

# Random Walk Index – Technical Analysis Indicator

## Random Walk Index Definition

The random walk index (RWI) is a technical indicator that attempts to determine if a stock's price movement is random or nature or a result of a statistically significant trend. The random walk index attempts to determine when the market is in a strong uptrend or downtrend by measuring price ranges over N and how it differs from what would be expected by a random walk (randomly going up or down). The greater the range suggests a stronger trend. The RWI states that the shortest distance between two points is a straight line and the further prices stray from a straight line, implies the market is choppy and random in nature.

## Random Walk Index Formula

The random walk index determines if a security is in an uptrend or downtrend. For each period the RWI is computed by calculating the maximum of the following values for high periods:

$$(HI - LO.n) / (ATR.1(n) * SQRT(n))$$

For each period the RWI is computed by calculating the maximum of the following values for low periods:

$$(HI.n - LO) / (ATR.1(n) * SQRT(n))$$

## Trading with the Random Walk Index

Michael Poulos the creator of the RWI, discovered during his research that it was best optimized for 2 to 7 periods for

short-term trading and 8 to 64 periods for long-term trading. Readings of the long-term RWI of highs that exceed 1 provides a good indication of a sustainable uptrend. Conversely, a long-term RWI of lows above 1 provide a good indication of a sustainable downtrend. Poulous realized that by combining the short-term RWI with the long-term RWI in a trading system, it could provide accurate buy and sell points. Below are some rules developed by Poulos for trading stocks and futures with his RWI:

- Enter a long (or close short) when the long-term RWI of the highs is greater than 1 and the short-term RWI of lows peaks above 1
- Enter short (or close long) when the long-term RWI of the lows is greater than 1 and the short-term RWI of highs peaks above 1