcome to a traditional buy-and-hold methodology, which increases allocation as prices rise.
- Insured Asset Allocation: Often referred to as Constant Proportion Portfolio Insurance (CPPI) , this strategy attempts to set a floor below which the portfolio value will not drop. As a portfolio declines toward the floor, the portfolio is transitioned into risk-free assets to avoid further loss. As the portfolio rises, cash is invested in higher-return asset classes.

Figure 5. Standard deviation of return by asset class (2004-2013)



Source: FactSet Research Systems

Figure 6. Standard deviation of return (2004-2013)



Source: FactSet Research Systems

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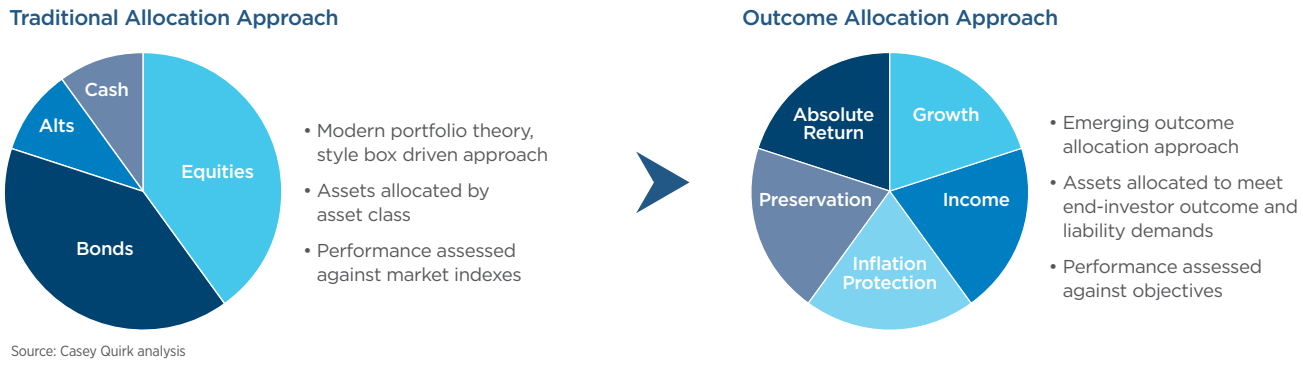
CHALLENGES

While academic research suggests that asset allocation strategies are an important part of portfolio management, there are several challenges the investor faces in implementing these strategies. First, human emotion often causes resistance to rebalancing a portfolio, particularly in the current market environment where equity returns have been strong and fixed income yields are near historic lows. A survey of almost 1,200 401(k) participants by the Investment Company Institute (ICI), a mutual-fund industry group, found that only 25% had made any changes in the allocation of their account balances since they first enrolled in their plans. Of the rest, most had made only one or two changes.* Without rebalancing, outperforming asset classes increase in weight while underperforming classes decline. Over time, this can lead to concentrated and unintended risks. This was the case during the technology bubble of the late-1990's, when large-cap growth stocks (measured by the Russell 1000 Growth) rose in excess of 20% for five consecutive years. An example of this convergence occurred in 2008, when investors fled risk assets in favor of cash and short-term Treasuries. Extreme periods of volatility have an outsized impact on the correlation calculation. For example, if the 5 largest positive and negative months of performance for the Russell 1000 over a 10 year period are excluded, correlations differences between the Russell 1000 and the Russell 2000, the EAFE and Emerging Markets all roughly double.

Another challenge to implementation of a disciplined asset allocation model is that models use historic risk, return and correlation data, which is not necessarily a great indicator of future performance. During periods of extreme volatility in asset returns, correlations of risk assets tend to converge, as investors sell assets with uncertainty and move to cash. The converging correlations can cause the diversification benefit assumed in a strategic asset allocation to be overstated during a period when it should be of greatest benefit.

There are multiple costs to consider when instituting an asset allocation strategy. Direct costs (commissions) of trading will be higher than in a buy-and-hold portfolio, but there are other less-obvious costs. In a taxable portfolio, more frequent trading could cause capital gains in a rising market environment, a consideration for high-income investors. Opportunity costs are difficult to measure, but if an investor implementing a tactical asset allocation actively reduces equity market exposure during a time when stocks rally, the market will underperform compared with a buy-and-hold philosophy. The challenge in tactical asset allocation is that to be successful, an investor needs to time the market successfully twice – decreasing risk exposure before a market decline and reestablishing that exposure before a rally.

Figure 7. Traditional Allocation Approach / Outcome Allocation Approach



Source: Casey Quirk analysis

* ICI 401k Plan Participants: Characteristics, Contributions and Account Activity, Spring, 2000

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SOLUTIONS-BASED INVESTING

Solutions-based investing is a relatively new concept in the marketplace. In a solutions-based approach, investors focus on constructing a portfolio designed to deliver a specific desired outcome rather than the more traditional asset allocation approach which seeks simply to identify the most optimal risk/return balance. Outcome-oriented portfolios are aligned to the specific needs and goals of the investor. As Figure 7 shows, examples of outcomes that these portfolios may emphasize include income generation, inflation protection and capital preservation. Outcome-oriented portfolios may offer exposure to a diverse set of traditional and alternative asset classes. A dynamic or tactical approach to allocation of the underlying asset classes is generally employed to effectively manage risk and achieve the desired objective in a variety of market environments. As the market transitions to a solutions mindset, many of the complications and challenges of rebalancing traditional portfolios will be supplanted by the more holistic effort to identify and meet investors' specific needs and goals.

CONCLUSION

An asset allocation strategy is an important way for an investor's portfolio to reflect the return expectations and risk tolerance of an investor. More sophisticated analytical tools and the individual investor's access to a greater variety of asset classes now allow for a more robust allocation process. While these developments have helped investors better tailor their portfolios to their needs, investors still face challenges in implementing asset allocation strategies. We see the development of the outcome-oriented approach as an opportunity to greater customize a portfolio to the specific needs of an investor, while avoiding some of the challenges of a traditional asset allocation model.

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Important Disclosures

This report is for informational purposes only, does not constitute advice, and is not intended and should not be relied upon as an offer or recommendation with respect to the purchase or sale of any security. In addition, this report does not consider the specific investment objectives, financial situation and particular needs of any person.

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Principal Risks

Investing involves risk, including the possible loss of principal. Investors' shares, when redeemed, may be worth more or less than their original cost. Bonds, high yield bonds and mortgage backed securities are subject to interest rate risk, credit and liquidity risks, prepayment and call risk, extension risk.

Asset allocation is the process of spreading assets across several different investment styles and asset classes. The purpose is to potentially reduce long-term risk and capture potential profits across various asset classes.

There is no assurance that the investment objective of any fund (or that of any underlying fund) will be achieved or that a diversified portfolio will produce better results than a nondiversified portfolio. Diversification does not guarantee returns or insulate an investor from potential losses, including the possible loss of principal.

Market Indexes

Market index performance is provided by a third-party source Nationwide Funds Group deems to be reliable. Indexes are unmanaged and have been provided for comparison purposes only. No fees or expenses have been reflected. Individuals cannot invest directly in an index.

Barclays U.S. Aggregate Bond Index: An unmanaged, market value-weighted index of investment-grade, fixed-rate debt issues (including government, corporate, asset-backed, and mortgage-backed securities with maturities of one year or more) that is generally representative of the bond market as a whole.

The Russell 1000 measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1000 of the largest securities.

The Russell 2000 measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000® Index and includes approximately 2000 of the smallest securities in that index.

The MSCI EAFE is designed to measure the equity market performance of developed markets outside of the U.S. & Canada. It is maintained by MSCI Barra,[1] a provider of investment decision support tools; the EAFE acronym stands for Europe, Australasia and Far East.

The MSCI Emerging Markets Index captures large and mid cap representation across 21 Emerging Markets (EM) countries*. With 822 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The U.S. Corporate High-Yield Index measures the market of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below, excluding emerging market debt.

The S&P GSCI (formerly the Goldman Sachs Commodity Index) serves as a benchmark for investment in the commodity markets and as a measure of commodity performance over time. The S&P GSCI contains as many commodities as possible, with rules excluding certain commodities to maintain liquidity and investability in the underlying futures markets. The index currently comprises 24 commodities from all commodity sectors - energy products, industrial metals, agricultural products, livestock products and precious metals. The S&P GSCI is a world-production weighted index that is based on the average quantity of production of each commodity in the index, over the last five years of available data.

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