

RSI divergence strategy

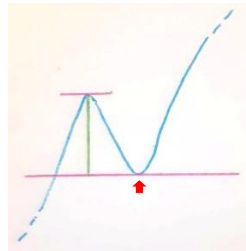
Introduction

I want to have my trading strategy coded in MQL5 (and get the full source code) and a backtest of the algorithm.

First step

Method of calculating the size of a trough or peak (corresponding to the green line on the schema below) :

The size of a trough (or peak) corresponds to the smallest amplitude of price among that between this trough (or peak) and the highest (or lowest) reached between this one and the most recent price value equal to that of this trough (or peak) before this one, and the amplitude of price between this trough (or peak) and the highest (or lowest) reached between this one and the oldest price value equal to that of this trough (or peak) after this one (or if there is still no price value equal to that of this trough (or peak) after this one, then consider the amplitude of price between this trough and the highest (or the lowest) reached after this one).



For each new peak and trough formed by the evolution of price (considering the highest and the lowest of each new candlestick formed in M5) which size is higher than the equivalent of 2.0x the ATR of the last 1 000 candlesticks in M5, the algorithm must retain in memory :

- ✓ its exact date at half the duration of the candlestick in M5
- ✓ its price value
- ✓ its size

The algorithm will stop considering a trough :

- when the price has been lower than the price value of that trough minus the equivalent of 0.2x the size of this one, and then has been higher than the price value of that trough plus the equivalent of 0.2x the size of this one.
- AND when a more recent trough $> 2.0x$ the size of that trough has been formed by the price.

The algorithm will stop considering a peak :

- when the price has been higher than the price value of that peak plus the equivalent of 0.2x the size of this one, and then has been lower than the price value of that peak minus the equivalent of 0.2x the size of this one.
- AND when a more recent peak $> 2.0x$ the size of that peak has been formed by the price.

Entry into position

Entry into position when the price arrives at a distance from the price level of a trough (or of a peak) which has never been crossed by the price equivalent to $0.02x$ the size of that trough (or peak) :

1. If there are 2 troughs (or peaks) :
 - which the second one is lower (or higher) than the first one
 - which the size of the larger one is $< 2.0x$ that of the smaller one
 - with no other trough (or peak) $> 0.7x$ the size of the smaller one present after the first of these two troughs (or peaks).
2. If the amplitude of price between the current price and the first of these 2 troughs (or peaks) is equivalent of $0.3x$ to $0.8x$ the size of the trough (or peak) of the price level on which the price is supposed to rebound.
3. If the RSI value of the first of these 2 troughs (or peaks) is lower (or higher) than « the RSI value of the second one » - 5 (or + 5).

And if the RSI value of the second trough (or peak) is lower (or higher) than « the current RSI value » - 5 (or + 5).

4. On condition that the RSI value of the first trough (or peak) is the lowest (or the highest) RSI value between the latter and the second trough (or peak), and that the RSI value of the second trough (or peak) is the lowest (or the highest) RSI value between the latter and the current price.

And on condition that between the first trough (or peak) and the current price, the RSI value has not been equal to 70 (or 30) and then equal to 30 (or 70).

- ➔ considering the values of the RSI based on the timeframe whose ATR of the last 70 candlesticks is the closest to the average size divided by 5 of the two troughs (or peaks) showing a divergence of the RSI.
- ➔ If this timeframe is M5, then consider the RSI value of the candlestick in M5 that formed each of the two troughs (or peaks).

If this timeframe is $> M5$, then consider the RSI value of the candlestick which period of time includes the date of the candlestick in M5 that formed each of the two troughs (or peaks).

If this timeframe is $< M5$, then consider the RSI value of the candlestick which closing price is the lowest (or the highest) among all the candlesticks included within the period of time of the candlestick in M5 that formed each of the two troughs (or peaks).

Graphical example

★ point of entry into position

— Stop Loss



Closure of the trade

Stop loss (SL)

Place the SL under (or above) the price level of the trough (or peak) at a distance from this one equivalent to 0.1x the size of its trough (or peak).

Take profit (TP)

Place the TP above (or under) the price level of the trough (or peak) at a distance from this one equivalent to 0.9x the size of its trough (or peak).

Backtesting

What is the profit factor (i.e. the ratio « total gains/total losses ») of each following asset :

- gold
- eur/usd
- Nasdaq
- Bitcoin

I remain of course at your disposal for any questions you may have.

Cordially

Corentin Aigloz