Market Scoring Rules and Cost Functions

Reading Questions 4

Wednesday, Sept. 19th 2012

1 What’s a Market Scoring Rule?
In Hanson’s research paper he argues for combining scoring rules, which incentivize accurate estimates from an individual, with “betting markets” that create group consensus.

1. If we cut up the future into three disjoint events (Obama reelected, Romney elected, and other, for example), and predict their likelihoods as .7, .3 and 0, then what is your score when each event occurs if you’re scored using the logarithmic scoring rule?
2. What are some properties of the logarithmic scoring rule cited?
3. In a market, the “score” for a prediction is actually its score minus the score of the previous prediction. Why does subtracting the score of the previous prediction not change the incentives to report accurately?
4. What is a market maker’s “worst-case loss?” What does this number depend on? When will the this loss be realized?
5. What is the section “Modularity of Market Scoring Rules” trying to say (in your own words)?
6. In your own words (always), briefly describe what a prediction market is, and how it’s run.

2 Market Scoring Rules v. Cost Functions
In Pennock’s blogpost, he suggests it’s more natural to think of operating a market where traders can “buy and sell shares” instead of “changing the price.”

1. In a scoring rule market you predict the likelihood of future events when its your turn. What do you do in a cost function market?
2. How much do you pay for the securities you buy or sell in a cost function market? Describe informally how this is determined.
3. Which type of market do you think is more natural? Why?