

**Information Markets: A New Way of Making Decisions, edited by Robert W. Hahn and Paul C. Tetlock, UT, TX, USA and AEI-Brookings Joint Center, USA, AEI-Brookings Joint Center for Regulatory Studies: Washington, DC, 2006. pp xi+201, ISBN-10 0-8447-4228-7, ISBN-13 978-0-8447-4228-1, [\$25.00]**

Everyone has heard about betting markets, fewer people probably have heard about prediction markets; together they are often referred to as information markets. This volume – the result of an AEI-Brookings Joint Center conference in December 2004 – is a set of contributions by some of the leading theorists and experimentalists concerned with the application of information markets to both public policy and private decision making. It is a worthwhile buy even if you are willing to pay the sticker price.

Prediction markets – which are the major theme of the present volume – gained visibility among economists almost twenty years ago through the Iowa Electronic Markets (IEM): a real-money, small scale futures markets where participants could bet initially on the outcomes of U.S. and worldwide election markets. Later betting was extended to political appointments, outcomes of legislative processes, economic indicators, movie box office receipts, and more. IEM contracts take several payoff forms, but the common key feature is that, through demand and supply for specific contracts, prices aggregate widely dispersed beliefs and knowledge.

Berg and Rietz have been involved in the IEM for a long time. In their very readable chapter, they explain briefly how these markets function and then enumerate several stylized facts about IEM prediction markets: Traders are not a random sample of the voting population, and they are biased, prices respond quickly to news, and while large orders can move prices, overall they are nonetheless accurate both relative to the next best alternative (e.g., polls in the case of elections) and absolutely. Berg and Rietz conclude their chapter with a discussion of open issues such as the conditions under which prediction markets can be manipulated, how such manipulation attempts can be detected, and what the role of the marginal traders is. They argue that prediction markets work well and, in fact, outperform the next best alternative by a wide margin: in about three out of four cases IEM prices have outperformed standard polls. The authors acknowledge that we do not yet well understand why prediction markets work so well.

The manipulability of these markets is also one the five open questions about prediction markets that Wolfers and Zitzewitz identify in their chapter. How to attract uniformed traders to

prediction markets and thereby entice people with relevant knowledge to participate in them, is another such question. Whether people are reasonably calibrated and can properly evaluate small-probability events is yet another. Despite touching upon this latter issue in their chapter, Wolfers and Zitzewitz demonstrate little knowledge of the relevant literature in psychology. They also discuss the problem of separating correlation from causation and propose as solution a prediction instrument variable technique. While this idea is conceptually persuasive, it is not clear whether such prediction IVs can be easily found. The authors relate their contribution to their earlier article (Wolfers and Zitzewitz, 2004) which was somewhat less skeptical and probing than this useful chapter, which is a complement of sorts to the chapter by Berg and Rietz.

Hahn and Tetlock, in an intriguing chapter, propose to combine information markets with a pay-for-performance system. This “performance-based policy” presents the attempt to design a new approach to economic development and improve the efficiency of resource allocation for public policy projects. The basic idea is again to have prediction markets aggregate dispersed knowledge. Take the example of a policy maker’s attempt to increase standardized scores of a school district by thinking about delegating the right to run the school to some education company (the policy). The policy maker could set up two markets: one, the default contract so to speak, where a contract is traded that pays  $\$x$  if the average score is  $x$ , conditional on the policy not being implemented. The other is, the treatment contract so to speak, where a contract is traded that pays  $\$y$  if the average contract is  $y$ , conditional on the policy being implemented. (If the policy is implemented you get your money back in the former case, if it is not implemented you get your money back in the second case.) If  $\$x$  and  $\$y$  drift apart, then it would be an indication of the effectiveness of the policy. Obviously, several other contracts (policies) could be simultaneously considered and compared. The best supplier could then be selected (e.g., through auctions). Hahn and Tetlock suggests that the Copenhagen Consensus agenda – a well-known attempt to establish a hit list of world-wide policy problems – could benefit from markets for each of the various policies that are under consideration but they also discuss the potential difficulties of designing such market designs. For example, if some policy is not very likely to be implemented, traders will not trade contracts whose payoff is conditional on this policy and therefore information about the potential effect of this policy will never be revealed.

The chapter by Ledyard is a complement of sorts to the chapter by Hahn and Tetlock. In fact, it uses a policy maker's attempt to increase standardized scores of a school district as a motivating example. While Hahn and Tetlock revel to some extent the possibilities without much attention to design and implementation details, Ledyard dives head first into these issues. He discusses ways – proper scoring rules – to design markets that reduce, or possibly eliminate, the potential for manipulation and explores the limits of policy information markets through a review of experiments in which he was involved. In passing, he makes a persuasive case for the use of experiments in the exploration of incentive-compatible mechanisms. His chapter is a must-read.

Sunstein notes that there are, especially in organizations, several possibilities to aggregate information in small groups; deliberation, for instance, is an obvious alternative to information markets. He gives examples of deliberative groupthink that lead to disastrous consequences and discusses sources of potential deliberative failures such as informational influence, social pressure, or informational and reputational cascades. In his review of the evidence, this author conveys a distinct behavioral slant that diminishes what is otherwise a very useful chapter: The empirical reality of informational and reputational cascades is surely more in dispute than the reader is likely to infer from the discussion here. Sunstein then goes on and explores the potential of information markets to provide the right incentives to disclose the information and to correct rather than amplify individual judgment errors. He looks also at potential failures of information markets as well, and as the most important ones, he identifies manipulation, bias or bubbles.

Abramowicz addresses explicitly information markets in which only small numbers of individuals participate, as is the case in many organizational settings. He argues that, notwithstanding the potentially very small numbers of traders involved in them, it is possible to design information markets that work effectively even under such conditions. He discusses a particular mechanism that he favors and compares it to a couple of related mechanisms proposed by others. To increase further the incentives of individuals to reveal information, Abramowicz proposes an interesting twist on that mechanism: to make rewards contingent on the accuracy of predictions of subsequent predictors. Such an indirect reward scheme gives predictors an incentive try to persuade others; it also transforms information markets into deliberative institutions. Abramowicz demonstrates the functionality of his proposal with a simple model but cautions that experimental testing of the mechanism is imperative.

Hanson devotes his chapter to a discussion of the various forms of foul play (e.g., manipulation, sabotage) that might cause information markets to fail and suggests new strategies to deal with them. He also, throughout his chapter, suggests to what extent the various forms of foul play are and that they are a problem for competing institutional solutions (such as deliberation). He concludes, by and far, that information markets are not any more susceptible to foul play than competing institutional solutions – if they are designed and implemented properly.

The editors of this volume provide a good introduction to information markets and also introduce the chapters. They point out that the present regulation of information markets in the United States is likely to stymie innovation and discuss solutions to this indeed very important problem.

In sum, and to repeat, this is a worthwhile buy even if you are willing to pay the sticker price. The very good news is that one does not have to pay the sticker price as this book can be freely downloaded from [www.aei-brookings.org](http://www.aei-brookings.org). Clearly, there are such things as free intellectual feasts.

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## References

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