Scoring rule based mechanisms for eliciting probabilistic estimates

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Abstract

The goal of this presentation is to study strategic situations in which the players have estimations about stochastic future events (e.g., product demand, electricity consumption, etc.) as private information. A centre is responsible for eliciting and aggregating the estimations, and making decision based on the aggregate prediction. In such settings the players can be inspired to truthfully report their estimations with scoring rule based mechanisms. However, when generating the estimates is not free, the players may not invest in (appropriately precise) estimates, which results in the inefficiency of the mechanism. We present a simple model in which estimates are normal distributions, and a mechanism, which not only provide incentive for the players to report truthfully their estimates, but also to achieve a certain precision.