

: Are decision markets a useful decision support tool?

by Dan Power

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YES, decision markets are useful for appropriate prediction tasks. Some Ask Dan! columns are more time sensitive than others. This topic is "hot". On Thursday, July 31, 2003 I received an email from Chris Lang with the subject heading "Please Help!" I also received an email from Tippie News, Henry B. Tippie College of Business, University of Iowa. Both emails dealt with the controversy in the news about what have been called information aggregating markets, electronic markets, policy analysis markets, and decision markets.

Chris wrote "You've seen the headlines, 'Pentagon Prepares a Futures Market on Terror Attacks' and 'Pentagon Kills Terror Futures Market', and hopefully you were amazed that world-class economists could propose anything sounding so idiotic. Hopefully you were so amazed that you got suspicious that perhaps the whole story was not being told. That would have been a good instinct." I agree with you Chris. The headlines are sensational and certainly don't tell the entire story about the appropriate use of this decision support tool.

On Thursday, July 31, 2003 the Washington Post published an editorial titled "The Furor Over 'Terrorism Futures'" by Justin Wolfers and Eric Zitzewitz, assistant professors of economics at Stanford Graduate School of Business. Wolfers and Zitzewitz wrote "The idea was simple: By creating a market in which people can buy and sell contracts that pay \$100 if certain political events occur in the Middle East, we can infer from the price of such securities the probability of these outcomes. By explicitly pricing such risks, we can better understand them and better respond to them."

The University of Iowa's Tippie College of Business, where the Iowa Electronic Markets (IEM) was developed, has been a leader in Web-based futures trading. "The IEM provides the framework for trading experiments on topics ranging from political contests to Hollywood Box Office receipts. The IEM actually has had better election forecasting results than many political pollsters." The web has made artificial markets possible. I've heard Joyce Berg, a professor in The University of Iowa's Tippie College of Business, make a public presentation about the Iowa Electronic Markets and there are always skeptics about how it can produce such outstanding results. Let's see what was proposed and what works with decision markets.

The Wall Street Journal (July 29, 2003) reported "Sen. Byron Dorgan (D., N.D.) is seeking, along with colleagues, to thwart a Pentagon effort to secure 8 million to expand the project; the Pentagon already has spent about \$750,000 to cover start-up costs. The effort is loosely based on the Iowa Electronic Markets, a futures exchange run by The University of Iowa Tippie College of Business,

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that anticipates U.S. election results and Federal Reserve decisions."

The San Francisco Chronicle (July 30, 2003) reported "Facing a hailstorm of criticism from Democrats and Republicans, the Bush administration abruptly pulled the plug Tuesday on a proposed Pentagon research project to allow investors to make bets on the probabilities of terrorist attacks, assassinations and coups in the Middle East. The program -- called the Policy Analysis Market - was the brainchild of the Pentagon's Defense Advanced Research Projects Agency, or DARPA. Supporters of the proposal, including a number of prominent economists, argue that 'decision markets' such as the one proposed by the Pentagon can be very useful in using the collective knowledge of investors -- as expressed in their betting on prices -- to predict outcomes."

An article in the New Scientist (July 30, 2003) states "In an extraordinary day in Washington on Tuesday, a government-backed futures market aimed at predicting terrorist attacks and other events was both revealed and then cancelled. Using futures markets to predict future events is not new. US presidential elections have been analyzed by the Iowa Electronic Markets (IEM) since 1986. It claims to be twice as accurate as pundits. Thomas Rietz, a director of the IEM, is doubtful speculators would really have provided helpful intelligence. When betting on presidential elections, he says, people can use their network of friends, family and workmates to form an opinion - that would not be the case for terrorist activity."

I agree with Tom Rietz. Issues related to terror attacks probably can not be predicted accurately using decision markets. If we want to tap into the "collective wisdom" through a futures market, we need to have the web-based decision market accessed by knowledgeable users and we need to ask appropriate questions that people will be motivated to "bet on". We definitely need to conduct more research on the use of decision markets as decision support tools. Private companies have used decision markets to develop demand forecasts and we may be able to structure an electronic decision market to predict collective behaviors related to policy issues. I don't like to see science politicized, but the proposed DARPA project was poorly conceived and outrageously expensive. The proposal reviewers at DARPA made a mistake. The Iowa Electronic Markets have received much less funding and done ground breaking research in this area. Perhaps DARPA can move the 8 million to other decision market and DSS research projects that are not so controversial. This type of research needs to continue.

References

Iowa Electronic Markets, <http://www.biz.uiowa.edu/iem> .

Tippie News (Special IEM Edition), Wednesday, 30 July 2003, contact tippie-news@uiowa.edu.

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Wolfers, J. and E. Zitzewitz, "The Furor Over 'Terrorism Futures'," Washington Post, Thursday, July 31, 2003, page A19, URL <http://www.washingtonpost.com/wp-dyn/articles/A5696-2003Jul30.html>

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