

# "Ilan Dynamic Premium" Expert Advisor

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## Expert Advisor for MetaTrader 4

This Expert Advisor is based on the "Ilan 1.6 Dynamic" Advisor with full preservation of the idea and input parameters. The "Ilan 1.6 Dynamic" advisor is the predecessor of all Ilans and the most recognizable Martingale method Forex advisor. The number of titles given to this development can hardly be counted. In fact, the Advisor uses a simple trading strategy based on two standard technical indicators – RSI (*Relative Strength Index*) and CCI (*Commodity Channel Index*). The first one is used to select the direction when opening the positions, the second is used to limit losses. The peculiarity of this Expert Advisor is the usage of dynamically variable range, depending on the market volatility.

*The basic algorithm is completely redesigned, the virtualization function is added – the series begins with opening virtual positions while the real trading starts after the specified step is reached.*

## Operation principle

### Conditions for opening positions

- We sell if the closing price two bars ago was higher than the closing price of the previous bar and the RSI is higher than the value of the "RsiMinimum" parameter (the oversold zone).
- We buy if the closing price two bars ago was lower than the closing price of the previous bar and the RSI is lower than the value of the "RsiMaximum" parameter (the overbought zone).

In case the price does not go in our direction, the advisor opens additional (averaging) positions and waits for the price correction to come. The increase in the volume of subsequent positions allows you to move the level of break-even (the average price of all positions) closer to the current price, so that even a small correction can close all unprofitable series of positions with profit. This scheme has practically no flaws in case of correct optimization of the input parameters.

## Input parameters

### Basic parameters

- **Virtualization** – the series begins with the opening of virtual positions and the real trading starts after the specified number of position in the series to start real trading from is reached.

*The main "Ilan Dynamic Premium" advisor innovation.*

*This function will help reducing risks in case of excessively frequent long series. It is necessary to indicate the step from which real trading should begin. If you set the value to 1, the virtualization function will be disabled.*

- **LotsExponent** – the rate of lot increase in the series (the series ends when the total position is closed with profit, after which a new one is started). Lot is calculated based on the size of the initial order – the "Lots" parameter. Each subsequent order in the series is calculated based on

the size of the previous order multiplied by the "LotsExponent" coefficient.

Example of a series with a coefficient of 1.5 and an initial lot of 0.1:

0.1, 0.15, 0.23, 0.34, 0.51, etc.

*You need to be very careful when setting this parameter. If the value of the coefficient is too high, then the total position will instantly acquire a critical volume, and you will not have leverage for further control of the situation. In this case, even a small price movement against our position is enough to close out the account.*

- **DynamicPips** – the parameter enables the dynamic change of the distance between the averaged positions. That is, with the parameter value set to *true*, the advisor decides when to open the next position (based on the "DEL" parameter). If the parameter value is set to *false*, then the distance will always be equal to "DefaultPips".

*In theory, this function should positively influence the trading conditions adaptability of the advisor.*

- **DefaultPips** – the distance in points between the averaged positions. The smaller the value of the parameter is set, the more often the positions will be opened.

*A high value of the parameter allows you to profit in long-lasting trends. A small value, in turn, allows you to get more profit from channel movements (flat market).*

**The following is a group of five new Extra parameters. This is another improvement of the expert Advisor. The new parameters make significant changes to the averaging and closing algorithm, and also allow you to control the start time of a new series.**

- **UsePipsXtra** – if this parameter is enabled, the EA opens the last order in the series using the new algorithm. The last order in the series will open after passing the dynamically calculated distance.

*This distance is equal to the sum of the distance from the last order in the series and the average value of the current position plus the value of the "TakeProfit" variable. Thus, this distance should always be greater than when the parameter is disabled.*

- **UseMarketExecXtra** – this parameter is paired with the "UsePipsXtra" parameter. If the "UseMarketExecXtra" parameter is enabled, the last order in the series is opened immediately and without delay when the price level is reached, without waiting for the current bar to close. *Enabling this parameter allows you not to miss the moment of opening the last order in the series.*

- **UseTradingXtra** – if this option is enabled, the EA saves the initially selected trade direction (buy/sell) after the series closes, so that when the next order is re-opened, it occurs in the same initially selected direction immediately and without delay without waiting for the current bar to close.

*When this parameter is enabled, virtual positions are also taken into account, and when closing them, the selected direction is also saved.*

- **UseCloseOrderXtra** – a special mode in which the last real order in the series is closed at the level of the penultimate order or at the Take Profit level, if there is only one real order in the series.
- **UseAllowTradingXtra** – this parameter allows you to set the time interval in which you are allowed to start a new series.

**The list of basic parameters of the expert Advisor continues.**

- **Range** – the number of candles used for the volatility analysis. The advisor calculates how much has the price moved within the specified number of bars (the difference between the maximum

and the minimum value of the price for the period), and divides the resulting value by the value of the "DEL" parameter. Current parameter is activated only when enabling "DynamicPips" parameter.

*The minimum distance is limited by the "DefaultPips" parameter divided by "DEL". The maximum is "DefaultPips" multiplied by "DEL".*

- **DEL** – works only when the "DynamicPips" parameter is enabled. It is responsible for changing the initial step in "DefaultPips".
- **Slippage** – the maximum size of slippage when opening positions (in points).
- **Lots** – the lot size of the initial order in the series. This is the main trading lot, the advisor returns to it each time when the profitable series is closed.

***Attention!** Consider the total amount of subsequent positions when setting the initial lot! It is not recommended to use too high value together with a high "LotsExponent" ratio and a small range size. In such case, the position will accumulate a critical volume too quickly and the account will be instantly closed out.*

- **LotsDecimal** – the number of decimal places in the lot value. The value may vary depending on the type of trading account and the trading conditions of your broker.  
For example, if you set the "Lots" parameter to 0.01 – "LotsDecimal" should be 2.  
If Lots = 0.5, "LotsDecimal" should be 1.

- **TakeProfit** – the number of points to close a series of positions. That is, the series closes when profit reaches "TakeProfit" points.

*Do not set the value too high, because the purpose of the advisor, first of all, is to make the series profitable and start a new one as soon as possible. Far profit level can delay the exit from the drawdown for a long time (from several days to many months).*

- **Drop** – automatic closing of positions on sharp moves of quotations. The CCI indicator is used for the analysis. When set to "0" the function is disabled.

*In theory, this function should save from sharp moves based on news, preventing greater losses.*

- **RsiMinimum** – is the value of the lower limit of the RSI indicator. The parameter is used to determine the oversold zone when you open a sell position.
- **RsiMaximum** – is the value of the upper limit of the RSI indicator. This value determines the overbought level and is used when opening a buy position.
- **MagicNumber** – identification ("magic") number for each order.

*You should set a unique number for each copy of the Expert Advisor working on the same account.*

- **MaxTrades** – the maximum number of simultaneous open positions.

*Obviously, the lot can not grow infinitely (subject to limited deposit), so you should specify the maximum size of a series of positions in accordance with the size of your initial capital.*

- **UseEquityStop** – enable stop loss by equity.
- **TotalEquityRisk** – when the pre-set equity drawdown percentage is reached, all positions will be automatically closed.
- **UseTrailingStop** – enables the trailing stop for all positions. If set to *false*, the Trailing Stop function does not work.
- **Level** – as soon as profit in points becomes equal to or higher than the specified level, command to place the Stop Loss order will be given automatically. The order level is set at the specified distance from the current price. Further, if price changes in the more profitable direction, trailing stop will make the Stop Loss level follow the price automatically, but if profitability of the position declines, the order will not be modified anymore.

- **Step** – the trailing stop function modifies an order with a specified step (in points).
- **UseTimeOut** – enables closing the positions on specified time. That is, regardless of the financial result, all positions are closed, if they are in the market for more than a specified period.
- **MaxTradeOpenHours** – the time in hours, after which all positions are closed.
- **SpecialMode (SL/TP)** – placing Stop Loss and Take Profit for market orders to be done only after the orders are opened.
- **RSI TimeFrame** – timeframe for RSI calculation.
- **RSI Period** – averaging period for RSI calculation.
- **CCI TimeFrame** – timeframe for CCI calculation.
- **CCI Period** – averaging period for CCI calculation.

#### Common parameters

- **Comments** – enables comments when working with the trading server.
- **Sounds** – enables sound signals when executing trades.
- **Visualization** – enables visualization of trades on the chart.

## Testing and optimization

You first need to conduct testing using deep historical data in order to assess the potential profit and possible risks before using the Expert Advisor on a real account. The Expert Advisor testing should be carried out only using the *"Every tick"* model, which is the most accurate method of generating ticks. It is necessary to optimize all input parameters prior to testing. Optimization should be carried out using the *"Control points"* model, which is the most balanced method of generating ticks in terms of both speed and accuracy. Optimization can take a long time, but the results of optimization will be much more accurate than using the faster *"Open prices only"* model.

#### The optimization procedure

- Open the strategy tester (Ctrl+R).
- Select the *"Ilan Dynamic Premium"* adviser.
- Select the desired symbol.
- Select the desired period.
- Select the *"Control points"* model.
- Set the spread close to the current one (number of points).
- Enable using the date.
- Set the date (from) and (to) covering the last three months.
- Open the expert properties by clicking the corresponding button in the tester.
- Open the *"Testing"* tab.
- Set the desired deposit and deposit currency.
- Select *"Long & Short"*.
- Set the *"Balance"* optimizable parameter.
- Enable the genetic algorithm.
- Open the *"Inputs"* tab.
- Load optimization template (the *"Optimization"* file).
- Open the *"Optimization"* tab.

- Set the maximum drawdown limit.
- Set other necessary restrictions.
- Close expert properties window by clicking the "OK" button.
- Start optimization process by clicking the "Start" button.
- Open optimization results after the optimization is complete.
- Select one of the variants with the results and apply it via the "Set Input Parameters" context menu or by double clicking the desired option.
- Initiate testing after applying optimized input parameters.

## Contacts

In case you have any additional questions I am always happy to answer them.

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Wish you all kinds of success at financial markets!