

# Wilshire Risk Parity Index – 10% Target Volatility<sup>SM</sup>

The Wilshire Risk Parity Index – 10% Target Volatility<sup>SM</sup> (Wilshire Risk Parity Index<sup>SM</sup>) is designed to measure the performance of a multi-asset risk parity strategy that allocates risk equally among three risk baskets: equity, rates and inflation while targeting an ex-ante volatility level of 10%. Each risk basket is designed to contain a diverse, yet still representative set of highly liquid futures to help not only capture main asset class risk drivers, but also minimize index turnover. To maximize risk diversification while maintaining asset class exposure as specified, baskets are first risk-weighted at the individual basket, then main asset class level. To leverage a proxy for rates and inflation that is both widely accepted and highly liquid, U.S. Treasury Inflation Protected Securities (TIPS) are incorporated. Additionally, a long- and short-term realized variance-covariance matrix not only anchors the index to long-term volatility trends, but also provide responsiveness to short term shifts; and a daily dampener triggered by a jump in equity volatility, as represented by the S&P VIX, aims to further amplify short term responsiveness.

## Membership

The following futures and cash instruments are used for exposure to each of the three risk baskets:

- Equity futures - one from each major global region:
  - U.S.: S&P 500
  - UK: FTSE 100
  - Europe: EURO STOXX 50
  - Asia: Nikkei 225
- Fixed income futures - mirroring the equity covered regions:
  - U.S.: T-Notes (10-year)
  - UK: Gilts (10-year)
  - Europe: Euro-Bund (10-year)
  - Asia: JGB (10-year)
- Commodity futures – equal risk from each major sector:
  - Energy: WTI Crude Oil (CL)
  - Industrial Metals: Copper (HG)
  - Precious Metals: Gold (GC)
  - Agriculture: Soybeans (S)
  - Agriculture: Corn (C)
  - Agriculture: Sugar (SB)
  - Agriculture: Coffee (KC)
  - Agriculture: Wheat\*

\* Split between KS and Chicago (KW and W).

U.S. Treasury Inflation Protected Securities (TIPS)

- TIPS exposure is delivered via the Wilshire TIPS index, designed with a target maturity similar to the 10-Year T-Note Futures contract

## Adjustments & Maintenance

Changes to composition of the Wilshire Risk Parity Index are based on the following rules: KC and Chicago (KW and W)

## Monthly Rebalance

To maintain an expectation of equal risk-weighting within and across the investable baskets, the index is rebalanced monthly on the month end. Each investible basket is equal risk-weighted using returns through the fifth business day prior to the rebalance date. These baskets with TIPS exposure are then optimized using long-term (15 years) and short-term (3 months) realized variance-covariance to obtain the desired volatility target of 10 percent risk on an ex-ante basis.

- The Wilshire TIPS Index is rebalanced monthly on month end.
- The TIPS risk exposure is split between the rates and inflation baskets.
- In order to maintain enough margin for the expected leverage, the long TIPS exposure is capped at 75 percent.
- In order to manage leverage, the notional exposure is capped at 300 percent.
- A daily dampener of 50 percent is applied when the forecast volatility of the VIX doubles from the rebalance weighted average.
- The Wilshire Index Oversight Committee may, at its discretion may reduce exposure to, remove or replace any future if the committee deems the change necessary to protect the integrity of the index and interests of investors in products linked to that index.

## Futures Roll

The index utilizes the most liquid version of each future and thus utilizes a roll schedule consistent with industry standards utilizing the Wilshire Risk Parity Contract Calendar.

- Financial futures roll two days prior to their expiration date (with the exception of US T-Notes and UK Gilts, which roll two days prior to their first notice date).
- Commodity futures roll 20 percent per day from the fifth business day to the ninth business day of the expiration month.

## Wilshire Risk Parity Contract Calendar

MONTH*	JAN (F)	FEB (G)	MAR (H)	APR (J)	MAY (K)	JUN (M)	JUL (N)	AUG (Q)	SEP (U)	OCT (V)	NOV (X)	DEC (Z)
S&P 500	Mar	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec
FTSE 100	Mar	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec
STOXX 50	Mar	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec
Nikkei 225	Mar	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec
US T-Notes	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec	Mar
UK Gilts	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec	Mar
Euro-Bund	Mar	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec
JGB	Mar	Mar	Mar	Jun	Jun	Jun	Sep	Sep	Sep	Dec	Dec	Dec
WTI Crude Oil	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
Soybeans	Mar	Mar	May	May	Jul	Jul	Nov	Nov	Nov	Nov	Jan	Jan
Coffee	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Corn	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
KC Wheat	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Sugar	Mar	Mar	May	May	Jul	Jul	Oct	Oct	Oct	Mar	Mar	Mar
Wheat	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Copper	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Gold	Feb	Apr	Apr	Jun	Jun	Aug	Aug	Dec	Dec	Dec	Dec	Feb

\* Denotes the contract in place at the beginning of each given month.

## Weighting

The index is equal risk-weighted.

## For Further Information

Please visit [wilshire.com](http://wilshire.com) or email [wilshireindexes@wilshire.com](mailto:wilshireindexes@wilshire.com).

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