

ABSTRACT

Al Faiz, NIM 7213550024 “Development of an Automated Trading System with Fixed Ratio Money Management Based on Parabolic SAR and CCI Indicators in Brent Oil Trading (XBRUSD)”

This study aims to develop an automated trading system (Expert Advisor) for Brent Oil (XBRUSD) commodities to overcome the challenges of market volatility and trader emotional factors. This system integrates the Parabolic SAR indicator as a trend determinant and the Commodity Channel Index (CCI) as momentum confirmation, and applies the Fixed Ratio Money Management method for dynamic capital management based on profit performance. Using the Waterfall model Research and Development (R&D) method on the MetaTrader 5 platform, the system's performance was tested through backtesting (2021-2024) and real-time testing (August-September 2025) on the H1 and H4 timeframes. Backtesting results show that the H4 timeframe is statistically superior with a net profit of USD 3,921.73 and a Profit Factor of 2.04. However, in real-time testing, the H1 timeframe proved to be much more stable and profitable with a profit of USD 123.88 and a very low drawdown (0.06%), while H4 recorded a minor loss. In conclusion, the integration of the Parabolic SAR and CCI indicators effectively generates trading signals, but its performance is highly sensitive to timeframe selection and current market conditions. The Fixed Ratio Money Management method has proven effective in limiting risk. For short-term real-time application, the system on the H1 timeframe is more recommended.

Keywords: Automated Trading System, Expert Advisor, Fixed Ratio Money Management, Parabolic SAR, CCI, Brent Oil (XBRUSD), MetaTrader 5

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ABSTRAK

Al Faiz, NIM 7213550024 “Pengembangan Sistem Trading Otomatis Dengan Fixed Ratio Money Management Berbasis Indikator Parabolic Sar Dan Cci Pada Trading Brent Oil (XBRUSD)”

Penelitian ini bertujuan mengembangkan sistem *trading* otomatis (*Expert Advisor*) untuk komoditas Brent Oil (XBRUSD) guna mengatasi tantangan volatilitas pasar dan faktor emosional *trader*. Sistem ini mengintegrasikan indikator *Parabolic SAR* sebagai penentu tren dan *Commodity Channel Index* (CCI) sebagai konfirmasi momentum, serta menerapkan metode *Fixed Ratio Money Management* untuk pengelolaan modal yang dinamis berdasarkan kinerja profit. Menggunakan metode *Research and Development* (R&D) model *Waterfall* pada platform MetaTrader 5, kinerja sistem diuji melalui *backtesting* (2021-2024) dan *real-time testing* (Agustus-September 2025) pada *timeframe* H1 dan H4. Hasil *backtesting* menunjukkan *timeframe* H4 lebih unggul secara statistik dengan profit bersih USD 3.921,73 dan *Profit Factor* 2,04. Namun, pada pengujian *real-time*, *timeframe* H1 terbukti jauh lebih stabil dan profitabel dengan keuntungan USD 123,88 dan *drawdown* sangat rendah (0,06%), sedangkan H4 mencatat kerugian minor. Kesimpulannya, integrasi indikator *Parabolic SAR* dan CCI efektif menghasilkan sinyal *trading*, namun performanya sangat sensitif terhadap pemilihan *timeframe* dan kondisi pasar terkini. Metode *Fixed Ratio Money Management* terbukti berhasil membatasi risiko secara efektif. Untuk penerapan *real-time* jangka pendek, sistem pada *timeframe* H1 lebih direkomendasikan.

Kata Kunci: *Sistem Trading Otomatis, Expert Advisor, Fixed Ratio Money Management, Parabolic SAR, CCI, Brent Oil (XBRUSD), MetaTrader 5*

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