RIN MARKET: PRICE BEHAVIOR AND ITS FORECAST

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For the two recent decades one of the world's most important questions has been about ecology. More and more countries think about an ecological situation. So in 90s the Kyoto Protocol was signed and a number of countries created a market for emissions. It is good for stimulating the producers to reduce pollution. The main problem of this market is that it is very difficult to measure how much the company is polluting.

The USA solved this problem by creating a similar market in 2005. It is called the RIN market. RIN stands for Renewable Identification Number, but it is not only number, it is also a financial asset which a producer can trade like emissions. Because of similarity with emissions, many Americans call RIN a tax. It means that the government stimulates blenders to add ethanol to gasoline before selling it to the service stations. Every gallon of ethanol which was produced in the USA or was imported to this country must have one RIN, and every blender has own RFS (Renewable Fuel Standards), which specifies the minimum amount of RIN it must possess. A blender can trade RINs in a way similar to trading emissions, and it is important that they can trade RINs separately from ethanol.

Both the emission market and the RIN market have many common characteristics, but there is one big difference. Unlike emissions, RIN are traded without the exchange, but it is reasonable to suppose that in some years it will be possible to buy or sell RINs on the exchange. As the importance of RIN trading is likely to increase, the goal of this paper is to research the RIN price behavior and to forecast the price using ARMA-t- GARCH models.

This paper analyzes prices of three RINs: biomass-based diesel (D4), advanced biofuels (D5) and cellulose (D6). The daily prices were taken from the site of a young American company EcoEngineers, which offers a wide range of RIN services like consulting, reporting and certification. This company presents prices only since the beginning of 2011, so the prices were analyzed from January, 2011 to September 2013 (690 observations for each series).

The paper shows that it is not important how to estimate these series (separately or together), because the estimations of parameters are very similar and the forecasted gaps are similar too. Also the common estimation using DCC-GARCH model made it possible to ascertain that these series have positive correlation in each pair of series. It means that no one can hedge others security, but this information can help to forecast, because if one series has shock, other series will change too. This information will help traders when RINs are traded in an exchange.

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