

Referee Report on "Horizontal Mergers and Uncertainty"

March 31, 2014

This paper analyses the profitability of bilateral horizontal mergers in markets where the output-decision making is sequential (Stackelberg competition with n firms: $m \geq 3$ leaders and $n - m \geq 3$ followers) and there is uncertainty about the marginal cost of the newly merged entity. They consider all possible bilateral mergers, that is merger between two leaders (or followers), merger between a leader and a follower, and merger between followers resulting in a leader. The sequentiality of output decisions implies an informational asymmetry between firms. In particular, the merger marginal cost is private information. If the merger behaves as a leader, outsider leaders are uninformed about this cost because they decide simultaneously with the leader, whereas outsider followers can infer this cost thanks to the second mover advantage. In contrast, if the merger behaves as a follower, the informational asymmetry disappears as all outsiders are uninformed about this cost.

Basically, the authors extend Huck et al. 2001 introducing uncertainty about the marginal cost of the merger in a Stackelberg market. I find the issue of the paper interesting, in particular the role of uncertainty on firms' merging activity and the potential policy guidance. However, I find that it can be improved in many parts.

1. As far as the Introduction is concerned, the literature review could

be improved, for instance see Hamada (2012), "Uncertainty and Horizontal mergers", Journal of Institutional and Theoretical Economics, 168, 252-265 and compare your results with it. This paper considers a homogeneous good Cournot oligopoly and argues that even if there is neither an expected efficiency gain nor an informational advantage under private information, the increased uncertainty itself can urge firms to merge. This is due to the fact that the ex post ability of the merged firm to adjust its production level raises its expected profit. Also, as uncertainty grows, the postmerger expected consumer surplus and social welfare exceed their premerger values.

2. At page 3, end of third paragraph, the description of the results about the private profitability of merger should be improved, I find them not very clear.
3. In the model, the second paragraph at page 6 is the same as the one at page 3. I would drop the comparison with Amir et al. and clearly describe the four scenarios you are going to analyse. Also you should motivate case C and case D: why, for instance, two merging followers should result in a leader?
4. You consider an industry with at least three leaders and three followers, why? For instance, what if $m = 2$?
5. In Section 2.2 you analyse in turn the different merger scenarios A, B, C and D. The notation is quite intuitive, however, you should mention, at least in the first scenario, that superscript A refers to case A (and accordingly for the other cases). For instance at page 7 when you first introduce $q_i^{l,A}$.
6. In the merger analysis (Section 3) I find confusing the subsections' titles. In particular, subsection 3.2 is named "Profitability of merger" that at first glance seems to mean the same as "Private incentive to

merge” (title of Subsection 3.1). For instance, you could name subsection 3.2 ”Ex-post profitability of merger”.

7. I would like the relevant thresholds to be defined in the text rather than in the Tables. E.g., $\sigma_{\pi_A}^2$, $\sigma_{\pi_B}^2$ in Table 4.
8. You study the private profitability of the merger for the insiders, can you say something about the profitability of the outsiders?
9. Propositions and Lemmas should be written in a better way and be consistent with each other. For instance Proposition 3, in the first part you refer to mergers between leaders and in the second part you refer to case B. Either you refer to the cases or you explicitly describe the type of merger you talk about (this comment holds for all the results). For the statements to be more readable and self-contained I would opt for explicitly describing the type of merger.
10. The English should be improved. See for instance the following sentences:
 - page 16, second paragraph is not very clear the meaning of ”the resulting leader is less restrictive..., the resulting leader can be profitable...”
 - page 18, close to the end: ”a merger is approved whenever the expected change is positive”, expected change of what?
 - beginning of page 21, the discussion about the precision of CS is not very clear;
 - page 22, Proposition 5 (b), ”... when there is sufficiently less leader firms in the market,...”;
 - page 22, second to last paragraph, ”Prop 5 shows that when intervening ex-post, Competition Authorities are aware of the merged firm’s cost”. This is not shown in Prop 5, this is the definition of ex-post, isn’t it?

11. You never say that HKM (2001) refers to Huck et al.
12. I would change the title of Table 6 in "private vs social incentives to merge" or something similar.
13. There are many typos.