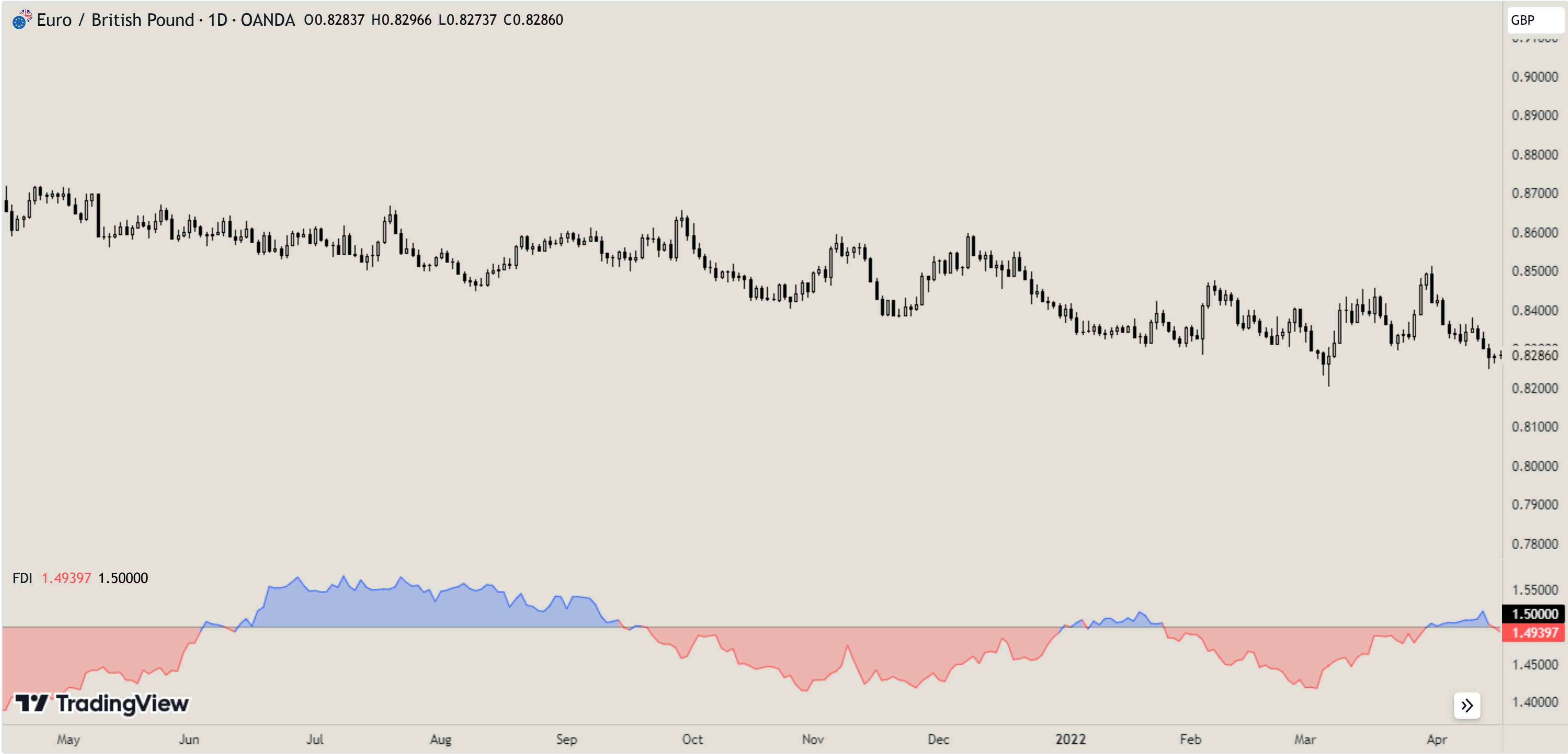


Fractal Dimension Index
bjr117 PREMIUM Apr 18, 2022



Volatility Volume Trend Analysis trend trendfilter filter contraction nnfx 0 103

The Fractal Dimension Index is a technical indicator that gauges the amount of volatility currently present in the market.

The theory behind this indicator is that a value of 1.5 suggests the market is acting in a completely random fashion. As the market deviates from 1.5, the opportunity for earning profits is increased in proportion to the amount of deviation.

Keep in mind that the indicator **does not show the direction of trends!** Although you can try to test it as a trend-following indicator that gives trend-following signals, that isn't the intended use of the indicator.

The Fractal Dimension Index is **red** when the market is in a trend. And it is blue when there is high volatility. When the Fractal Dimension Index changes its color from **red** to **blue**, it means that a trend is finishing. The market becomes erratic and high in volatility when the Fractal Dimension Index is **blue**. Usually, these "blue periods" do not go on for a long time, they come before a new trend.

So, look for trend-following signals while the Fractal Dimension Index is blue since this indicates high volatility before a potential trend, and avoid trend-following signals when the Fractal Dimension Index is red since this indicates a ranging/non-trending market or a trend that started long ago.

Open-source script

In true TradingView spirit, the author of this script has published it open-source, so traders can understand and verify it. Cheers to the author! You may use it for free, but reuse of this code in a publication is governed by [House Rules](#). You can favorite it to use it on a chart.

Disclaimer

The information and publications are not meant to be, and do not constitute, financial, investment, trading, or other types of advice or recommendations supplied or endorsed by TradingView. Read more in the [Terms of Use](#).

Want to use this script on a chart?

★ Add to favorite indicators

Fractal Dimension Index

```
1 // This source code is subject to the terms of the Mozilla Public License 2.0 at https://mozilla.org/MPL/2.0/
2 // © bjr117
3
4 //@version=5
5 indicator(title = "Fractal Dimension Index", shorttitle = "FDI", overlay = false)
6
7 //=====
8 // Input Parameters
9 //=====
10 fdi_length = input.int(30, title = "FDI Length", minval = 2)
11 fdi_src = input.source(close, title = "FDI Source")
12 fdi_hline = input.float(1.5, title = "FDI Horizontal Line Level", minval = 0.0, maxval = 2.0, step = 0.005)
13 //=====
14
15
16 //=====
17 // Calculating FDI
18 //=====
19 calculate_FDI(fdi_src, fdi_length) =>
20 |   highest_high = ta.highest(fdi_src, fdi_length)
21 |   lowest_low = ta.lowest(fdi_src, fdi_length)
22 |
23 |   length = float(0.0)
24 |   for i = 1 to fdi_length - 1
25 |     diff = (fdi_src[i] - lowest_low) / (highest_high - lowest_low)
26 |     length := length + math.sqrt(math.pow(diff[i] - diff[i+1], 2) + (1 / math.pow(fdi_length, 2)))
27 |
28 |   fdi = 1 + (math.log(length) + math.log(2)) / math.log(2*fdi_length)
29 |   fdi
30 //=====
31
32
33 //=====
34 // Plotting FDI and FDI Horizontal Line
35 //=====
36 fdi = float(0.0)
37 fdi := calculate_FDI(fdi_src, fdi_length)
38
39 fdi_color = fdi > fdi_hline ? color.blue : color.red
40 fdi_plot = plot(fdi, title = "FDI Line", color = fdi_color)
41 hline_plot = plot(fdi_hline, title = "FDI Horizontal Line", color = color.new(#000000, 70))
42 fill(fdi_plot, hline_plot, title = "FDI Fill", color = color.new(fdi_color, 70))
43 //=====
```

↑ Collapse