

Highly Active Manual FX Trading Strategy

This strategy based on a mixture of two styles of trading: forex scalping, trend following short-term strategy. You can use it for any currency. Timeframe M15.

1. Used indicators

1. Hurst Exponent Divergence
2. Bollinger Bands Divergence
3. Standard Deviation

2. Theory

2.1. Standard deviation (stdDev Indicator - standard MetaTrader 4 Indicator)

Standard deviation is a widely used measurement of variability or diversity used in statistics and probability theory. It shows how much variation or "dispersion" there is from the average (mean, or expected value). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data are spread out over a large range of values.

Technically, the standard deviation of a statistical population, data set, or probability distribution is the square root of its variance. It is algebraically simpler though practically less robust than the average absolute deviation. A useful property of standard deviation is that, unlike variance, it is expressed in the same units as the data.

In addition to expressing the variability of a population, standard deviation is commonly used to measure confidence in statistical conclusions. For example, the margin of error in polling data is determined by calculating the expected standard deviation in the results if the same poll were to be conducted multiple times. The reported margin of error is typically about twice the standard deviation – the radius of a 95 percent confidence interval. In science, researchers commonly report the standard deviation of experimental data, and only effects that fall far outside the range of standard deviation are considered statistically significant – normal random error or variation in the measurements is in this way distinguished from causal variation. Standard deviation is also important in finance, where the standard deviation on the rate of return on an investment is a measure of the volatility of the investment.

From Wikipedia

2.2. Hurst Exponent (Hurst Exponent Divergence Indicator from BJF Trading Group inc.)

In fractal geometry, the **generalized Hurst exponent**, named H in honor of both Harold Edwin Hurst (1880–1978) and Ludwig Otto Hölder (1859–1937) by Benoît Mandelbrot (1924-2010), is referred to as the "index of dependence," and is the relative tendency of a time series either to regress strongly to the mean or to cluster in a direction.

H was originally developed in hydrology for the practical matter of determining optimum dam sizing for the Nile River's volatile rain and drought conditions that had been observed over a long period of time. The Hurst exponent is non-deterministic in that it expresses what is actually observed in nature; it is not calculated so much as it is estimated.

The Hurst exponent is used as a measure of the long term memory of time series, i.e. the autocorrelation of the time series. Where a value of $0 < H < 0.5$ indicates a time series with negative autocorrelation (e.g. a decrease between values will probably be followed by an increase), and a value of $0.5 < H < 1$ indicates a time series with positive autocorrelation (e.g. an increase between values will probably be followed by another increase). A value of $H=0.5$ indicates a true random walk, where it is equally likely that a decrease or an increase will follow from any particular value (e.g. the time series has no memory of previous values)

[Information about Hurst Divergence Indicator](#)

From Wikipedia

2.3. Bollinger Bands (Bollinger Band Divergence Indicator from BJJ Trading Group inc.)

Bollinger Bands and the related indicators $\%b$ and *Band Width* are technical analysis tools invented by John Bollinger in the 1980s. Having evolved from the concept of trading bands, Bollinger Bands can be used to measure the highness or lowness of the price relative to previous trades.

Bollinger Bands consist of:

- a middle band being an N -period simple moving average (MA)
- an upper band at K times an N -period standard deviation above the middle band ($MA + K\sigma$)
- a lower band at K times an N -period standard deviation below the middle band ($MA - K\sigma$)

Typical values for N and K are 20 and 2, respectively. The default choice for the average is a simple moving average, but other types of averages can be employed as needed. Exponential moving averages are a common second choice. Usually the same period is used for both the middle band and the calculation of standard deviation.

From Wikipedia

[Information about Bollinger Bands Divergence Indicator](#)

2.4 Divergence

Disagreement between the indicator and price is called divergence. Divergence and convergence, as they are termed, are held to offer predictive value by the technical analyst, since their occurrence is less common than the usual parallel movements of the trend and the oscillator. Divergence and convergence helps the forex trader recognize and react appropriately to a change in price action. Almost all divergence indicators show divergence and convergence of oscillator and price. Divergence is usually price movement determined in relationship to an oscillator indicator. We would like to propose divergence indicator based on oscillators: CCI, Momentum, MACD, RVI, Stochastic etc. Divergence indicators can be used as a leading indicators. Our MetaTrader Divergence indicators based on fractal divergence.

An indication that an end to the current trend may be near occurs when the indicator diverges from the security. A bullish forex divergence occurs when [MACD, Stochastic, RSI, Momentum, Bollinger Bands, PowerRVI or OBV] is making new highs while prices fail to reach new highs.

A bearish forex divergence occurs when [MACD, Stochastic, RSI, Momentum, Bollinger Bands, PowerRVI or OBV] is making new lows while prices fail to reach new lows. Both of these divergences are most significant when they occur at relatively overbought/oversold levels.

From <http://iticsoftware.com>

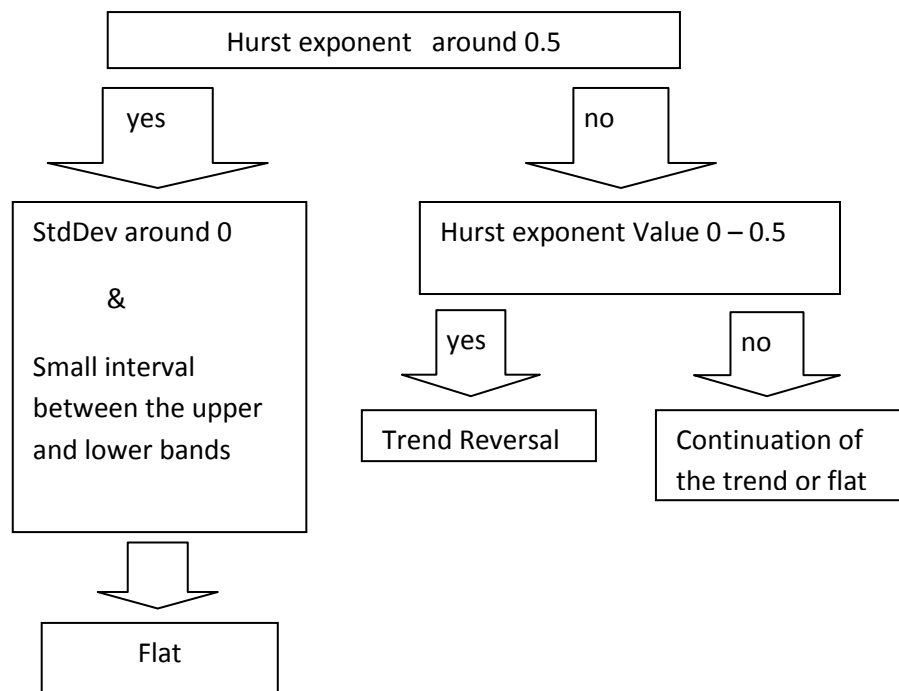
[Learn more about fractal divergence](#)

3. Market Condition determination

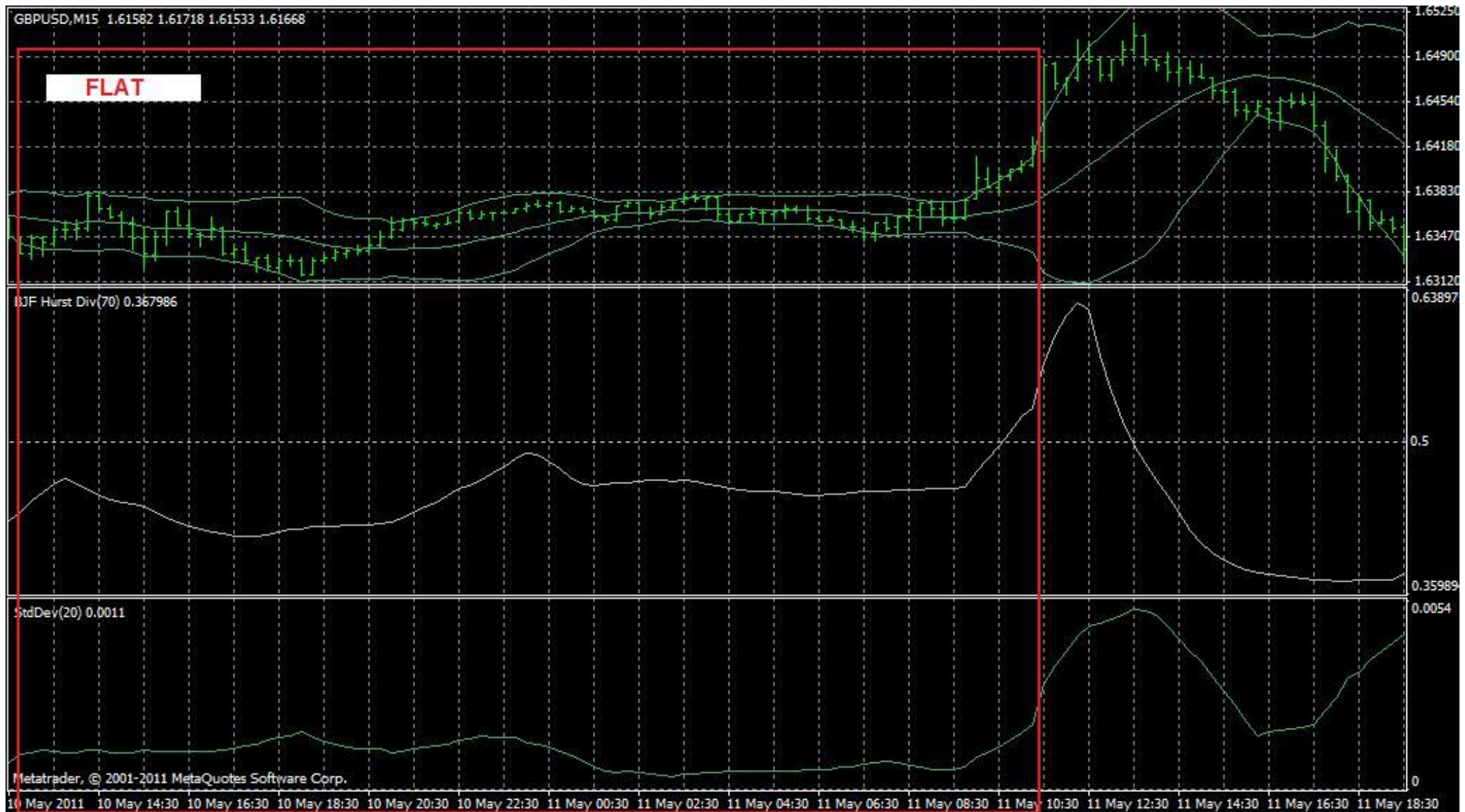
First and most important step is determination of market condition. We will define three states of the market:

1. FLAT (sideways) movement
2. Trend reversal
3. Continuation of the trend or flat

3.1. Algorithm for market condition determination



3.2. Flat conditions



Pic. 1 - Flat conditions (Hurst exponent around 0.5 ; stdDev around 0.)

We will use scalping strategy.

3.2.1. Rules

- Open sell position when price touch or cross upper band (Bollinger Band Indicator)
- Open buy position when price touch or cross lower band (Bollinger Band Indicator)
- Close position when price touch or cross opposite band.
- Stop Loss under lower band for buy position and under upper band for sell position.



Pic. 2 – red circle –buy zone, blue circle – sell zone

3.3. Trend reversal

Trend following strategy.

3.3.1. Rules

- Waiting for Hurst or Bollinger bands divergence arrow and open position in the direction of arrow.
- Close the position if appeared an opposite arrow or (and) Hurst exponent tends to 0.5, or close at predefined target, or close By time



Pic. 3 - Trend reversal conditions. Hurst exponent around Value 0 – 0.5 and tends to zero. stdDev grows



Pic. 4 - blue circle – sell zone, red circle –close buy.

3.4.Continuation of the trend

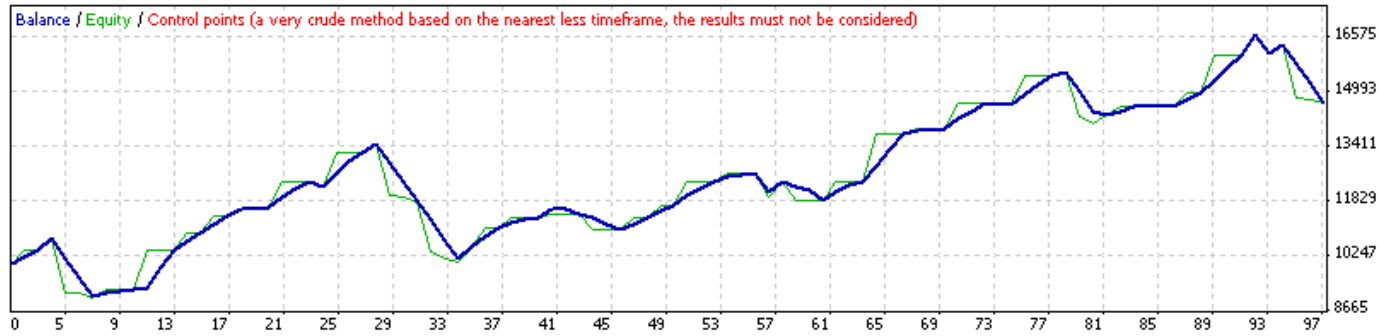
Hurst Exponent Value 0.5 – 1 – I recommend to close part of position (50% for example) if you have opened it before. Or do not open any position if you do not have opened positions.

4. Tests

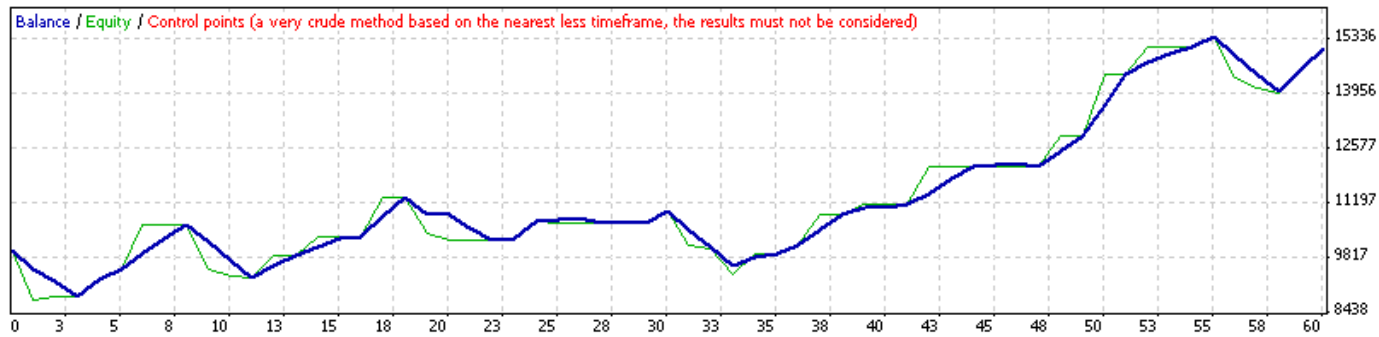
We have tested Hurst Indicator on historical data. Open position in the direction of arrow with Stop Loss and without Take Profit.

We do not use Bollinger bands, stdDev and Hurst exponent for this test. !!! **Only Hurst Divergence.**

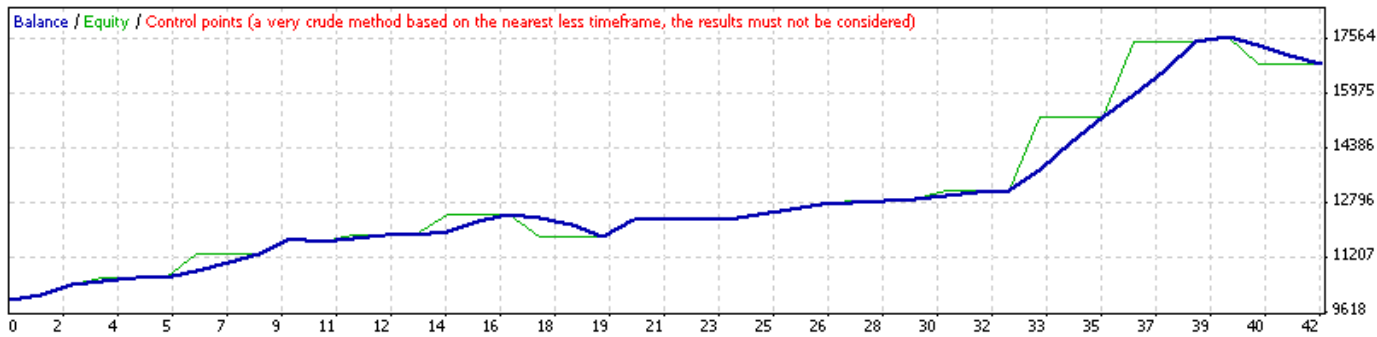
EURJPY



EURUSD



USDJPY



5. Risk Warning

Before deciding to participate in the Forex market, you should carefully consider your investment objectives, level of experience and risk appetite. Most importantly, do not invest money you cannot afford to lose. There is considerable exposure to risk in any off-exchange foreign exchange transaction, including, but not limited to, leverage, creditworthiness, limited regulatory protection and market volatility that may substantially affect the price, or liquidity of a currency or currency pair.

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