

## USE OF FOURIER ANALYSIS FOR THE IDENTIFICATION OF PULSE ELLIOT WAVES

*Abstract. The method for analysis Elliot wave and confirmation of pulse Elliot wave presence with Fourier analysis. Creation new indicator on Interbank Currency Exchange market.*

*Key words: trend, Elliot wave, Fourier analysis, indicator*

There are more than 200 indicators [2] that signal the continuing trend in the transition state of the Flat or trend reversal. All indicators available to traders, analyzed and trader creates assumptions about the most likely course of events. There is no such an indicator that would give one hundred percent convinience in the direction of the market in the next moment.

Theory of wave motion of markets was proposed in the 30s of XX century, Ralph Nelson Elliot [4], according to which all price movements in the market is subject to human psychology and is a cyclic process of change of pulse wave corrective and vice versa. Pulse wave is a sequence of five price fluctuations, corrective waves - a sequence of three or five price fluctuations.

One of the most common is the impulse wave Elliot wave [3] (Fig. 1).

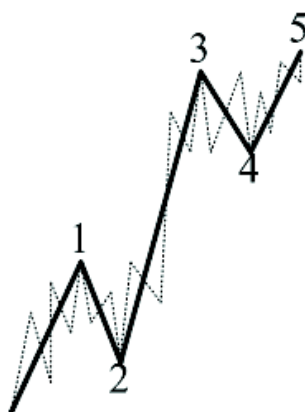


Fig.1 - Pulse Elliot wave

Characterized by its features:

The end of the second wave never comes at the beginning of the first wave;

The third wave is always extends past the top of the first wave;

The end of the fourth wave never sets on top of the first wave;

The third wave is never the shortest of all current waves;

The third wave is always the impuls;

The first wave can be either a pulse or a wedge;

The fifth wave can be either impulse or diagonal;

The second wave may take the form of any corrective wave except the triangle;

The fourth wave can take the form of any corrective wave;

The prediction using Fourier analysis has been viewed previously [1] and it was shown that with this analysis is very difficult and sometimes even impossible to predict what will happen in the next period. In terms of non-stationary process of Fourier analysis does not allow a qualitative conclusion.

Fourier analysis of some parts of Elliot waves can provide an additional indicator that signals the continuation of a trend or a turn-around. Site selection, which will be analyzed, is purely expert assessment which may affect the outcome.

Analysis of these plots was made on an already selected Elliot waves (Fig. 2) that occurred before:

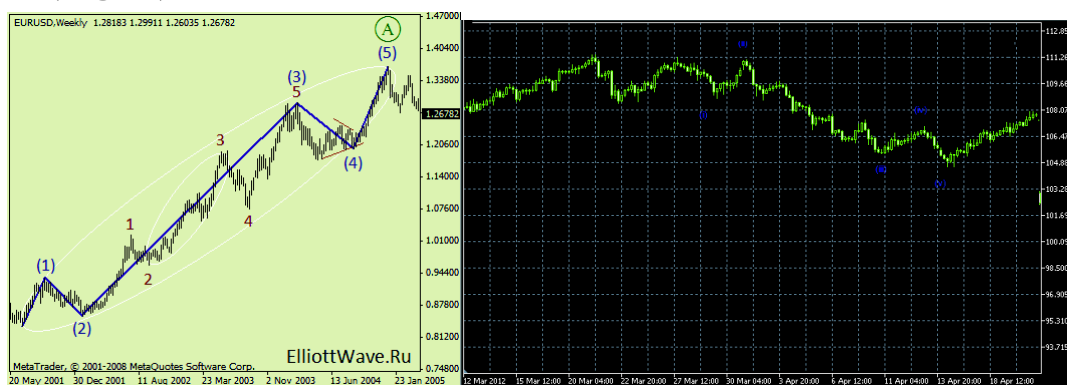


Fig. 2 - Elliot waves

First Wave: EURUSD beginning June 7, 2001 - the end of the pulse waves December 31, 2004 - the end of correction wave July 5, 2005.

The second wave: EURUSD beginning September 17, 2002 - the end of the pulse wave April 27, 2003 - End of corrective waves Serpe 26, 2003.

The Third Wave: EURJPY beginning March 27, 2012 - the end of the pulse wave April 16, 2012 - the end of correctional wave April 26, 2012.

Fourier analysis of the periods from the beginning to the end of the pulse wave (Fig. 3) clearly shows that two distinct frequencies available for the most values of the amplitude.

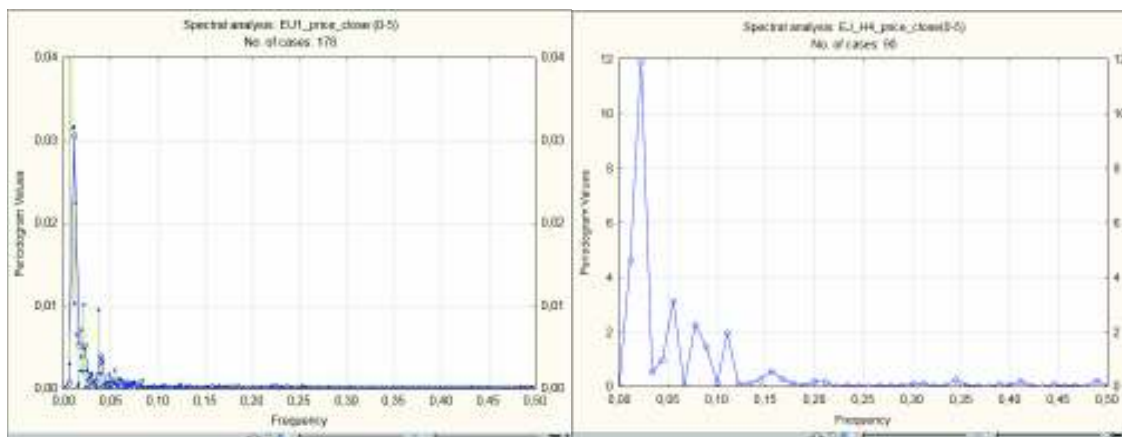


Fig. 3 - Fourier analysis Elliot Waves in the range from the beginning to the end of the pulse wave (left bullish wave case Bear)

Second a clear sine wave (the first level of 0.01 second - 0.005) shows a sharp jump in third-wave pulse wave Elliot. The graph on the right is bearish pulse wave, which also confirms the sharp jump in the third wave.

Dataselection influences the result very much so this method can be used to confirm the presence of pulse wave Elliot, one of the rules of which are pronounced is the third wave (larger in amplitude than the first and fifth). Using this method can provide preliminary information on the trend reversal at the top of the 5 waves and corrective waves beginning. In conjunction with other indicators this indicator can be used as an additional indicator that confirms the reversal of the market.

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