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Building a profitable trend trading system
A Technical analysis guide

Pedro Henrique Andrade Canteiro

Master in Finance

Supervisor:

PhD, José Carlos Dias, Full Professor, ISCTE-IUL

April, 2025

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Sumário

O trading de tendências baseado em análise técnica pode ser descrito como um sistema que tenta capturar o momentum do ativo subjacente, seja de apreciação ou depreciação. Este sistema utiliza análise baseada em dados históricos, dos quais são feitos cálculos estatísticos para determinar padrões e prever o preço do ativo, geralmente na forma de indicadores. Para construir com sucesso um sistema desse tipo, é necessário realizar testes rigorosos para otimizar e ajustar os indicadores usados. Este trabalho irá mostrar como criar um sistema de trading de tendências passo a passo, introduzindo cada função dos indicadores, a gestão de risco utilizada, assim como testar e otimizar o sistema. Além disso, serão apresentados os dados de trading do sistema junto com as métricas de rentabilidade, mostrando que este método pode ser útil em várias situações, como hedging de uma carteira ou uma maneira simples de aumentar nossos retornos de forma moderadamente arriscada.

Palavras-Chave: Trading, Análise Técnica, Gestão de Risco, Metatrader, MQL.
Classificação JEL: G19, G23.

Abstract

Trend trading based on technical analysis can be described as a system that attempts to capture the underlying asset's momentum, be it in appreciation or depreciation. Such a system utilizes analysis based on historical data, from which statistical calculations are used in order to determine patterns and predict the price of the asset, usually in the form of indicators. In order to successfully construct such a system, rigorous back-testing is needed in order to optimize and fine tune the amalgam of indicators used. Such a method is advantageous due to its entry signals being very clear, leaving no space for abstract interpretation. Due to such properties, it is also easily automated. This piece of work will show how to create a trend trading system step by step, introducing each individual function of its indicators, the risk management utilized as well as how to back-test and optimize it. Moreover, the system's trading data will be provided alongside its profitability metrics showing this method can be useful in various situations, such as hedging a portfolio or a simple way to increase our returns in a moderately risky manner.

Keywords: Trading, Technical analysis, Risk Management, Metatrader, MQL.
JEL Classification: G19, G23.

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List of Abbreviations

- **AUD -** Australian Dollar
- **CAD –** Canadian Dollar
- **CHF –** Swiss Franc
- **GBP –** Great British Pound
- **EUR –** Euro
- **JPY –** Japanese Yen
- **NZD –** New Zealand Dollar
- **SGD –** Singapore Dollar
- **USD –** United States Dollar

- **CFDs –** Contracts for Difference
- CPI – Consumer Price Index
- **FOREX –** Foreign Currency Exchange Market
- **MT5 –** MetaTrader 5 Trading Platform
- **MQL5 –** Meta Quotes Language 5
- **ROE –** Return on Equity
- **SL –** Stop-Loss
- **SPX/SP500 –** Standard & Poor's U.S. top 500 Stocks Index
- **TP –** Take-Profit
- **VIX –** Volatility Index

Introduction

Trading has been around for nearly as long as investing, becoming prevalent with the advent of financial instruments. The basic concept of trading is buying and selling an asset, or its derivative, in the hopes of making a profit originating from the changes in its price movements. This constant act of buying and selling means that, by its nature, trading is done on very short-term prospects in its majority. Because price changes are usually very small, trading is also usually done with leverage, in order to achieve meaningful gains or losses.

There are many uses for trading, such as it simply being one of the many means to procure profits in an aggressive manner, to it simply being one of the many ways an institution can hedge its risk, or an easy way to participate in a market that is not so easy to directly invest in. Such as there are many uses for trading, there are many more ways of doing it, ranging from automated algorithms optimized through quant data, to reversal trading, to Fibonacci lines and many, many more methodologies.

The purpose of this work will be to create a relatively simple method of trend trading focused on technical analysis and therefore indicators, utilizing conservative position sizing and risk management. Since it'll be only using technical indicators, it can be easily back-tested and optimized in order to hopefully achieve the desirable results. It will also be easily automated since indicators in their essence are nothing more than statistical equations.

A lot of the concepts for this system were used by famous Wall Street traders back in the 70s and modern trader alike, such as Richard Dennis (Covel, 2007) and Patrick Victor (Victor, 2020), being easily able to be built upon and modified in order to adapt to new markets, timeframes and user personalities.

By the end the reader should have a good understanding of the technical analysis trend trading methodology as well as a starting algorithm capable of achieving the user's basic trading needs.

Methodology Basic Concepts

The trading method we will observe is built on 5 to 7 indicators, each serving a very specific function. The number of indicators varies due to the fact that some functions can be shared by a single indicator, which will become observable as we proceed.

The specific algorithm we will build as an example will use 6 indicators. One of the main objectives of this system is to leave no room for interpretation, giving the user definitive visual entry signals, that alongside the risk management used, will have strict easy to follow steps in order to set a trading position, thus enabling the system to be easily automated and at the same time limiting the psychological effects on the human side that more often than not is the root cause of unprofitability (Victor, 2024) in a trading method due to the fact that the user does not follow specific and systematic rules when setting up trades. This system trades will be based on a methodology know as trend trading as described by Covel's book (Covel, 2005).

The Forex Market

Trend trading can theoretically be applied to every market in existence, from commodities to currencies, to stocks and everything in between, so long as such market trends. For the purposes of this work, we will be focusing on the Foreign Exchange market i.e. FOREX, for multiple reasons.

The first and main reason for utilizing FOREX is the fact that it is the most available market to trade, being offered by nearly all brokers in existence and definitely all that offer the Metatrader platforms, being usually offered as a derivative in the form of CFDs for the E.U. traders.

The second reason we will be focusing on FOREX is the fact that it is the most liquid market (BabyPips, n.d.), with about 2 trillion dollars of trading volume on the spot market daily. Most of that volume is on the 28 pairs of the major world currencies, which is what the back-testing will be using and are denoted as: EUR, USD, JPY, GBP, CHF, CAD, AUD and NZD. Some of the trades will also be with the SGD currency. There are many more currencies, but they are much more volatile and harder to keep up with the relevant news that affects them, therefore they won't be used here. The reason liquidity in a market is desired for trend trading is the fact that the more it is being traded, the more likely it is to find trends that can be exploited.

Trading Platform

There are multiple trading platforms, ranging from independent to in-house platforms created by the brokers. Some of the more widely used independent trading platforms are TradingView, CTrader and DxTrade, however, the oldest, most popular and widely available provided by nearly every broker is the Metatrader platform, be it in the form of MetaTrader 4 or MetaTrader 5, which this work will be using. The reason we will be using MetaTrader is due to the fact that it has the most available custom technical analysis indicators, alongside its widespread availability and finally the fact that its language, the MQL is a version of the C++ Syntax adapted for trading, making it easy to automate our system's entries. Metatrader 5 and its language MQL5, is a more updated version of MQL4, particularly in the use of arrays as well as more easily being able to trade other markets besides the foreign exchange market.

The Daily Timeframe

There are a lot of different timeframes a trader can use for different purposes, where most brokers offer the one, five, fifteen and thirty minutes timeframes, as well as the one and four hours timeframes and finally the daily, the weekly and the monthly timeframes. A timeframe is nothing more than setting how much time a candle corresponds to.

This system, however, will only make use of the daily timeframe, the reason being, the shorter the timeframe the more volatile and unpredictable it is, with a lot of big reversals in the price along the way, as well as being much more sensitive to small news events that are usually irrelevant on the higher timeframes. Anything above the daily timeframe is a lot slower and starts to enter the investment analysis field instead of trading. The user can play around with other timeframes, as this methodology should be somewhat profitable nonetheless, however they should start with the daily timeframe, as it is the smoothest for trend trading as well as being the main one this system was developed for.

Figure 1. The 1 – minute chart.

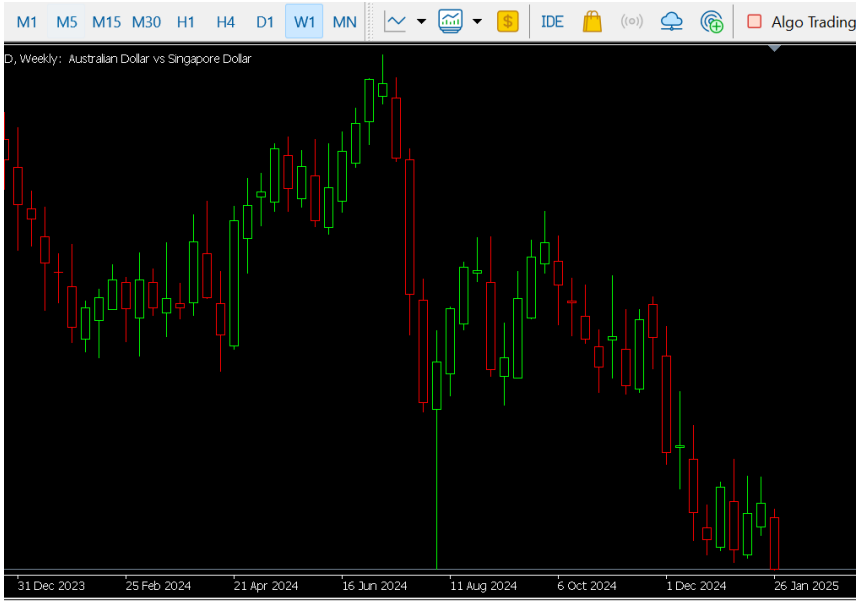


Figure 2. The weekly chart.

Difference of the AUD/SGD pair chart with the 1-minute timeframe and weekly. Notice at the bottom of the first image it shows the same day with the time ranging from 17:12 to 18:08 while the second image shows only different dates.

Risk Management Indicator, the ATR

The only constant indicator that will be used in every user's system following this methodology will be the Average True Range, i.e. the ATR. This tool has been used since the 70's by famous Wall Street traders such as Richard Dennis (Covel, 2007) to estimate the average volatility of the market in order to calculate the risk of the trading positions.

The math behind this indicator is relatively simple:

$$\left(\frac{1}{n}\right)\sum_{i}^{n}\mathrm{TR}_i$$

where:

TR_i = Particular true range, such as first day's TR, then second, then third

n = Number of periods

$$\mathrm{TR} = \mathrm{Max}\left[(\mathrm{H}-\mathrm{L}), |\mathrm{H}-\mathrm{C}_p|, |\mathrm{L}-\mathrm{C}_p|\right]$$

where:

H = Today's high

L = Today's low

C_p = Yesterday's closing price

Max = Highest value of the three terms

so that:

$(\mathrm{H}-\mathrm{L})$ = Today's high minus the low

$|\mathrm{H}-\mathrm{C}_p|$ = Absolute value of today's high minus yesterday's closing price

$|\mathrm{L}-\mathrm{C}_p|$ = Absolute value of today's low minus yesterday's closing price

Figure 3. The ATR Formula. Source: (Hayes, n.d.)

The standard period for calculations is 14 periods, however, since this methodology will utilize the daily timeframe, as in each candle and therefore period corresponds to a full day, 14 periods would be 2 weeks, but since in the FOREX market is only open during the weekdays, this value will be changed to 10. The value the ATR gives us will be used to define our Take-Profits and Stop-Losses, as well as to calculate our position sizing, which will be further explained down the line.

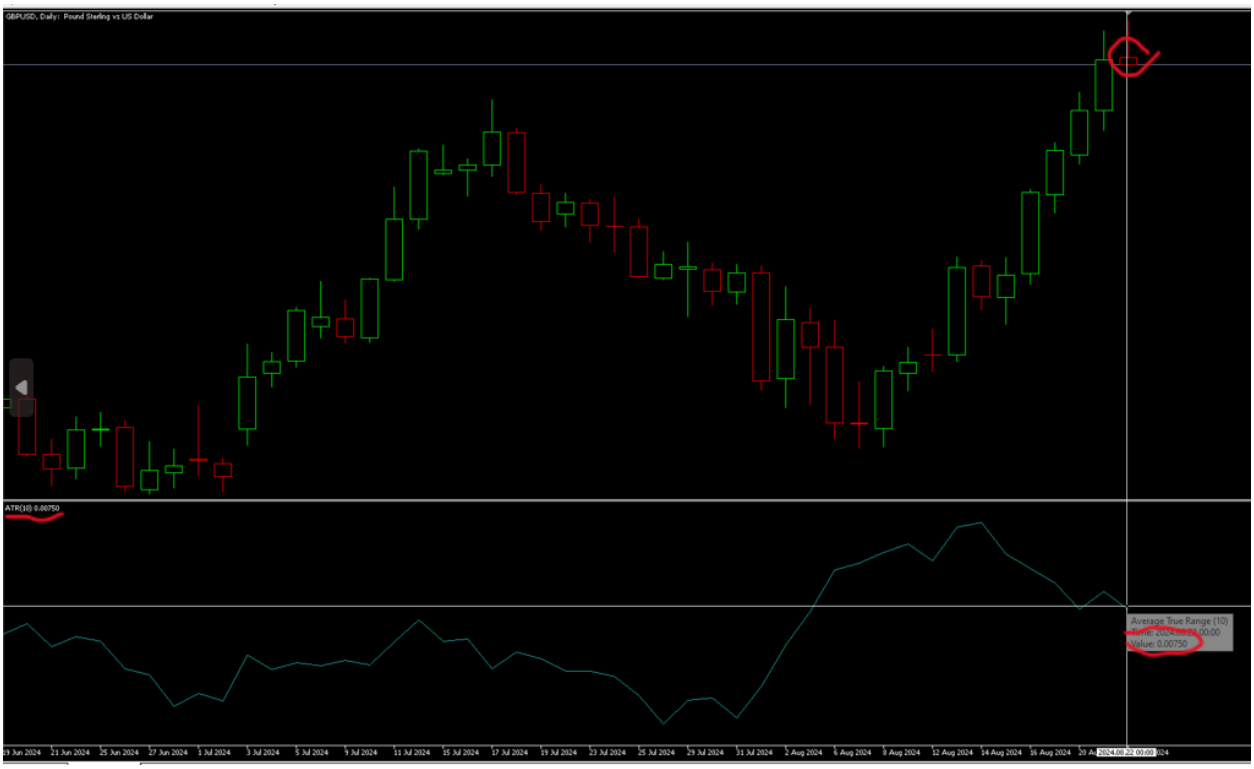
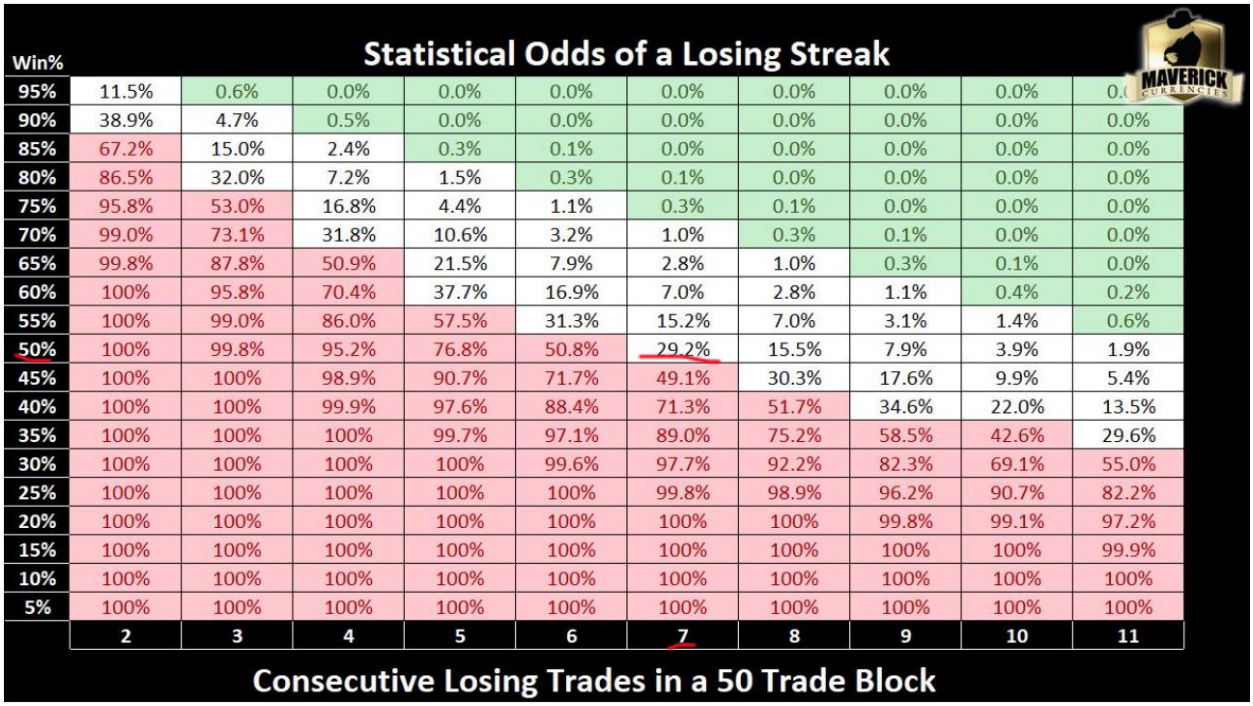


Figure 4. ATR example. In this image the ATR indicator and its value can be observed on the latest candle, it being 75 pips.

Risk management and Position Sizing

Arguably the most complex part of this methodology, risk management is also the most critical in order to be profitable consistently. First and foremost, the amount percentage of risk based on the account balance should be chosen for position opening, as a function of the user's tolerance to drawdown, i.e. how much someone is willing to go negative, as well as a function of probability of losing streaks.

For example, the most used risk percentage is 2%, meaning for a user to go negative 10% they can lose up to 5 times in a row hitting the Stop-Loss. Since Trading is high-risk and a lot of firms employing traders only accept a starting balance drawdown of 6% on average, 0.8% will be used moving forward, allowing the system to hit the SL 7 times with some room for another small loss. This decision was based on the data collected by one of the firms on the statistical odds of losing streaks:



Statistical Odds of a Losing Streak

Win%	2	3	4	5	6	7	8	9	10	11
95%	11.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
90%	38.9%	4.7%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
85%	67.2%	15.0%	2.4%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
80%	86.5%	32.0%	7.2%	1.5%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%
75%	95.8%	53.0%	16.8%	4.4%	1.1%	0.3%	0.1%	0.0%	0.0%	0.0%
70%	99.0%	73.1%	31.8%	10.6%	3.2%	1.0%	0.3%	0.1%	0.0%	0.0%
65%	99.8%	87.8%	50.9%	21.5%	7.9%	2.8%	1.0%	0.3%	0.1%	0.0%
60%	100%	95.8%	70.4%	37.7%	16.9%	7.0%	2.8%	1.1%	0.4%	0.2%
55%	100%	99.0%	86.0%	57.5%	31.3%	15.2%	7.0%	3.1%	1.4%	0.6%
50%	100%	99.8%	95.2%	76.8%	50.8%	29.2%	15.5%	7.9%	3.9%	1.9%
45%	100%	100%	98.9%	90.7%	71.7%	49.1%	30.3%	17.6%	9.9%	5.4%
40%	100%	100%	99.9%	97.6%	88.4%	71.3%	51.7%	34.6%	22.0%	13.5%
35%	100%	100%	100%	99.7%	97.1%	89.0%	75.2%	58.5%	42.6%	29.6%
30%	100%	100%	100%	100%	99.6%	97.7%	92.2%	82.3%	69.1%	55.0%
25%	100%	100%	100%	100%	100%	99.8%	98.9%	96.2%	90.7%	82.2%
20%	100%	100%	100%	100%	100%	100%	100%	99.8%	99.1%	97.2%
15%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99.9%
10%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Consecutive Losing Trades in a 50 Trade Block

Figure 5. Losing Streak Odds. Source: (Maverick Currencies, n.d.)

Where in a system with a 50% win-rate, the odds of losing 7 times in a row within 50 trades is 29.2%, including the ones that don't hit the Stop-Loss but are closed on the negative.

Now that the percentage risk has been defined, the focus will be turned to utilizing the ATR to calculate the position size in function to the percentage risk, alongside the Take-Profit and Stop-Loss. However, the concept of pips must be first understood.

Pips, Lot Sizes and Stop-Losses

A pip is the standard unit to measure the change of the value off a currency against another. It is the fourth decimal value of the currency pair, except for the Japanese Yen pairs, for which it is the second value. Let's take on the theoretical that the EUR/USD is currently trading at 1.3000, which means that a euro buys a dollar and thirty cents. If it now trades at 1.3001, this means that the pair has moved 1 pip upwards, meaning that the euro is 0.01 cents more valuable.

In finance the logic is usually applied to the base currency, so the academically correct way to view this example is that 1.3000 USD buys 1 EUR and when the rate moves to 1.3001, the dollar has lost value. Not only that, but the quote would also be in the function of USD/EUR and therefore 1.3000 would be inversed and instead be quoted at 0.7692. There are multiple reasons for the divergence between the academic finance versus the trading and banking conventions. As explained by Sercu, (2009), one of them is for historical reasons.

Before the world war 2, the world reserve currency was the sterling pound, i.e. the GDP, hence the academic convention being USD/GBP for example. However after the second world war, the USD became the world's reserve currency, shortly after the dawn of digital trading came. Due to that fact, among other reasons like USD having the lowest spread, professional traders and professionals of similar natures found it easier to use the convention such as EUR/USD or USD/GBP. There is still one main factor why the academic finance way of quoting the exchange prices hasn't switched to suit the conventions of the professional traders. And it has to do with math. Since it is not the focus of this work, the formulas will be directly taken from (Sercu, 2009, p. 116) in the figure bellow should the reader wish to understand more.

3.6 TekNotes

Technical Note 3.1 What's wrong with the FC/HC convention, in a textbook?

In the text just below Example 3.2 we claimed that using the FC/HC convention would mean all the familiar formulas from Finance would have to be abandoned. Here's this message in math. Let r^* denote the risk-free interest rate earned on FC, and $\tilde{S}_1$ the (random) future value, in HC of one unit of FC. If you buy one unit of FC, you'll have $1 + r^*$ of them next period, worth $\tilde{S}_1(1 + r^*)$ in HC. Standard finance theory then says that the current price, S_0, should be the future value discounted at a rate $\mathrm{E}(\tilde{r}_S)$ that takes into account this risk of $\tilde{S}_1$:

$$S_0 = \frac{\mathrm{E}(\tilde{S}_1)(1 + r^*)}{1 + \mathrm{E}(\tilde{r}_S)}. \tag{3.19}$$

This looks quite normal and well behaved. Now look at what would happen if we had used the inverse rate, $X := S^{-1}$, and if we wanted a theory about how X_0 is set. First substitute $X = S^{-1}$ into the equation and then solve for X_0:

$$1/X_0 = \frac{\mathrm{E}(1/\tilde{X}_1)(1 + r^*)}{1 + \mathrm{E}(\tilde{r}_S)} \Rightarrow X_0 = \frac{1 + \mathrm{E}(\tilde{r}_S)}{\mathrm{E}(1/\tilde{X}_1)(1 + r^*)}.$$

All connection with finance is gone. The discount rate is on top (?!), and the expectation is below, and the expectation is about the inverse of X. Clearly, this makes no sense in a finance textbook.

Figure 6. Reason for academic finance convention. Source: (Sercu, 2009).

The Lot size is the number of units of the base currency that is being bought/sold. One Lot corresponds to 100 000 units of the currency. Unless the account being traded in this system has more than 100 000 in deposits, the positions being opened will almost always be a fraction of a Lot.

Now that the concept of a pip is known, the Stop-Loss and Take-Profit as a function to the ATR can be explained. As mentioned before, the value of ATR will give the user the amount of pip to set their SL and TP, where the last value is a fraction of a pip. This system will utilize the following multipliers for setting the risk management:

- Stop-Loss: 1.5x the ATR
- Take-Profit 1x the ATR

Whereas the ATR had a value of 0.00752 it would be (1.5 x 75.2) for the SL which would equal to a distance of 112.8 pips, the TP being 75.2 pips of distance. The reason for the SL having a higher multiplier is due to the ATR giving an estimate of the average volatility of the past candles, therefore it is reasonable to give some more distance than the average volatility, giving the price "enough space to move against the trade and recover in its favor". These multipliers are not set in

stone and should be tested and optimized by the user, as every system is different. Note that in the Advanced Risk Management section the reasoning for the Take-Profit will be explained alongside more complex topics such as a Trailing Spot.

Hence, the position size and the pip value are calculated using the following:

Let's assume that the account being traded has a deposit of 10 000€ and the maximum amount of the percentage that is willing to be at risk per trade is 2%. The pair being traded is a buy position on the EUR/USD which is currently trading at ask of 1.5000 and the ATR value is at 67 pips, meaning that the SL will be 100 pips if rounded. The formula to calculate the pip value will then be:

(account deposit x risk x exchange rate value) / SL = (10 000 x 2% x 1.5000) / 100 = 3€ per pip.

Finally, for most pairs of exchange, because they have 4 decimals, it is then known that 10 000 units (100 for JPY) of the base currency are needed for a pip to be worth 1 of such currency, which is 1USD in this example. Therefore, our pip value is now multiplied by 10 000 (100 for JPY pairs) and then divided by 100 000 because a standard Lot is 100 000 units, which results in 0.3 Lots. Note that we can simply do 1/10, but it was important to explain those redundant math operation in order to explain its logic behind it.

Hence the complete formula will be:

[(10 000 x 2% x 1.5000)/100] x (10 000/ 100 000)

And the generic: **[(account deposit x risk x exchange rate value) / SL] x (1/10) or (1/1 000) for JPY pairs.**

This formula applies only if the pair being traded is one of our account currencies, if it is GBP/NZD or CHF/JPY however, there will be extra steps.

To calculate the position size for GBP/NZD we would use the same exact formula, however instead of the ask rate for GBP/NZD, we plug in the ask rate for EUR/NZD, the GBP/NZD ask being completely ignored.

So if GBP/NZD had a ask of 1.7 and EUR/NZD a value of 1.7, the calculation would be the following:

(10 000 x 2% x 1.5)/100 x (1/10) = 0.3 Lots.

If our account was in Dollars instead of Euros, our situation would change slightly.

Instead of using the Ask price of EUR/NZD, we would use NZD/USD. This is because when trading pairs different from our currency, we need to use the exchange rate that has our currency alongside one of the others in the pair we are trading. There is also another variation to take into consideration. Notice that in our first example the EUR is the Base currency (first), while the USD is the denominator currency (second). When using Ask rates for pairs with our currency as the base, we can simply plug it in our equation like the prior example, however if it is the denominator, we need to invert it as demonstrated below.

Considering the NZD/USD rate is 1.7:

[10 000 x 2% x (1/1.7)]/100 x (1/10) = 0.1176 Lots.

Finaly, let's look at a JPY pair, such as CHF/JPY, where the SL remains the same and the account is in EUR.

First, since the pair does not have our currency, we have to find a pair that does alongside its rate, for this example it will be the EUR/JPY with the ask rate of 150.

Now we plug it in the formula, keeping in mind that a JPY pair is being dealt with:

(10 000 x 2% x 1.5)/100 x (1/1 000) = 0.3 Lots.

Entry Indicator

The Entry Indicator will be, as the name suggests, the main indicator of the system that signals the entry of a position and, therefore, will be the first indicator to search for and test. Its visual type can range from oscillators to histograms to line crossovers and others, but the main defining function behind the indicator's statistical calculations will be to predict an incoming trend in an asset's price movement.

Figure 7. Three common indicators: The moving average crossover, the MACD and the William's Percentage Range.

Confirmation Indicator

The Confirmation Indicator is just a second Entry indicator, usually moving faster as in more sensitive to price changes, with the purpose of giving the system a second trend confirmation and therefore filtering false positives of the main Entry Indicator. When testing a pool of indicators to select the Entry Indicator, it's good practice to save the indicators not selected, as more often than not they can make a good starting Confirmation Indicator.

Figure 8. Example of Confirmation Indicator (Waddah Attar Explosion) filtering a false positive and confirming a trend.

Volatility Indicator and the Volatility Index

The Volatility Indicator's purpose is to measure the market's price volatility and consolidation periods in order to assess the viability of a trend. Arguably the biggest vulnerability of a trend trading system is the consolidation periods in a market, where it is effectively moving sideways, i.e. in a range and neither moving up or down.

This in turn creates a lot of false signals that turn into small consecutive losses, eliminating any positive returns the system had achieved previously over time. Unless of course, such a system incorporates a robust volatility indicator to keep it out of consolidation periods. The main challenge

of incorporating this type of indicator effectively is for it to not filter out too many trends, as because of the nature of measuring volatility there is often a lag effect, where it misses the first big price moves that actually start a trend, that the other indicators usually capture.

More often than not, the trader will miss the first segment of a major trend after long periods of consolidation, but so long as the majority of such trends are still captured, it should not be a problem and the trader should not be dragged into optimizing their system into capturing all the first moves, or they run into the risk of curve-fitting their algorithm to the point where it can no longer adapt to changing market conditions.

Such a system can also incorporate the volatility indicator alongside the famous VIX, the major Volatility Index used world-wide by traders and investors of all types of methodologies, not just trend trading. The way to use the VIX will vary in this methodology, depending on the results of the back-tests, but it can range from not using it at all, to not opening any trades if the VIX is below a certain value, or simply trading at half risk until it is above that value.

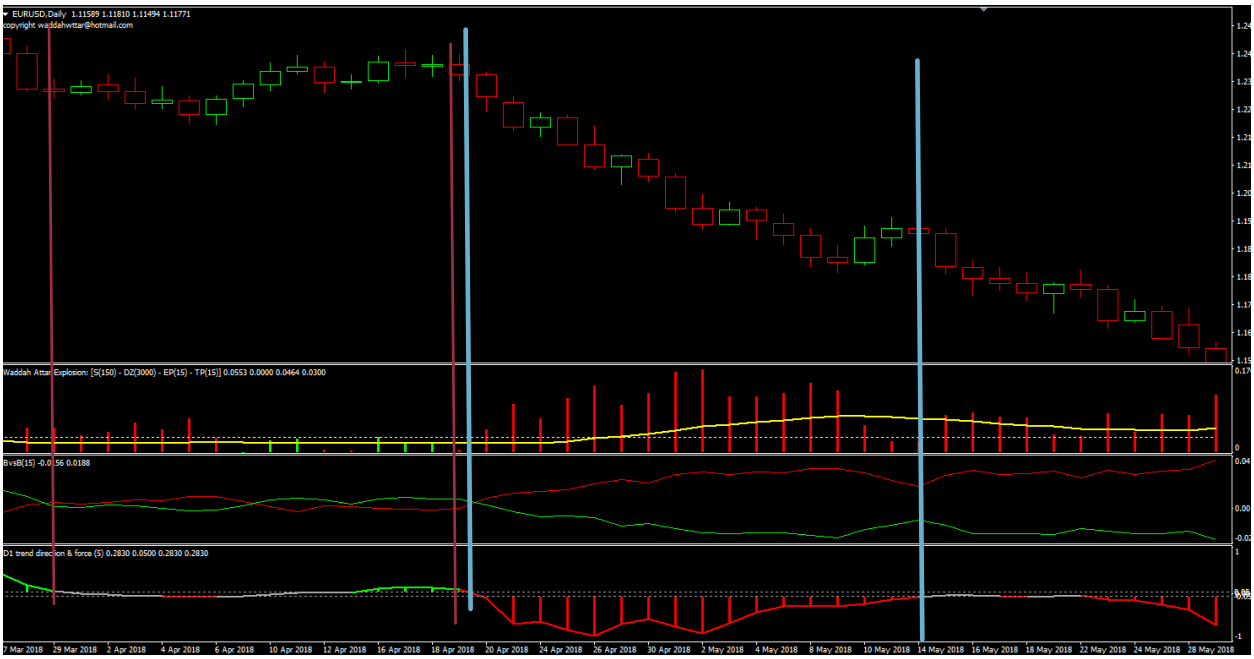


Figure 9. Example of Volatility Indicator (Trend Direction & Force) filtering consolidation and signaling a trend.

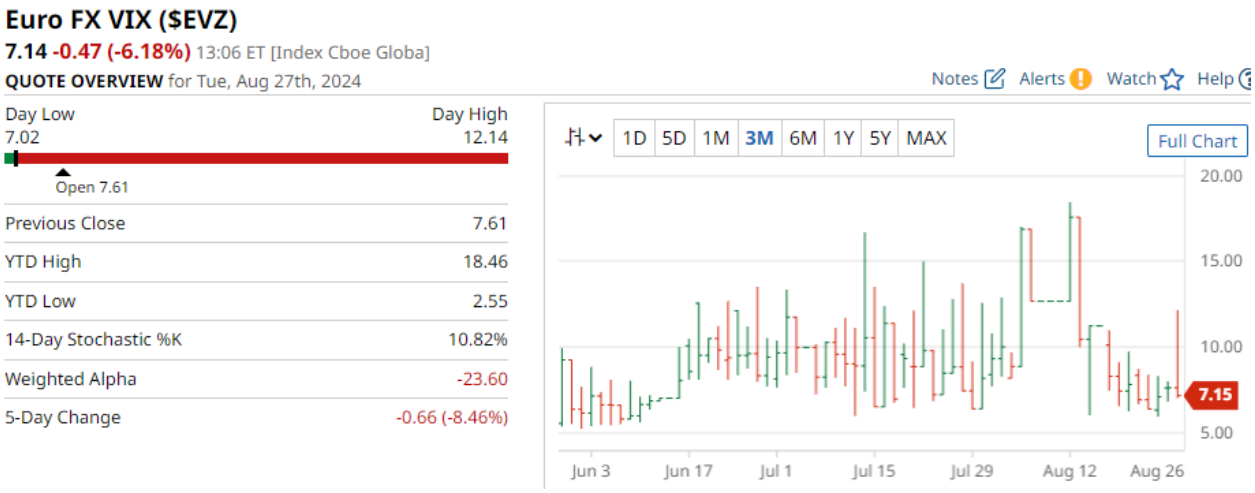


Figure 10. The Euro VIX, also known as $EVZ. Source: (Barchart, n.d.)

Baseline Indicator

The final filter of the system, the Baseline indicator, will have a few more nuances than just defining the bias of a trend. This indicator will usually be a variant of a moving average indicator and will always be directly on the chart amidst the candles. Its first aspect when defining a Long or Short position will be whenever then candle crosses it, meaning when the candle crosses the baseline upwards, it's a Long signal and vice-versa.

It will also function as an Exit indicator by following the same logic, meaning that if there's already a Long position on the chart, if the candle crosses the baseline downwards signaling a Short position, the Long position will then be closed.

Finally, when all the indicators are signaling a position, the distance from the current candle close to the baseline should be measured and, if the distance is below 1.5x the ATR in pips, the position can be opened, otherwise it should be ignored as the price has already moved too much in the trend's direction and the chance for it to hit the take-profit before the price moves in the opposite direction is too low (note that depending on the systems, the ATR distance can vary, it should be tested by the user to find the optimal distance).

Figure 11. Baseline Example

As noted by Zhu & Zhou, the use of moving averages in technical analysis tends to outperform other strategies such as one based solely on assumptions from fundamental analysis, hence this system using baselines based on moving averages to define trend bias, among other things. (Zhu & Zhou, 2009).

Exit Indicator

Depending on the system built, the Exit Indicator can be a stand-alone dedicated indicator in order to find the best possible exit of a trend or can simply be the Baseline and/or one of the Entry Indicators. Usually, a very sensitive fast system will have no need for a dedicated Indicator to find the best exits, since any minor price move against the trend will usually be signaled by one of its components.

This indicator is usually used in slower systems like the one that will be used as an example by this project. Since the only purpose of this indicator is to find the best time to exit a trend (maximizing the pips gained), it will be very dependent on the characteristics of each system, therefore it can be theoretically any type of indicator, be it oscillators, moving averages and anything in between.

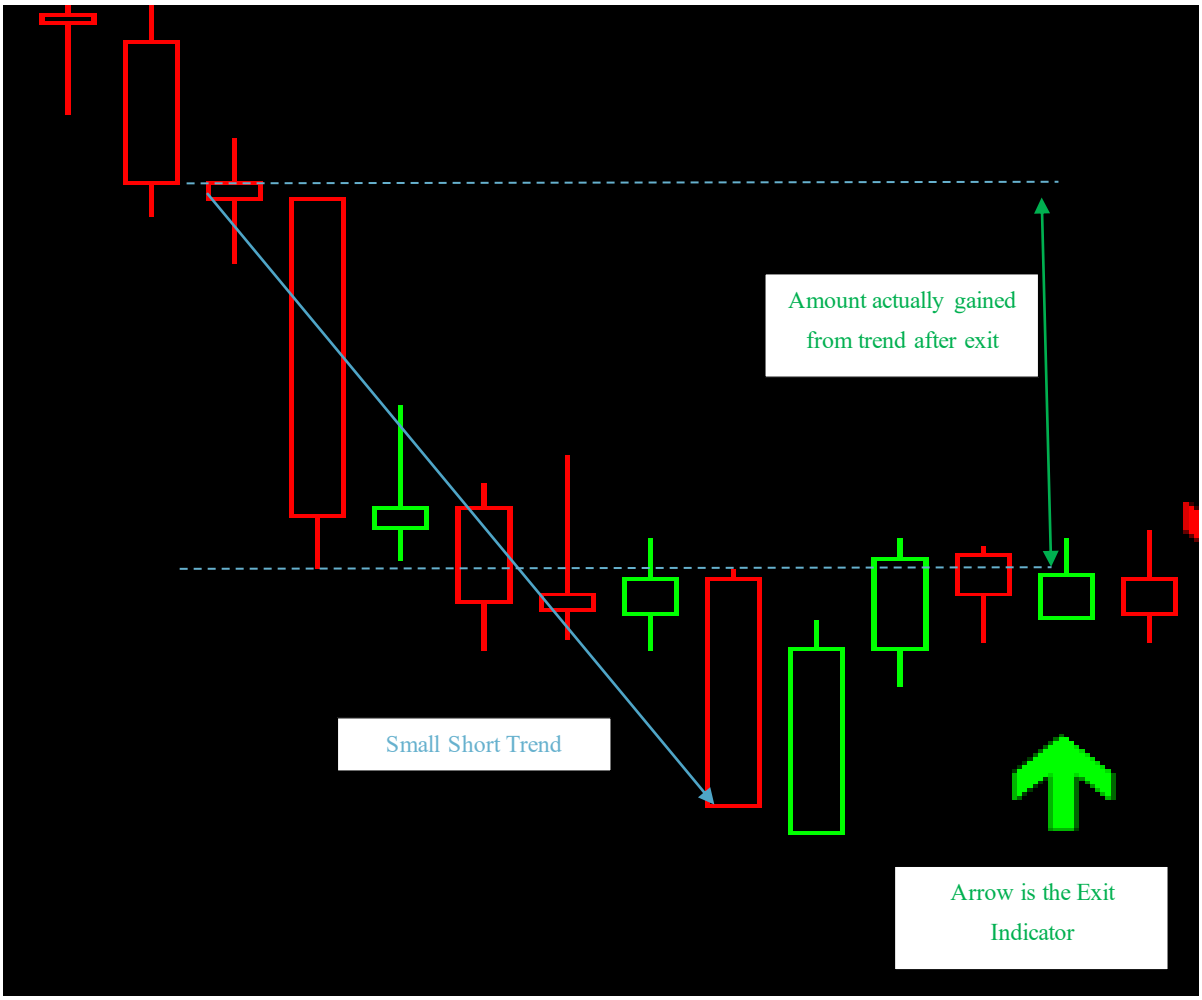


Figure 12. Exit Indicator – MTP LTD example (Exiting a Short Position)

Continuation Indicator

Similarly to the Exit Indicator, the Continuation Indicator can also be a dedicated stand-alone indicator or one of the previous indicators (in this project it will be the Exit Indicator Shown previously) where its function is to let the system re-enter a trend under certain conditions without having to wait for all the indicators to reset and re-signal the same direction.

The conditions will also vary depending on the user's system and should be tested and optimized accordingly. Fast systems will usually have no need for much nuance, since it will already naturally give off a lot of exit and entry signals, often being able to reset all of its indicators and reenter a trade without a need for any specific continuation strategy. This indicator will have its more inherent use on slow adapting systems.

In this project's system, the condition to re-enter a trend following the Continuation Indicator signal will be that the Entry Indicator has not given any opposite signals since the exit, alongside the candles not having crossed the baseline in the opposite direction. The Confirmation Indicator will have to agree with the signal and the Volatility Indicator, alongside the baseline distance rule can be ignored.

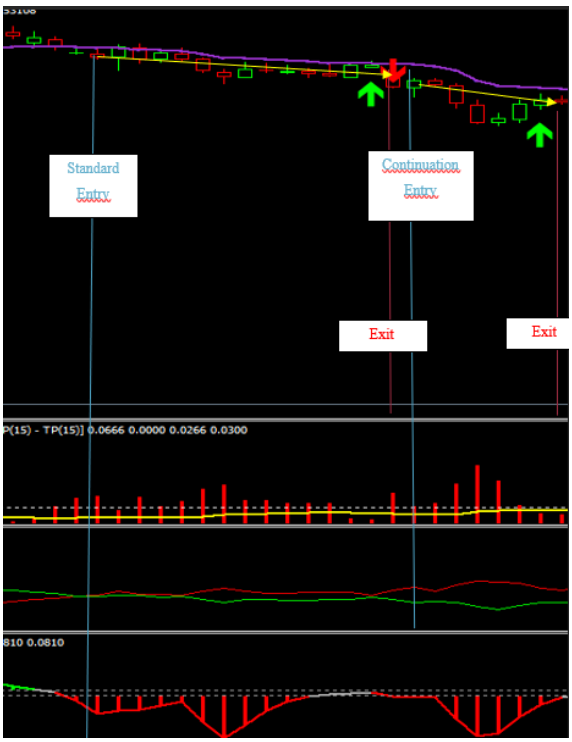


Figure 13. Exits and Re-entry Example with MTP LTD serving as both Exit and Continuation Indicator

Advanced Risk Management

This section will explore the deeper nuances of this system that are also responsible for much of its success. It will explain how to leverage the concept of Trailing-Stops and Take-Profits to take full advantage of an ongoing trend, how the positions will be split into two in order to do so and finally how to increase the system's chances of success by avoiding specific news events for the currencies being traded, which are usually the source for unpredictable volatilities with sudden big price movements that can easily hit the Stop-Losses when it could easily be avoided.

It will also introduce the concept on how to split the risk when getting more than one signal on different pairs with the same currency, be it through the use of multiple accounts or downsizing the position size of the trades.

Scaling Out and Trailing-Stop

The way this system ensures it takes full advantage of a trend while also making sure it makes some profit should the trade be right in the initial price movement but eventually reverses soon after is through the use of the concept of scaling out, more specifically splitting the trade in two.

As mentioned previously, when opening a trade the system will use a Lot size that risks 0.8% of the account with 1.5ATR for the SL and 1xATR for the TP. However, as the reader may have noticed, this wouldn't be much of a trend system as it puts a cap on the upside of the trade with the Take-Profit, closing the full trade once it's hit. Hence, the way to take full advantage of the trend is instead of opening a single position, two positions are opened, each risking 0.4% of the account, one with the Take-Profit and one without. Once the TP of the first positions is hit, the trade has ensured some profit was taken while the second position still remains open, able to take full advantage should the price keep moving in the trend's direction, while the position's Stop-Loss is moved to the Break-Even point (the opening price), ensuring there's no longer any downside.

Finally, should the price not retrace back to the break-even point and instead move in the trend's direction, the concept of a Trailing-Stop is applied. Meaning, as the price moves in favor of the trade, the position's Stop-Loss "trails" the price, i.e., is adjusted in a manner that follows the price movement. For this system, after the position with the Take-Profit is closed and the second one set to Break-Even, the Stop-Loss will the be adjusted with 1x current ATR distance of the price.

Figure 14. Example of a Trailing-Stop where the green line is the opening price and the red the current SL

News Avoidance

Although there are trading styles based solely on trading the news, this system will actually avoid them. While there are indeed many news events for each currency every day, the advantage of trading the daily charts is that it makes unpredictable volatility that most of those news create irrelevant, since it is mostly within the ATR ranges of the daily, making it easy to keep on top on only a few news events that can actually hurt the system's chances of succeeding.

The rarest and easiest to avoid are elections for the countries that control those currencies. The most recent example at the time of the writing of this project being Trump's election on November fifth, creating a movement of 200 plus pips in the EUR/USD pair the very next day:

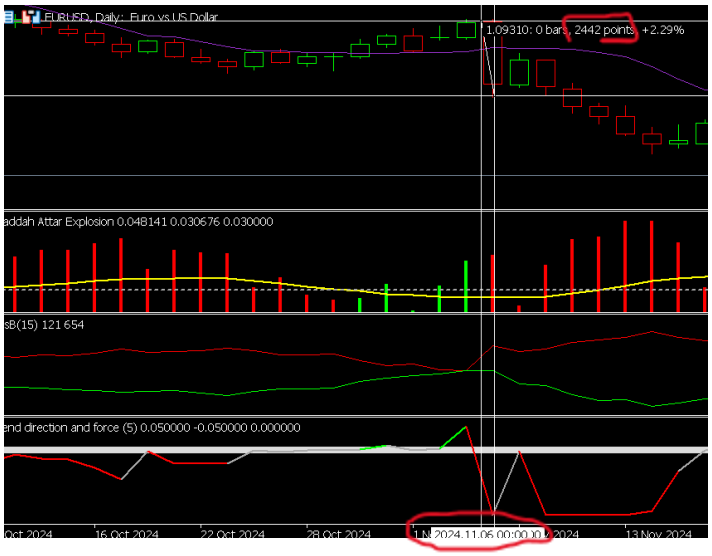


Figure 15. Volatility related to news.

Next up is the main focus of this theme, the cyclical news events. This includes everything that is usually scheduled and released by governmental entities such as metrics like the CPI for inflation or Unemployment Claims, to press conferences given by the heads of central banks or monetary policy reports. Now if everything was to be avoided, there would barely be any trades done, however by looking back at the historical data in the charts it becomes apparent that only a few of these events are relevant to the system's success, making it easy to track them.

By utilizing the economic calendar provided by sources such as myfxbook (n.d.) or forexfactory (n.d.) such news events can be taken into account, both in the past for the back-tests or the incoming news when live trading.

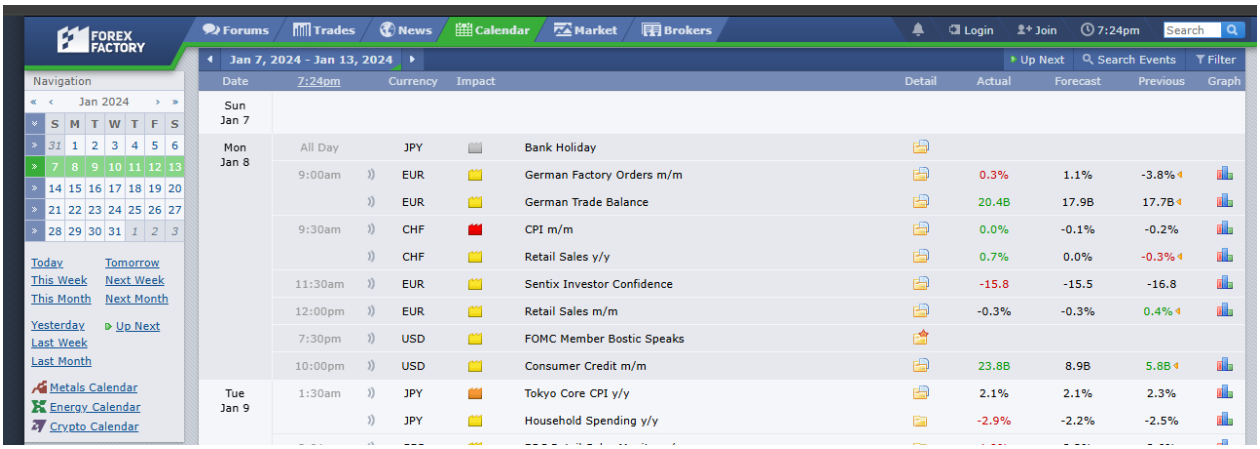


Figure 16. Forex Factory economic calendar. Source: forexfactory (n.d.)

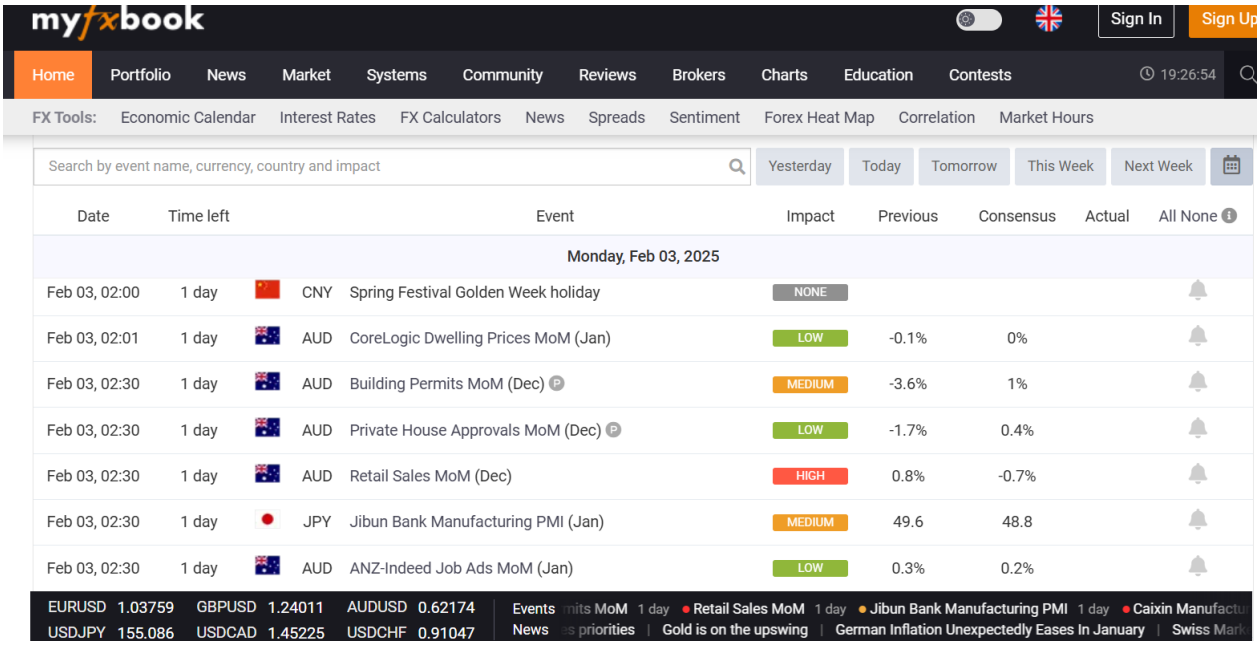


Figure 17. Myfxbook economic calendar. Source: myfxbook (n.d.)

Then it is simply a matter of utilizing the chosen economic calendar to find which of the cyclical news events has an actual consistent impact on the daily charts, which results on the following table of events to be avoided:

Currency	News
USD	FOMC Speech
	Interest Rates
	Employment
	CPI
	Non Farm Payrolls
EUR	Interest Rates
	ECB Speech/Reports
GBP	Interest Rates/MPC Votes
	GDP
CAD	Interest Rates
	Employment
	CPI
	Retail Sales
AUD	Interest Rates
	Employment
NZD	Interest Rates
	GDP/GDT
	Employment
	CPI/Official Cash Rate
	RBNZ Rate Statement
JPY	Interest Rates
CHF	Libor Rate

Figure 18. News to avoid.

The table above was formulated according to the author's personal analysis, however the user should perform their own analysis, since the relevant news events can change as the years pass by.

Finally, let's look at a few examples on how some impactful events in shorter timeframes become irrelevant in the daily charts, as well as some of the events to be avoided having an impact on the daily timeframe.

The first example is on the 7th of February of 2023, where the chair of USA's chairman of the Federal Reserve gave a speech at exactly 7pm EST. Considering the chart's trend, if the user was trading the one-hour chart it is likely they would've been in a short position, and due to the unpredictable volatility caused by the speech it would be very likely that the price would hit the trader's Stop-Loss. However, looking at the daily chart, the volatility impact would likely have been absorbed.

Figure 19. One-hour chart news impact.

Figure 20**. Dailly Chart Impact.**

Date	7:21pm	Currency	Impact		Detail	Actual	Forecast	Previous	Graph
Tue Feb 7	11:00am	GBP		MPC Member Ramsden Speaks					
	3:30pm	CAD		Trade Balance		-0.2B	-0.6B	-0.2B	
		USD		Trade Balance		-67.4B	-68.5B	-61.0B	
	5:00pm	USD		RCM/TIPP Economic Optimism		45.1	44.3	42.3	
	5:07pm	NZD		GDT Price Index		3.2%		-0.1%	
	5:30pm	GBP		MPC Member Cunliffe Speaks					
	7:30pm	CAD		BOC Gov Macklem Speaks					
	7:40pm	USD		Fed Chair Powell Speaks					
	9:00pm	USD		FOMC Member Barr Speaks					
	10:00pm	USD		Consumer Credit m/m		11.6B	25.0B	33.1B	

Figure 21. News events for February 7th 2023. Source: forexfactory (n.d.)

The second example shows how the unemployment report can affect the daily charts:

Figure 22. Unemployment claims report impact.

3:30pm		CAD		Trade Balance		1.4B	0.7B	0.6B	
		USD		Unemployment Claims		221K	213K	212K	

Figure 23. Unemployment claims report on April 4th 2024. Source: forexfactory (n.d.)

Hence, when the trader gets a signal to open a position, they should always check the economic calendar for any events to be avoided. Should there be an event on the following day, the user should then ignore the signal and wait for the next day. Should the price still be within the 1.5 ATR range from the baseline, they can then open their position and manage it as usual from there on.

Now that the economic calendar is taken into account, there are some nuanced positions that the traders might find themselves in when avoiding the news. All of them involve being already in a position opened prior.

The first case is if the position is in the negative, however there has not been any exit signals yet. For this situation, should be there any upcoming events for a currency of that pair, the trader should close the position.

The second case is if the position is positive but hasn't hit the Take-Profit yet. This situation is up to the user's discretion but usually, should the price be very close to the Take-Profit, it is recommended that they close the first half of the position and move the other to Break-Even, ensuring some impactful amount of profit was taken. Otherwise, simply move both to Break-Even point while leaving both open, as there's a chance that the volatility will hit the TP before the SL and should it hit the SL first, there wasn't a significant amount of profit left on the table anyway.

The final case to be discussed is if there's a position already deep into a winning trend. Here since the Trailing-Stop is being used, the trader should simply let the position run its course, however they can choose to close the position or make the Trailing-Stop tighter. All of these subjective nuances are dependent on the trader's system and should be tested accordingly.

Risk Splitting for simultaneous signals

The final consideration to be discussed is a relatively common situation the trader will find themselves in. A lot of trends happen by the driving force of a single currency, meaning that many times, there will be simultaneous trends and therefore signals given by the system, for pairs with the same currency, e.g. a signal both on EUR/JPY and USD/JPY where the JPY is the driving force behind those two trends.

Now, for risk mitigation purposes, it would be unwise to enter both of those trades with full risk. Meaning, if the user is risking 2% of his account per trade, he'd be then risking 4% of his

account in a single currency, the JPY in the prior example. Because the JPY is the driving force behind the starting trend, then it is also very likely that if one of the pair's price moves against the trader hitting the Stop-Loss, the other one would too. Hence, for these situations, risk splitting should be considered and there are multiple available ways of doing it.

One of the ways the user can deal with such a situation is by, quite literally, splitting the risk in half. So instead of entering each position at a 2% risk, they'd enter at 1%, bringing the total exposure risk on the JPY currency to the targeted 2%. However, sometimes the trader may experience more than two simultaneous signals and so, splitting the risk to such a low number might not be desirable, as maybe only one of the trades end up being a major trend and the exposure to it is very low. Hence there is also another possibility, which is the one that will be used for this project.

The alternative to simply splitting the risk between positions, should the user have enough capital to do it, is to instead of trading a single account, they trade two, preferably with different brokers, with their capital split among them. This has a myriad of advantages.

The main benefit is "not leaving all of one's eggs in the same basket". Safeguarding a portion of the trader's capital from a catastrophic event such as a broker going bankrupt or wiping one's account by forgetting to set a Stop-Loss for example.

Splitting the capital into multiple accounts also allows the user to now enter those simultaneous signals, where they only trade certain pairs over one account and the remaining ones in the second, thus, should there be four simultaneous signals for the same currency, the risk can be split into two, each account splitting the risk between two pairs, effectively allowing full participation in the market.

For the forward-test chapter, this system will utilize two accounts, one with 100 000 USD and another with 25 000 USD. The only reason the capital is not split evenly is to demonstrate the difference in Lot sizes for the reader's curiosity, however in normal circumstances it should be split evenly.

Choosing the Indicators

This chapter, although simple, will be the one that requires the most work for the reader. It is also a never-ending step for a serious trader, as he should always be testing for new promising indicators even after he finishes their first system, in order to always be improving it. This topic will explain how to pick and backtest each component of the system. The picking part will be explained briefly, in order to keep this guide at a reasonable length. Afterwards, the focus will shift to pre-picked indicators of which the forward-testing results will be based upon. These indicators will serve as a starting template for the reader, although it is recommended that they build their own system by scratch, in order to get a feeling for the process of finding and testing a system by themselves and not having any biases towards the indicators in this guide.

How to search for indicators and back-test them

The order the reader should start picking and testing their indicators is the same as the one shown in the Methodology Basic Concepts chapter. There are thousands of indicators one can find and download from sources such as the official MetaQuotes website or ForexFactory forums (MQL5, n.d.), although a simple google search will present many more sources. Although the Metatrader platform already comes with a lot of more common indicators such as the ATR, it is recommended that the user looks for other indicators in the sources mentioned previously. The main reason being that those indicators, although quite useful, are also very old or don't really apply for trend trading, while every year there are very smart finance engineers, mathematicians and coders coming up with new ideas and mathematical wonders in the format of indicators that can easily outperform the ones preinstalled. Once one finds the indicators they wish to test it's just a matter of installing it and beginning to backtest them. It is quite easy to install them and one can find many guides on YouTube if the need arises (Trading Heroes, 2020).

Once an indicator is on the daily charts, before moving on to fully back-test them the user should quickly visually scan the charts to decide if it makes sense to actually test it, as if it barely seems to hit any trend it will not be worth the user's time. They should try to change the settings of the indicators about three times to visually fine tune the indicator and once selected, one can then move to the back-test.

To back-test an indicator, the trader can use many means to do so, such as coding and automating the entries for a more quantitative based approach, however for most readers it will be much more practical to simply create an excel and manually insert their entries there.

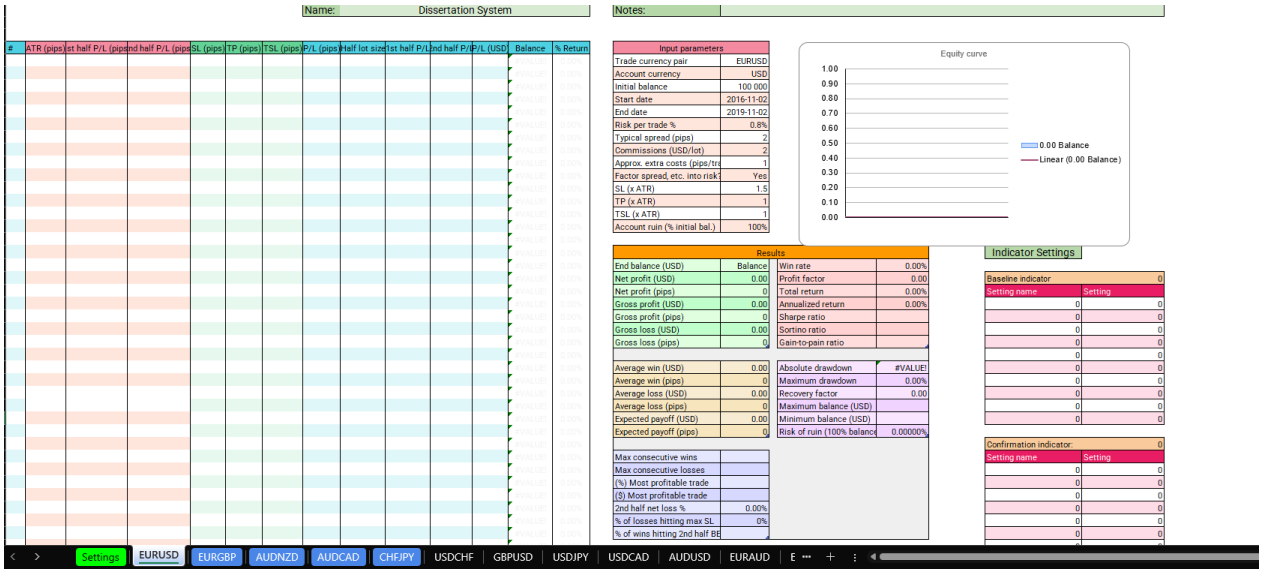


Figure 24. Example of an advanced back-testing sheet.

The back-test should be done on at least five pairs with a mixture of all the different currencies, over a minimum of three years. This ensures it captures enough data for different market conditions over the years, as well as the different behaviors for the currencies that will be traded. Once the initial sample is collected, if the trader wishes to be more thorough, they can test all the pairs as well as more years, but those initial requirements mentioned above should be enough of a balance between data and efficiency of time.

Once the back-testing sheet is ready, it is just a matter of testing until one finds their best Entry indicator and start adding the rest of the indicators that improve the results of the previous iteration. For the full information about the back-tests that will follow, please refer to the appendices. All the back-tests will be run from January 5th 2021-2024 on the following pairs: EUR/USD, EUR/GBP, AUD/NZD, AUD/CAD and CHF/JPY. There will not be any news avoidance in the back-test.

The Bulls vs Bears Indicator

The entry indicator for this system will be the Bulls vs Bears, also known as BvB and is a crossover trend indicator. Crossover indicators are nothing more than two lines giving an entry signal when crossing each other.

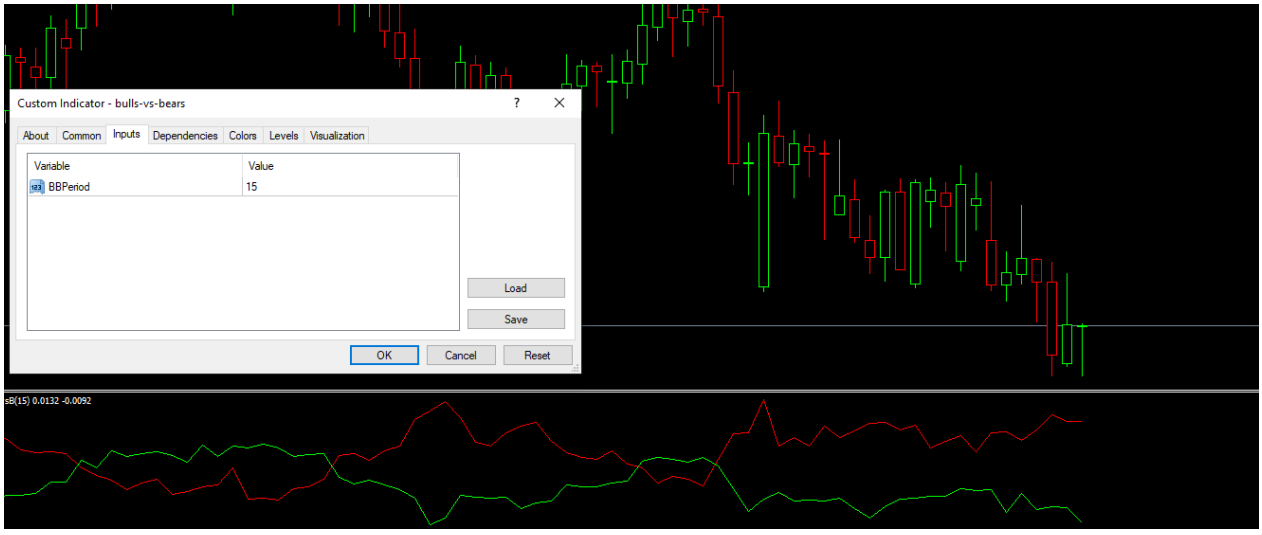


Figure 25. BVB alongside its settings, the red line crossing over the green is giving a short signal.

This indicator is very easy to read and already very smooth, meaning that it does not give many signals for every slight movement on the chart. The main goal of building a system with this methodology is not only results, but visual simplicity to avoid user error.

Here are the back-testing results for EUR/USD:

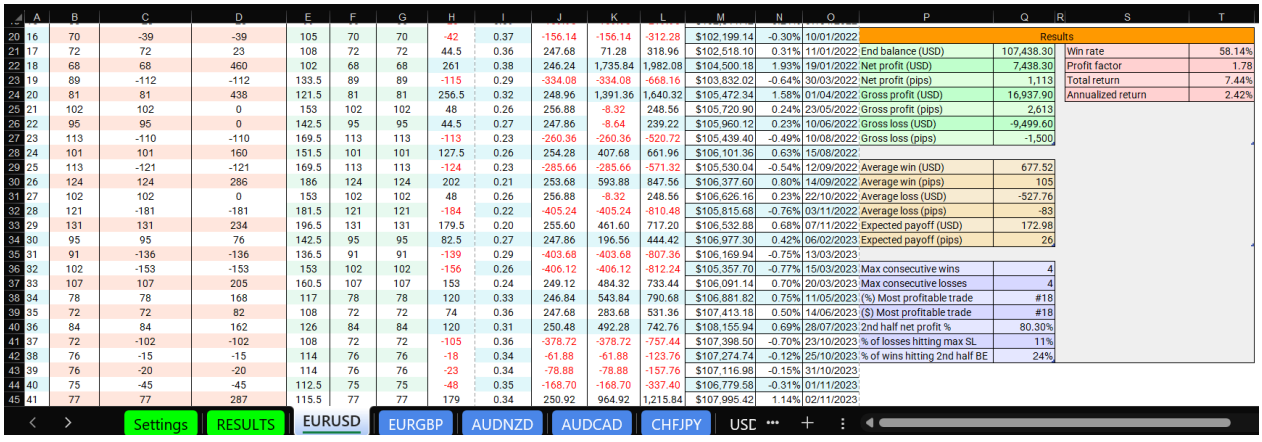


Figure 26. BVB back-test.

As one can observe, for a single indicator the win rate is already quite good, especially considering that only 11% of the losses actually hit the Stop-Losses, meaning most of them the indicator would close the losing trades before hitting the negative 0.8%.

Now while the indicator is promising, one should analyze its code if it is open source and understand the calculations behind it, otherwise one might as well be tossing a coin or using some other random method to open trades.

```
// Input settings
len = input(title="BvB Period", type=input.integer, defval=14, minval=1)
bars_back = input(title="Nomralized bars back", type=input.integer, defval=120, minval=1)
tline = input(80, title="Line Height" )

// Calculation
ma = ema(close, len)
bulls = high - ma
bears = ma - low

// Normalize the values between -100 and 100
min_bulls = lowest(bulls, bars_back)
max_bulls = highest(bulls, bars_back)
norm_bulls = ((bulls - min_bulls) / (max_bulls - min_bulls) - 0.5) * 100

min_bears = lowest(bears, bars_back)
max_bears = highest(bears, bars_back)
norm_bears = ((bears - min_bears) / (max_bears - min_bears) - 0.5) * 100

// Calculate the total and add signals
total = norm_bulls - norm_bears
bullish_o = total > tline
bearish_o = total < -tline

// Plot the total with colored columns
col = total >= 0 ? color.green : color.red
plot(total, color=col, style=plot.style_columns, title="BvB")
plotshape(bullish_o, style=shape.circle, location=location.top, color=#ff00d4, title="Bullish Crossover")
plotshape(bearish_o, style=shape.circle, location=location.bottom, color=#eeff00, title="Bearish Crossover")
```

Figure 27. BVB calculations code.

As can be observed, this indicator is based on the difference between the high and the moving average for bulls, and the difference between the moving average and the low for bears. Such values are then normalized the values between -100 and 100 using the highest and lowest values of the last periods. This then enables the trader to compare the current strength of bulls and bears relative to their historical strength. Bulls are simply price movements upwards and vice-versa for Bears.

The Waddah Attar Explosion Indicator

To start filtering out some of the losses given by entry indicator the Waddah Attar Explosion indicator is introduced, a histogram that will serve as the confirmation indicator and continuation indicator simultaneously.

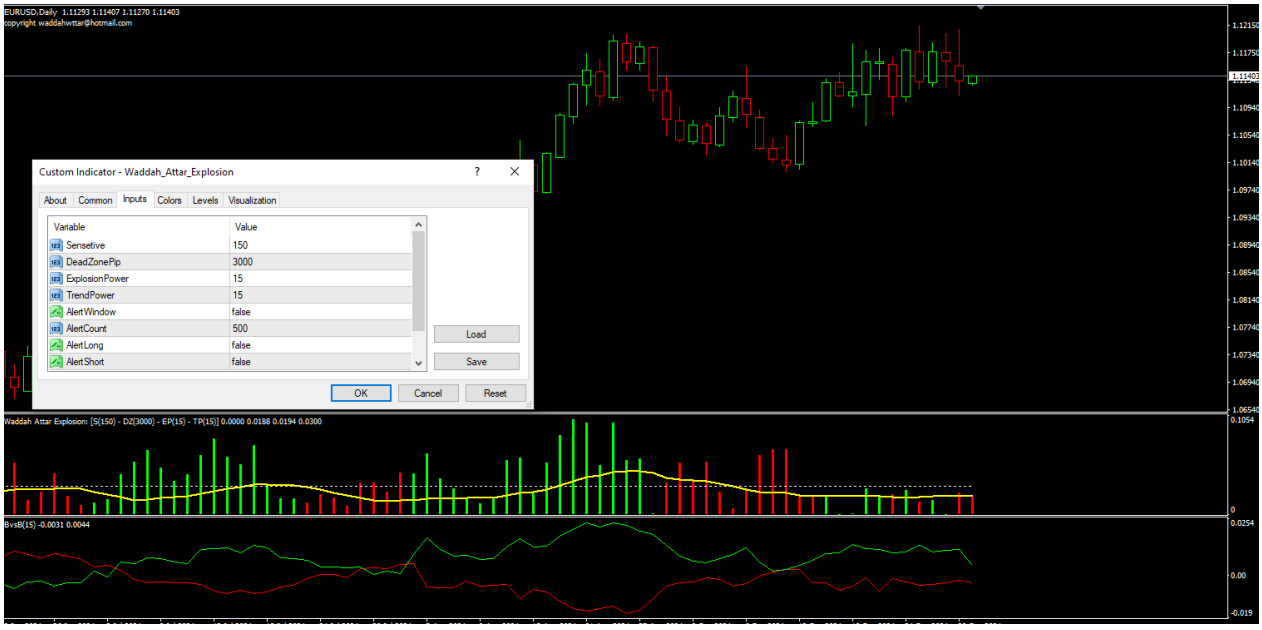
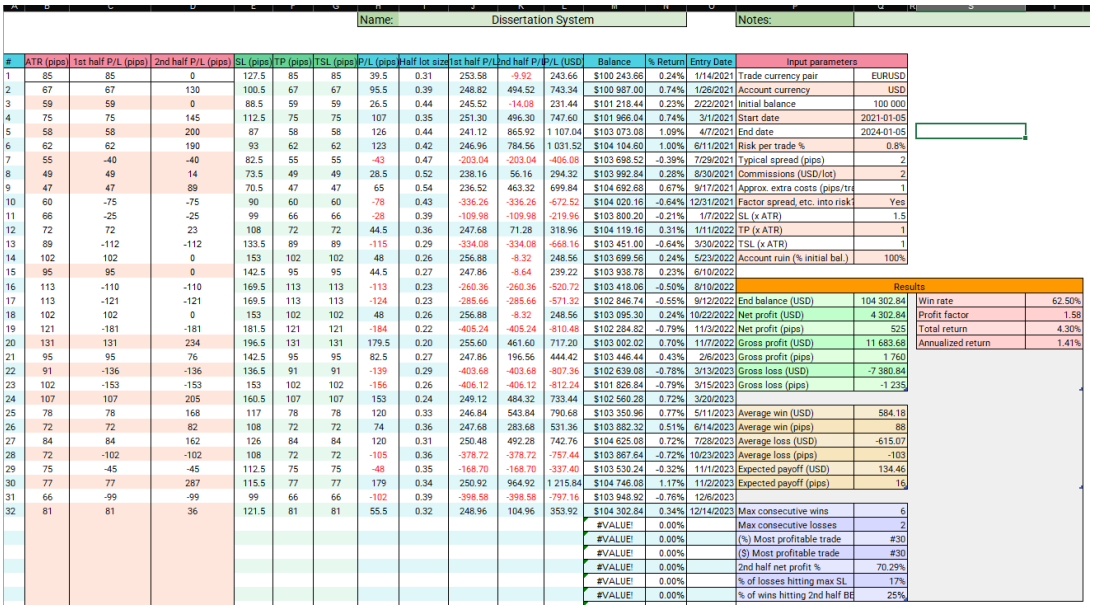


Figure 28. The WAE histogram and its settings, alongside the BVB. Signal when the corresponding direction colored bar crosses above the yellow line and the white dashed line. Continuation signal will be described later.

Following the trend of this system, this indicator is also very easy to read. While it is more sensitive to price changes than the entry indicator, it is capable of filtering some losses due it its nature of volatility calculations and will be a lot more useful once the baseline indicator is added.

The way the entries work now, is when the BVB crosses, the WAE must also agree in the same candle or the next, otherwise the signal is ignored.

Here are the results for the previous backtest, now with both indicators working together:



Name: Dissertation System

Notes:

#	ATR (pips)	1st half P/L (pips)	2nd half P/L (pips)	SL (pips)	TP (pips)	TSL (pips)	P/L (pips)	Half lot size	1st half P/L	2nd half P/L	P/L (USD)	Balance	% Return	Entry Date
1	85	85	0	127.5	85	85	39.5	0.31	253.58	-9.92	243.66	$100 243.66	0.24%	1/14/2021
2	67	67	130	100.5	67	67	95.5	0.39	248.82	494.52	743.34	$100 987.00	0.74%	1/26/2021
3	59	59	0	88.5	59	59	26.5	0.44	245.52	-14.08	231.44	$101 218.44	0.23%	2/22/2021
4	75	75	145	112.5	75	75	107	0.35	251.30	496.30	747.60	$101 966.04	0.74%	3/1/2021
5	58	58	200	87	58	58	126	0.44	241.12	865.92	1 107.04	$103 073.08	1.09%	4/7/2021
6	62	62	190	93	62	62	123	0.42	246.96	784.56	1 031.52	$104 104.60	1.00%	6/11/2021
7	55	-40	-40	82.5	55	55	-43	0.47	-203.04	-203.04	-406.08	$103 698.52	-0.39%	7/29/2021
8	49	49	14	73.5	49	49	28.5	0.52	238.16	56.16	294.32	$103 992.84	0.28%	8/30/2021
9	47	47	89	70.5	47	47	65	0.54	236.52	463.32	699.84	$104 692.68	0.67%	9/17/2021
10	60	-75	-75	90	60	60	-78	0.43	-336.26	-336.26	-672.52	$104 020.16	-0.64%	12/31/2021
11	66	-25	-25	99	66	66	-28	0.39	-109.98	-109.98	-219.96	$103 800.20	-0.21%	1/7/2022
12	72	72	23	108	72	72	44.5	0.36	247.68	71.28	318.96	$104 119.16	0.31%	1/11/2022
13	89	-112	-112	133.5	89	89	-115	0.29	-334.08	-334.08	-668.16	$103 451.00	-0.64%	3/30/2022
14	102	102	0	153	102	102	48	0.26	256.88	-8.32	248.56	$103 699.56	0.24%	5/23/2022
15	95	95	0	142.5	95	95	44.5	0.27	247.86	-8.64	239.22	$103 938.78	0.23%	6/10/2022
16	113	-110	-110	169.5	113	113	-113	0.23	-260.36	-260.36	-520.72	$103 418.06	-0.50%	8/10/2022
17	113	-121	-121	169.5	113	113	-124	0.23	-285.66	-285.66	-571.32	$102 846.74	-0.55%	9/12/2022
18	102	102	0	153	102	102	48	0.26	256.88	-8.32	248.56	$103 095.30	0.24%	10/22/2022
19	121	-181	-181	181.5	121	121	-184	0.22	-405.24	-405.24	-810.48	$102 284.82	-0.79%	11/3/2022
20	131	131	234	196.5	131	131	179.5	0.20	255.60	461.60	717.20	$103 002.02	0.70%	11/7/2022
21	95	95	76	142.5	95	95	82.5	0.27	247.86	196.56	444.42	$103 446.44	0.43%	2/6/2023
22	91	-136	-136	136.5	91	91	-139	0.29	-403.68	-403.68	-807.36	$102 639.08	-0.78%	3/13/2023
23	102	-153	-153	153	102	102	-156	0.26	-406.12	-406.12	-812.24	$101 826.84	-0.79%	3/15/2023
24	107	107	205	160.5	107	107	153	0.24	249.12	484.32	733.44	$102 560.28	0.72%	3/20/2023
25	78	78	168	117	78	78	120	0.33	246.84	543.84	790.68	$103 350.96	0.77%	5/11/2023
26	72	72	82	108	72	72	74	0.36	247.68	283.68	531.36	$103 882.32	0.51%	6/14/2023
27	84	84	162	126	84	84	120	0.31	250.48	492.28	742.76	$104 625.08	0.72%	7/28/2023
28	72	-102	-102	108	72	72	-105	0.36	-378.72	-378.72	-757.44	$103 867.64	-0.72%	10/23/2023
29	75	-45	-45	112.5	75	75	-48	0.35	-168.70	-168.70	-337.40	$103 530.24	-0.32%	11/1/2023
30	77	77	287	115.5	77	77	179	0.34	250.92	964.92	1 215.84	$104 746.08	1.17%	11/2/2023
31	66	-99	-99	99	66	66	-102	0.39	-398.58	-398.58	-797.16	$103 948.92	-0.76%	12/6/2023
32	81	81	36	121.5	81	81	55.5	0.32	248.96	104.96	353.92	$104 302.84	0.34%	12/14/2023
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	

Input parameters	
Trade currency pair	EURUSD
Account currency	USD
Initial balance	100 000
Start date	2021-01-05
End date	2024-01-05
Risk per trade %	0.8%
Typical spread (pips)	2
Commissions (USD/lot)	2
Approx. extra costs (pips/tr	1
Factor spread, etc. into risk?	Yes
SL (x ATR)	1.5
TP (x ATR)	1
TSL (x ATR)	1
Account ruin (% initial bal.)	100%

Results	
End balance (USD)	104 302.84
Net profit (USD)	4 302.84
Net profit (pips)	525
Gross profit (USD)	11 683.68
Gross profit (pips)	1 760
Gross loss (USD)	-7 380.84
Gross loss (pips)	-1 235
Average win (USD)	584.18
Average win (pips)	88
Average loss (USD)	-615.07
Average loss (pips)	-103
Expected payoff (USD)	134.46
Expected payoff (pips)	16
Max consecutive wins	6
Max consecutive losses	2
(%) Most profitable trade	#30
($) Most profitable trade	#30
2nd half net profit %	70.29%
% of losses hitting max SL	17%
% of wins hitting 2nd half BE	25%

Win rate	62.50%
Profit factor	1.58
Total return	4.30%
Annualized return	1.41%

Figure 29. Back-test results change with the introduction of the WAE.

As can be observed, the win rate went up, although the total return also went down. This is not necessarily a problem, as a lot of the winning trades will be added again once the baseline and continuation trades are introduced. The point of this indicator is to increase the win rate and reduce some of the losses without filtering out too many winning trades.

```
//
study("Waddah Attar Explosion [LazyBear]", shorttitle="WAE_LB")
sensitivity = input(150, title="Sensitivity")
fastLength=input(20, title="FastEMA Length")
slowLength=input(40, title="SlowEMA Length")
channelLength=input(20, title="BB Channel Length")
mult=input(2.0, title="BB Stdev Multiplier")
deadZone=input(20, title="No trade zone threshold")

calc_macd(source, fastLength, slowLength) =>
fastMA = ema(source, fastLength)
slowMA = ema(source, slowLength)
fastMA - slowMA

calc_BBUpper(source, length, mult) =>
basis = sma(source, length)
dev = mult * stdev(source, length)
basis + dev

calc_BBLower(source, length, mult) =>
basis = sma(source, length)
dev = mult * stdev(source, length)
basis - dev

t1 = (calc_macd(close, fastLength, slowLength) - calc_macd(close[1], fastLength, slowLength))*sensitivity
t2 = (calc_macd(close[2], fastLength, slowLength) - calc_macd(close[3], fastLength, slowLength))*sensitivity

e1 = (calc_BBUpper(close, channelLength, mult) - calc_BBLower(close, channelLength, mult))
//e2 = (calc_BBUpper(close[1], channelLength, mult) - calc_BBLower(close[1], channelLength, mult))
```

Figure 30. WAE code.

As shown by its code, this indicator is quite complex as it uses different moving averages alongside the MACD and the standard deviation in its calculations.

The Trend Direction & Force Index Indicator

To further filter out more losing trades, especially the ones where the market is moving sideways with no clear trend, the TDFI is introduced as the volatility indicator.

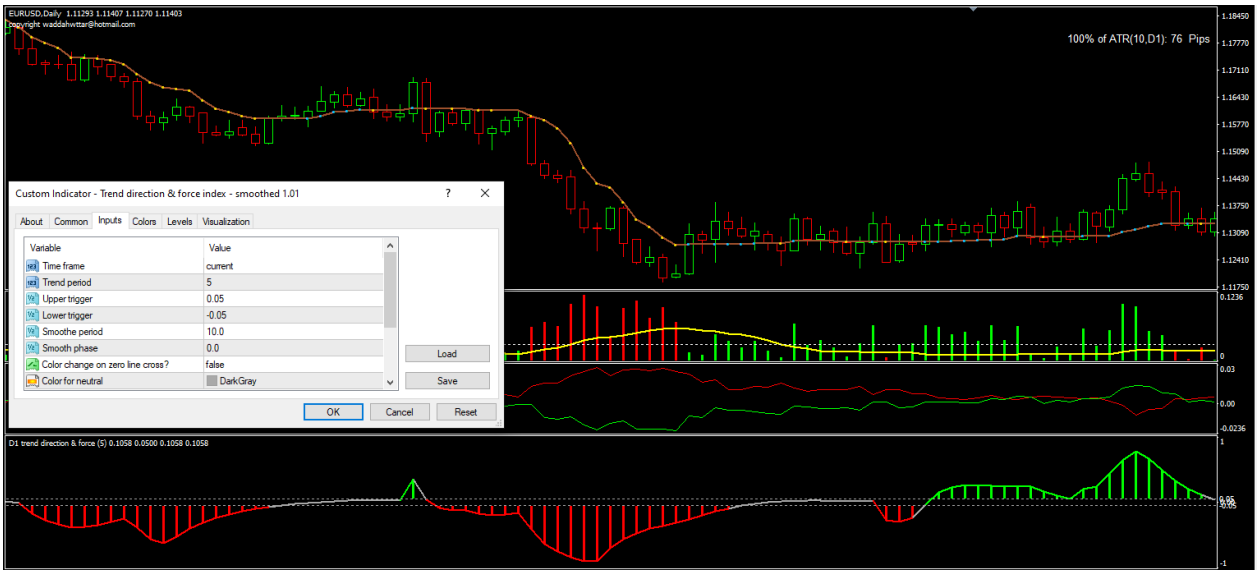


Figure 31. The TDFI and its settings, alongside the previous indicators.

With these types of indicators, it is to be expected to miss the start of some big trends, hence the need for continuation indicators and the baseline for more entries.

Name: Dissertation System

Notes:

#	ATR (pips)	1st half P/L (pips)	2nd half P/L (pips)	SL (pips)	TP (pips)	TSL (pips)	P/L (pips)	Half lot size	1st half P/L	2nd half P/L	P/L (USD)	Balance	% Return	Entry Date
1	85	85	0	127.5	85	85	39.5	0.31	253.58	-9.92	243.66	$100 243.66	0.24%	1/14/2021
2	75	75	145	112.5	75	75	107	0.35	251.30	496.30	747.60	$100 991.26	0.75%	3/1/2021
3	58	58	200	87	58	58	126	0.44	241.12	865.92	1 107.04	$102 098.30	1.10%	4/7/2021
4	62	62	190	93	62	62	123	0.42	246.96	784.56	1 031.52	$103 129.82	1.01%	6/11/2021
5	55	-40	-40	82.5	55	55	-43	0.47	-203.04	-203.04	-406.08	$102 723.74	-0.39%	7/29/2021
6	49	49	14	73.5	49	49	28.5	0.52	238.16	56.16	294.32	$103 018.06	0.29%	8/30/2021
7	47	47	89	70.5	47	47	65	0.54	236.52	463.32	699.84	$103 717.90	0.68%	9/17/2021
8	60	-75	-75	90	60	60	-78	0.43	-336.26	-336.26	-672.52	$103 045.38	-0.65%	12/31/2021
9	72	72	23	108	72	72	44.5	0.36	247.68	71.28	318.96	$103 364.34	0.31%	1/11/2022
10	89	-112	-112	133.5	89	89	-115	0.29	-334.08	-334.08	-668.16	$102 696.18	-0.65%	3/30/2022
11	102	102	0	153	102	102	48	0.26	256.88	-8.32	248.56	$102 944.74	0.24%	5/23/2022
12	95	95	0	142.5	95	95	44.5	0.27	247.86	-8.64	239.22	$103 183.96	0.23%	6/10/2022
13	113	-110	-110	169.5	113	113	-113	0.23	-260.36	-260.36	-520.72	$102 663.24	-0.50%	8/10/2022
14	113	-121	-121	169.5	113	113	-124	0.23	-285.66	-285.66	-571.32	$102 091.92	-0.56%	9/12/2022
15	102	102	0	153	102	102	48	0.26	256.88	-8.32	248.56	$102 340.48	0.24%	10/22/2022
16	131	131	234	196.5	131	131	179.5	0.20	255.60	461.60	717.20	$103 057.68	0.70%	11/7/2022
17	95	95	76	142.5	95	95	82.5	0.27	247.86	196.56	444.42	$103 502.10	0.43%	2/6/2023
18	91	-136	-136	136.5	91	91	-139	0.29	-403.68	-403.68	-807.36	$102 694.74	-0.78%	3/13/2023
19	107	107	205	160.5	107	107	153	0.24	249.12	484.32	733.44	$103 428.18	0.71%	3/20/2023
20	78	78	168	117	78	78	120	0.33	246.84	543.84	790.68	$104 218.86	0.76%	5/11/2023
21	72	72	82	108	72	72	74	0.36	247.68	283.68	531.36	$104 750.22	0.51%	6/14/2023
22	72	-102	-102	108	72	72	-105	0.36	-378.72	-378.72	-757.44	$103 992.78	-0.72%	10/23/2023
23	77	77	287	115.5	77	77	179	0.34	250.92	964.92	1 215.84	$105 208.62	1.17%	11/2/2023
24	66	-99	-99	99	66	66	-102	0.39	-398.58	-398.58	-797.16	$104 411.46	-0.76%	12/6/2023
25	81	81	36	121.5	81	81	55.5	0.32	248.96	104.96	353.92	$104 765.38	0.34%	12/14/2023
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	
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												#VALUE!	0.00%	
												#VALUE!	0.00%	

Input parameters	
Trade currency pair	EURUSD
Account currency	USD
Initial balance	100 000
Start date	2021-01-05
End date	2024-01-05
Risk per trade %	0.8%
Typical spread (pips)	2
Commissions (USD/lot)	2
Approx. extra costs (pips/tr	1
Factor spread, etc. into risk?	Yes
SL (x ATR)	1.5
TP (x ATR)	1
TSL (x ATR)	1
Account ruin (% initial bal.)	100%

Results	
End balance (USD)	104 765.38
Net profit (USD)	4 765.38
Net profit (pips)	699
Gross profit (USD)	9 966.14
Gross profit (pips)	1 518
Gross loss (USD)	-5 200.76
Gross loss (pips)	-819
Average win (USD)	586.24
Average win (pips)	89
Average loss (USD)	-650.10
Average loss (pips)	-102
Expected payoff (USD)	190.62
Expected payoff (pips)	28
Max consecutive wins	4
Max consecutive losses	2
(%) Most profitable trade	#23
($) Most profitable trade	#23
2nd half net profit %	65.93%
% of losses hitting max SL	13%
% of wins hitting 2nd half BE	24%

Win rate	68.00%
Profit factor	1.92
Total return	4.77%
Annualized return	1.56%

Figure 32. Back-test results change with the introduction of the TDFI.

However, even though some winning trades were lost with the filtering, the win rate and profitability managed to go up.

```
lookback = input(13, title = "Lookback")
filterHigh = input(0.05, title = "Filter High")
filterLow = input(-0.05, title = "Filter Low")
price = input(close, "Period")

mma = ema(price * 1000, lookback)
smma = ema(mma, lookback)

impetmma = mma - mma[1]
impetsmma= smma - smma[1]
divma = abs(mma - smma)
averimpet = (impetmma + impetsmma) / 2

number = averimpet
pow = 3
result = na

for i = 1 to pow - 1
    if i == 1
        result := number
    result := result * number

tdf = divma * result
ntdf = tdf / highest(abs(tdf), lookback * 3)

c = ntdf > filterHigh ? green : ntdf < filterLow ? red : gray
plot(ntdf, linewidth = 2, color = c)

hline(filterHigh, color = black)
```

Figure 33. TDFI code.

This indicator also uses different moving averages, converting them into an oscillator indicating volume and trend bias.

The Adaptive Moving Average Indicator

The final indicator of this system, the AMA will serve as both the baseline and exit indicator. Although it is quite simple to read, it will introduce more complex rules such as the baseline cross entries and enable the WAE indicator to act as a continuation indicator as well.

The WAE gives a continuation signal every time the bar crosses above both lines with the corresponding color of the trend.

As mentioned previously, all entries must be within the distance of 1.5x ATR from the baseline, while continuation signals can ignore the distance but are only accepted if the price hasn't crossed the baseline against the trend.

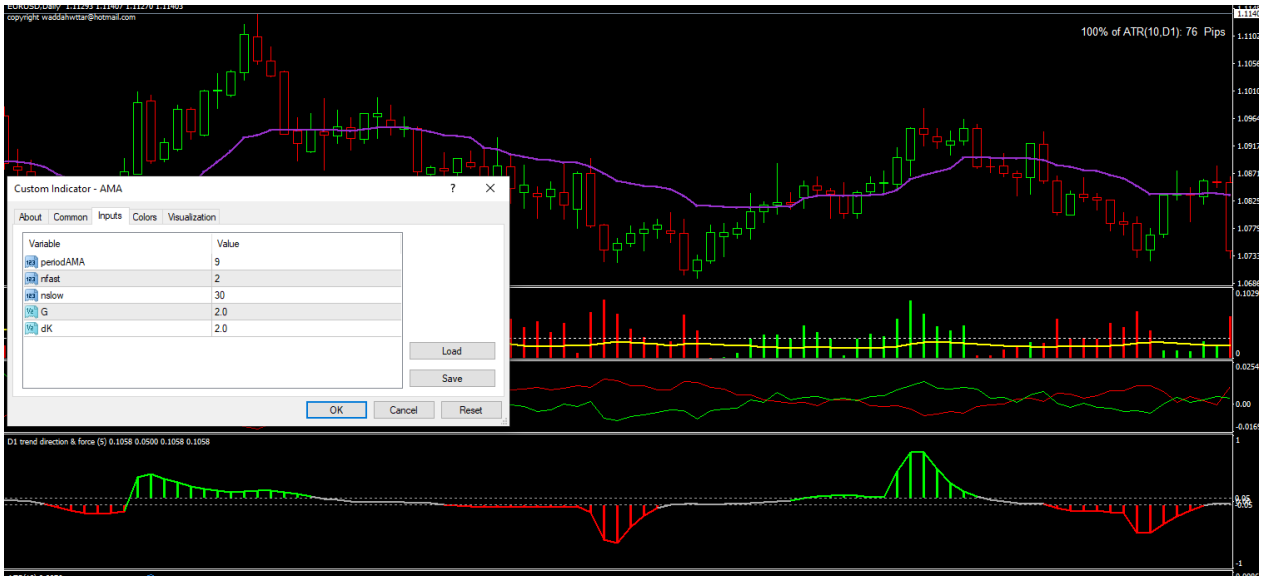

Figure 34. Full system alongside AMA settings.

With this indicator added, the system is complete and the backtest will now be for the full system.

Name:	Dissertation System	Notes:	

#	ATR (pips)	1st half P/L (pips)	2nd half P/L (pips)	SL (pips)	TP (pips)	TSL (pips)	P/L (pips)	Half lot size	1st half P/L	2nd half P/L	P/L (USD)	Balance	% Return	Entry Date
1	85	85	0	127.5	85	85	39.5	0.31	253.58	-9.92	243.66	$100 243.66	0.24%	1/14/2021
2	75	75	145	112.5	75	75	107	0.35	251.30	496.30	747.60	$100 991.26	0.75%	3/1/2021
3	58	58	200	87	58	58	126	0.44	241.12	865.92	1 107.04	$102 098.30	1.10%	4/7/2021
4	62	62	190	93	62	62	123	0.42	246.96	784.56	1 031.52	$103 129.82	1.01%	6/11/2021
5	55	-40	-40	82.5	55	55	-43	0.47	-203.04	-203.04	-406.08	$102 723.74	-0.39%	7/29/2021
6	49	49	14	73.5	49	49	28.5	0.52	238.16	56.16	294.32	$103 018.06	0.29%	8/30/2021
7	47	47	89	70.5	47	47	65	0.54	236.52	463.32	699.84	$103 717.90	0.68%	9/17/2021
8	60	-75	-75	90	60	60	-78	0.43	-336.26	-336.26	-672.52	$103 045.38	-0.65%	12/31/2021
9	72	72	23	108	72	72	44.5	0.36	247.68	71.28	318.96	$103 364.34	0.31%	1/11/2022
10	89	-112	-112	133.5	89	89	-115	0.29	-334.08	-334.08	-668.16	$102 696.18	-0.65%	3/30/2022
11	102	102	0	153	102	102	48	0.26	256.88	-8.32	248.56	$102 944.74	0.24%	5/23/2022
12	95	95	0	142.5	95	95	44.5	0.27	247.86	-8.64	239.22	$103 183.96	0.23%	6/10/2022
13	113	-110	-110	169.5	113	113	-113	0.23	-260.36	-260.36	-520.72	$102 663.24	-0.50%	8/10/2022
14	113	-121	-121	169.5	113	113	-124	0.23	-285.66	-285.66	-571.32	$102 091.92	-0.56%	9/12/2022
15	102	102	0	153	102	102	48	0.26	256.88	-8.32	248.56	$102 340.48	0.24%	10/22/2022
16	131	131	234	196.5	131	131	179.5	0.20	255.60	461.60	717.20	$103 057.68	0.70%	11/7/2022
17	95	95	76	142.5	95	95	82.5	0.27	247.86	196.56	444.42	$103 502.10	0.43%	2/6/2023
18	91	-136	-136	136.5	91	91	-139	0.29	-403.68	-403.68	-807.36	$102 694.74	-0.78%	3/13/2023
19	107	107	205	160.5	107	107	153	0.24	249.12	484.32	733.44	$103 428.18	0.71%	3/20/2023
20	78	78	168	117	78	78	120	0.33	246.84	543.84	790.68	$104 218.86	0.76%	5/11/2023
21	72	72	82	108	72	72	74	0.36	247.68	283.68	531.36	$104 750.22	0.51%	6/14/2023
22	72	-102	-102	108	72	72	-105	0.36	-378.72	-378.72	-757.44	$103 992.78	-0.72%	10/23/2023
23	77	77	287	115.5	77	77	179	0.34	250.92	964.92	1 215.84	$105 208.62	1.17%	11/2/2023
24	72	72	37	108	72	72	51.5	0.36	247.68	121.68	369.36	$105 577.98	0.35%	6/29/2021
25	64	-69	-69	96	64	64	-72	0.40	-288.80	-288.80	-577.60	$105 000.38	-0.55%	7/13/2021
26	85	85	408	127.5	85	85	243.5	0.31	253.58	1 254.88	1 508.46	$106 508.84	1.44%	4/5/2022
27	93	93	40	139.5	93	93	63.5	0.28	251.44	103.04	354.48	$106 863.32	0.33%	8/18/2022
28	113	113	132	169.5	113	113	119.5	0.23	252.54	296.24	548.78	$107 412.10	0.51%	9/21/2022
29	135	135	210	202.5	135	135	169.5	0.19	250.42	392.92	643.34	$108 055.44	0.60%	11/23/2022
30	107	107	20	160.5	107	107	60.5	0.24	249.12	40.32	289.44	$108 344.88	0.27%	12/8/2022
31	110	110	200	165	110	110	152	0.24	256.32	472.32	728.64	$109 073.52	0.67%	3/27/2023
32	81	81	201	121.5	81	81	138	0.32	248.96	632.96	881.92	$109 955.44	0.81%	9/1/2023
33	73	-60	-60	109.5	73	73	-63	0.35	-221.20	-221.20	-442.40	$109 513.04	-0.40%	10/2/20203
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	
												#VALUE!	0.00%	

Input parameters	
Trade currency pair	EURUSD
Account currency	USD
Initial balance	100 000
Start date	2021-01-05
End date	2024-01-05
Risk per trade %	0.8%
Typical spread (pips)	2
Commissions (USD/lot)	2
Approx. extra costs (pips/tr	1
Factor spread, etc. into risk?	Yes
SL (x ATR)	1.5
TP (x ATR)	1
TSL (x ATR)	1
Account ruin (% initial bal.)	100%

Results			
End balance (USD)	109 513.04	Win rate	72.73%
Net profit (USD)	9 513.04	Profit factor	2.75
Net profit (pips)	1 608	Total return	9.51%
Gross profit (USD)	14 936.64	Annualized return	3.08%
Gross profit (pips)	2 460		
Gross loss (USD)	-5 423.60		
Gross loss (pips)	-852		
Average win (USD)	622.36		
Average win (pips)	103		
Average loss (USD)	-602.62		
Average loss (pips)	-95		
Expected payoff (USD)	288.27		
Expected payoff (pips)	49		
Max consecutive wins	7		
Max consecutive losses	2		
(%) Most profitable trade	#26		
($) Most profitable trade	#26		
2nd half net profit %	65.59%		
% of losses hitting max SL	0%		
% of wins hitting 2nd half BE	17%		

Figure 35. Full system back-test results.

As can be observed, the introduction of the baseline alongside the continuation signals boosted the results quite significantly, especially the profitability, achieving both the highest win rate and total return of all the back-tests done.

```
indicator("Adaptive Moving Average (AMA)", shorttitle="AMA", overlay=true)

PeriodEfficiencyRatio = input(15, title="PeriodEfficiencyRatio")
fastLength            = input(05, title="Fast EMA Length")
slowLength            = input(50, title="Slow EMA Length")

change          = math.abs(close - close[PeriodEfficiencyRatio])
volatility      = math.sum(math.abs(close - close[1]), PeriodEfficiencyRatio)
EfficiencyRatio = change / volatility

fastest = 2 / (fastLength + 1)
slowest = 2 / (slowLength + 1)

sc = math.pow(EfficiencyRatio * (fastest - slowest) + slowest, 2)

var ama = 0.0
ama     := na(ama[1]) ? close : ama[1] + sc * (close - ama[1])

plot(ama, color=color.red, title="AMA")
```

Figure 36. AMA code.

Finally, as one can observe, the AMA is calculated based on the Efficiency Ratio, which is the absolute change in closing prices over a period, divided by the sum of absolute changes in closing prices over the same period. It then uses the smoothing constant (sc in the code) and the previous AMA value alongside the current close price to calculate its final value, allowing the AMA to "adapt" its smoothing according to the market's volatility.

The reason AMA was chosen as the baseline, aside from producing the best results in other back-test comparisons, is due to the fact that compared to other types of moving averages, the Adaptive Moving Average tends to be more responsive, due to its capability to identify trends more reliably and with less lag (Bukhdir, 2024).

With the system built, the user can now move to the forward-testing phase.

Forward-Testing

This will be the final stage before moving on to trading actual money with this system. It involves trading in a demo account provided by a broker for around four to six months. The reason this stage is crucial is not only for the trader to settle in the routine of opening their charts every day, but also to go through the psychological adaptation of handling drawdown periods and losing trades, make the common mistakes in response and finally fallback to actually following the system before moving on to handling real money. The forward-testing also puts the system to a real test, as it is very easy to get excited with the back-testing results, while forgetting the actual live trading results will be, more often than not, quite lower, due to news avoidances, user mistakes or life simply getting in the way of opening the trades for all the signals the system gives out.

In this guide, as mentioned previously, two different accounts will be traded, one with a value of 25 000 dollars and another of 100 000 dollars. Since there is no real money involved, there's no benefits in using two different brokers, therefore both accounts will be provided by the Eightcap broker. Finally, due to time constraints involved with this project, the forward-testing phase will only be 3 months, however it should suffice for demonstration purposes. The VIX will not be used.

For all the data referring to what the chart looked like when opening a position, Stop-Losses, Take-Profits, opening and closing prices please refer to the Appendices section.

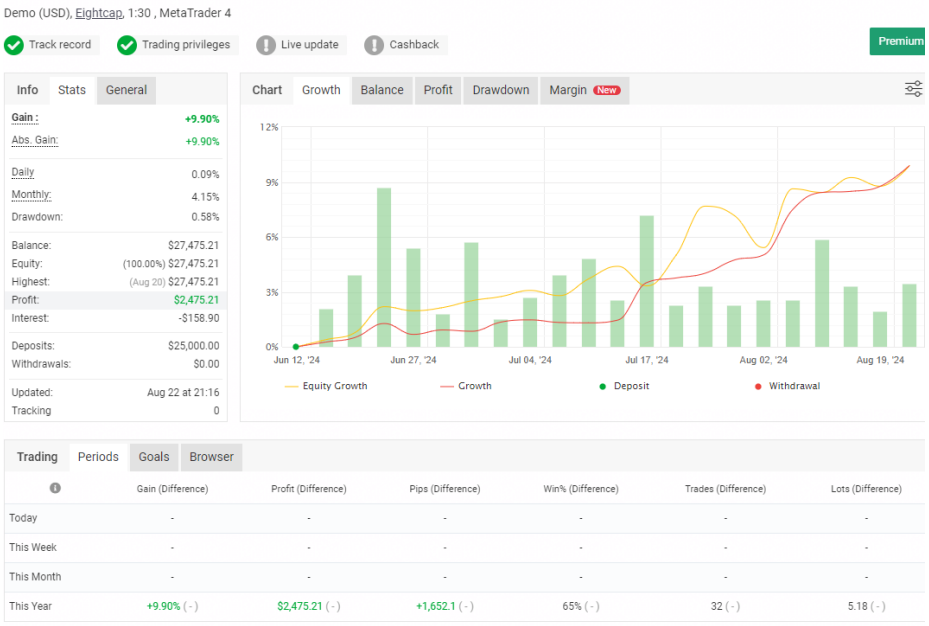

Figure 37. 25 000 USD forward-test results. Source: Myfxbook(2024)

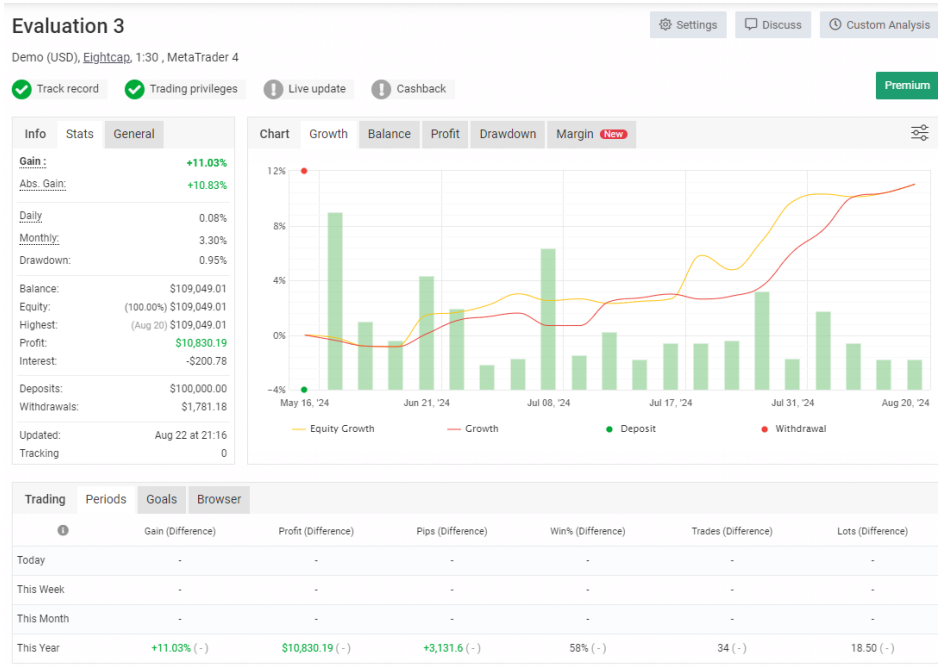

Figure 38. 100 000 USD forward-test results. Source: Myfxbook(2024)

As is observable, the system that has been built throughout this guide did quite well and accomplished the main goal, being profitable, even surpassing the average annual return of the SP500 Index, with an almost negligible drawdown during these 3 months of testing. This means that should the market conditions not change to something unrecognizable, this system should be quite viable in the few years to come.

Closing Thoughts

With good risk management, trading based on technical analysis can easily outperform the market, or even popular strategies such as the CAPM or the Fama-French 3 factor models (Han et al., 2013). This system is easy to follow and modular. By its nature, it can be improved upon tremendously with Quant methodologies and with new technologies such as A.I. for deeper back-tests.

However, as was proven, even when using inefficient methods such as simply using an excel and testing everything by hand, a trader can still be quite successful using this methodology. If one is skilled enough, it is also very easy to automate, in order to trade it at lower timeframes.

Although only the forex market was used in this work, this system, with some adjustments, should be quite capable with any other markets such as cryptocurrencies or equities, for so long as there's enough volatility and the market trends frequently, there should be plenty profitable opportunities to take advantage of.

There are many other methodologies out there, but every successful trading strategy has two things in common. The first being proper risk management, for no matter how good a strategy is, losses, and especially losing streaks, are an unavoidable aspect in a trader's life, hence it being crucial not only to be profitable, but to avoid account bankruptcy. The second being the trader's psychological impact on the strategy. No matter how perfect one's strategy is, if one fails to follow it due to the impact of losses or arrogance of winning streaks, then all the work in developing it was for naught. Hence, the focus on this system being easy to read and easily automated should the user still have difficulty following it manually.

On a personal note, it has been a pleasure developing this guide, and one hopes it will serve as a stepping stone on the journey for many future traders to come. May you all find success in your endeavors, Thank you.

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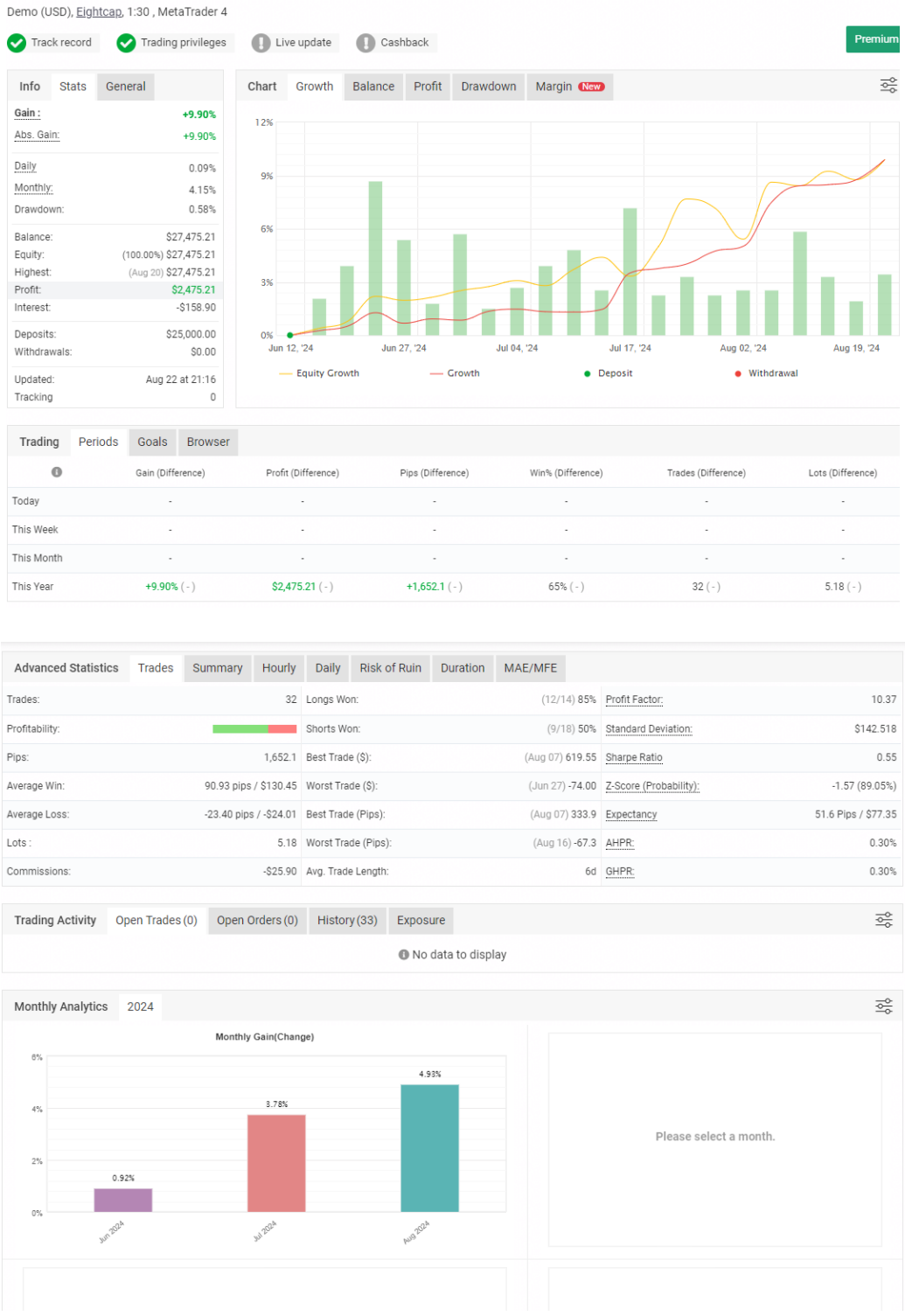
Appendices

Entry Rules & New's Avoidance Tables

```
C1-WAE Default but 3k deadzone
C2 - BvB 15
Baseline - AMA Default
Vol - TDFI 5 Period

Entry:
WAE must be above both lines and corresponding color,
BvB Must Have crossed within 2 candles
TDFI must have corresponding color
Must be within 1.5 ATR distance from baseline


Continuation - No Baseline Cross, WAE Bar must cross both lines again with corresponding color,
BvB must agree, ignore baseline distance and volume.

Exit - Baseline cross or BVB Cross.
```

Currency	News
USD	FOMC Speech
	Interest Rates
	Employment
	CPI
	Non Farm Payrolls
EUR	Interest Rates
	ECB Speech/Reports
GBP	Interest Rates/MPC Votes
	GDP
CAD	Interest Rates
	Employment
	CPI
	Retail Sales
AUD	Interest Rates
	Employment
NZD	Interest Rates
	GDP/GDT
	Employment
	CPI/Official Cash Rate
	RBNZ Rate Statement
JPY	Interest Rates
CHF	Libor Rate

25 000 Demo Account Results:



Advanced Statistics | Trades | Summary | Hourly | Daily | Risk of Ruin | Duration | MAE/MFE

Currency	Longs Trades	Longs Pips	Longs Profit($)	Shorts Trades	Shorts Pips	Shorts Profit($)	Total Trades	Total Pips	Total Profit($)	Won(%)	Lost(%)
AUDCAD	0	0.0	0.00	2	90.8	135.02	2	90.8	135.02	2 (100%)	0 (0%)
AUDNZD	2	237.3	637.26	0	0.0	0.00	2	237.3	637.26	2 (100%)	0 (0%)
EURCAD	0	0.0	0.00	2	143.4	125.69	2	143.4	125.69	2 (100%)	0 (0%)
EURGBP	2	110.8	231.08	0	0.0	0.00	2	110.8	231.08	2 (100%)	0 (0%)
EURNZD	2	-22.2	-34.78	0	0.0	0.00	2	-22.2	-34.78	0 (0%)	2 (100%)
GBPAUD	0	0.0	0.00	2	-134.6	-57.56	2	-134.6	-57.56	0 (0%)	2 (100%)
GBPCHF	2	25.0	29.30	0	0.0	0.00	2	25.0	29.30	2 (100%)	0 (0%)
GBPUSD	2	228.0	226.10	0	0.0	0.00	2	228.0	226.10	2 (100%)	0 (0%)
NZDCAD	2	212.6	199.60	0	0.0	0.00	2	212.6	199.60	2 (100%)	0 (0%)
NZDCHF	0	0.0	0.00	4	401.6	719.04	4	401.6	719.04	3 (75%)	1 (25%)
NZDUSD	0	0.0	0.00	4	159.6	227.24	4	159.6	227.24	2 (50%)	2 (50%)
USDCAD	0	0.0	0.00	4	-97.5	-153.30	4	-97.5	-153.30	0 (0%)	4 (100%)
USDJPY	2	297.3	190.52	0	0.0	0.00	2	297.3	190.52	2 (100%)	0 (0%)

Trading Activity | Open Trades (0) | Open Orders (0) | History (33) | Exposure

Open Date	Close date	Symbol	Action	Lots	SL (Price)	TP (Price)	Open Price	Close Price	Pips	Net Profit	Duration	Gain
08.14.2024 23:55	08.20.2024 15:32	NZDCAD	Buy	0.13	0.82304	-	0.82274	0.8365	137.6	129.69	5d	0.47%
08.16.2024 02:34	08.20.2024 15:32	GBPUSD	Buy	0.10	1.28986	-	1.28595	1.30147	155.2	153.80	4d	0.57%
08.14.2024 23:55	08.19.2024 06:17	NZDCAD	Buy	0.13	0.8115	0.83027	0.82276	0.83026	75.0	69.91	4d	0.26%
08.16.2024 02:34	08.16.2024 21:02	GBPUSD	Buy	0.10	1.275	1.29322	1.28594	1.29322	72.8	72.30	18h 28m	0.27%
08.12.2024 22:43	08.16.2024 02:32	GBPAUD	Sell	0.06	1.96589	1.92053	1.93853	1.94526	-67.3	-28.78	3d	-0.11%
08.12.2024 22:43	08.16.2024 02:32	GBPAUD	Sell	0.06	1.96589	-	1.93853	1.94526	-67.3	-28.78	3d	-0.11%
08.02.2024 02:22	08.09.2024 11:32	EURGBP	Buy	0.17	0.85524	-	0.84741	0.85524	78.3	161.33	7d	0.60%
07.23.2024 23:05	08.09.2024 05:37	AUDCAD	Sell	0.22	0.90634	-	0.91141	0.90649	49.2	71.18	16d	0.26%
07.11.2024 23:23	08.07.2024 04:26	NZDCHF	Sell	0.17	0.51292	-	0.54631	0.51292	333.9	619.55	26d	2.36%
08.02.2024 02:22	08.02.2024 15:30	EURGBP	Buy	0.17	0.84246	0.85071	0.84741	0.85066	32.5	69.75	13h 8m	0.27%
07.16.2024 23:01	07.31.2024 15:30	NZDUSD	Sell	0.15	0.59318	-	0.60519	0.59287	123.2	180.90	14d	0.70%
07.23.2024 23:05	07.25.2024 03:25	AUDCAD	Sell	0.22	0.91796	0.90724	0.91141	0.90725	41.6	63.84	1d	0.25%
07.16.2024 23:01	07.19.2024 21:37	NZDUSD	Sell	0.15	0.61178	0.60083	0.60519	0.60085	43.4	63.30	2d	0.24%
06.20.2024 23:42	07.17.2024 22:58	AUDNZD	Buy	0.48	1.10673	-	1.08756	1.10672	191.6	512.87	26d	2.02%
07.11.2024 23:23	07.15.2024 23:54	NZDCHF	Sell	0.17	0.5516	0.54282	0.54631	0.54416	21.5	36.40	4d	0.14%
07.04.2024 01:13	07.12.2024 23:12	USDCAD	Sell	0.16	1.36353	-	1.36383	1.36353	3.0	-4.00	8d	-0.02%
07.04.2024 01:13	07.12.2024 22:57	USDCAD	Sell	0.16	1.36353	1.35797	1.36383	1.3633	5.3	-1.30	8d	-0.01%
07.01.2024 21:41	07.08.2024 22:11	EURNZD	Buy	0.13	1.75488	1.7767	1.76797	1.76686	-11.1	-17.39	7d	-0.07%
07.01.2024 21:41	07.08.2024 22:11	EURNZD	Buy	0.13	1.75488	-	1.76797	1.76686	-11.1	-17.39	7d	-0.07%
07.02.2024 23:23	07.04.2024 15:22	GBPCHF	Buy	0.09	1.14709	-	1.14679	1.14702	2.3	4.47	1d	0.02%

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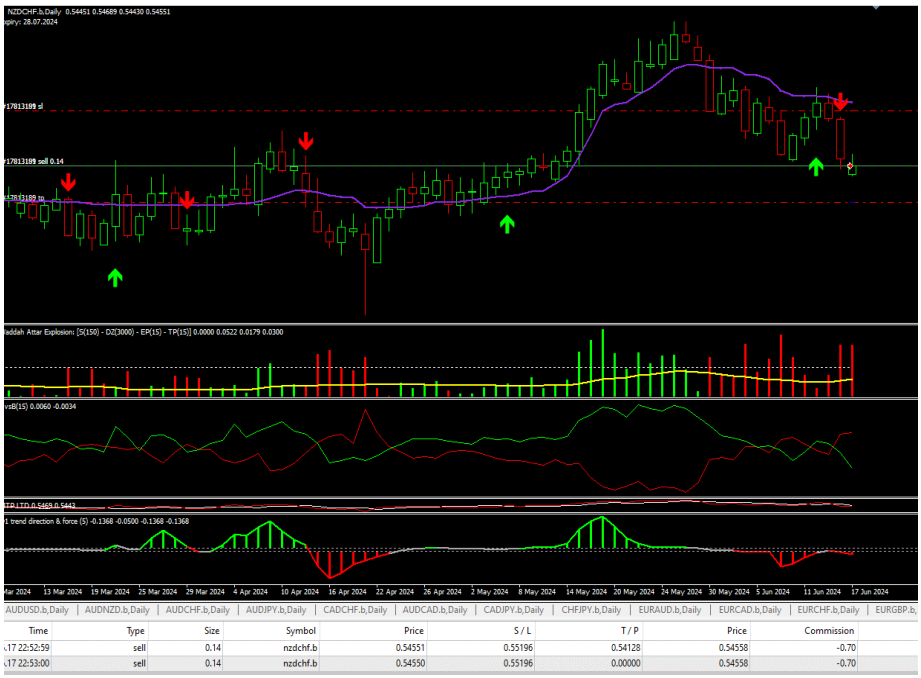
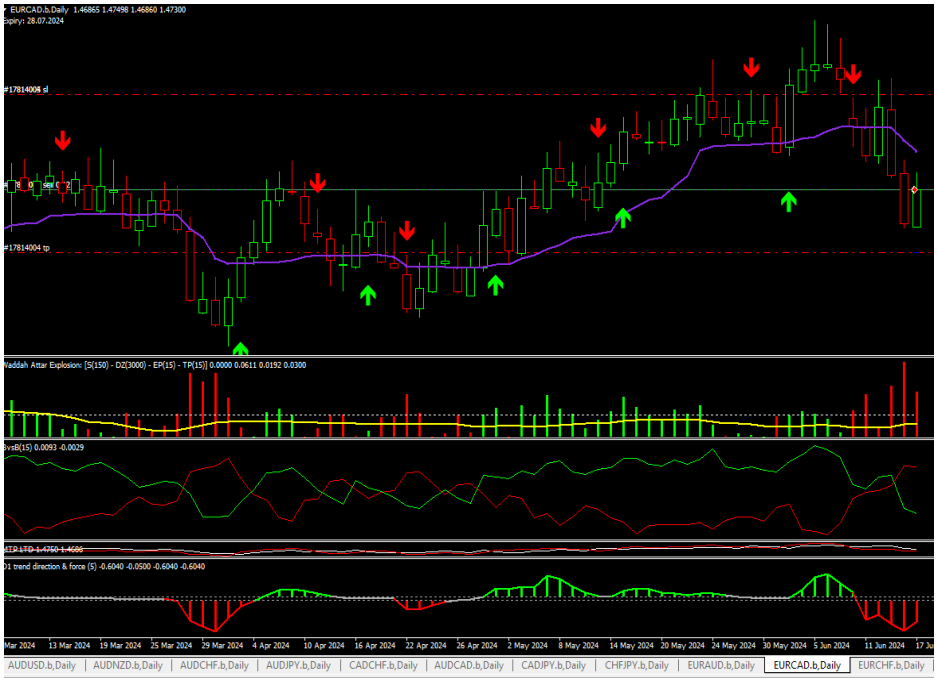
Trading Activity | Open Trades (0) | Open Orders (0) | History (33) | Exposure

Open Date	Close date	Symbol	Action	Lots	SL (Price)	TP (Price)	Open Price	Close Price	Pips	Net Profit	Duration	Gain
07.02.2024 23:23	07.04.2024 01:12	GBPCHF	Buy	0.09	1.14709	1.15336	1.14679	1.14906	22.7	24.83	1d	0.10%
06.20.2024 23:50	07.03.2024 17:12	USDJPY	Buy	0.10	160.875	-	158.922	160.868	194.6	125.18	12d	0.50%
06.27.2024 02:03	07.02.2024 00:04	NZDUSD	Sell	0.19	0.60792	-	0.60822	0.60857	-3.5	-8.48	4d	-0.03%
06.27.2024 02:03	07.02.2024 00:04	NZDUSD	Sell	0.19	0.60792	0.60475	0.60822	0.60857	-3.5	-8.48	4d	-0.03%
06.17.2024 23:03	06.28.2024 22:49	EURCAD	Sell	0.12	1.4712	-	1.473	1.466	70.0	61.65	10d	0.24%
06.25.2024 22:17	06.27.2024 02:01	USDCAD	Sell	0.18	1.37296	-	1.36533	1.37062	-52.9	-74.00	1d	-0.29%
06.25.2024 22:17	06.27.2024 02:01	USDCAD	Sell	0.18	1.37296	1.36031	1.36533	1.37062	-52.9	-74.00	1d	-0.29%
06.20.2024 23:50	06.26.2024 11:52	USDJPY	Buy	0.10	157.384	159.946	158.922	159.949	102.7	65.34	5d	0.26%
06.20.2024 23:42	06.26.2024 07:43	AUDNZD	Buy	0.48	1.08069	1.09213	1.08756	1.09213	45.7	124.39	5d	0.50%
06.17.2024 23:03	06.20.2024 22:16	EURCAD	Sell	0.12	1.48415	1.46566	1.473	1.46566	73.4	64.04	2d	0.26%
06.17.2024 22:53	06.20.2024 10:30	NZDCHF	Sell	0.14	0.5452	-	0.5455	0.54511	3.9	-1.55	2d	-0.01%
06.17.2024 22:52	06.18.2024 14:34	NZDCHF	Sell	0.14	0.55196	0.54128	0.54551	0.54128	42.3	64.64	15h 41m	0.26%
06.12.2024 18:24			Deposit							25,000.00		

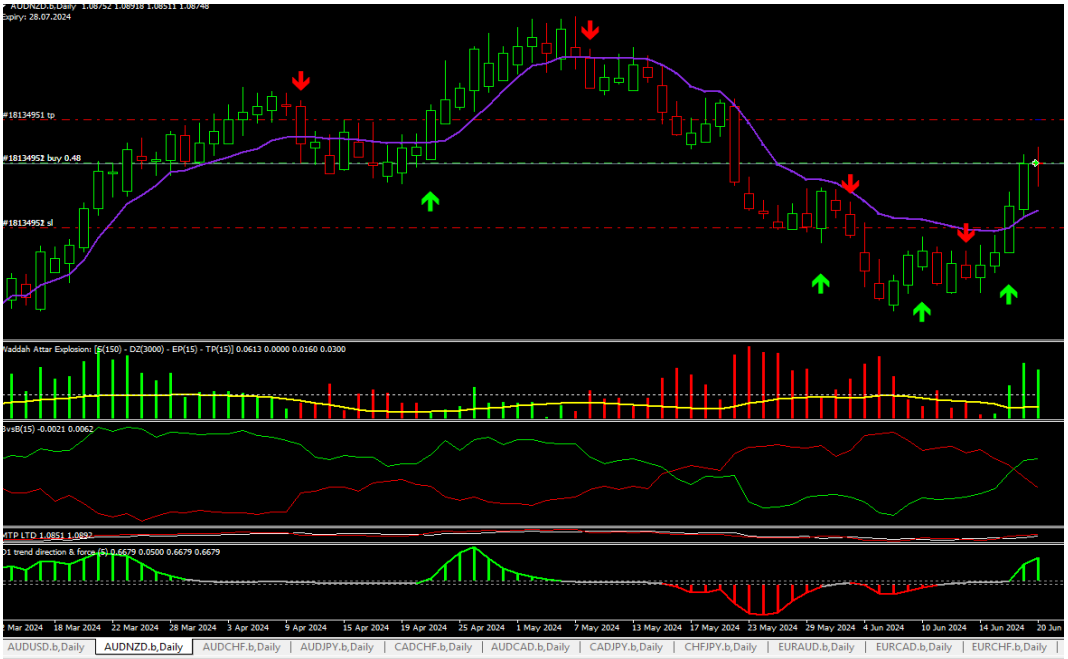
1 2

25 000 Demo Account Entries:



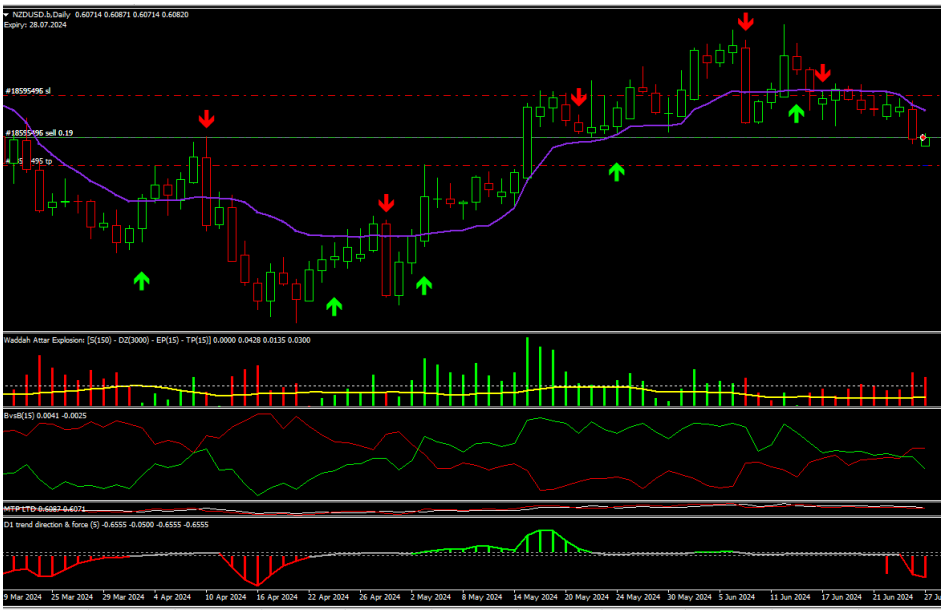


Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
.17 22:53:00	sell	0.14	nzdchf.b	0.54550	0.55196	0.00000	0.54553	-0.70
.17 23:03:13	sell	0.12	eurcad.b	1.47300	1.48415	1.46566	1.47305	-0.60
.17 23:03:14	sell	0.12	eurcad.b	1.47300	1.48415	0.00000	1.47306	-0.60

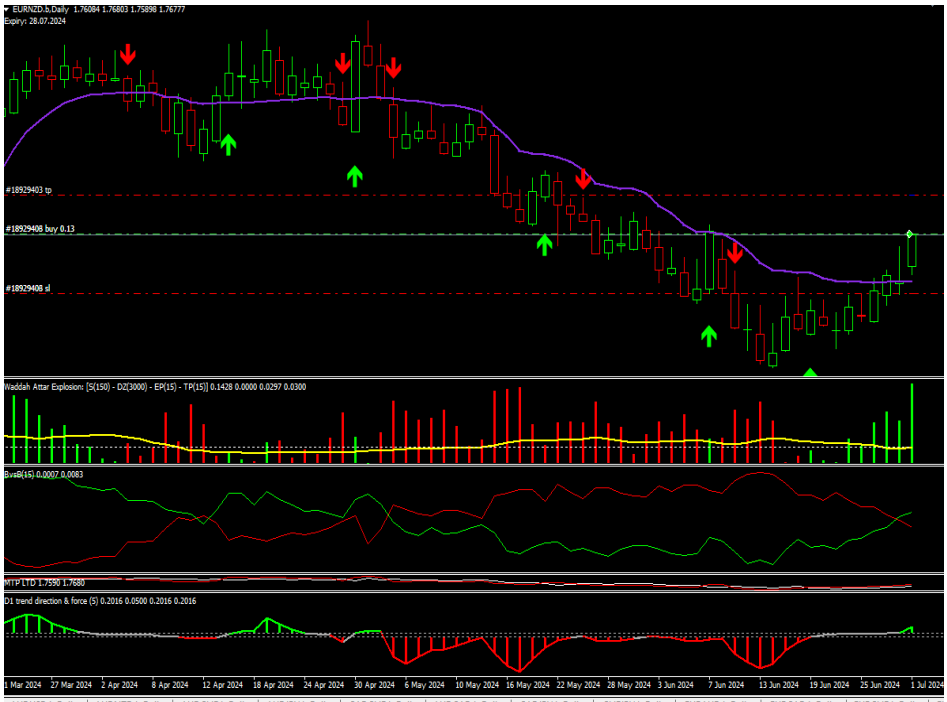


Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
17 23:03:14	sell	0.12	eurcad.b	1.47300	1.47270	0.00000	1.46533	-0.60
20 23:42:59	buy	0.48	audnzd.b	1.08756	1.08069	1.09213	1.08748	-2.40
20 23:42:59	buy	0.48	audnzd.b	1.08756	1.08069	0.00000	1.08748	-2.40

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission	Swap	Profit
17 23:03:14	sell	0.12	eurcad.b	1.47300	1.47270	0.00000	1.46530	-0.60	0.30	67.49
20 23:42:59	buy	0.48	audnzd.b	1.08756	1.08069	1.09213	1.08738	-2.40	0.00	-5.29
20 23:42:59	buy	0.48	audnzd.b	1.08756	1.08069	0.00000	1.08738	-2.40	0.00	-5.29
20 23:50:04	buy	0.10	usdjpy.b	158.922	157.384	159.946	158.916	-0.50	0.00	-0.38



Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
17 23:03:14	sell	0.12	eurcad.b	1.47300	1.47120	0.00000	1.46375	-0.60
20 23:42:59	buy	0.48	audnzd.b	1.08756	1.08786	0.00000	1.09267	-2.40
20 23:50:05	buy	0.10	usdjpy.b	158.922	158.952	0.000	160.699	-0.50
27 02:03:24	sell	0.19	nzdusd.b	0.60822	0.61345	0.60475	0.60821	-0.95

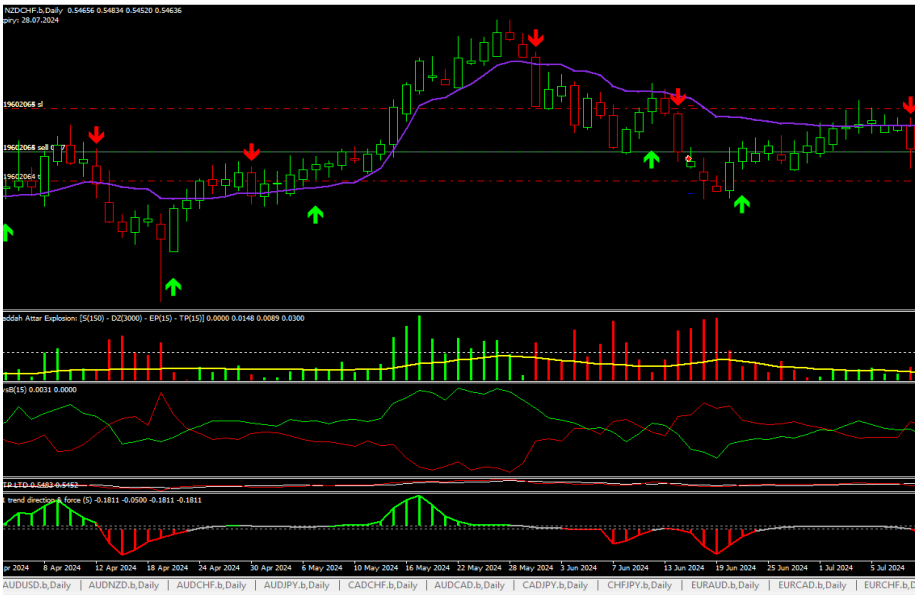


Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
27 02:03:24	sell	0.19	nzdusd.b	0.60822	0.60792	0.00000	0.60685	-0.95
01 21:41:32	buy	0.13	eurnzd.b	1.76797	1.75488	1.77670	1.76777	-0.65
01 21:41:33	buy	0.13	eurnzd.b	1.76797	1.75488	0.00000	1.76777	-0.65

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
0 23:50:05	buy	0.10	usdjpy.b	158.922	160.875	0.000	161.469	-0.50
1 21:41:32	buy	0.13	eurnzd.b	1.76797	1.75488	1.77670	1.76715	-0.65
1 21:41:33	buy	0.13	eurnzd.b	1.76797	1.75488	0.00000	1.76715	-0.65
2 23:23:38	buy	0.09	gbpchf.b	1.14679	1.13694	1.15336	1.14663	-0.45

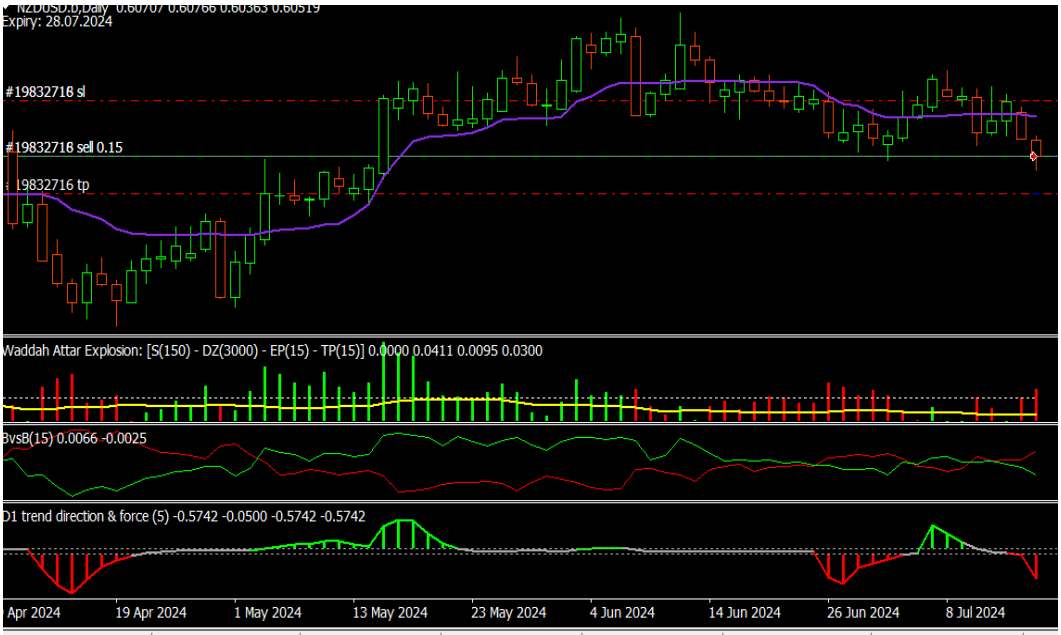
AUDNZD.b,Daily | EURCAD.b,Daily | USDJPY.b,Daily | AUDJPY.b,Daily | CADJPY.b,Daily | AUDCHF.b,Daily | AUDUSD.b,Daily

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
:23:38	buy	0.09	gbpchf.b	1.14679	1.14709	0.00000	1.14905	-0.45
:13:58	sell	0.16	usdcad.b	1.36383	1.37264	1.35797	1.36386	-0.80
:13:58	sell	0.16	usdcad.b	1.36383	1.37264	0.00000	1.36386	-0.80

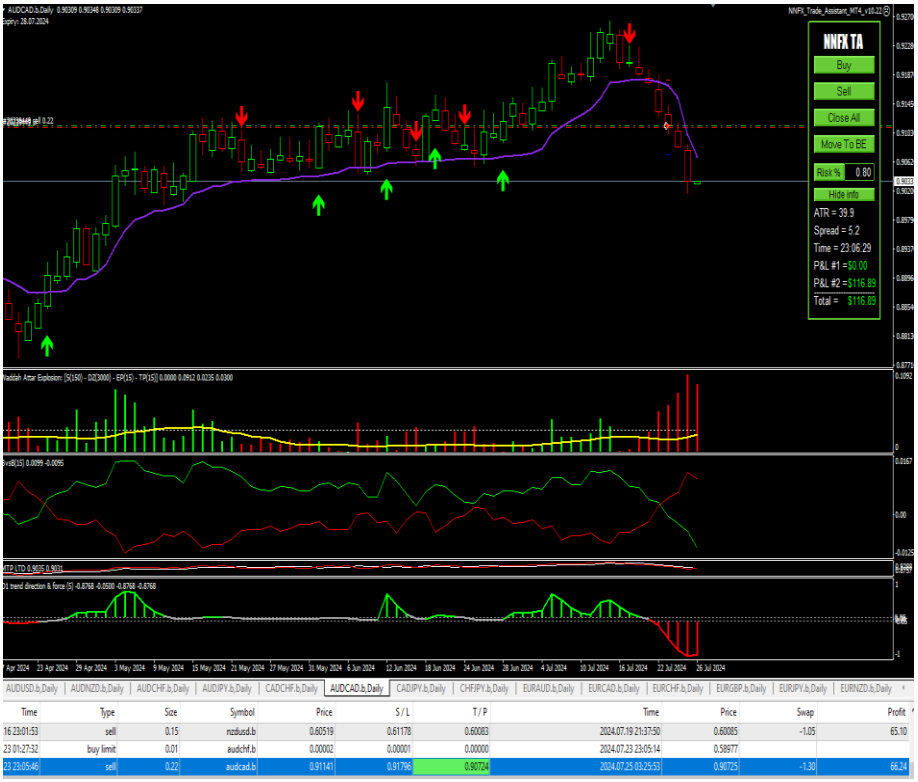


AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,D

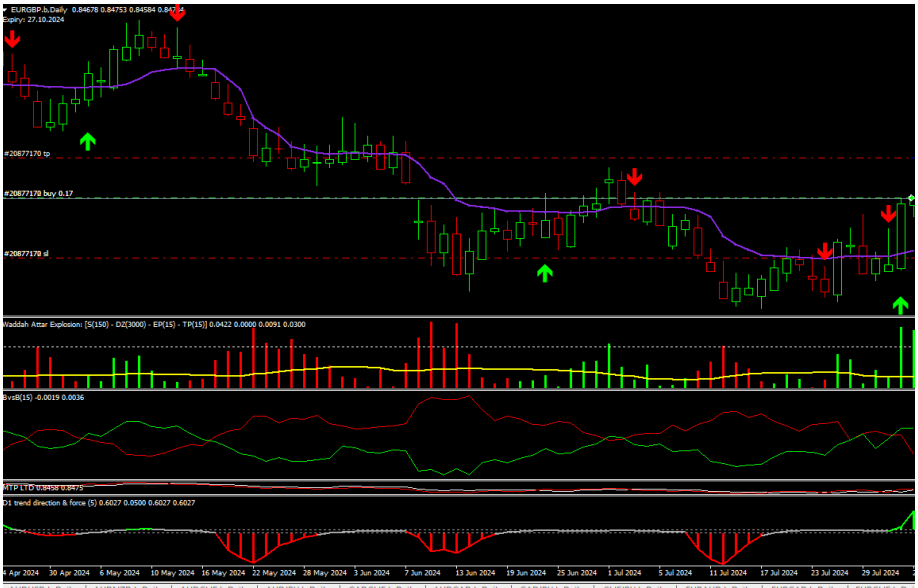
Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
01:13:58	sell	0.16	usdcad.b	1.36383	1.37264	0.00000	1.36332	-0.80
23:23:24	sell	0.17	nzdchf.b	0.54631	0.55160	0.54282	0.54640	-0.85
23:23:25	sell	0.17	nzdchf.b	0.54631	0.55160	0.00000	0.54640	-0.85



Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
23:25	sell	0.17	nzdchf.b	0.54631	0.54612	0.00000	0.54079	-0.85
01:53	sell	0.15	nzdusd.b	0.60519	0.61178	0.60083	0.60521	-0.75
01:54	sell	0.15	nzdusd.b	0.60519	0.61178	0.00000	0.60521	-0.75

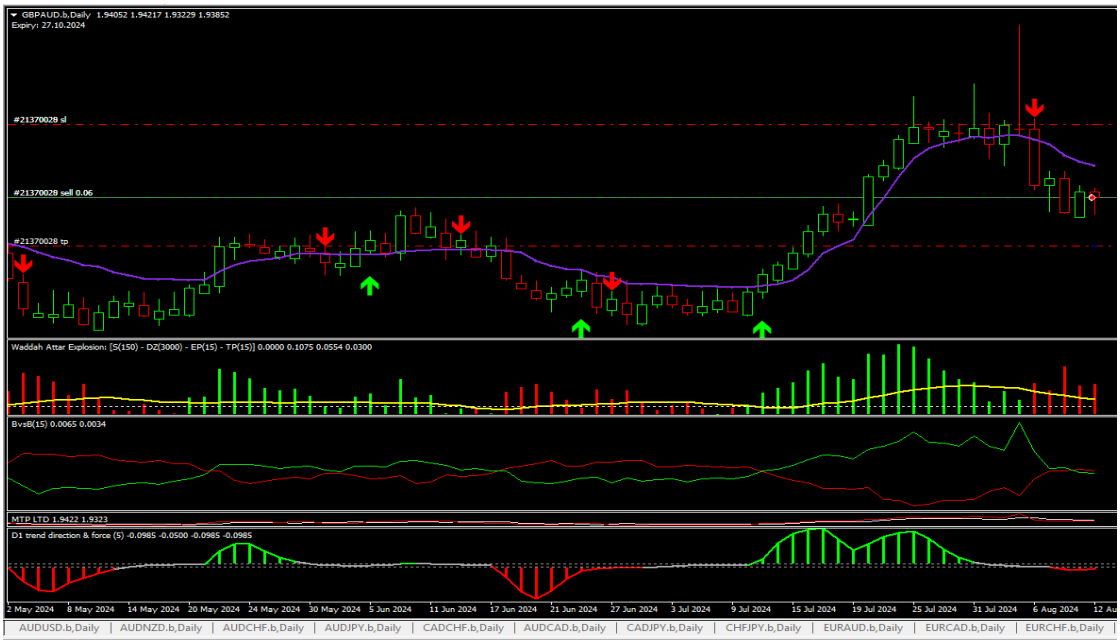


Time	Type	Size	Symbol	Price	S / L	T / P	Time	Price	Swap	Profit
16 23:01:53	sell	0.15	nzdusd.b	0.60519	0.61178	0.60083	2024.07.19 21:37:50	0.60085	-1.05	65.10
23 01:27:32	buy limit	0.01	audchf.b	0.00002	0.00001	0.00000	2024.07.23 23:05:14	0.58977		
23 23:05:46	sell	0.22	audcad.b	0.91141	0.91796	0.90724	2024.07.25 03:25:53	0.90725	-1.30	66.24



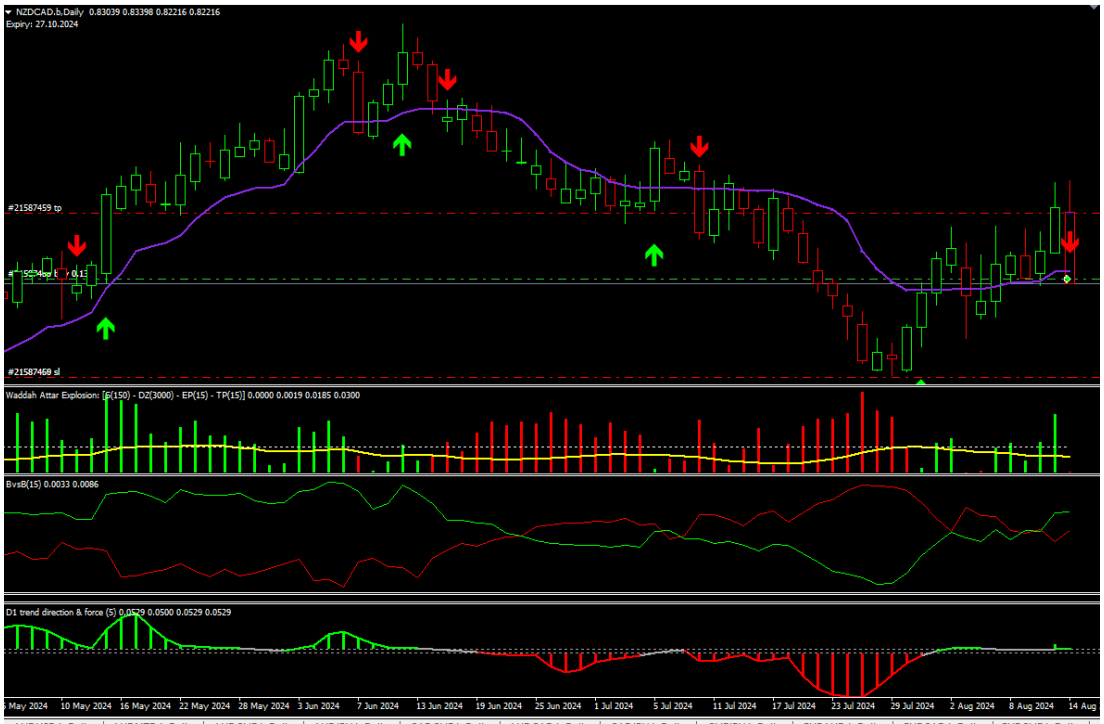
Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
3 23:05:47	sell	0.22	audcad.b	0.91141	0.90874	0.00000	0.90185	-1.10
2 02:22:40	buy	0.17	eurgbp.b	0.84741	0.84246	0.85071	0.84734	-0.85
2 02:22:41	buy	0.17	eurgbp.b	0.84741	0.84246	0.00000	0.84734	-0.85

margin: 24 524.61 Margin level: 1165.53%



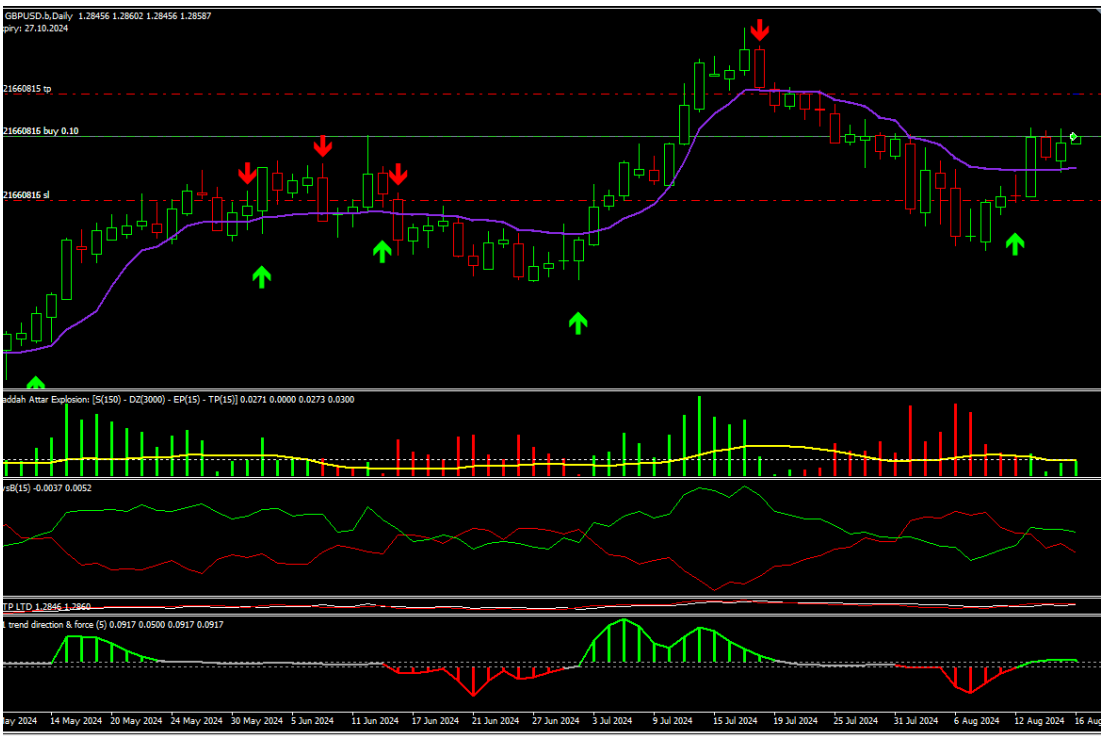
Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
8.12 22:43:57	sell	0.06	gbpaud.b	1.93853	1.96589	1.92053	1.93865	-0.30
8.12 22:43:57	sell	0.06	gbpaud.b	1.93853	1.96589	0.00000	1.93865	-0.30

margin: 26 594.78 Margin level: 5307.16%



AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,Daily

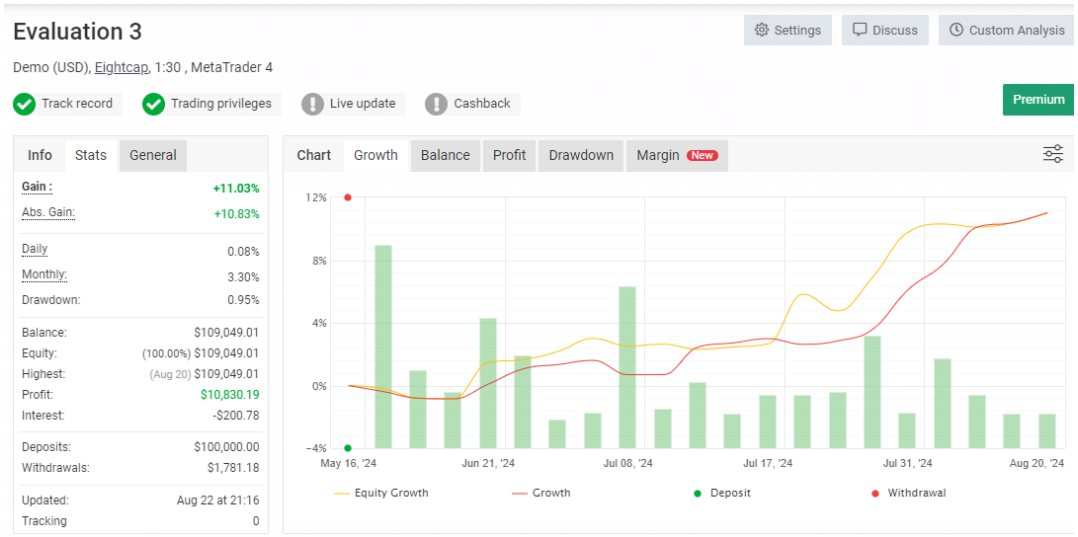
Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
12 22:43:57	sell	0.06	gbpaud.b	1.93853	1.96589	0.00000	1.94551	-0.30
14 23:55:13	buy	0.13	nzdcad.b	0.82276	0.81150	0.83027	0.82216	-0.65
14 23:55:13	buy	0.13	nzdcad.b	0.82274	0.81150	0.00000	0.82216	-0.65



AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,Daily

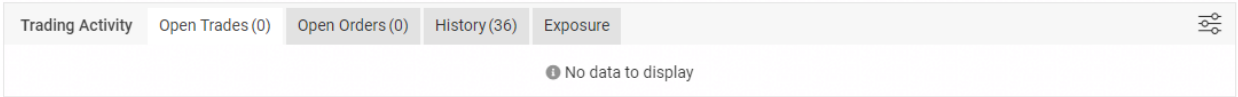
Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
23:55:13	buy	0.13	nzdcad.b	0.82276	0.81150	0.83027	0.82161	-0.65
23:55:13	buy	0.13	nzdcad.b	0.82274	0.81150	0.00000	0.82161	-0.65
02:34:01	buy	0.10	gbpusd.b	1.28594	1.27500	1.29322	1.28587	-0.50
02:34:01	buy	0.10	gbpusd.b	1.28595	1.27500	0.00000	1.28587	-0.50

100 000 Demo Account Results:



Trading	Periods	Goals	Browser			
	Gain (Difference)	Profit (Difference)	Pips (Difference)	Win% (Difference)	Trades (Difference)	Lots (Difference)
Today	-	-	-	-	-	-
This Week	-	-	-	-	-	-
This Month	-	-	-	-	-	-
This Year	+11.03% (-)	$10,830.19 (-)	+3,131.6 (-)	58% (-)	34 (-)	18.50 (-)

Advanced Statistics	Trades	Summary	Hourly	Daily	Risk of Ruin	Duration	MAE/MFE		
Trades:	34		Longs Won:	(16/20) 80%		Profit Factor:	6.07		
Profitability:			Shorts Won:	(4/14) 28%		Standard Deviation:	$648.985		
Pips:	3,131.6		Best Trade ($):	(Jul 31) 2,449.49		Sharpe Ratio	0.49		
Average Win:	184.20 pips / $648.39		Worst Trade ($):	(Jul 08) -476.65		Z-Score (Probability):	-3.95 (99.99%)		
Average Loss:	-39.46 pips / -$152.69		Best Trade (Pips):	(Jul 31) 945.7		Expectancy	92.1 Pips / $318.54		
Lots :	18.50		Worst Trade (Pips):	(Jul 08) -76.2		AHPR:	0.31%		
Commissions:	-$92.50		Avg. Trade Length:	6d		GHPR:	0.30%		



Advanced Statistics | Trades | Summary | Hourly | Daily | Risk of Ruin | Duration | MAE/MFE

Currency	Longs Trades	Longs Pips	Longs Profit($)	Shorts Trades	Shorts Pips	Shorts Profit($)	Total Trades	Total Pips	Total Profit($)	Won(%)	Lost(%)
AUDJPY	2	393.7	1,249.62	0	0.0	0.00	2	393.7	1,249.62	2 (100%)	0 (0%)
AUDUSD	0	0.0	0.00	2	-11.0	-56.80	2	-11.0	-56.80	0 (0%)	2 (100%)
CADJPY	2	213.4	1,618.00	0	0.0	0.00	2	213.4	1,618.00	2 (100%)	0 (0%)
CHFJPY	0	0.0	0.00	2	-146.1	-345.50	2	-146.1	-345.50	0 (0%)	2 (100%)
EURAUD	2	605.5	2,612.80	0	0.0	0.00	2	605.5	2,612.80	2 (100%)	0 (0%)
EURJPY	2	431.2	1,019.37	0	0.0	0.00	2	431.2	1,019.37	2 (100%)	0 (0%)
EURSGD	0	0.0	0.00	4	29.8	283.29	4	29.8	283.29	2 (50%)	2 (50%)
EURUSD	2	15.9	57.56	0	0.0	0.00	2	15.9	57.56	2 (100%)	0 (0%)
GBPAUD	2	482.2	1,389.05	0	0.0	0.00	2	482.2	1,389.05	2 (100%)	0 (0%)
GBPNZD	4	936.5	2,437.71	0	0.0	0.00	4	936.5	2,437.71	2 (50%)	2 (50%)
GBPUSD	0	0.0	0.00	2	-10.4	-42.00	2	-10.4	-42.00	0 (0%)	2 (100%)
NZDCAD	0	0.0	0.00	2	152.7	713.64	2	152.7	713.64	2 (100%)	0 (0%)
NZDSGD	0	0.0	0.00	2	-152.3	-952.72	2	-152.3	-952.72	0 (0%)	2 (100%)
NZDUSD	2	208.1	903.97	0	0.0	0.00	2	208.1	903.97	2 (100%)	0 (0%)
USDSGD	2	-17.6	-57.80	0	0.0	0.00	2	-17.6	-57.80	0 (0%)	2 (100%)

Trading Activity | Open Trades (0) | Open Orders (0) | History (36) | Exposure

Open Date	Close date	Symbol	Action	Lots	SL (Price)	TP (Price)	Open Price	Close Price	Pips	Net Profit	Duration	Gain
08.14.2024 23:49	08.20.2024 15:32	NZDUSD	Buy	0.44	0.6001	-	0.5998	0.61408	142.8	622.11	5d	0.57%
08.14.2024 23:49	08.19.2024 04:21	NZDUSD	Buy	0.44	0.59001	0.60631	0.5998	0.60633	65.3	281.86	4d	0.26%
07.16.2024 22:54	08.06.2024 19:45	EURAUD	Buy	0.68	1.67331	-	1.61862	1.6733	546.8	2,351.06	20d	2.22%
07.25.2024 03:53	08.02.2024 15:30	EURSGD	Sell	0.71	1.44571	-	1.45626	1.44706	92.0	465.26	8d	0.44%
07.12.2024 22:51	08.02.2024 07:32	GBPAUD	Buy	0.44	1.95308	-	1.91371	1.95307	393.6	1,128.17	20d	1.08%
06.27.2024 22:52	07.31.2024 00:15	GBPNZD	Buy	0.45	2.17275	-	2.07806	2.17263	945.7	2,449.49	33d	2.41%
07.10.2024 23:45	07.30.2024 21:16	NZDCAD	Sell	0.72	0.81749	-	0.82817	0.81751	106.6	503.10	19d	0.50%
07.25.2024 03:53	07.30.2024 19:35	EURSGD	Sell	0.71	1.46387	1.45165	1.45625	1.45165	46.0	231.37	5d	0.23%
07.10.2024 23:45	07.22.2024 07:18	NZDCAD	Sell	0.72	0.83562	0.82355	0.82817	0.82356	46.1	210.54	11d	0.21%
07.15.2024 23:49	07.19.2024 01:25	CHFJPY	Sell	0.34	178.384	-	176.499	177.221	-72.2	-170.92	3d	-0.17%
07.15.2024 23:48	07.19.2024 01:25	CHFJPY	Sell	0.34	178.384	175.309	176.499	177.238	-73.9	-174.58	3d	-0.17%
07.16.2024 22:54	07.17.2024 17:09	EURAUD	Buy	0.68	1.60979	1.62449	1.61861	1.62448	58.7	261.74	18h 15m	0.26%
07.12.2024 22:51	07.16.2024 05:43	GBPAUD	Buy	0.44	1.90035	1.92262	1.91371	1.92257	88.6	260.88	3d	0.26%
06.18.2024 23:45	07.11.2024 15:43	AUDJPY	Buy	0.48	108.168	-	105.058	108.143	308.5	984.84	22d	0.99%
06.24.2024 01:25	07.11.2024 15:42	EURJPY	Buy	0.36	173.956	-	170.828	173.956	312.8	744.87	17d	0.75%
07.04.2024 21:47	07.09.2024 11:00	EURUSD	Buy	0.51	1.08163	-	1.08126	1.08161	3.5	4.25	4d	0.00%
07.04.2024 21:47	07.08.2024 22:08	EURUSD	Buy	0.51	1.08154	1.08652	1.08126	1.0825	12.4	53.31	4d	0.05%
07.01.2024 21:43	07.08.2024 00:14	NZDSGD	Sell	0.78	0.83111	-	0.82418	0.8318	-76.2	-476.65	6d	-0.48%
07.01.2024 21:43	07.08.2024 00:14	NZDSGD	Sell	0.78	0.83111	0.82016	0.82418	0.83179	-76.1	-476.07	6d	-0.48%
06.27.2024 22:52	07.02.2024 04:11	GBPNZD	Buy	0.45	2.06347	2.08777	2.07806	2.08782	97.6	257.73	4d	0.26%

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Trading Activity | Open Trades (0) | Open Orders (0) | History (36) | Exposure

Open Date	Close date	Symbol	Action	Lots	SL (Price)	TP (Price)	Open Price	Close Price	Pips	Net Profit	Duration	Gain
06.24.2024 01:25	06.27.2024 16:26	EURJPY	Buy	0.36	169.052	172.012	170.828	172.012	118.4	274.50	3d	0.28%
06.19.2024 23:41	06.24.2024 00:29	CADJPY	Buy	1.18	116.61	-	115.331	116.599	126.8	959.01	4d	0.98%
06.18.2024 23:45	06.21.2024 04:21	AUDJPY	Buy	0.48	103.779	105.911	105.058	105.91	85.2	264.78	2d	0.27%
06.19.2024 23:41	06.21.2024 03:57	CADJPY	Buy	1.18	114.028	116.199	115.331	116.197	86.6	658.99	1d	0.68%
06.17.2024 22:59	06.18.2024 23:45	GBPUSD	Sell	0.36	1.28102	1.26323	1.27034	1.27086	-5.2	-21.00	1d	-0.02%
06.17.2024 22:59	06.18.2024 23:45	GBPUSD	Sell	0.36	1.28102	-	1.27034	1.27086	-5.2	-21.00	1d	-0.02%
06.10.2024 22:50	06.12.2024 15:30	EURSGD	Sell	0.50	1.4663	-	1.45563	1.46104	-54.1	-206.67	1d	-0.21%
06.10.2024 22:50	06.12.2024 15:30	EURSGD	Sell	0.50	1.4663	1.44907	1.45563	1.46104	-54.1	-206.67	1d	-0.21%
06.10.2024 17:46	06.11.2024 22:46	AUDUSD	Sell	0.48	0.66847	-	0.66022	0.66077	-5.5	-28.40	1d	-0.03%
06.10.2024 17:46	06.11.2024 22:46	AUDUSD	Sell	0.48	0.66847	0.65475	0.66022	0.66077	-5.5	-28.40	1d	-0.03%
06.10.2024 22:48	06.11.2024 22:46	GBPNZD	Buy	0.40	2.0632	-	2.07882	2.07349	-53.3	-134.51	23h 58m	-0.14%
06.10.2024 22:48	06.11.2024 22:46	GBPNZD	Buy	0.40	2.0632	2.08922	2.07882	2.07347	-53.5	-135.00	23h 58m	-0.14%
06.10.2024 22:51	06.11.2024 00:14	USDSGD	Buy	0.42	1.34632	1.3569	1.35277	1.35189	-8.8	-28.90	1h 23m	-0.03%
06.10.2024 22:51	06.11.2024 00:14	USDSGD	Buy	0.42	1.34632	-	1.35277	1.35189	-8.8	-28.90	1h 23m	-0.03%
05.16.2024 09:15			Withdrawal							-1,781.18		
05.16.2024 08:12			Deposit							100,000.00		

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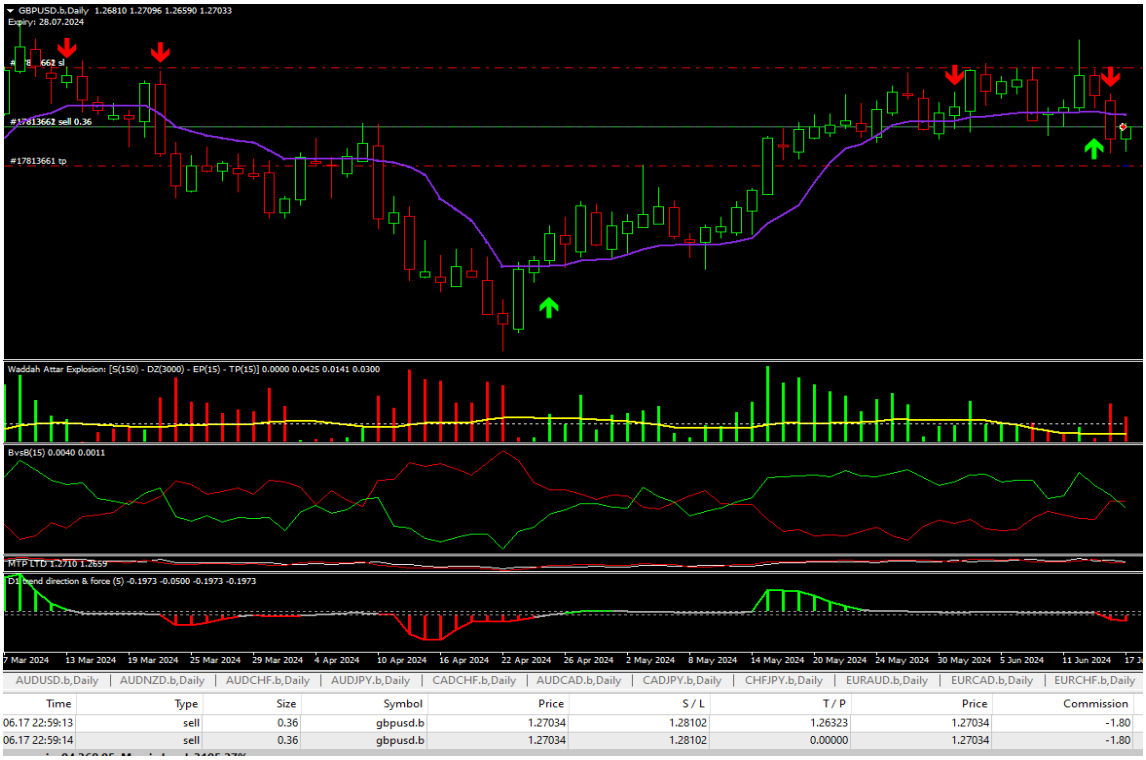
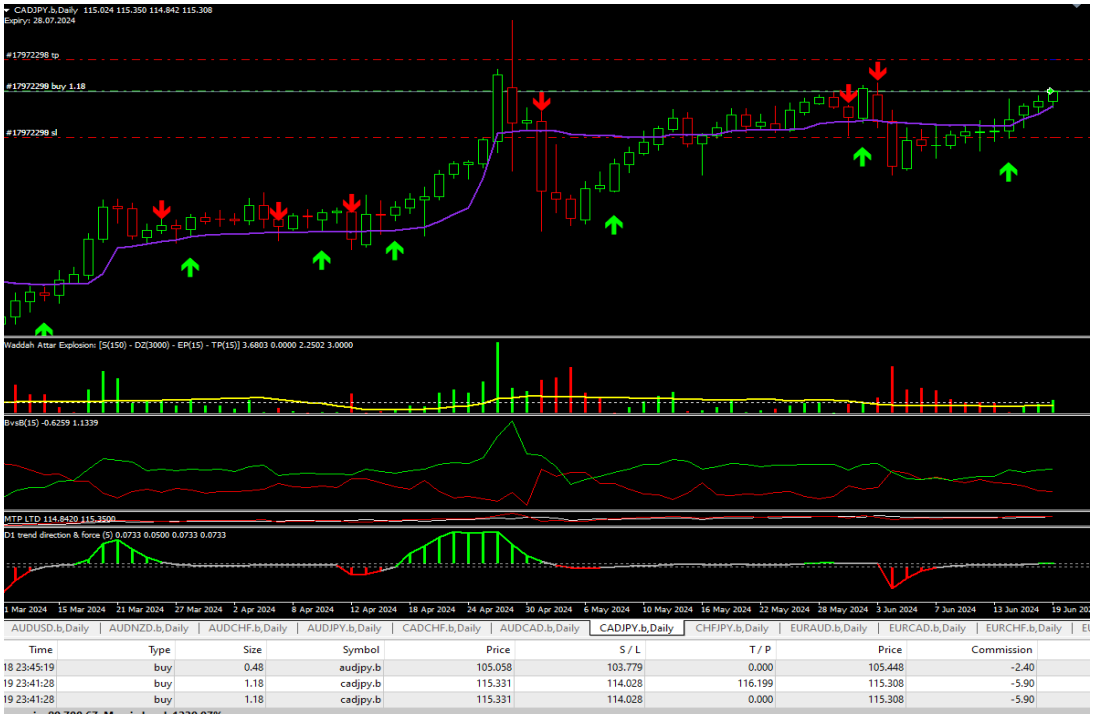
100 000 Demo Account Entries:

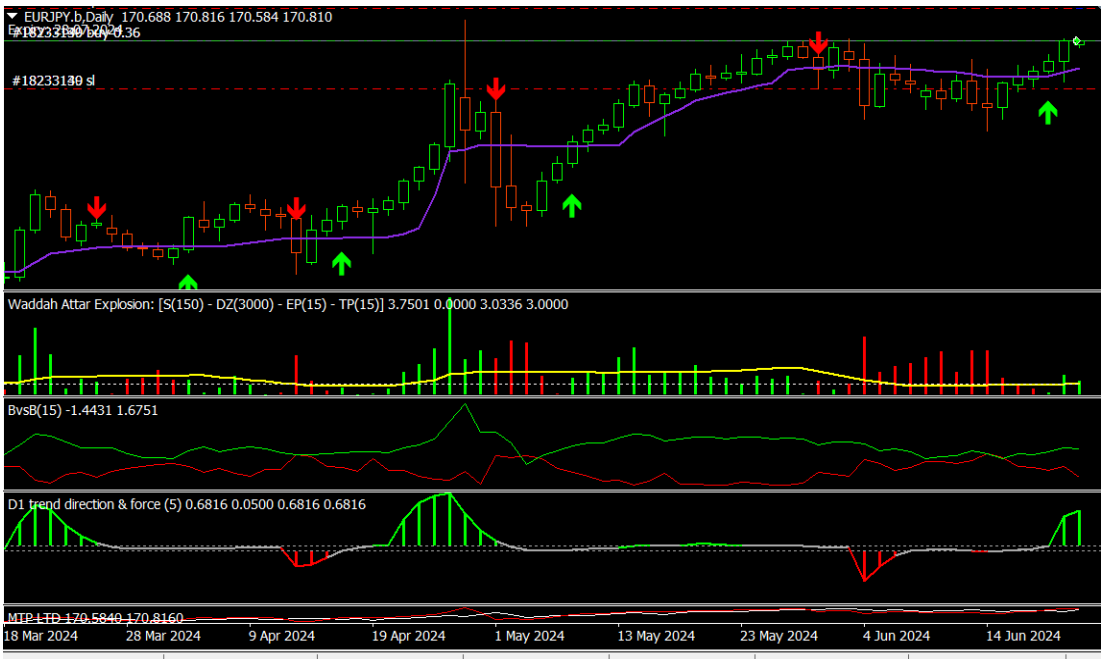


Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
06.17 22:59:13	sell	0.36	gbpusd.b	1.27034	1.28102	1.26323	1.27034	-1.80
06.17 22:59:14	sell	0.36	gbpusd.b	1.27034	1.28102	0.00000	1.27034	-1.80

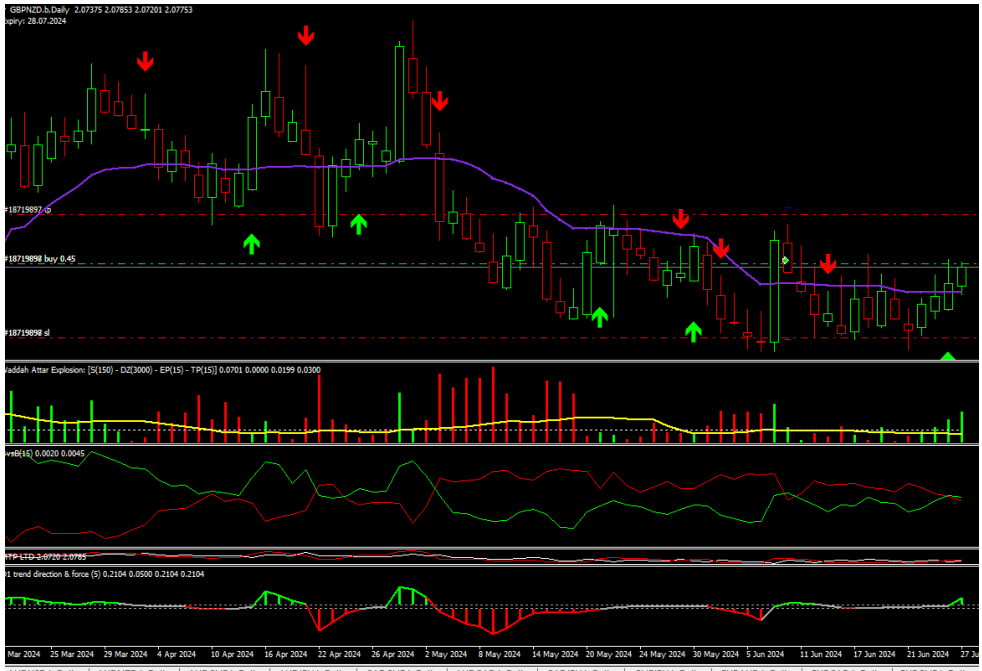
Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
18 23:45:19	buy	0.48	audjpy.b	105.058	103.779	105.911	105.037	-2.40
18 23:45:19	buy	0.48	audjpy.b	105.058	103.779	0.000	105.037	-2.40



Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
18 23:45:19	buy	0.48	audjpy.b	105.058	103.779	0.000	105.448	-2.40
19 23:41:28	buy	1.18	cadjpy.b	115.331	114.028	116.199	115.308	-5.90
19 23:41:28	buy	1.18	cadjpy.b	115.331	114.028	0.000	115.308	-5.90

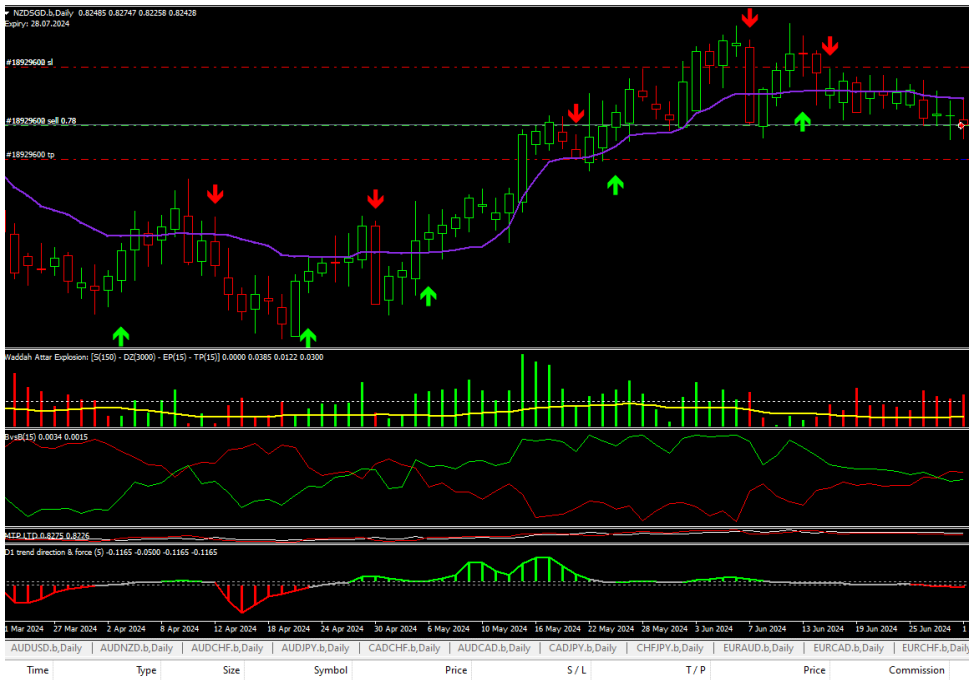


Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
:25:13	buy	0.36	eurjpy.b	170.828	169.052	172.012	170.810	-1.80
:25:13	buy	0.36	eurjpy.b	170.828	169.052	0.000	170.810	-1.80



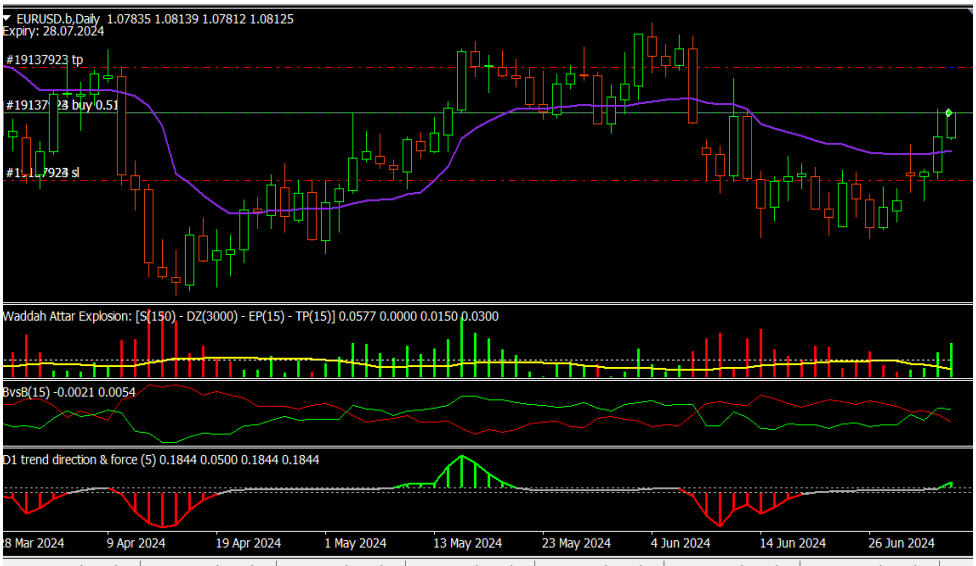
AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,Daily

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
8 23:45:19	buy	0.48	audjpy.b	105.058	105.846	0.000	106.893	-2.40
4 01:25:13	buy	0.36	eurjpy.b	170.828	169.052	0.000	172.093	-1.80
7 22:52:27	buy	0.45	gbpnzd.b	2.07806	2.06347	2.08777	2.07753	-2.25
7 22:52:28	buy	0.45	gbpnzd.b	2.07806	2.06347	0.00000	2.07753	-2.25



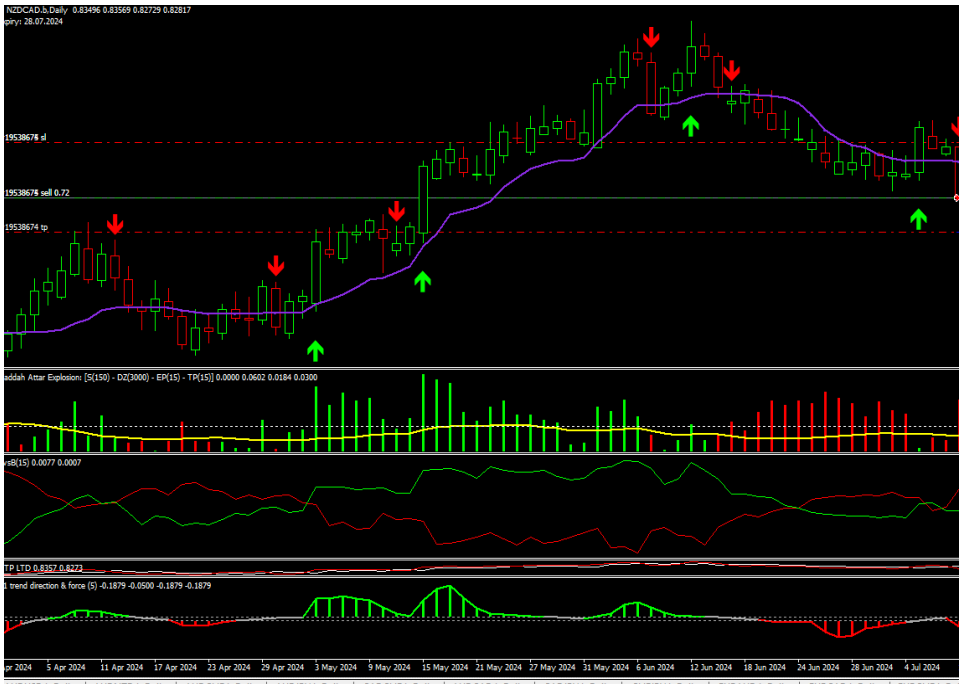
AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,Daily

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
4 01:25:13	buy	0.36	eurjpy.b	170.828	171.761	0.000	173.254	-1.80
7 22:52:27	buy	0.45	gbpnzd.b	2.07806	2.06347	2.08777	2.08221	-2.25
7 22:52:28	buy	0.45	gbpnzd.b	2.07806	2.06347	0.00000	2.08221	-2.25
1 21:43:56	sell	0.78	nzdsgd.b	0.82418	0.83111	0.82016	0.82467	-3.90



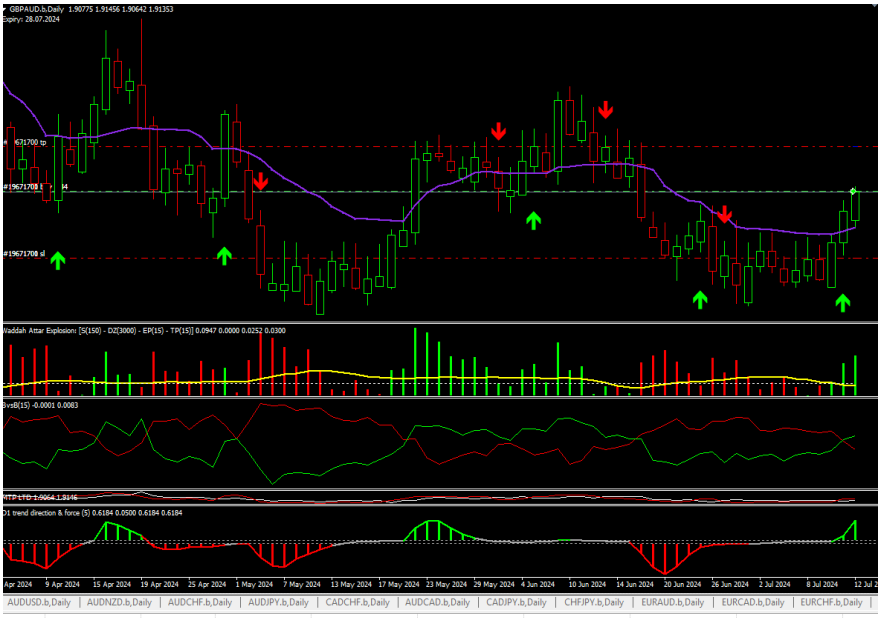
AUDNZD.b,Daily | EURCAD.b,Daily | USDJPY.b,Daily | AUDJPY.b,Daily | CADJPY.b,Daily | AUDCHF.b,Daily | AUDUSD.b,Daily | CA

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
43:56	sell	0.78	nzdsgd.b	0.82418	0.83111	0.00000	0.82678	-3.90
47:43	buy	0.51	eurusd.b	1.08126	1.07338	1.08652	1.08125	-2.55
47:44	buy	0.51	eurusd.b	1.08126	1.07338	0.00000	1.08125	-2.55



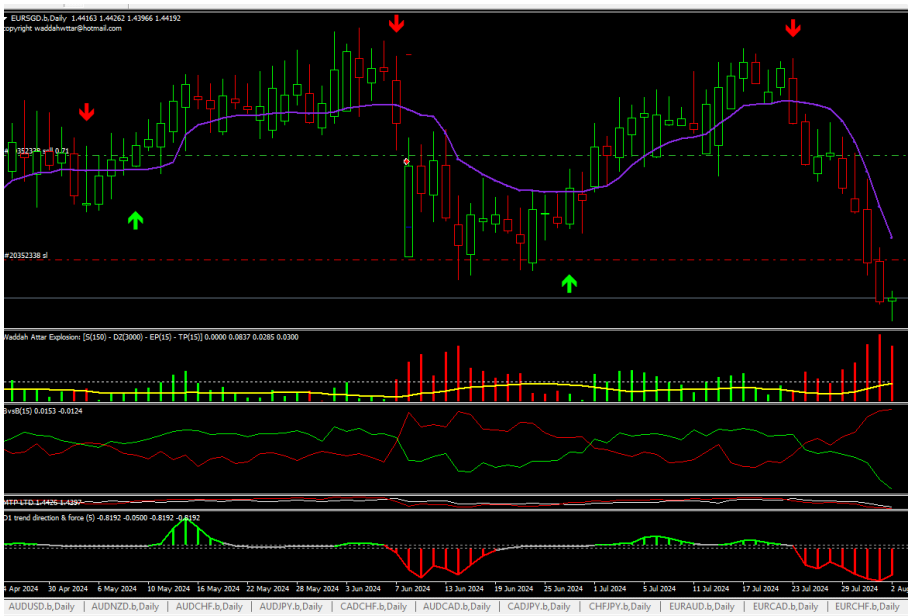
AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,Dai

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
22:52:28	buy	0.45	gbpnzd.b	2.07806	2.09781	0.00000	2.11262	-2.25
23:45:44	sell	0.72	nzdcad.b	0.82817	0.83562	0.82355	0.82838	-3.60
23:45:44	sell	0.72	nzdcad.b	0.82817	0.83562	0.00000	0.82838	-3.60



Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
0 23:45:44	sell	0.72	nzdcad.b	0.82817	0.83562	0.00000	0.83410	-3.60
2 22:51:05	buy	0.44	gbpaud.b	1.91371	1.90035	1.92262	1.91353	-2.20
2 22:51:06	buy	0.44	gbpaud.b	1.91371	1.90035	0.00000	1.91353	-2.20

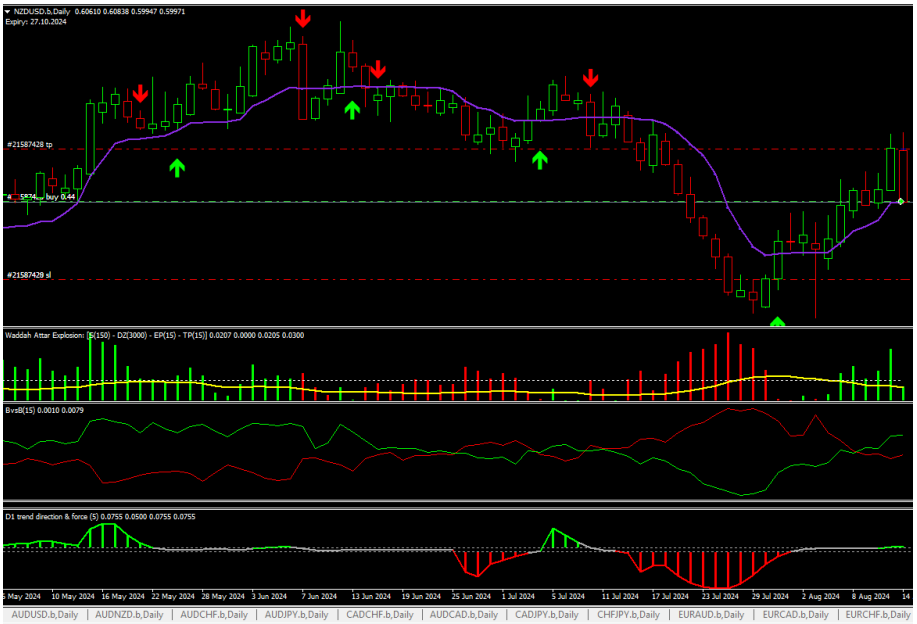
Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
:49:00	sell	0.34	chfjpy.b	176.499	178.384	0.000	177.206	-1.70
:54:03	buy	0.68	euraud.b	1.61861	1.60979	1.62449	1.61851	-3.40
:54:03	buy	0.68	euraud.b	1.61862	1.60979	0.00000	1.61851	-3.40



AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,Daily

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
12 22:51:06	buy	0.44	gbpaud.b	1.91371	1.95308	0.00000	1.95926	-2.20
16 22:54:03	buy	0.68	euraud.b	1.61862	1.64582	0.00000	1.66004	-3.40
25 03:53:06	sell	0.71	eursgd.b	1.45626	1.44571	0.00000	1.44217	-3.55

ee margin: 101 045.87 Margin level: 1555.81%



AUDUSD.b,Daily | AUDNZD.b,Daily | AUDCHF.b,Daily | AUDJPY.b,Daily | CADCHF.b,Daily | AUDCAD.b,Daily | CADJPY.b,Daily | CHFJPY.b,Daily | EURAUD.b,Daily | EURCAD.b,Daily | EURCHF.b,Daily

Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commission
3.14 23:49:52	buy	0.44	nzdusd.b	0.59980	0.59001	0.60631	0.59971	-2.20
3.14 23:49:52	buy	0.44	nzdusd.b	0.59980	0.59001	0.00000	0.59971	-2.20