ALGONEST

White Paper

Introduction

Algonest aims to deliver an automated investment management service that maximizes investment return taking into account each client's particular tolerance for risk. This paper depicts the methodology we employ to accomplish this target.

Our investment management team designed a service that starts with a portfolio of strategies customized for your particular risk tolerance, consistently screen, and intermittently rebalance your portfolio to amplify your possibility of investment success.

We use Modern Portfolio Theory to identify the perfect portfolio for every client. The financial experts who created MPT, Harry Markowitz, and William Sharpe, got the Nobel Prize in Economics in 1990 for their notable research. Today, MPT is the most broadly recognized structure for overseeing diversified investment portfolios. MPT has its limitations, especially in the area of very low probability significant downside scenarios, but our advisors trust it is the structure on which to construct a compelling investment management service.

Advanced investment management services were previously available only to wealthy investors through financial advisors. By implementing a completely software-based solution, informed by first-rate financial expertise, Algonest is able to deliver its automated investment management service at much lower cost. We democratize access to high-quality financial advice.

Our investment methodology

- Identify an ideal strategy for the current investment environment
- Determine your risk tolerance to create the appropriate portfolio for you
- Apply Modern Portfolio Theory to allocate among the chosen strategies for your risk tolerance
- Monitor and periodically rebalance your portfolio

Our algorithm as a mathematical model receives and processes any relevant data, and then the software places with the brokers' orders to buy the currency options. Now our system can simultaneously process three strategies. As a rule, the algorithm analyzes the economies of Canada, US, European Union, United Kingdom, Australia, Japan, and Switzerland. All data comes in the form of indices and numerical values in percent. That comparatively easily can be adapted to the calculations. Comparing the old data with the new one, the algorithm predicts the movement of the currency pair with a certain accuracy. Almost simultaneously, it places the order to buy an option for a currency pair.
The uniqueness of our mathematical algorithm, its accuracy, the speed of data processing information and instant issuing of orders allow our system to be slightly ahead of the market.

Our Strategies

We evaluate each strategy on its potential for income generation, volatility, correlation with the other strategies. Each strategy reflects only part of the events in the economy of the country and, its indicators not always have a strong impact on the exchange rate of the national currency. In the process of creating

the algorithm, we study the correlation of each strategy with the volatility of the currency, its potential for income generation with the risk of an incorrect forecast. This allows us to determine the potential profitability and the level of risk for each of the strategies.
For the benefit of our Clients, our team has created the state of art software that allows us to determine the level of risk tolerance and provide advice on suitable strategies.

Based on a thorough analysis, our investment team currently works with the following strategies.

1. FX Strategy

The strategy tracks the dynamics, trends, and volatility in the foreign exchange market.
Here we monitor the weekly report "Commitments of Traders" (COT). This report provides data on the size and direction of positions opened by traders in futures for EUR and USD, mainly on the Chicago and New York stock exchanges. Data on speculative transactions in the Forex market helps to determine the strength of the current trend and the possible change of traders' mood for a certain asset.

2. The GDP Strategy

Gross domestic product (GDP) is a monetary measure of the market value of all final goods and services produced in a period (quarterly or annually). The Gross Domestic Product strategy analyzes the current economic situation and relies on the Central Bank's reports on economic indicators. In particular, the GDP indicator that influences the volatility in the currency market.
Comments of the Central Banks' Heads on the current economic situation may set a positive or negative trend in the national currency trade. For the United States the GPD published by the Bureau of Economic Analysis, for the EU – by the Eurostat. Annual data indicates the trend of the economy, its growth or reduction.
We also monitor the NIESR GDP growth indicator, published by the National Institute of Economic and Social Research, assessing the growth rate of the British economy within the last three months. The report releases before the announcement of official GDP data. Its results considered reliable and potentially able to influence the monetary policy of the UK.

3. Trading Strategy

This strategy analyzes the purchasing power of the population. It relies on reports on retail trade, the volume of pre-orders for goods of industrial importance. We use data from the Census Bureau that reflect the total number of orders for long-term and non-durable goods in the manufacturing sector. This allows us to assess the level of activity in this area, which is an important indicator of the economy's state.
With CBI reports on retail trade published by the Confederation of British Industrialists, we are able to analyze short-term trends in the retail and wholesale trade of the UK. The results of this study tend to influence the decisions of the Bank of England and the government in the field of economic policy.
In the trading strategy, we actively use the information on real expenditures on personal consumption. This data provided by the Bureau of Economic Analysis of the US Department of Commerce. The information reflects the average amount of money that consumers spend per month on durable goods, consumer goods, and services. It is also a key indicator of inflation.

4. Economic Strategy

This effective strategy analyses the indexes of prices for imports and exports, the discount rate of

National banks (central bank's interest rate) that is a strong indicator able to change the trend and increase volatility.

A bank rate is the interest rate at which the central bank lends money to domestic banks, often in the form of very short-term loans. By managing the bank rate Central Banks affect economic activity. Tracking the decisions of the ECB, the Federal Reserve System (FED) and the Bank of Japan at key rates, we analyze the trends for EUR, USD, JPY. "Hawk" position on inflation and the level of key interest rates helps to strengthen the national currency, when "pigeon" position, in other words, reducing rates - weakens it.

5. Gold Strategy

The strategy shows the strength of the hawkish mood of investors. We analyze CFTC data by the volume of speculative positions with gold and platinum. Information about speculative transactions helps to determine the strength of the current trend and the possible change of mood among players on the gold/platinum asset. This is one of the oldest mechanisms of influence on the stability of the world economy. The popularity of this tool is growing every year since gold can be the equivalent of any raw materials, goods, currency. The volume of the country's gold reserves is a measure of its stability and economic stability.
The rise in the price of gold has a negative impact on the US dollar. This is due to the ratio of investors to gold and other precious metals. In periods of economic turmoil and an unstable situation, currencies are depreciating, so investors are buying up gold to save their capital.

5. Oil Strategy (Black Gold)

In this strategy, we analyze the state of the oil market, reports on active oil platforms, political statements by OPEC and major oil exporters' countries. This strong indicator affects the price of the US dollar.
Oil provides stability and economic growth in many oil-producing countries. Since the United States has a leading position in the oil production sector, the dollar rate directly relates to oil production. This means that changes in the price of oil affect the internal value of the dollar, which in turn affects other currencies that are in tandem with the dollar. The change in the price of oil on the world market will always reflect the course of trading on the Forex market through the dollar. Our algorithm of strategies follows it, especially in those cases when there are no obvious directions in the foreign exchange market, and the market is waiting for any factors to implement the tactics "Bulls" or "Bears"
Using Baker Hughes data on the number of active drilling platforms in the US, we analyze an important indicator of the activity of the oil sector. When oil platform is active, it consumes products and services produced and provided for the oil industry. In addition, the indicator of active platforms is a principal indicator of demand for products needed for drilling and a vision of the leadership of the platforms on the movement of oil prices. The information used gives data exclusively for drilling rigs involved in oil production

7. Real Estate Strategy

This strategy based on the economic platform. We use indicators of sales activity in the secondary housing market, the quantitative change in sales of new homes and the index of mortgage lending, the current indices of prices for residential real estate. For a deeper analysis, we also consider the dynamics of issuing permits for new construction.
We used the index of activity in the construction sector in Australia of HIA/AIG. This analysis based on

a survey of 120 companies and published by the Australia Industry Group and the Housing Industry Association. This indicator reflects the conditions in the construction sector in the short and medium perspective. Companies respond to questions relating to production, employment, supplier prices, stocks and new orders. To analyze the US real estate market, we use the leading indicator of the US real estate market, published by the Mortgage Association. The growth of mortgage lending stimulates economic growth. A high result contributes to the strengthening of the USD, low - to its weakening. The indicator of the number of new building permits also influences the algorithm. It reflects the dynamics of corporate investment and usually increases the volatility of USD.

The Census Bureau's data on sales in the new housing market is an important indicator of the US real estate market. The increase in house sales also means stimulation of the accompanying spheres of industry, services, the labor market, and the volume of mortgage lending.

To analyze the trend for the British pound, we follow the movement of house prices in the UK. We use the Rightmove's report. This report reflects the state of the UK housing market and the economy as a whole, as real estate prices are very susceptible to changes in the business cycle.

8. Psychology Strategy

All the indicators of this strategy based on optimism of the population and entrepreneurial business activity. The strategy analyzes the trends in the level of confidence in business circles and the level of consumer confidence. We use the index of business optimism in the industry and the indicator of the business.

Ivey PMI is an indicator published by the Richard Ivey School of Business and assessing the business climate in Canada. It is an important indicator of the market situation and the economy of the country as a whole.

In turn, the activity of European purchasing managers in the service sector is determined by the level of business optimism published by the European agency Markit Economics. As the service sector occupies almost 2/3 of the euro area economy, the indicator is of great importance for determining the level of economic activity in the region. Our technical analysis also uses the business climate indicator, which based on monthly surveys and assesses the conditions for doing business in the Eurozone published by the European Commission. The result closely relates to industrial production in the region.

8. Labor Market Strategy

The strategy analyses the situation in the labor markets: the dynamics of the unemployment rate, the number of unemployment benefits provided, the index of job cuts and changes in the quantitative indicators of new jobs.

We also check the data of the Ministry of Labor on the number of new applications for unemployment benefits. We also apply the unemployment rate published by the US Department of Labor, which determines the percentage of the total workforce that is unemployed but search for a job and ready to work in the US.

The change in the number of people employed in Canada published by the Canada Statistics. In general, the growth of the indicator positively affects consumer spending, which stimulates economic growth.

The employment rate published by the Australian Bureau of Statistics reflects a change in the number of employed Australian citizens. Usually, the growth of the indicator has a positive impact on consumer spending, which stimulates economic growth.

9. The Economic Trends Strategy

Here we analyze the index of leading indicators and the consumption indicator. The index of leading

indicators shows the development of economic activity trends for Switzerland and Japan
The Leading Indicators Index published by the Cabinet of Ministers of Japan is an economic indicator comprising of 12 indices, such as inventories, orders for engineering products, stock prices and other advanced economic indicators. It reflects the state of the Japanese economy in the short and medium term.
The index of leading indicators shows the development of trends in economic activity in the future. This indicator considered as an indicator of economic stability in Switzerland.

10. Wall Mart Strategy

The strategy analyzes the dynamics of retail sales, the consumer price index and consumer confidence, as well as the change in the activity level of private sector lending.
Change in sales in the retail is the main indicator of consumer spending. The consumer price index published by the Bureau of Labor Statistics determines the change in prices of the selected basket of goods and services for a given period. The buying power of the US dollar is declining due to inflation. The consumer price index is a key indicator for assessing inflation and changing consumer preferences. The Consumer Confidence Index published by the University of Michigan and based on a consumers' survey on their level of confidence in the economy. The index is an indicator of consumers' confidence in economic growth, in other words, assesses their willingness to spend money.
Changes in the volume of sales in the retail trade sector published by Eurostat. It determines the change in prices of the selected basket of goods and services for a given period. It is a key indicator for assessing inflation and changing consumer preferences.
The retail sales report, made by the UK National Statistics Office, reflects the total number of purchase checks in retail stores.

11. Income and Expenses Strategy

The strategy assesses the economic situation based on the dynamics of personal income and expenses. The system analyses the index of consumer confidence, data on the volume of cars' sales according to Autodata Corp. The indicator reflects the confidence of consumers.
Data on real expenditures for personal consumption published by the Bureau of Economic Analysis of the US Department of Commerce. It reflects the average amount of money that consumers spend on durable goods, consumer goods, and services monthly. The basic index does not take into account such volatile categories of goods as food and energy. It is an important indicator of inflation. Data on personal incomes reflects the change in the total income of natural persons, including salaries, interest income, dividends, and rent.
Data on real expenditures on personal consumption reflects the average amount of money that consumers spend per month on durable goods, consumer goods, and services. The basic index does not take into account such volatile categories of goods as food and energy. It is an important indicator of inflation.

Technical Indicators

1. MACD

MACD, short for moving average convergence/divergence, is a trading indicator used in technical analysis of stock prices, created by Gerald Appel in the late 1970s. It is supposed to reveal changes in the strength, direction, momentum, and duration of a trend in a stock's price.

The MACD indicator (or "oscillator") is a collection of three-time series calculated from historical price data, most often the closing price. These three series are the MACD series proper, the "signal" or "average" series, and the "divergence" series which is the difference between the two. The MACD series is the difference between a "fast" (short period) exponential moving average (EMA), and a "slow" (longer period) EMA of the price series. The average series is an EMA of the MACD series itself.

2. Bollinger Bands

Bollinger Bands is a tool invented by John Bollinger in the 1980s. Having evolved from the concept of trading bands, Bollinger Bands and the related indicators %b and bandwidth can be used to measure the "highness" or "lowness" of the price related to previous trades. Bollinger Bands are a volatility indicator similar to the Keltner channel.
Bollinger Bands consist of:

- an N-period moving average (MA)
- an upper band at K times an N-period standard deviation above the moving average (MA + Kσ)
- a lower band at K times an N-period standard deviation below the moving average (MA − Kσ)

3. RSI

The relative strength index (RSI) is a technical indicator used in the analysis of financial markets. It intends to chart the current and historical strength or weakness of a stock or market based on the closing prices of a recent trading period.
The RSI is a momentum oscillator, measuring the velocity and magnitude of directional price movements. Momentum is the rate of the rise or fall in price. The RSI computes momentum as the ratio of higher closes to lower closes: stocks, which have had more or stronger positive changes have a higher RSI than stocks, which have had more or stronger negative changes.
The RSI is most typically used in a 14-day timeframe, measured on a scale from 0 to 100, with high and low levels marked at 70 and 30, respectively. Shorter or longer timeframes used for alternately shorter or longer outlooks. More extreme high and low levels — 80 and 20, or 90 and 10 — occur less frequently but indicate stronger momentum.
The relative strength index was developed by J. Welles Wilder and published in a 1978 book, New Concepts in Technical Trading Systems, and in Commodities magazine in the June 1978 issue. It has become one of the most popular oscillator indices.
The RSI provides signals that tell investors to buy when the currency is oversold and to sell when it is overbought.

4. Directional Movement Index ADX

The average directional movement index (A.D.X.) was developed in 1978 by J. Welles Wilder as an indicator of trend strength in a series of prices of a financial instrument.A.D.X. has become a widely used indicator for technical analysts, and is provided as a standard in collections of indicators offered by various trading platforms.
The A.D.X. is a combination of two other indicators developed by Wilder, the positive directional indicator (abbreviated +DI) and negative directional indicator (-DI).The A.D.X. combines them and smooths the result with a smoothed moving average.