InferTrade
PREDICTIVE RESEARCH TOOLS

Predictive Relationship: Moving Average Convergence Divergence

Contents

1 Trading Strategy Description

Moving Average Convergence Divergence (MACD), developed by Gerald Appel towards the end of 1970s is a momentum indicator that is mostly used by traders to identify trend shifts. This indicator is used to understand the momentum and its directional strength by calculating the difference between two time period intervals, which are a collection of historical time series. A Bullish momentum is identified when the MACD line cross above the signal line. A bearish momentum is identified when the MACD line cross below the signal line.

2 How to Trade

In order to trade with the rules InferTrade provides, we calculate allocations for each day. We then allocate that fraction of our total portfolio value (cash and securities) to the market we are trading - to do this we buy or sell securities to reach the target allocation.

How Allocation Determines Trade Size

The allocation is the fractional amount of the portfolios value used to determine the size of the trading position. For example, if the allocation for Microsoft (MSFT) shares is 50%, and we have $100, we invest $50 so that the value of held stock is the same as the value of held cash.

Rule Specific Trading Details

The strategy is to identify bullish and bearish crossovers. Bullish crossover - when MACD line cross above the signal line Bearish Crossover - when signal line cross above the MACD line.

3 Rule Parameters

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

Parameter Name	Default Value	Description	Symbol
Short term look back Length	12	Short term look back length used to compute EMA.	L_s
Long term look back Length	26	Long term look back length used to compute EMA.	L_l
Signal look back Length	9	Look back length used to generate Signal line.	S_l

4 Equation

Below are the equations which govern how this specific trading rule calculates a trading position.

$$MACD = EMA(L_s) - EMA(L_l) \tag{1}$$

$$Signal = EMA(S_l) \tag{2}$$

with:
$EMA(L_s)$: is the short term exponentially weighted average.
$EMA(L_l)$: is the long term exponentially weighted average.
$EMA(S_l)$: is the exponentially weighted average computed to generate signal line.

5 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`