

## Ryan/NASDAQ 1-30 Year Treasury Laddered Index Methodology

### Index Description / Calculations

The Ryan/NASDAQ 1-30 Year Treasury Laddered Index is comprised of 30 distinct annual U.S. Treasury-auctioned maturities from one to 30 years.

#### Weights

Each maturity from one to 30 years is an equally weighted annually. Currently, there are no bonds for the years 2032 through 2035. The Index will overweight the issues in 2031 and 2036 to create average 2032, 2033, 2034 and 2035 maturities. In time, as new U.S. Treasury auctions produce bonds for those four years, they will be entered into the Index and reduce the overweighting in years 2031 and 2036. With that exception, all other issues will be equally weighted.

#### Pricing

All issues enter the index at the midpoint between closing bid and offer prices. All existing issues are also priced at the midpoint between closing bid and offer.

#### Accrued Interest

The day count conversions are based on SIA standards for US Treasury securities: Actual days of accrued interest / Actual days in the year

#### Daily Total Return

$$\frac{[(\text{End Price} + \text{End Accrued} + \text{Coupon Payment}) / (\text{Begin Price} + \text{Begin Accrued}) - 1] * 100}{}$$

#### Index Levels

The index level starts at 100 on Feb 28, 2006 and rises or falls as daily total returns become available. Daily total returns, include price return and income return, are reinvested and compounded back into each index on a geometric or multiplicative basis:

$$\text{Begin Index Level} \times (1 + \text{Daily Return} / 100) = \text{End Index Level}$$

For example, consider a hypothetical index that has a price return of 1% (0.01) on the first day of the month and 0.5% (0.005) on the second day. It also has an income return of 2 basis points (0.0002) each day. Then the index level at the end of the second day is 101.55, calculated as follows:

$$\begin{aligned} \text{Beginning Index Level} \times [1 + (\text{Price Return} + \text{Income Return})] &= \text{End Index Level} \\ \text{Day 1 } 100 \times [1 + (0.0100 + 0.0002)] &= 101.02 \\ \text{Day 2 } 101.02 \times [1 + (0.0050 + 0.0002)] &= 101.55 \end{aligned}$$

## **Eligibility**

Index includes US Treasury-auctioned issues with fixed coupon rates that are non-callable. Treasury inflation protected securities, bills or zero-coupon securities are not permitted.

## **Eligibility Criteria**

A February maturity is selected for each annual maturity. If more than one February issue is available, the most liquid issue will be selected based upon market conditions. If no February maturity exists, then the most liquid issue closest to that February maturity will be selected with a maximum deviation of six months. As a bond matures, its proceeds will be reinvested in a 30-year maturity bond so that there will be a continuous maturity "laddered" portfolio of approximately 30 securities, meaning that securities holdings are scheduled to mature in a proportional, annual sequential pattern.

## **Index Evaluation**

The Index Securities are evaluated annually in February. The above Eligibility Criteria are applied using market data up to the rebalancing date in February. Securities meeting the criteria are included in the Index. Security additions and deletions are made effective after the close of trading on the date of rebalancing (usually February 15).

Additionally, if at any time during the year other than the Evaluation or rebalancing date, an Index Security no longer meets the Eligibility Criteria, or is otherwise determined to have become ineligible for inclusion in the Index, the security is removed from the Index and is replaced. In all cases, a security is removed from the Index at its mid-price (between bid and asked price).

## **Index Maintenance**

Should the federal government issue a new Treasury security that better fits the February annual maturity ladder. It will be used to replace the annual maturities that are overweighted and underweighted to represent a missing annual maturity issue.

## **Index Rebalancing**

The index is rebalanced annually in February or whenever the new Treasury auction issue is a better fit for an annual maturity. The index employs an equal-weighting of each Treasury issue to create a maturity ladder from 1 to 30 years. The exception is if no issue is available for that maturity, the index is allowed to overweight the next shorter or longer maturity. Currently, there are no bonds for the years 2032 through 2035. The Index will overweight the issues in 2031 and 2036 to create average 2032, 2033, 2034 and 2035 maturities. In time, as new U.S. Treasury Auctions produce bonds for those four years, they will be entered into the Index and reduce the overweighting in years 2031 and 2036. With that exception, all other issues will be equally weighted.