

20th International Scientific Conference Economics and Management - 2015 (ICEM-2015)

Nowcasting commodity markets using real time data stream

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Abstract

Research purpose. Because of the complexity of financial instruments and difficult economic situation today instead of forecasting it is useful to have real-time and reliable data, that might identify current stage in commodity market with holistic approach.

Methodology. Different nowcasting models using heterogeneous set of predictors, including different statistics, as also surveys.

Main results. The results of the research provide readers with understanding of nowcasting approach regarding regional heterogeneity in commodity market.

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Peer-review under responsibility of Kaunas University of Technology, School of Economics and Business

Keywords: Nowcasting; Commodity Marke; Real Time Data Stream.

Introduction

There are different scientific opinions, that some financial indicators have power to predict market action providing readers with understanding of nowcasting approach regarding regional heterogeneity in commodity markets. Nowcasting can be defined as the prediction of the present, the very near future and the very recent past. Until recently, nowcasting had received very little attention by the academic literature, although it was routinely conducted in policy institutions on the basis of simple models. Crucial in this process is to use timely information in order to nowcast key commodity markets variables.

Because of the complexity financial instruments and difficult economical situation today instead of forecasting it is useful to have real-time and reliable data (Schumacher, Breitung, 2008; Giannone, Reichlin, Small, 2008; Chauvet; Piger, 2008; Das, Ester, Kaczmirek, 2011; Kuzin, Marcellino, Schumacher, 2012; Banbura, Giannone,

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Modugno, Reichlin, 2012; Amisano, Geweke, 2013; Askitas, Zimmermann, 2013; Stock, Watson, 2014; Aastveit, Gerdrup, Jore, Thorsrud, 2014). Methodology of nowcasting commodity market by using real time data stream is designed to include essential characteristics of the holistic economic approach creating statistical model which produces a sequence of nowcasts in commodity market.

1. Nowcasting integrating statistical models incorporating real time available data

Share of primary commodities in global markets has declined over last time, however, fluctuation in commodity markets still affecting global economy. Price forecast in commodity market remain important part of export activities, especially for developing countries. Nowcasting of price of primary commodity markets is a key factor to macroeconomic policy planning.

The basic principle of nowcasting is the exploitation of the real time data stream at higher frequencies in order to obtain early estimate in commodity markets. Additionally considering information containing forward looking financial indicators.

It is necessary to use timely information and real time data stream from various sources at wide range of frequencies in a nonsynchronous manner and with different degrees of delay dealing with very large information set. This framework provides a comprehensive approach dealing with nowcasting based on multivariate dynamic models by monitoring many real time data and using Kalman filter to generate projections for many variables.

Methodology of forecasting in commodity market is designed to include essential characteristics of the holistic economic approach. There are three types of price forecast in commodity markets: based on judgments (qualitative analysis with variety of factors), based on historical price data (quantitative analysis) and forecast based on supply and demand analysis see Fig. 1.

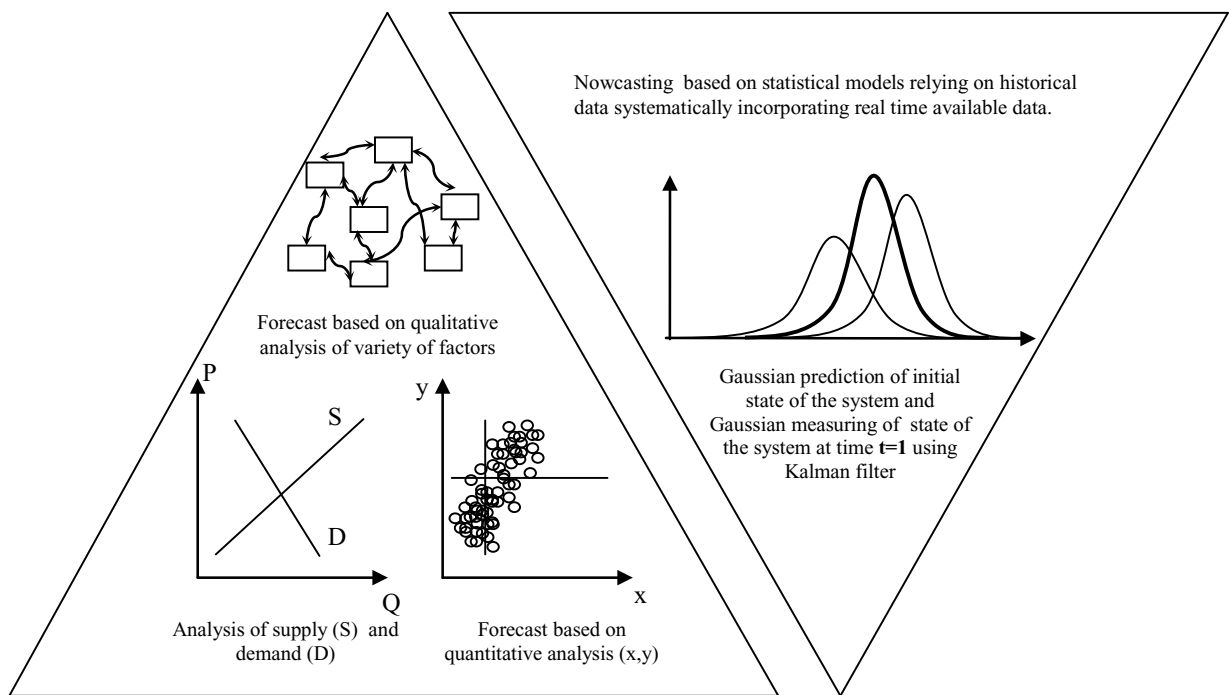


Fig. 1. Modeling nowcasting integrating statistical models relying on historical data systematically incorporating real time available data

Techniques of nowcasting have been based on simplified heuristic approaches and can be formalized in a different statistical models. Models collecting information from a large quantity of data series at different

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