

Exhaustion Reversal

The Exhaustion Reversal strategy is designed to detect trend exhaustion points and potential reversals by analysing both price momentum behaviour and trend efficiency over time. The system attempts to enter positions when evidence of a reversal from overextended conditions aligns with a recovering or weakening underlying structure.

Core components and signals

1. Trend momentum indicator

This component evaluates the velocity of change in risk-adjusted returns. Rather than simply measuring volatility or return, it observes how quickly the overall quality of price movement is accelerating or decelerating.

- Strong positive velocity suggests sharp recoveries or the early phase of trend continuation.
- Strong negative velocity indicates capitulation or panic-driven declines.

The rate of change in this momentum (i.e., “velocity”) is used to detect market inflection points. This allows the system to capture dynamic shifts in market behaviour, not just static overbought or oversold states.

2. Trend efficiency indicator

This indicator assesses the directness and quality of price movement over a defined window. It measures how efficiently price moves from point A to B relative to the total movement noise (i.e., all up and down swings in between).

- High values signal strong directional intent with minimal choppiness, common in mature, extended trends.
- Low values suggest inefficient or erratic movement — usually associated with trend weakening, uncertainty, or reversals.

By combining trend strength and trend cleanliness, the strategy gauges whether current price behavior supports continuation or exhaustion.

Signal logic and regime detection

The system is built around regime-specific logic, triggering only when confluences of exhaustion and reversal signals appear:

Buy Setup (Exhausted Downtrends)

- The Trend Efficiency indicator must have recently dipped into an extreme negative regime (reflecting panic or selling climax).
- It must now show signs of recovery, e.g., improving efficiency and sustained directional improvement.
- The Trend Momentum indicator must also be rebounding, indicating a potential reversal in sentiment.
- Thresholds classify whether the market is still in a low-quality, high-risk regime or transitioning upward.

Sell Setup (Exhausted Uptrends)

- Mirrors the buy setup, but in reverse: the market must have recently experienced a sharp and clean rally, possibly indicative of a blow-off top.
- Conditions must show waning momentum and efficiency, setting up the potential for a reversal downward.

These entry signals are filtered to avoid noise, activating only when multiple components align over short recent windows

Trade management and exit

Once a trade is initiated, the strategy employs adaptive trailing stops based on the highest high (for long trades) or lowest low (for short trades) observed since entry:

- Trailing stops are set relative to price highs/lows , dynamically adjusting as the trade progresses.
- Additionally, exit triggers are included based on trend weakening, even if the stop isn't hit. For example, a long trade may exit early if trend efficiency begins to deteriorate sharply.

This dual-layered exit logic helps the strategy lock in profits during fast moves while avoiding unnecessary drawdowns during reversals.

Summary

Exhaustion Reversal is a multi-factor reversal detection system. It combines a velocity-based trend momentum engine with a trend efficiency filter to identify overextended market conditions, confirm early signs of reversal.

It is not designed to chase trends, but rather to position against them at moments of elevated stress, when the odds of reversal are materially improving.