

EIX Forecasts Economic Development

KIT Study: Users of the Virtual Prediction Market Are Quicker Than Economists

A virtual prediction market can forecast economy data as reliably as an economic news agency. As a rule, users of the prediction market are even quicker. Short sales increase the accuracy of the forecasts. This is demonstrated by a study of the business engineer Florian Teschner of Karlsruhe Institute of Technology (KIT). The researcher analyzed the design and performance of prediction markets using the EIX Handelsblatt prediction market that is co-operated by KIT as an example.

Prediction markets are virtual market platforms predicting the outcome of events: Participants trade with virtual shares on future events, e.g. the results of elections or sports events. The costs of the shares reflect the probability of occurrence of the events. This concept is based on the idea that the average of many estimates frequently is much more precise than individual forecasts. The KIT Institute of Information Systems and Management (IISM) headed by Professor Christof Weinhardt runs the Economic Indicator eXchange (EIX) market together with the Cologne Institute for Economic Research and the economic newspaper Handelsblatt. On this market, the participants have been trading with their estimates of six economic indicators for nearly three years now. These indicators are the gross domestic product, exports, inflation, unemployment, gross fixed capital formation, and the Ifo index. For trading, they use virtual money. Those making the best forecasts will receive non-cash prizes.

In his Ph. D. thesis "Forecasting Economic Indices - Performance, Design, and Learning in Prediction Markets", business engineer Florian Teschner from the IISM analyzed the quality of forecasts on EIX and studied the question how prediction markets have to be designed to compile the information more rapidly and efficiently. The results demonstrate that EIX with more than 1000 participants and more than 60,000 individual predictions can make very precise fore-

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casts. The consensus forecasts of the Bloomberg news agency based on polls of bank economists were used as a benchmark. Comparison revealed that the quality of EIX forecasts is equal to that of Bloomberg forecasts.

As a rule, EIX usually is even quicker: "The prediction market supplies an equivalent forecast ten days earlier", says Florian Teschner. While Bloomberg supplies a punctual prognosis based on interviews one week prior to publication, EIX makes a continuous prognosis. "This motivates the participants to disclose their estimates very early," explains Teschner. The traders on EIX use the new information immediately to improve their forecasts.

The Ph. D. thesis supervised by Professor Christof Weinhardt also deals with effects of short sales on the accuracy of the prediction market. By short sales, traders speculate for falling values. Introduction of short sales turned out to have a positive effect: The forecast error, i.e. the difference between the predicted and the real value, was sometimes reduced by 60%. "Short sales extend the scope of action of the participants. They can use incorrect prices much better, the forecast error is reduced," reports Teschner. The KIT scientist also studied how other market parameters change due to short sales and found that liquidity increases.

The study also addressed the question how incentives and feedbacks influence learning and participation of the users of prediction markets. A long-term continuous interaction with the participants was found to be decisive for the success of the market. The most effective way of motivating users was a weekly economy newsletter. Experiments relating to the design of the user interface revealed that the bids of the participants are less profitable, if the trading screen contains a high number of information elements.

More information on the prediction market: www.eix-market.de

Karlsruhe Institute of Technology (KIT) is a public corporation according to the legislation of the state of Baden-Württemberg. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT focuses on a knowledge triangle that links the tasks of research, teaching, and innovation.

This press release is available on the internet at www.kit.edu.