

HEIKEN ASHI CHARTING METHOD OF TECHNICAL ANALYSIS FOR SHORT TERM FORECASTING COTTON FUTURES PRICE

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In the last decades as a result of globalization and easy access of short-term investors to world commodity markets they become very unstable, extremely dynamic and raging.

Each of us should realize that today Uzbekistan - is an integral part of the world community and global financial and economic market. Clear evidence of this is our ever increasing ties with the outside world, via the implementation of the major developed countries programs for the development, modernization, technical and technological re-equipment industries, the integration of Uzbekistan into international trade, the growth of imports and exports of goods and commodities.¹

We aim to test and analyze short-term forecasting method in this article in the example of cotton futures prices. This forecasting method can be easily used for oil, wheat, corn, soybean futures prices etc. As this forecasting method is short term-oriented, we don't take into the consideration impact of fundamental factors of price change, we do technical analyze of charts in this research work. In our next research we are planning to mix this forecasting technique with fundamental factors of the commodity and make possible to forecast for long-term market changes too.

Plotting candlesticks and candlestick patterns analysis – a wonderful area of technical analysis. What is there in the candlestick charts, which is not typical for the West graph showing the highs and lows? In the sense that all are represented by the same real data, - nothing. The advantage of Japanese candlesticks is different: they represent the data in a way that it is possible to see relationships within the data. Candles create a visual psychological picture of the market. After reading a little practice and candles will be part of your analytical arsenal.²

Particular type of candlestick charts that use weighted formulas to come up with more specific predictions for pricing in the market are called Heiken Ashi charts. Created in Japan by rice traders (Heiken Ashi means “average bar” in Japanese), these charts use calculations based on previous time periods or candles, combined with the numbers from the time period being analyzed to show how the changes can be used to

¹ *Islam Karimov*. The global financial-economic crisis, ways and measures to overcome in Uzbekistan. T.:Uzbekistan, 2009. - 10 p.

² *Gregory L.Morris*. Candlestick charting explained. Timeless techniques for trading stock and futures, 2011, P.18.

predict future pricing behavior. The use of averages tempers the fluctuations that happen on an hourly or daily basis and shows a more accurate image of the price trend so analytics can make the forecasts accordingly.

The Heiken Ashi charting system gives a specific view of the past and present as well as indicators for future pricing behavior in certain markets. The average calculations take away short term fluctuations. The predictions are more accurate than many other types of charts or graphs and are used globally by market analytics to make the best short-term price forecasts.

A type of candlestick chart that shares many characteristics with standard candlestick charts, but differs because of the values used to create each bar. Instead of using the open-high-low-close (OHLC) bars like standard candlestick charts, the Heikin-Ashi technique uses a modified formula:

$$\begin{aligned} \text{Close} &= (\text{Open} + \text{High} + \text{Low} + \text{Close}) / 4 \\ \text{Open} &= [\text{Open (previous bar)} + \text{Close (previous bar)}] / 2 \\ \text{High} &= \text{Max (High, Open, Close)} \\ \text{Low} &= \text{Min (Low, Open, Close)} \end{aligned}$$

There are five primary signals that identify trends:

- Hollow candles with no lower "shadows" indicate a strong uptrend
- Hollow candles signify an uptrend
- One candle with a small body surrounded by upper and lower shadows indicates a trend change
- Filled candles indicate a downtrend
- Filled candles with no higher shadows identify a strong downtrend

In this article we will do short-term price forecast of cotton futures price using this techniques. We get CTH6 (cotton future contract with delivery date March 2016) price which is quoted on New York Commodity Exchange. On below chart, we are on 25th of September 2015 Friday and we got first hollow candle signifying short term uptrend. Market closed on \$59.78 per pound (1 pound is equal to 0.453kg). And we have confirmed uptrend on 28th of September on Monday market session open (Chart 1). Analyzing chart we have to get in to the consideration all possible scenarios of market dynamic, that is why we will get the forecast signal of Heiken Ashi as the 50% possibility, in our example it is uptrend, at the same time we will make scenarios for other market dynamics too with lower possibility and the lowest possibility. In this way we cover all possible future market changes in the cotton futures market price.

NYCE cotton futures daily chart with delivery in March 2016. Last Heiken Ashi candlestick is on 25th September 2015



Scenario A. Probability of this scenario is 50%. There will be short term uptrend during 15-20 bank days.

Scenario B. Probability of this scenario is 35%. There will be short term sideway market dynamic.

Scenario C. Probability of this scenario is 15%. There will be downtrend if there will be fundamentally important changes in supply or demand.

During next days we have monitored the market dynamics daily in order to get counter signal Heiken Ashi candle. Important condition is to check the candlestick after closing the day. Because intraday market fluctuations may change hollow candles to filled candles several times during a day but we need to fix candlestick result at the end of the day, it gives us the chance to filter intraday fluctuations.

Finally on 22th of October 2015, we have got counter signal of our uptrend from 28th of September, we have fixed on 23th of October filled Heiken Ashi candlestick(Chart 2).

NYCE cotton futures daily chart with delivery in March 2016. Last Heiken Ashi candlestick is on 25th September 2015



As we have forecaster with 50% probability on 28th of September short term uptrend, we have seen uptrend during 18 trading days (from 28th of September till 23th of October). At the beginning of trend cotton future price was \$59.78 per pound, after getting counter signal market price is \$62.69 per pound. Short term uptrend which we forecasted with 50% probability in our research work has realized and price change is \$2.91 in 18 trading days. It gives us to make conclusion that Heiken Ashi charting can be used to analyze market dynamics for short term forecasting. Our aim is not to argue that this technique is the only true option, but to show that this instrument can be used by market analytics as addition tool to confirm their fundamental forecasts.