Report on "Getting polluters to tell the truth"

The purpose of the paper is to revisit the classic problem of pollution control when abatement costs are private information to the polluters. A regulator is in charge of regulating a series of industries by considering both the abatement costs and the cost of pollution to society. By contrast to the existing literature correctly surveyed in the introduction, the author(s) seeks to find a new incentive mechanism that ensures truth-telling as a *unique* equilibrium.

The model employs a finite set of firms divided into "industries" that actually share abatement cost conditions. The regulator is able to audit a firm's announcement but can only tell whether the report is truthful or not and cannot observe the true cost.

While I found the analysis interesting and the paper written with competence, I do have some concerns about it.

Major comments

1. On page 15, it is assumed that "all firms in each industry have the same cost function" and "this is common knowledge". This is also reflected in the notation where $c^i(x_j)$ is the cost of polluting at a level x_j for any firm in industry i. It seems to me that this is a major difference with the framework initially developped by Dasgupta et al. (1980). There a regulator faces a set of information where all firms are heterogenous in terms of abatement costs. By contrast, the regulator has "more" information here because the industry to which any firm belongs can be identified. This means that the regulator perfectly identifies the set of firms that share the same cost function and hence the same information.

   It follows that two firms that belongs to the same industry cannot fool the regulator about the fact that they share the same cost conditions. Indeed, they just can send wrong information about their "common" cost structure. In other words, there is perfect correlation between all types inside each industry. Therefore, in

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view of the work done by Cremer and MacLean (1988, Econometrica, "Full extraction of surplus in bayesian and dominant strategy auctions", 56:1247-1258) in a multiagents framework with types correlation, it seems at first sight that it is not surprising that the regulator can implement the first best at (almost) no cost. So it might be interesting to contrast the proposed mechanism with the results obtained by that literature.

2. Therefore, the issue of collusion among members of the same industry (or class of cost function) appears to be very important as all of them know that it is somewhat crucial to coordinate on annoucements made to the regulator. This is of course acknowledged by the author(s) on page 17, but it seems to me that it should be the central part of the analysis. Not taking into account the possibility of collusion would seriously limit the applicability of the proposed mechanism.

3. Last, I am not sure whether the extensions in section 5 to industries with only one firm and unknown damages warrant such a long discussion. This part could be shorthened quite easily.

Minor comments

1. On page 9 and 10 , when talking about inspection and verification, it might be interesting to cite the seminal work of Townsend on "costly state verification" (1978, Journal of Economic Theory, 21:417-425).