

Risk Parity: A New Way of Viewing Asset Allocation



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A traditional 60/40 portfolio, invested across a variety of equity, bond, and possibly alternative asset classes, is typically considered broadly diversified. While this portfolio may perform markedly better than a portfolio holding just one or two asset classes, the risk budget is actually significantly dominated by the higher beta (e.g., equity) asset classes. In an effort to reduce this concentrated portfolio risk, the concept of risk parity seeks to construct portfolios in which each holding provides an equal contribution to the overall portfolio risk—thereby softening the potential loss impact from individual asset classes.

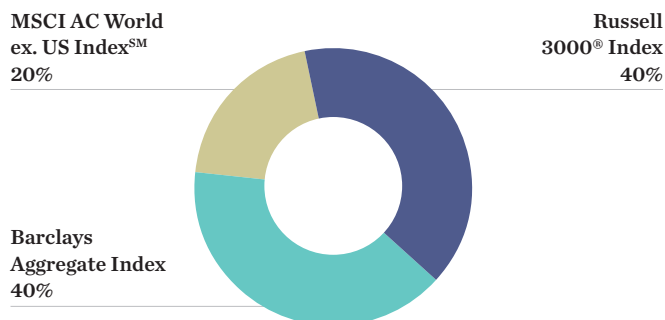
Traditional Asset Allocation vs. Risk Parity

Working within a mean variance framework, investors have traditionally utilized risk budgeting tools to construct portfolios that maximize returns for a given level of risk. The portfolio can be a complex combination of market betas which are optimized according to desired targets for risk and return.¹ This analysis typically focuses on variance and standard deviation as the important measure of risk, treating both upside and downside volatility the same. In reality, however, investor risk aversion is skewed more to the negative, and the traditional portfolio fails to provide the investor with the downside protection that they expect from a diversified portfolio. The portfolio actually generates far greater beta risk, which is dominated by equity assets. In the traditional 60/40 portfolio, 97% of the total portfolio volatility is attributable to the equity allocation (see Figure 1).² Furthermore, investors are not receiving the diversification that they believe they created. Even with a 40% allocation to fixed income, the simple 60/40 portfolio has had a 0.96 correlation with the S&P 500[®] over the past 20 years.³

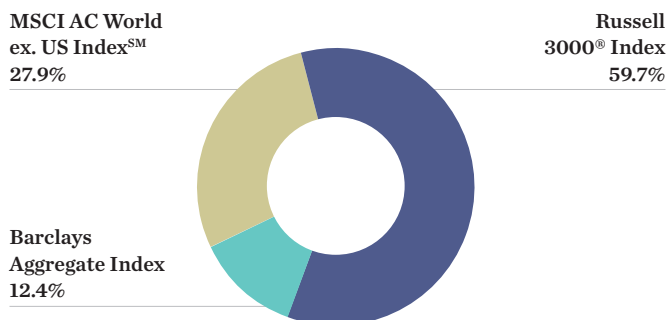
The challenge becomes to create a portfolio whereby risk is truly diversified, that balances risk across asset classes, and accounts for the risk of losses. The evolution of “Post Modern Portfolio Theory” has expanded the paradigm to “recognize that investment risks should be tied to each investor’s specific goals...and makes a clear distinction between downside and upside volatility.”⁴ Using this philosophy, the concept of risk parity is created. In addition to managing broad-based asset class risk, it is possible to further delve into managing risks in other areas. For example, within fixed-income securities, risk can be decomposed to include yield curve term structure, inflation, credit, and sovereignty. For equities, risk can be broken down by capitalization and country/region. In addition, investors can also decompose various alpha sources and drivers and apply the same concept. The objective is to gain true diversification of risk across the portfolio. The difficulty with this approach is that when risk parity is achieved, low volatility/low returning assets dominate the portfolio. This often leads to expected growth that is below the minimum acceptable return.

Figure 1: Risk Parity

Sample Portfolio Allocation (Weights)



Sample Portfolio Risk Allocation



Source: SSGA, Ibbotson.

The above figures are for illustrative purposes only.

Sample allocations are subject to change.

Employing Leverage

One way to mitigate this challenge is by introducing leverage into the portfolio, whereby lower volatility assets are levered up to an expected return target similar to that of the higher returning assets, such as equities. For example, for an investment in the Barclays Aggregate to have a similar return target of the S&P 500, it would need to be levered 1.0 times. In doing so, the volatility of the levered Barclays Aggregate is increased to 8.8, which is below the historic risk of the S&P 500 of 15.2.⁵ Within a portfolio, varying levels of leverage would need to be applied across the various asset classes to meet targeted goals. Historically, applying leverage to those asset classes has expanded correlation benefits, increasing diversification and creating a more optimal risk-adjusted return. This concept is extremely flexible in that it can be customized to target whatever exposure the investor desires — equity-like returns, bond-like risk, a target for required rate of return, etc.

In practice, the expected return is not simply the unlevered return times the leverage ratio, as financing the transaction needs to be considered. However, as long as the expected return is greater than the cost of cash (or borrowing costs) the trade-off remains optimal. In this case, correlations and the inclusion of low-correlated assets continue to play a critical role. Assuming a portfolio construction targeting the overall level of risk of equities, a diversified portfolio of levered assets will continue to exhibit lower volatility than an all-equity portfolio.

While the risk parity approach may mitigate the risks investors face, it does not eliminate risk entirely from the portfolio. There will be environments when the low-volatility assets face difficulty, and having leveraged exposure at that time will further exacerbate the downside for that segment of the portfolio. It is for that reason that true diversification is especially critical in the risk parity concept.

Facing an uncertain investment landscape, lower expected returns, and a greater need to generate higher returns, investors are beginning to re-think how they approach portfolio construction. Risk parity offers a new way to engineer better risk/return tradeoffs, better downside risk management, and an opportunity to take advantage of traditional asset classes in a nontraditional way.

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¹ James Gilkson and Stuart Michelson, "Risk Budgeting, Parameter Uncertainty, and Risk Realizations," *The Journal of Investing*, Spring 2008.

² SSGA, Morningstar Direct, based on return series of July 1994 through June 2014.

³ SSGA, Morningstar Direct, based on return series of July 1994 through June 2014.

⁴ Brian Rom and Kathleen Ferguson, "Post-Modern Portfolio Theory Comes of Age," *The Journal of Investing*, Winter 1993.

⁵ SSGA, Morningstar Direct, based on return series of March 1982 through June 2014 and assumed 3-month treasury bills as cost of financing leverage.

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Asset Allocation is a method of diversification which positions assets among major investment categories. Asset Allocation may be used in an effort to manage risk and enhance returns. It does not, however, guarantee a profit or protect against loss.

Diversification does not ensure a profit or guarantee against loss.

The correlation coefficient measures the strength and direction of a linear relationship between two variables. It measures the degree to which the deviations of one variable from its mean are related to those of a different variable from its respective mean.

The use of leverage, as part of the investment process, can multiply market movements into greater changes in an investments value, thus resulting in increased volatility of returns.

Risk associated with equity investing include stock values which may fluctuate in response to the activities of individual companies and general market and economic conditions.

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