# HIGHLIGHTS OF THE INVESTMENT PHILOSOPHY BEHIND THE STRATEGIES OF THE

# FOREX TRADING ALGORITHM (FTA)

## Theoretical rationale behind the investment philosophy applied by the FTA

The FTA investment philosophy is aimed at capturing both long and short term trading opportunities, driven by the following factors:

A) **Differentials between currencies in macro-economic conditions**: A long-term trend in the exchange rate will develop if two economies using separate currencies are in the process of convergence or divergence. Any long-term trend may be distorted by short-term volatility, so it is very important to correctly predict short-term strong counter trends. The FTA aims at detecting when those short-term counter trends emerge, as well as detecting when they fade away and when it is time to retake the long-term trend.

B) **Monetary policies of the central banks**: Generally monetary policies are designed to bring long lasting effect to the economy and although in most cases major central banks don't target the exchange rate itself, the monetary policy has a massive effect on the exchange rate. Whenever the policies of any two central banks are misaligned in time, or differ in strength of their actions, a long lasting trend can be created. The decisions of central banks can sometimes catch a large group of investors and traders by surprise, in that it creates massive short-lived momentum. The FTA aims at detecting any kind of momentum and decides if the momentum will translate to a reinforcing trend or a short time horizon mean reversal price action and will trade accordingly.

C) **Swings in expectations and sentiment of investors and traders:** Market participants often demonstrate short lived swings in expectations (related to future state of the economy or monetary policy). This creates sometimes, very violent and short-lived forex price action. The FTA aims at detecting these phenomena and will trade on this price action noise.

These factors can create specific sequences of patterns of forex price action, the analysis of which allows for the classification and linking of these patterns to likely future outcomes, with imminent consequences. Thus by observing recent sequences one can gain valuable insight to what the next sequence will most likely be.

## Mathematics of the FTA

The classification of forex price action patterns is very complex. Support Vector Machine was used to develop the FTA. The Exceptionally large number of features makes the computational aspect extremely challenging. A reduction of the input space requires the testing of many different combinations of features. A proprietary feature selection algorithm has been developed for the FTA. The objective was to use a minimal number of features to assure the robustness of the model and to avoid over fitting.

The fractal nature of certain patterns has also been taken into account and volatility measurements are used to scale the model parameters, such that it improves the performance. Since the changes of volatility are the observed sequence with some emission probabilities of the observations and transition probabilities for the hidden sequence, the Hidden Markov Model concept was used to develop a proprietary volatility prediction algorithm.

The FTA does not use traditional or widely known technical indicators. All pattern metrics are proprietary. A further significant advantage of the FTA over traditional technical analysis is that the FTA observes sequences of patterns. This is a concept that is not used in traditional technical analysis, which only observes the static

picture of indicators. Often, for example, a technical analyst might say that 200MA had been crossed, but he will ignore what happened to other sets of indicators prior to the 200MA being crossed, whether it be minutes, hours or days before the event. The FTA analyses that sequence of patterns.

## The FTA design envelope

The FTA is neither a high frequency, nor an extremely low latency trading system. The system maintains its performance with the order of latency and execution practices of reputable retail forex brokers. The FTA does however requires powerful computing solutions. FTA will consistently seek even the shortest lasting trend to make a profitable trade. The FTA self-determines the time horizon for each trade depending on the market conditions, and positions may remain open from several minutes to several weeks. In some market conditions the FTA may make 10's of trades in a single day. The FTA uses dynamic SL and TP, and continuously updates those parameters.

## The FTA trading strategies

From the FTA's pattern detection and sequencing concept a group of strategies are derived with different objectives.

Objective: Balanced Growth (Information on other strategies is available on request)
Strategy Code: MC07CO01_153-A02-THRS04_4x298-TR02
- designed to operate both in trending and mean reversal environment
- maintains market exposure at all times
- uses variable size of the positions
- modeled to work with 5 currency pairs (EUR/USD, EUR/GBP, AUD/USD, GBP/USD, USD/JPY)
- delivers high MAR Ratio and high absolute return