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The author may hold positions in the instruments discussed or may apply a similar approach in practice. The information contained in the reports may change without prior notice.

Methodology

TradingEdge.Pro's methodology describes a multi-step process for building and validating trading strategies, structured into two parts: strategy development and testing, and practical use. In the testing phase, a strategy is defined as a set of objective rules, validated through initial tests, optimised, and assessed for stability (robustness), and then evaluated using Walk-Forward Analysis. The detailed testing assumptions (including the instrument universe, in-sample/out-of-sample periods, data sources, transaction costs, and execution rules) are described in the "Testing Specification" document. The full methodology and metric definitions are available on the TradingEdge.Pro "Methodology" page.

Donchian Counter Trend v.1

Investment Strategy Testing Summary

Donchian Strategy Counter Trend is a **trend reversal trading technique** that uses the breakout of the Donchian channel to **identify reversals from prevailing trends.** Its premise can be summarized as **"Buy low and sell high.**"

It should be noted that the strategy has not even passed preliminary testing, which means that it is not recommended for use in real trading and it is better **to follow the trend than to try to play against it.** This means that the strategy loses its profitability and generates a significantly larger drawdown when tests are performed on suboptimal parameters. Therefore, **it is not recommended to use it in real transactions.**

Various methods of opening positions, lengths of the Donchian channel, candlestick formations, stop **loss methods and their absence,** as well as **the length of holding the position** were tested - **none of these strategies proved profitable.** If someone **wants to face the rushing market,** which **breaks out to new highs or lows,** they should **recall the results of these tests** and the saying: **"The Trend is Your Friend, Until the End".**

Our goal is to have a strategy that remains **profitable and effective over a wide range of parameters,** because the market is a changing organism and the optimal parameters can change over different periods. **I cannot** emphasize enough that for **a strategy to work** in real conditions, it must also work on **suboptimal parameters** and in **suboptimal conditions.** In a word - **it must be stable** to changing market conditions.

I don't know who said these words, but they perfectly reflect the problem of many optimizations:

"I've never seen a strategy that didn't work in backtests."

We don't know the future, we don't know future market conditions, but if we know that our strategy **has historically generated acceptable results** in various market conditions and across various parameter ranges, then we are **one step ahead of other** market participants.

Contents

Step 1: Formulate an investment strategy

Donchian Counter Trend is **an investment strategy** based on **Donchian channels,** which are used to **identify potential turning points in the market.** This strategy uses a **contrarian approach,** i.e. it works **against the dominant trend.** This means that we try **to take advantage of moments when the market can change direction** after **a strong movement in one direction.** In a word, **"Buy when it's cheap and sell when it's expensive.**"

After **strong market movements,** you can often hear from **"market experts"** that **now it is cheap** (after a significant decline) or **expensive** (after a significant increase), so it is worth **buying or selling.** Indeed, the market often **corrects after dynamic movements,** but our goal is **to check whether, after taking into account transaction costs and price slippage, counter-trend positions allow you to actually make money.**

Intuitively, it seems that since trend following strategies work, playing against the prevailing trend can be very risky. However, instead of **guessing** or **repeating the clichés** that **the market is expensive or cheap, we will simply check it out.**

The strategy is very simple and uses:

- **Donchian Canal:**
  - a breakout above the upper boundary of the long-term (e.g. 100-day) Donchian channel signals that things are "expensive" and a short position should be considered;
  - a breakout below the lower boundary of the long-term (e.g. 100-day) Donchian channel signals that things are "cheap" and a short position should be considered;
- **Sell/buy stop order:**
  - a breakout above the upper border of the Donchian channel activates a sell stop order one tick below the price low of this candle;
  - a breakout below the lower border of the Donchian channel activates a buy stop order one tick above the price high of that candle;
- **Stop loss order:**
  - execution of a sell stop order (opening a short position) activates a defensive stop loss order one tick above the upper border of the Donchian channel;
  - execution of a buy stop order (opening a long position) activates a defensive stop loss order one tick below the lower Donchian channel;
- **Exiting a position** – we close the position three days after opening.

The strategy is simple and is based on specific, defined rules. However, it requires **a lot of discipline and mental toughness,** because it involves selling instruments that are in a strong upward trend and buying when they are in a strong downward trend.

Characteristics of the strategy and its strengths and weaknesses:

- **Identification of Turning Points –** the strategy identifies potential trend reversal moments by analyzing Donchian channel crossings;

- **Simplicity of Implementation –** uses a simple construction of Donchian channels, making it easy to understand and implement.
- **Automation –** the strategy can be easily automated, eliminating the influence of emotions on investment decisions.
- **Flexibility** – ability to adjust channel periods to different markets and financial instruments.
- **False Signals in Strong Trends –** during periods of strong trend, the price may often cross the upper or lower bands of the Donchian channel without a trend reversal, which leads to the opening of unprofitable positions.
- **Confirmation of Signals –** before a position is opened, we wait for the market to start moving in the direction we expect, i.e. a breakout of the local low for a short position and a local high for a long position.

Donchian Counter Trend is a strategy that fits into the saying: **"Buy when it's cheap and sell when it's expensive."** Of course, when we repeat this without committing our own money or hiding behind a long-term investment, it sounds reasonable.

However, **my goal is to make money, not to be right in the long run.** If something **doesn't work in the short term, it's naive to assume it will work in the long run.**

Therefore, **we have no choice but to verify it with historical data.**

Step 2: Define investment principles

Below is **the pseudocode** for **Donchan** strategy **Counter Trend** on daily charts:

1. **Donchian channel:**
    a. **Specify the time period** for the Donchian channel (e.g. 100 days).
    b. **Calculate the upper boundary of the** Donchian channel as the highest price in the last 100 days.
    c. **Calculate the lower boundary of the** Donchian channel as the lowest price over the last 100 days.
2. **Check sell signal (short):**
    a. **Entry Conditions:** Set a **sell stop order one tick below the low of the candle breaking above the upper border of the Donchian Channel.**
    b. **Loss Order:** Set a **stop loss order one tick above the high of the candle breaking above the upper border of the Donchian Channel.**
    c. **Hold Conditions:** Stay in a short position for **a specified number of days** or until price **triggers a stop loss order.**
3. **Check buy signal (long):**
    a. **Entry Conditions:** Set a **buy stop order one tick above the high of the candle breaking below the lower border of the Donchian Channel.**
    b. **Loss Order:** Set a **stop loss order one tick below the low of the candle breaking above the lower border of the Donchian Channel.**
    c. **Hold Conditions:** Stay in a long position for **a specified number of days** or until price **triggers a stop loss order.**
4. **Close previous position** – before opening a new position (long or short), **close the previous opposite position.**
5. **Monitor signals every day**
    a. Calculate **the upper and lower boundaries of the Donchian channel each day.**
    b. Check **entry and exit conditions** to decide whether to open or close a position.

The above rules have been described in a way that allows them to be directly converted into a script in the chosen testing platform, which ensures the accuracy of the historical simulation and the reliability of the test results.

Tests are performed assuming that **the risk of one position is 1.0% of the total capital, with a hypothetical stop loss order located 2 x ATR (40 days) away from the position opening point.**

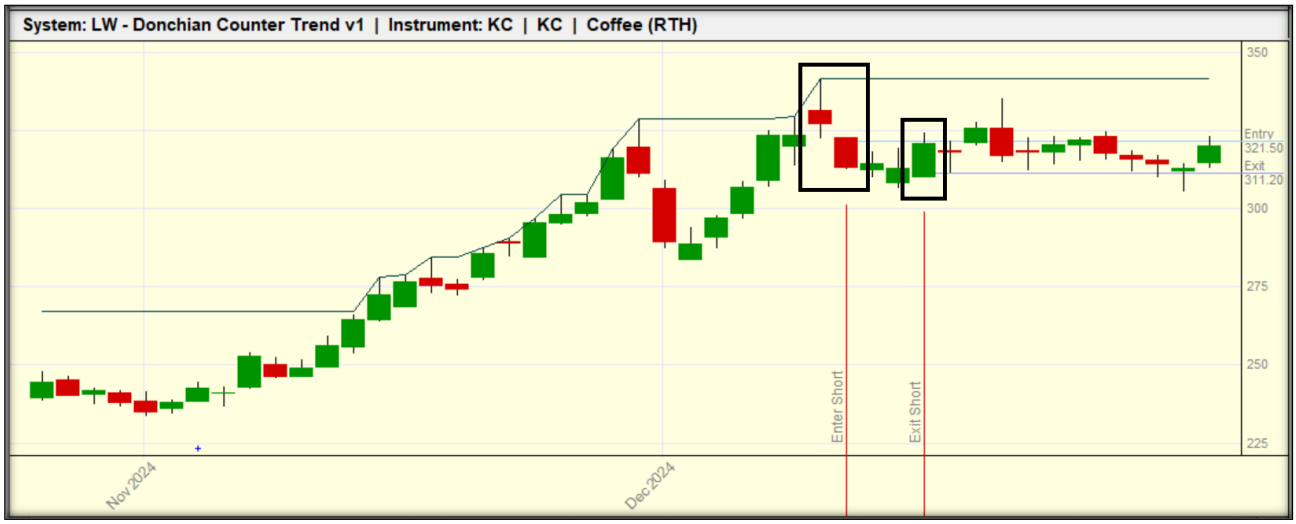
Step 3: Conduct a preliminary test of the investment strategy

Below are some purchase and sale transactions that allow you to verify the following aspects:

- **Correctness of generated signals;**
- **Direction of opening position;**
- **Moment of opening a position;**
- **Position opening price;**
- **Moment of closing the position;**
- **Closing price of the position;**
- **Compliance of the transaction with the theoretical assumptions of the investment strategy.**

The first transaction was made on a **coffee futures contract.** In December 2024, **the price reached a 100-day high** (**the first candle in the rectangle on the left)**. As a result, **a sell order was set** the next day sell stop **1 tick below the candle breaking above the upper border of the Donchian channel** (first candle in the rectangle on the left). **The order was executed the next day** (second candle in the rectangle on the left).

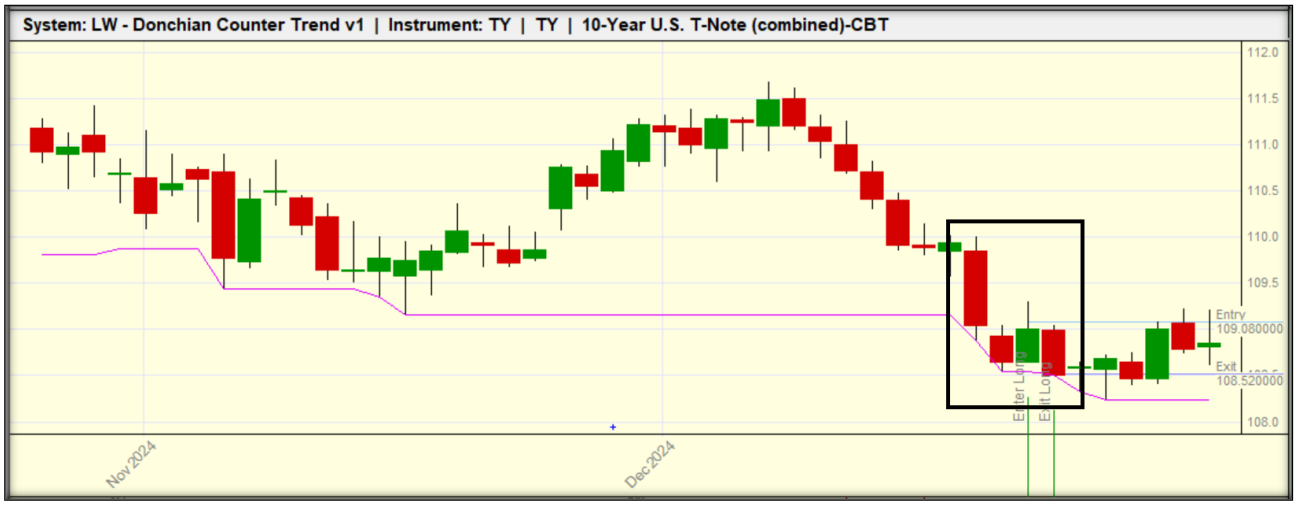
Three days after opening the position, an **order to close the position at the opening of the next day** was activated (**candle in the rectangle on the right)**. **The system worked correctly.**



Another example, this time for **a long position.** In December 2024, **US Treasury futures fell to a 100-day low (**first candle in the rectangle). Therefore, the next day a **buy stop order was set 1 tick above the high of this candle.**

However, **the next day** (second candle in the rectangle) **the order was not activated** and **the quotes fell again to the lowest level in 100 days.** Therefore, the next day a **buy stop order was set again 1 tick above the high of this candle. The order was executed the next day** (third candle in the rectangle on the left).

However, **the next day** (fourth candle in the rectangle on the left) **a stop loss order was activated,** which was set **1 tick below the minimum of the candle,** the maximum of which was used to determine the level of the **buy stop order** (second candle in the rectangle). **The system worked correctly.**



Once we are sure that the transactions are generated correctly, we can proceed to the first test of the strategy on the full **in-sample data set.** These tests are performed on **the basic parameters,** which – according to my assessment – should correspond to the assumed goals of the strategy.

First of all, **we reject strategies that linearly lose capital.** If a strategy exhibits such a pattern, it is a clear signal that any parameter optimization does not make sense.

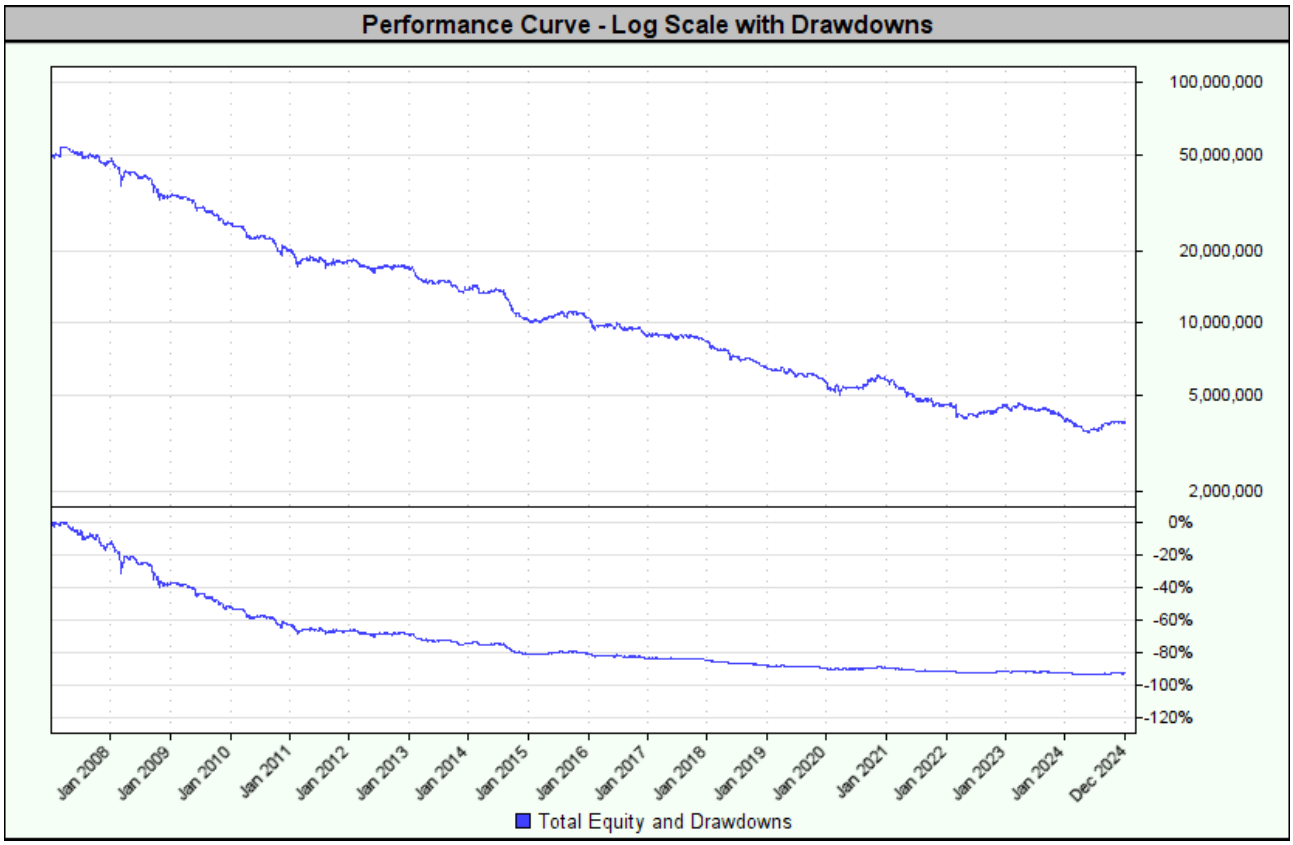
Our basic expectation is that the strategy generates **positive results,** even if they are at a low level.

Tested base parameters:

- **Upper/Lower Donchian Channel: 100 Days** – This means that the breakout levels are determined based on the highest and lowest price over the last **100 days.**
- **Method of Opening a Position:**
  - **Sell stop order** placed **1 tick below the low of the candle breaking above the upper border of the Donchian channel** (for a long position).
  - **Buy stop order** placed **1 tick above the high of a candle breaking out below the lower border of the Donchian channel** (for a short position).
- **Stop loss order:**
  - **Short Position:** Set a **stop loss order one tick above the high of the candle breaking above the upper border of the Donchian Channel.**
  - **Long Position:** Set a **stop loss order one tick below the low of the candle breaking above the lower border of the Donchian Channel.**
- **Conditions to hold a position:** Stay in a long position for **3 days** or until the price **triggers a stop loss order.**
- **Item size:** each item corresponds to **risk of 1% of the capital value,** measured by a hypothetical stop loss order, located **2 x ATR(40)** from the position opening point.

The test result is shown below.

Historical or simulated results do not guarantee that similar outcomes will be achieved in the future.



Indicators/Measures	Concluding a transaction at the opening price
CAGR%	-13.2%
MAR Ratio	-0.14
RAR%	-13.6%
R-Cubed	-0.20
Robust Sharpe Ratio	-1.27
Max Drawdown	93.5%
Wins	39.3%
Losses	60.7%
Average Win%	0.44%
Average Loss %	0.38%
Win/ Loss Ratio	1.12
Average Trade Duration (days)	3
Percent Profit Factor	0.76
SQN	-1.00
Number of transactions	4354

In summary, the system works properly and generates signals as expected. However, **tests on basic parameters have yielded poor results.** Therefore, **<u>further testing of the strategy is not justified,</u>** because its use in real transactions **is highly questionable.**

Various methods of opening positions, lengths of the Donchian channel, candlestick formations, stop **loss methods and their absence,** as well as **the length of holding the position** were tested - **none of these strategies proved profitable.** If someone **wants to face the rushing market,** which **breaks out to new highs or lows,** they should **recall the results of these tests** and the saying: **"The Trend is Your Friend, Until the End".**

Step 4: Optimization and assessment of investment strategy stability

1. **Stability across a wide range of optimized parameters**

The step was skipped due to **failure of previous tests.**

2. **Monte Carlo simulation**

The step was skipped due to **failure of previous tests.**

3. **Stability over a moving time window**

The step was skipped due to **failure of previous tests.**

4. **Stability long/short**

The step was skipped due to **failure of previous tests.**

5. **Stability in the portfolio of financial instruments**

The step was skipped due to **failure of previous tests.**

6. **Money Management (Position Sizing)**

The step was skipped due to **failure of previous tests.**

7. **Strategy Risk Management**

The step was skipped due to **failure of previous tests.**

Step 5: Walk Forward Analysis

The step was skipped due to **failure of previous tests.**

Step 6: Using the strategy in real time

The step was skipped due to **failure of previous tests.**