

To research breakout-based trading strategies, two separate tools were developed.

**Universal Breakout Study** is a research framework designed for discovering and testing trading hypotheses. It allows traders to quickly optimize parameters, analyze results, and evaluate different implementations of breakout strategies.

**Universal Breakout MT5** is a free trading Expert Advisor intended for live trading. Parameters and configurations identified during the research process can be transferred directly into the trading version.

This guide is dedicated specifically to **Universal Breakout Study** and contains recommended research hypotheses, parameter optimization ranges, and a structured optimization workflow.

It is important to understand that the purpose of this document is not to provide ready-made trading settings. Its goal is to help organize the research process and teach traders how to independently identify robust strategy configurations for different instruments and market conditions.

Download Universal Breakout MT5: <https://www.mql5.com/ru/market/product/93732>

Download Universal Breakout MT4: <https://www.mql5.com/ru/market/product/84400>

Source code Universal Breakout Study: <https://www.mql5.com/en/code/73711>

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## Research Begins with a Hypothesis

Before launching an optimization study, it is important to define the specific market behavior you want to investigate.

Some range configurations are designed to capture a rapid breakout following a period of consolidation, while others assume that the range is built up over a much longer period. For this reason, the recommended approach is to start by selecting one of the baseline hypotheses and only then proceed to parameter optimization.

### Hypothesis #1: Daily Range

The market forms a range over the course of a trading day, followed by a breakout and the development of a directional move.

Parameters	Value
Box start hour	0-23
Box size (candel)	24
Order expiration time (minute)	600-1380

### Hypothesis #2: Fast Breakout

Following a relatively short period of consolidation, the market breaks out of the range and develops momentum over the next several hours.

Parameters	Value
Box start hour	0-23
Box size (candel)	4-48
Order expiration time (minute)	60-180

## Hypothesis #3: Narrow Range

The market forms a compact intraday range, followed by a local breakout.

Parameters	Value
Box start hour	0-23
Box size (candel)	1-4
Order expiration time (minute)	60-300

## Hypothesis #3: Asian Session Range

The market trades within a relatively narrow range during the Asian session, with the primary breakout occurring as the European session opens.

Parameters	Value
Box start hour	0-8
Box size (candel)	4-12
Order expiration time (minute)	120-360

## Hypothesis #5: Two-Day Accumulation

**Idea:** The longer the market consolidates within a range, the stronger the subsequent breakout move is likely to be.

Parameters	Value
Box start hour	0-8
Box size (candel)	4-12
Order expiration time (minute)	120-360

### Recommended Parameter Optimization Ranges

Below are the recommended parameter ranges and optimization steps for Forex currency pairs. These values are based on practical research and are intended to serve as a starting point for identifying viable strategy configurations.

#### Recommended Testing Ranges for the Forex Market

Parameters	Min	Step	Max
Box start hour	0	1	23
Box size (candel)	1	2-4	72
Order expiration time (minute)	60	30-60	1440 (24 hour)
Fixed StopLoss	10	2	100
SL: Coefficient from box	0.1	0.02-0.1	1.2
Fixed TakeProfit	10	2	150
TP: Coefficient from box	0.1	0.02-0.1	2.5
Break-Even distance	10	1	30
Break-Even minimal profit	0	1	10
Trailing distance	10	2	40
Trailing Step	0-5 (Not optimized — set at the researcher's discretion)		
Trailing minimal profit	0	1	10
Check After (minutes)	10	5	900
Minimum Profit to Exit (points)	0	2	30

The ranges and optimization steps presented above are recommendations rather than strict requirements. They are intended to provide structure to the research process and help avoid both overly narrow and unnecessarily broad parameter searches. When appropriate, the ranges can be expanded or refined to reflect the specific characteristics of the hypothesis being tested and the trading instrument under study.

### Recommended Testing Ranges for the Gold Market

Parameters	Min	Step	Max
Box start hour	0	1	23
Box size (candel)	1	2-4	72
Order expiration time (minute)	60	30-60	1440 (24 hour)
Fixed Stop Loss	50	10	2000
SL: Coefficient from box	0.1	0.02-0.1	1.2
Fixed Take Profit	100	20	3000
TP: Coefficient from box	0.1	0.02-0.1	2.5
Break-Even distance	100	10	500
Break-Even minimal profit	0	10	100
Trailing distance	100	10	500
TrailingStep	0-5 (Not optimized — set at the researcher's discretion)		
Trailing minimal profit	0	10	100
Check After (minutes)	10	5	900
Minimum Profit to Exit (points)	0	10	200

## Parameter Research Sequence

Once a research hypothesis has been selected, it is generally not recommended to optimize all parameters simultaneously. Such an approach makes the results much harder to interpret and often increases the risk of overfitting.

A more effective approach is to study the system sequentially, fixing the selected parameters at each stage and moving on to the next group only after the previous one has been completed.

### Recommended research sequence:

Range Formation	Box start hour + Box size + Order expiration time
Stop Loss	StopLoss / SL: Coefficient from box
Take Profit	TakeProfit / TP: Coefficient from box
Break-Even	Break-Even distance + Break-Even minimal profit
Trailing Stop	Trailing distance + Trailing minimal profit
Time-Based Exit	Check After (minutes) + Minimum Profit to Exit (points)
Weekday Filter	Monday, Tuesday, Wednesday, Thursday, Friday

## Optimization Result Selection Criteria

One of the most common mistakes is selecting configurations based solely on profit. In practice, high returns do not necessarily indicate a robust trading system.

When analyzing optimization results, it is recommended to evaluate multiple performance metrics simultaneously:

Metric	Importance
Profit Factor	High
Drawdown	High
Recovery Factor	High
Sharpe Ratio	Medium
Profit	Low

Particular attention should be paid to the robustness of the results. A configuration with lower profit but lower drawdown and a higher Recovery Factor is often far more attractive for further research than a configuration that simply produces the highest return.

It is also important to look beyond the top individual results and examine the overall optimization landscape. If a cluster of neighboring parameter values produces consistently strong performance, the likelihood that the result is due to random curve-fitting is significantly reduced.

## Forward Testing

Once optimization has been completed and promising configurations have been identified, the results should be validated on data that was not used during the parameter selection process.

The primary objective of forward testing is to determine whether the observed edge persists beyond the optimization period.

When evaluating forward-test results, it is important to keep several principles in mind:

- Forward performance rarely exceeds optimization results.
- A moderate deterioration in performance is normal.
- The primary focus should be on the consistency and robustness of the strategy's behavior.
- A single winning or losing streak is not sufficient to draw definitive conclusions.

If the forward test produces results comparable to those obtained during optimization and the strategy's key performance characteristics remain within acceptable limits, the configuration may be considered for further monitoring or live trading.

If the strategy completely loses its effectiveness on unseen data, the configuration should be discarded regardless of how attractive the optimization results appeared.



## Common Mistakes in Strategy Research

Over the course of testing various range breakout strategy configurations, I have repeatedly encountered the same mistakes. Most of them do not cause the Expert Advisor to malfunction, but they can significantly distort the results of the research.

### Optimizing All Parameters at Once

The desire to immediately find the "best" set of parameters usually leads to an enormous number of combinations and makes the results much more difficult to analyze. A far more effective approach is to study parameters sequentially, starting with range formation and gradually moving on to position management and additional filters.

### Chasing Maximum Profit

High profit alone guarantees nothing. In many cases, the most profitable configurations are accompanied by larger drawdowns and prove to be unstable when tested on new data. Priority should be given to robustness rather than absolute profit.

### Ignoring Drawdown

Two strategies may generate similar returns while exposing the trader to very different levels of risk. For this reason, profit should always be evaluated alongside drawdown, Recovery Factor, and Sharpe Ratio.

### Incorrect GMT Configuration

GMT is not a strategy parameter, but an incorrect GMT setting can completely alter the outcome of the research.

Before testing begins, it is essential to ensure that the broker's server time is correctly aligned with UTC. This is particularly important when transferring settings between different brokers.

### Using Too Little Historical Data

A small number of trades can lead to random conclusions and misleading patterns. For most studies, it is advisable to use a testing period that generates at least 300 trades.

### Using Too Much Historical Data

The opposite mistake is attempting to optimize a strategy using the longest possible history. In this case, the results begin to average across multiple market regimes, and the selected parameters may become poorly adapted to current market conditions.

### **Skipping Forward Testing**

Even the most impressive optimization results do not guarantee that a strategy will perform well on unseen data.

Any promising configuration should be validated on a forward-testing period before further consideration.

### **Selecting Similar Range Configurations**

If the optimization produces strong results for ranges of 44, 48, and 52 bars, these configurations often represent essentially the same trading idea.

For further research, it is usually more productive to select several fundamentally different range structures rather than dozens of nearly identical variations.