

Why MetaTrader 5 (MT5)?

There are many software that you can use to build and implement trading robots. For our course, we will be using MT5. When MT5 was initially released in 2010, it was not very popular. However, recent changes to MT5 (changes to the hedging issue¹) has increased its popularity among traders and brokers. MT5 may be the future, so let's master this stuff now!

We are going to look at a quick overview of the pros and cons of MT5. Some of these terms may be quick technical. I'll put some links in the footnotes for you to learn more. However, I recommend that you don't worry too much about the technical parts of this lecture. We will touch on them in the course.

Advantages

Multi-Currency/Product Backtesting

We can backtest strategies that trade more than one financial product. This opens up a wide range of strategy options.

Backtest on Real Ticks

We can backtest on real historical tick data.

Trade Stocks and Futures

Trade Stocks and Futures in addition to Forex and CFDs².

Automatic Walk-Forward Optimiser³

This is an advanced optimisation method. We can conduct multiple in and out-of-sample optimisation in an automated manner.

Insanely Fast Optimisation times (1000X faster!)

Get access to MT5 Cloud Network – use other MT5's users' computing capacity to optimise your robots.

Access to different Markets/Exchanges

Connect to stock and futures exchanges using MT5.

Allows Hedging⁴

We can hold both a long and short position in the same product concurrently.

6 Types of Pending Orders (2 more than MT4)

¹ Link: <https://www.mql5.com/en/articles/2299>. For those new to trading ignore this – we will talk about it in detail in the later chapters.

² https://en.wikipedia.org/wiki/Contract_for_difference

³ https://en.wikipedia.org/wiki/Walk_forward_optimization

⁴ (Repeat of 1.) Link: <https://www.mql5.com/en/articles/2299>. For those new to trading ignore this – we will talk about it in detail in the later chapters.

Introducing the Buy Stop Limit and Sell Stop Limit orders⁵.

Free data

We can get free data from MetaQuotes and our brokers. Many other trading software require us to buy past and live data from either the broker or external vendors. This is not only costly but it is also inconvenient (especially when starting out).

Free

The software is free!

Increased Broker Adoption

This is an important point. An increasing number of brokers are adopting MT5. This gives us a wide selection to choose from.

Software Risk Mitigation

To all MetaTrader 4 (MT4) users, in the unlikely scenario where MetaQuotes discontinues MT4, we are screwed. Thus, it is good to have a backup plan (aka learn MT5).

Disadvantages

Ease of learning the coding language

MQL5 (MT5's language) is more difficult to pick up than MQL4 (MT4's language). But it is worth it. Mastering MQL5 will give you a good foundation to learn other coding languages (C++ and JAVA etc).

Data Management

MT5 does not allow external data import. However, we do have workarounds to test the cleanliness of MT5's backtesting data.

Less Coding Support than MT4.

As MQL5 is rather young and not widespread, there are less libraries and resources available online to guide new coders as compared to MT4.

⁵ http://www.metatrader5.com/en/terminal/help/general_concept#pending_order

Why not MetaTrader 4 (MT4)?

Objectively, MT4 does have its merits. Even though this course is about MT5 and not MT4, it is good to learn about MT4's capabilities. Some highlights of MT4 (please forgive the repeated points):

Pros:

- 1) Different coding language (MQL4 vs MQL5). MQL4 is easier to pick up for beginners.
- 2) MQL4 has been around longer and has greater online coding support than MQL5. There are many code libraries, templates and examples for MT4.
- 3) Allows external data import

Cons:

- 1) Does not allow multi-currency/product backtesting.
- 2) By default, the lowest timeframe we can backtest on MT4 is 1min. Intra 1min bar tick behavior is simulated (aka not real ticks).
- 3) Only allows the trading of forex and CFDs.
- 4) Has no automatic walk-forward optimiser.
- 5) Has a weaker/slower optimisation engine. MT4 does not have a cloud network for optimisations.
- 6) Has poor statistical analysis functionalities.
- 7) Only allows 4 types of pending orders.

Other possible software

Amibroker

Multicharts

Ninja Trader

TT X Trader

CQG

Trade Station

Quantopian

MATLAB

Excel

Reasons we didn't use these software include, but are not limited to:

- 1) Cost
- 2) Difficulty of learning the coding language
- 3) Complicated user interface
- 4) Backtester and optimiser not included. Only running of live robots allowed.

- 5) Software not designed for building and trading robots. Need to build the backtester from scratch
- 6) Limited access to markets
- 7) Poor community support and documentation

When you have “graduated” from this course, do check out the other software and make a decision on software infrastructure based on your trading goals. Cheers!

Appendix: Why Forex (FX)?

We will use Forex for most our initial examples because of the following reasons:

Note: we will talk about other asset classes in the later courses

Convenient

Forex data isn't affected by market variables such as stock splits, futures roll, expiries and dividends etc. These factors will greatly complicate our testing and data cleaning process.

Can modify to fit other instruments

Once we built our robots, we can modify them easily to fit other types of products (stocks, futures and CFDs).

Main component traded on MT5

Since it is the main asset traded on MT5, I guess we don't have much of a choice do we?