Algorithmic trading

What is it?

Algorithmic trading means trading in financial instruments carried out in such a way that the algorithm used in the system intended to place orders for the purchase or sale of financial instruments generates orders automatically without or with limited human participation.

source: the Polish Financial Supervision Authority official website

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What is it?

The term ‘algorithmic trading’ (or trade automation) is most often understood as programs that currently downloading market data (instrument prices) and market-related data (macroeconomic data) analyze them in accordance with the logic planned in them and generate buy or sell signals, often by submitting relevant orders.

source: doctor engineer Anna Motylska-Kuźma, High Frequency Trading on financial markets in Poland, 2012

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Do we have a legal definition?

The Polish law does not give us the definition, however the European law gives.

Look at the article 4 clause 1 points 39 and 40 of Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU Text with EEA relevance (the so-called **MiFID II Directive**).

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Do we have a legal definition?

Algorithmic trading means trading on financial instruments in which a computer algorithm automatically sets individual parameters of orders such as:

- conditions for launching the order,
- the moment of its implementation,
- price or number of instruments being the subject of the order; or
- how to manage the order after its submission

- with limited or no human participation;
and does not include any systems used solely for the purpose of redirecting orders from one trading venue to another or for order processing that does not involve specifying any transaction parameters or confirming orders or post-transaction processing of concluded transactions.

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Do we have a legal definition?

MiFID II defines also high frequency algorithmic trading techniques. The term means any algorithmic trading technique that is characterized by:

a) infrastructure to minimize network and other delays using at least one of the following solutions for algorithmic order entry: collocation, hosting a third party close to it or high-speed direct electronic access;
b) system definition of the moment when the order is launched, its generation, redirection or execution without human intervention for a single transaction or order; and
c) a high intraday number of messages that constitute an order, quote or cancellation.

High frequency trading (HFT)

Vending machines generate a huge number of orders in an extremely short time. The trade takes place in such a way that computers detect a lot of data in order to detect inefficiency and dependence between markets.
Once recognized dependency is consistently observed by a computer algorithm which reacts with an immediate order to emerging irregularities. The order closes the position when the situation returns to the state of observed dependency.

Such strategies are called statistical arbitrage and the trade is called: high frequency trading (HFT). HFT has a significant turnover value received on a series of short-term transactions that are not kept for more than a few hours.

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Range of automatism

Automatism concerns the submission of orders to the stock exchange system or transaction platform and setting of transaction conditions.

The key component of algorithmic trading is current processing of market data (prices of financial instruments are usually proceed).

Advantages

low correlation of rates of return with rates derived from traditional strategies - investors can thus diversify their investment portfolios;

reduction of transaction costs - a human is being replaced by a machine; financial institutions have lower employment and order costs - reduction of financing costs of exchanges and investment costs;

saving on maintaining the position - no fees associated with holding the position overnight (swap points), higher turnover involves lower commissions;

algorithms increase the transparency of transactions;

much shorter time needed to test the efficiency of the designed system;

providing liquidity on markets, even on the most "exotic" instruments, reducing market volatility, reducing spreads.

HFT is the "liquidity provider".

Disadvantages

Most of the examples given are from market research and observation conducted by the American company Nanex, www.nanex.net

robotization of the market not only causes the ability to search for anomalies on it, but also generates a high risk of suspension, mistake, closing position – as a consequence of market shakes and wrong decisions leading to a ‘domino effect’;

HFT is quite commonly blamed for the crashes on the stock exchanges: flash crash from May 6, 2010 (Dow Jones Industial Average decreased by 9.2% in several minutes), February 2011 - sugar drop by 6% in 1 second;

the risk of unethical behavior of financial institutions wanting to overtake the competition by buying space near exchange servers, also renting them from the exchange itself (so-called collocation), effects: faster access to published information, shorter time to complete orders - but at what cost?

... a fast computer in a fraction of a second will intercept the incoming order and, buying the market place, make the opposite order forcing to carry out transactions at higher prices (in the case of purchase) or lower (in the case of sale).

Some stock exchanges (mainly American) sell the ability to view incoming orders before they reach the transaction system (the so-called OpenBook).

Creating and selling technical solutions that enable the introduction of an appropriate algorithm into this solution, as a result of which the machine generates transaction signals compatible with the algorithm is an activity <u>that is not subject to the supervision</u> of the Polish Financial Supervision Authority.

ATTENTION!

If the creation and sale of algorithms involves the sale of a machine with a built-in algorithm, the activation of which - by connecting to an investment account – causes generating transaction signals and then the conclusing of transactions consistent with the algorithm, <u>such activity is subject to supervision of the Polish Financial Supervision Authority as brokerage activity.</u>

Type of supervised activity

activities specified in article 69, paragraph 2, point 5 of the Act on Trading in Financial Instruments - <u>investment advice</u>

activities specified in article 69, paragraph 2, point 4 of the Act on Trading in Financial Instruments - <u>management of portfolios of financial instruments</u>

activities specified in article 69, paragraph 4, point 6 of the Act on Trading in Financial Instruments - <u>preparation of investment analyzes, financial analyzes and other general recommendations regarding transactions in financial instruments;</u>

The essence of investment advice - recommendations

Providing the machine with a built-in algorithm which is a tool that allows you to generate specific order parameters is an investment advice within the meaning of the Act on Trading in Financial Instruments, **regardless of whether the seller has duly considered the client's investment profile**. Not all parameters of the order need to be considered, but at least those that together can be considered a recommendation within the meaning of Article 76 of the Act cited.

Pursuant to article 76 of the Act on Trading in Financial Instruments, the essence of investment advice is the obligation of the entity to prepare and provide, taking into account the needs and situation of the client, recommendations regarding:

1) the purchase, sale, subscription, exchange, exercise or redemption of certain financial instruments or refraining from entering into transactions in those instruments;
2) exercise or refrain from exercising the rights arising from a specific financial instrument to buy, sell, subscribe, exchange, exercise or buy out a financial instrument.

Immanent features of the recommendation:

- ✓ **accuracy;**
- ✓ **individualization;**
- ✓ **concretism;**
- ✓ **clarifying the 'proper' customer behavior in the context of the conclusion of a transaction or the exercise of rights from a given financial instrument.**

Investment advice in algorithmic trading

- providing (selling) an application containing an algorithm to a client should be preceded by an analysis of his needs and situations;
- the algorithm is individualized in such a way that it corresponds to the established situation and the client's needs;
- investment advice takes into account changes in the client's situation and needs -> current algorithm update.

If the application works based on a standard algorithm the use of which was not preceded by an analysis of the needs and situation of the client to whom the application is offered or the algorithm does not take into account the identified needs and situation of the client **most likely it is that an investment advice is being serviced in violation of applicable regulations.**

The key is that the entity offering the service asked the client about his the needs and situation in order to personalize it.

Distribution of transaction signals

The distribution of transaction signals is understood as the distribution of the parameters of specific transactions which takes place via commonly or collectively available channels.

In this situation, the individualisation of recommendations is top-down due to the assumed business model.

Distribution of recommendations

Distribution of recommendations – the activity is typed in article 69 paragraph 4 point 6 of the Act on Trading in Financial Instruments. Doing this type of activity requires a permit from the Polish Financial Supervision Authority, referred to in article 69 paragraph 1 of the Act on Trading in Financial Instruments – but only if the entity already has the status of an investment company in connection with the activity typed in paragraph 2 of this article.

Other entities may carry out this type of activity without permission.

Article 69, paragraph 2

Brokerage activities, subject to article 16 paragraph 3 and 5 and article 70 includes performing activities consisting of:

1) receiving and transmitting orders to buy or sell financial instruments;
2) the execution of orders referred to in item 1, to the account of the principal;
3) purchasing or selling financial instruments on its own account;
4) managing portfolios that include one or more financial instruments;
5) investment advice;
6) offering financial instruments;
7) rendering of services in performance of concluded underwriting agreements or conclusion and performance of other contracts of a similar nature, if their subject is financial instruments;
8) running ASO;
9) keeping OTF.

Portfolio management brokerage

In situation:

1. the entity's access to investor assets, and
2. the entity's decision to:

- starting or switching off the machine; or o
- modification of the algorithm entered in the machine connected to the investor's account

– it is appropriate to classify this situation as a portfolio brokerage activity that includes one or more financial instruments (Article 75 paragraph 1 of the Act on Trading in Financial Instruments).

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No investment company status

No need to obtain a permit does not mean no regulation!

Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (Regulation on market abuse) and repealing Directive 2003/6 / EC of the European Parliament and of the Council and Commission Directive 2003 applies / 124 / EC, 2003/125 / EC and 2004/72 / EC (**so-called MAR**).

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Article 3 paragraph 1 points 34 and 35 MAR

34) ‚information recommending or suggesting an investment strategy’ means information:

(i) prepared by an independent analyst, investment firm, credit institution, any other person whose main activity is to make investment recommendations, or a natural person working for them under an employment contract or on another basis, directly or indirectly expressing specific investment proposals in relation to a financial instrument or issuer; or

(ii) drawn up by persons other than those referred to in point (i) which directly proposes specific investment decisions in relation to the financial instrument;

35) ‚investment recommendation’ means information that recommends or suggests an investment strategy, explicitly or implicitly, about one or more financial instruments or issuers, including any opinion on the current or future value or price of such instruments, intended for distribution channels or the public.

Article 20 paragraph 1 MAR

People who prepare or disseminate investment recommendations or other information recommending or suggesting an investment strategy shall exercise due diligence to ensure that such information is objectively presented and disclose their interests or indicate conflicts of interest regarding the financial instruments to which this information relates.

As indicated by article 70 paragraph 1 point 6 of the Act on trading in financial instruments the provisions of the section in which are located the provisions discussed earlier (articles 69 - 131r) do not apply to investment funds, alternative investment companies, investment fund societies and ASI managers within the meaning of the Investment Funds Act.

These entities can carry out algorithmic trading activities without restrictions resulting from the need to obtain a permit from the Polish Financial Supervision Authority.

Sources:

Legal acts:

1. Directive 2014/65 / EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92 / EC and Directive 2011/61 / EU (the so-called MiFID II Directive);
2. Act of 29 July 2005 on trading in financial instruments, Journal of Laws 2005 No. 183 item 1538, i.e. Dz. Of Laws of 2020, item 89, 284, 288, 568;
3. Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (Regulation on market abuse) and repealing Directive 2003/6 / EC of the European Parliament and of the Council and Commission Directive 2003/124 / EC, 2003/125 / EC and 2004/72 / EC (so-called MAR).

The legal situation: April 24, 2020

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4. *www.nanex.net*
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