InferTrade
PREDICTIVE RESEARCH TOOLS

Predictive Relationship: Double Weighted Moving Averages (Integers)

Contents

1 Trading Strategy Description

This trading rules is a linear combination of four moving averages: short price average, long price average, short research average, long research average. The parameters accepted are the length of each average and coefficients for each average's weighting contribution. The total sum is divided by the current price to calculate a (dimensionless) position size.

Due to the linear summation this rule is only valid for research series of the same dimensionality as the price series (e.g. a research series representing a price target).

The last available value is included. As such if the short average is "1" and the long average is "1" then the short average is today's price and the long average is the average of today and yesterday's prices.

2 Rule Parameters

Below is a table summarizing the parameters specific to this trading rule.

Parameter Name	Default Value	Description	Symbol
Short price average length	2	Number of days in the short price average.	L_1^p
Long price average length	5	Number of additional days in the longer price average (added to the number in the short price average).	L_2^p
Short research average length	2	Number of days in the short research average.	L_1^r
Long research average length	5	Number of additional days in the longer research average (added to the number in the short price average).	L_2^r
Amplitude of short price average	1.0	Weighting coefficient for the short term average of price.	κ_1^p
Amplitude of long price average	1.0	Weighting coefficient for the long term average of price.	κ_2^p
Amplitude of short research average	1.0	Weighting coefficient for the short term average of research.	κ_1^r
Amplitude of long research average	1.0	Weighting coefficient for the long term average of research.	κ_2^r

3 Equation

$$\Lambda(t, L, \kappa, \zeta) = \frac{\kappa}{L} \sum_{n=0}^{L-1} \zeta(t-n) \tag{1}$$

$$z(t) = \frac{\Lambda(t, L_1^p, \kappa_1^p, p) + \Lambda(t, (L_1^p + L_2^p), \kappa_2^p, p) + \Lambda(t, L_1^r, \kappa_1^r, r) + \Lambda(t, (L_1^r + L_2^r), \kappa_2^r, r)}{p(t)} \tag{2}$$

where z_t is the portfolio allocation at time t, $p = p(t)$ is the value of the price series and $r = r(t)$ is the value of the research series.

4 Glossary

- **Bullish:** Positive outlook on the market. Expectation of positive returns.
- **Bearish:** Negative outlook on the market. Expectation of negative returns.
- **Allocation:** The allocation is the fractional amount of the portfolios value used to determine the size of the trading position.
- **Parameter:** Value used by the trading rule in the calculation for trading position
- **Trading Rule:** Strategy to determine when to buy, hold or sell a position.

Further Links

1. InferTrade: `https://www.infertrade.com`
2. Privacy Policy/Legal notice: `https://www.infertrade.com/privacy-policy`
3. InferStat Ltd: `https://www.inferstat.com`