

## Methodology

# Guggenheim RBP® Blended Index<sup>SM1</sup>

## Introduction

The Guggenheim RBP® Blended Index<sup>SM1</sup> is part of a series of quantitative strategy indexes offered by Transparent Value, LLC using rules-based published analytics.

The Guggenheim RBP® Blended Index<sup>SM1</sup> is unique from other Guggenheim RBP® indexes in that it measures performance of the strategy based on a valuation of a dynamic allocation between a U.S. stock index and a fixed-income index.

The Guggenheim RBP® Blended Index<sup>SM1</sup> reallocates weights between the Price Return version of the Guggenheim RBP® Large-Cap Defensive Index (“Stock”) and the S&P 2-Year U.S. Treasury Note Futures Total Return Index (“Bond”).

Components of the Guggenheim RBP® Large-Cap Defensive Index are selected in part based on their RBP® probabilities.

RBP®, which stands for Required Business Performance®, is calculated by taking a reverse discounted cash flow approach to determine the future business performance required by a company to support its current stock price. RBP® probabilities measure the likelihood that a company can deliver the required business performance identified by applying the methodology over specified time periods.

## Index Universe

The index components are drawn from the following starting universes:

Index	Index Universe
Guggenheim RBP® Large-Cap Defensive Index (Price Return)	Dow Jones U.S. Large-Cap Total Stock Market Index
S&P 2-Year U.S. Treasury Note Futures Total Return Index	S&P Global Bond Futures Index Series

For information on the creation and maintenance of the indices that serve as the index universes and S&P 2-Year U.S. Treasury Note Futures Total Return Index, please see the Guide to the Dow Jones U.S. Total Stock Market Indices and S&P Global Bond Futures Index Series Methodology, available on the S&P Dow Jones Indices Web site at [www.djindexes.com/totalstockmarket](http://www.djindexes.com/totalstockmarket) and [us.spindices.com](http://us.spindices.com)

## Index Construction

At each rebalance, the index allocation and weights are determined by measuring the volatility of the equity index. This is done in the following steps:



### Step 1: Compute “Initial Realized Volatility”

Initial Realized Volatility is the annualized standard deviation of the stock index over the preceding 20 observation days. It is defined as:

$$\sigma_t^{\text{Initial}} = \sqrt{\frac{252}{19} \times \sum_{i=0}^{19} \left[ \ln \left( \frac{\text{Index}_{t-20+i}^{\text{Stock}}}{\text{Index}_{t-21+i}^{\text{Stock}}} \right) - \frac{1}{20} \times \sum_{j=0}^{19} \ln \left( \frac{\text{Index}_{t-20+j}^{\text{Stock}}}{\text{Index}_{t-21+j}^{\text{Stock}}} \right) \right]^2}$$

### Step 2: Compute “Modified Realized Volatility”

Modified Realized Volatility is the maximum of the “Initial Realized Volatility” (as defined in step 1) over 5 most recent observation days (i.e. the “Initial Realized Volatility” of the previous 4 observation days and current calculation day). It is defined as:

$$\sigma_t^{\text{Modified}} = \max_{t-4 \leq i < t} \{ \sigma_t^{\text{Initial}} \}$$

This modification produces a greater allocation to U.S. Treasury than otherwise. It also reduces the transaction costs resulting from index rebalance activities.

### Step 3: Determine “Dynamic Allocation”

For a given level of “volatility target”, the allocation to the stock index is inversely proportional to its “Modified Realized Volatility” on each observation day. Furthermore, in order to avoid “leveraging”, the allocation to the stock index is limited at 100%. The remainder portion is then allocated to the bond index. The volatility target is set at 6.25%. At this level, the split between Stock and Bond has been on average, 50%/50% based on available data.

$$W_t^{\text{Stock}} = \min \left\{ 1, \frac{\sigma^{\text{Target}}}{\sigma_t^{\text{Modified}}} \right\}$$

$$\sigma^{\text{Target}} = 6.25\%$$

$$W_t^{\text{Bond}} = 1 - W_t^{\text{Stock}}$$

## Review Frequency

There are no separate announcements made with regards to Index rebalance as it is explicit in the calculation of the Guggenheim RBP® Blended Index<sup>SM1</sup>.

## Weighting

The Guggenheim RBP® Blended Index<sup>SM1</sup> allocates weights to the underlying indexes based on the formula described in Step 3.

## Calculations

The return of each index is calculated daily by multiplying the returns of the underlying indexes by the weighting assigned to the corresponding components and then summing the weighted returns.

$$\text{Index}_t^{\text{Blend}} = \text{Index}_{t-1} \times (W_t^{\text{Stock}} \times \text{Return}_t^{\text{Stock}} + W_t^{\text{Bond}} \times \text{Return}_t^{\text{Bond}})$$

$$\text{Where } \text{Return}_t^{\text{Stock}} = \frac{\text{Index}_t^{\text{Stock}}}{\text{Index}_{t-1}^{\text{Stock}}}$$

$$\text{, and } \text{Return}_t^{\text{Bond}} = \frac{\text{Index}_t^{\text{Bond}}}{\text{Index}_{t-1}^{\text{Bond}}}$$

## Data Availability

Calculation of the Guggenheim RBP® Blended Index<sup>SM1</sup> began on March 20, 2013. Real index history is available daily from this date forward. Back-tested historical data have been calculated daily back to December 31, 1999, the date at which the base value of each index is set at 1000.

**Required Business Performance**<sup>®</sup> is the revenue growth necessary to support the current stock price. Required Business Performance<sup>®</sup> is used as a benchmark against which to measure management's ability to perform in the future. It is calculated using a reverse discounted cash flow valuation model that uses the current stock price as the primary input. Required Business Performance<sup>®</sup> Probability – Measures the likelihood that management will deliver the Required Business Performance<sup>®</sup> to support the stock price. There is no assurance the RBP<sup>®</sup> methodology will successfully identify companies that will achieve their RBP or outperform the performance of other indices.

#### **Disclaimer**

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