Advanced Mathematics and Modeling Techniques

There are individuals with the ability to see and create a logical world of numbers that has a beauty and integrity of its own. Bryce James, founder of Smart Portfolios, is one of these individuals. Working with Ph.D.s and computational finance experts, Bryce has shaped the Smart Portfolios approach utilizing advanced mathematics and modeling techniques to create an investment approach that is non-emotional, logic driven and repeatable. Smart Portfolios is not dependent, however, upon one man's brilliance and understanding of the financial markets. It utilizes a systems-based, adaptive process with the ability to respond to changing market conditions and situations.

Smart Portfolios' investment process is technology driven. By harnessing the power of the data rich, digital revolution, Smart Portfolios has the ability to model market interactions at a scale and sophistication unheard of as little as 10 years ago. This ability to create insights into present and potential market conditions allows Smart Portfolios to continually adapt investment portfolios with the goal of minimizing draw downs and optimizing risk-adjusted returns.

At Smart Portfolios, innovation and the search for better solutions is an ongoing process with the goal of enhancing our ability to provide clients with the best in portfolio management.

[1] Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower, Determinants of Portfolio Performance, The Financial Analysts Journal, July/August 1986.

[2] Clive Granger & Robert Engle, 2002

Smart Portfolios, LLC, began as a builder and manager of custom trading algorithms for various hedge fund, mutual fund and registered investment advisory firms. In 2004, the company began to work with an exciting new theoretical framework for understanding markets, Extreme Value Theory (EVT), which offered new mathematical algorithms applicable to asset allocation. Smart Portfolios pioneered the application of EVT by developing its Dynamic Portfolio Optimization™ asset allocation system. This state-of-the-art asset allocation methodology gives Smart's financial engineers a better understanding of risk and diversification while providing what we believe is a superior tool for forecasting returns. The mathematical algorithms taken from EVT represent a significant upgrade to the math used in traditional asset allocation models, which we believe results in a more accurate assessment and projection of risk-adjusted returns.

Smart Portfolios differentiates itself by creating investment models that dynamically optimize portfolios based on current market activity. The firm offers Customized Portfolios, Sub-Advisory Solutions, Overlay Management, and Separately Managed Accounts. Smart Portfolios also acts as an asset allocation overlay for several large, well-known insurance companies within variable annuity and variable life insurance products.

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Smart Portfolios™ LLC

Optimizing the Asset Allocation Decision… in pursuit of superior portfolios

The "Smart" allocation adapts the portfolio to current market realities. Our goal is the highest return for a specific level of risk or the lowest risk for a particular return objective.

Required for success: Smart Portfolios' advanced understanding of the risk/return parameters of each investment.

The right asset allocation is critical to superior performance.

We believe asset allocation is the single most important investment decision, and the most misunderstood. What ultimately matters in successful investing is not individual stock selection, market timing or transaction costs, but what asset classes are held in the portfolio.[1]

At Smart Portfolios, LLC, our investment focus centers on the asset allocation decision and its importance in optimizing portfolio performance. Smart Portfolios' asset allocation approach is dynamic, utilizing sophisticated modeling methodologies designed to maximize risk-adjusted returns.

Asset allocation is not diversification for diversification's sake. Nor should it be a one-time decision. Asset allocation correctly applied is proactive and adaptive. Asset allocation at its core is balancing opportunities for profit, while managing risk in the context of today's markets.

The goal of every Smart portfolio: To optimize return while minimizing exposure to loss

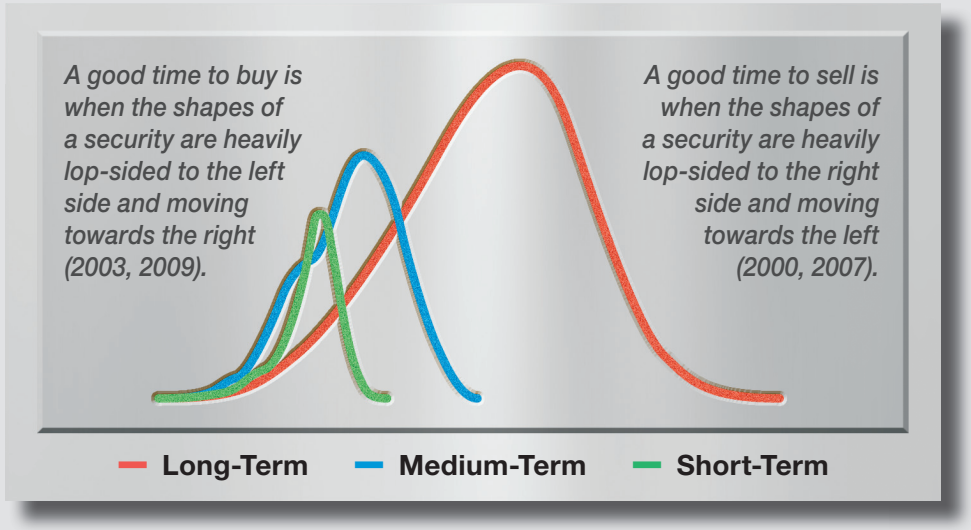
Risk changes with market cycles and events. There are times when bonds are anything but a conservative investment and should not be held in the portfolio. This is the value of the Smart Portfolio's approach. We add value through our ability to analyze multiple time-series, short-, medium- and long-term, to determine which securities and asset classes are exhibiting the most favorable risk/return characteristics at a given time and invest accordingly.

"Much of today's asset allocation theory was developed 20-30 years ago. It uses historical data and irrelevant information, such as an investor's age, to develop allocations that are ineffective and even dangerous in contemporary financial markets. At Smart Portfolios, we have dramatically changed the asset allocation decision."

Bryce James —
Smart Portfolios President

The Investment Process

Smart Portfolios' investment process first asks the question whether or not a security is attractive; then we ask whether or not the security makes sense relative to other portfolio holdings. This investment selection process has the following progression:



1. Identify the investment opportunity set

Smart Portfolios' preferred investment vehicles are Exchange Traded Funds (ETFs). ETFs offer a number of investment advantages including tax efficiency, ease of trading and broad sector coverage. But only those instruments meeting specific criteria regarding liquidity, length of operating history, issuer credibility and fee structure are considered for investment. These funds become the Smart Portfolios investment universe.

2. Apply Extreme Value Theory to determine risk/reward profiles

The risk and return characteristics of a given security change over time, with the most recent data more relevant when it comes to forecasting future results. Using Extreme Value Theory (EVT) methodology, our goal is to identify those securities whose current characteristics imply a favorable risk/return profile.

a. Analyzing risk/reward over multiple timeframes

Smart Portfolios uses a proprietary, progressive time methodology called GARCH — which won its creators the Nobel Prize in Economics[2] in 2002 — to assess the attractiveness of a specific security or sector. This allows us to analyze a broad perspective of risk/return scenarios as well as important turning points under current market conditions.

b. Analyzing risk of loss

Traditional risk models rely on Normal Distributions— the Bell Curve— to calculate risk of loss. This traditional method ignores the probability of large losses which occur more frequently than estimated. These unexpected losses are known as outliers, fat-tails, and black-swan events. Smart Portfolios more accurately accounts for these potential losses with more advanced mathematics using non-normal distributions.

c. Determining correlation

The optimal portfolio mix includes assets with low or varying correlation to further reduce risk. Smart Portfolio's modeling methodology utilizes a dynamic correlation function — Copula Dependency (with GARCH features)— to account for potential increases in volatility and to trigger reductions in portfolio exposure when higher levels of risk are detected.

3. Optimize the portfolio mix

Smart Portfolios originated a state-of-the-art optimization solution called Dynamic Portfolio Optimization™ with the goal of creating a more real-time optimal asset mix, i.e. our own Efficient Frontier. This optimization process is updated regularly to maintain maximum portfolio efficiency.