Markets for Information

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Abstract:

In this paper we model a market for information. There is an object for sale, which comes in one of k randomly chosen varieties, and n potential buyers of the object. The buyers can get utility from only one randomly chosen variety of the object. The type of the potential buyers are chosen independently of one another, and of the object for sale. The buyers can find out the type of the object for sale by paying a cost c. Each buyer has then to choose first whether or not to explore the object and then, if he has chosen to explore the object, whether to sell a report on his information to the uninformed buyers, and at which price. We show that even though the seller of information may have an interest in sending false reports in order to lower demand when he wishes to acquire the object, the report sent still has some positive informational value. We study two ways in which the market can operate. In one of them (which we call the no discrimination case) the sellers of information post a price at which any other buyer can buy from them a (non verifiable) signal about the type of the object. In the alternative (the discrimination case), the buyers can sell different types of signals at different prices. After the information is sold and signals revealed, all the buyers participate in a second price auction for the object.

In the equilibrium of this game, there is, depending on the level of the cost c, either no buyer who explores the object, or one, at most two, buyers who do that. The other buyers (except possibly one) choose to purchase information from the informed buyer, if there is one. Without discrimination, the outcome of the game is not socially efficient for some range of parameters, as there is an inefficiently low amount of information acquisition in the market. With discrimination, on the other hand, the market has the socially optimal amount of information acquisition, the equilibrium outcome is then always efficient. The equilibrium in this case has the feature that the (ex-ante identical) buyers are ordered in a sequence and choose to purchase differentiated signals of progressively lower quality.

We also examine the case where the agents acquiring and selling information are not also traders at the same time, i.e. are not interested in the object. We find that the efficiency properties of equilibria are actually worse in that case, i.e. that the possibility of underinvestment in information is even higher in that case. We interpret this result as meaning that so called "chinese walls," that is, the requirement that sellers of information do not have an interest in the object for sale, may adverse effects on welfare.

Finally, we analyze the properties of equilibria, and in particular their efficiency, when the seller of the object may also acquire, and sell information over the quality of the object. The seller's incentives to misreport are different from those of a buyer, as the seller would like to send reports that 'hype' the demand for the object.