

Reply to Second Referee Report

by Stefano Colombo, Catholic University of Milan

I really thank the referee for his comments and suggestions.

(1) The model is well-described. There are a few minor corrections and revisions I recommend considering.

- *Explicitly state that it is assumed that there is no production costs. While the assumption is common to simplify the analysis it is an important one since it allows you to assume the market is fully covered and, therefore, price is determined by where consumers are indifferent between the two goods, or rather, the firms do not have to consider cutting back quantity due to increasing marginal costs.*

Done in the revised version of the paper.

- *In the utility of a consumer who buys from H the price should be written as $p_H(\theta)$ (I am using θ is these comments in place of the preference parameter in the paper).*

Done in all parts of the paper using the notation p_g^H that I introduced in section 2 of the revised version of the paper.

- *I would recommend rewriting Assumptions 1 and 2. The terms c_H , c_L , s_H , and s_L are endogenous variables and it is inappropriate to make assumptions on them. Since s_i is bounded between zero and one presumably $c(s_i)$ is bounded as well. I suspect the two assumptions can be restated using only your exogenous parameters.*

I thank the referee for this suggestion. I have re-written the two assumptions in a single form based on the exogenous parameters. In particular, the two assumptions reduce to: $c(1) < \min[v, 2]$. The explanation is the following. I need that the firm H 's demand is positive in the non-predatory equilibrium *and* that the market is covered. The assumption above is sufficient for both. In fact, concerning firm H 's demand, it is positive when $\hat{g}^* < 1$, which amounts to require $\frac{c_H - c_L}{s_H - s_L} < 2$.

Due to the convexity assumption, the left-hand side of the inequality is increasing in the difference between the quality levels, and it is maximum when $s_H = 1$ and $s_L = 0$, which imply that the maximum level of the left-hand side is $c(1)$. Since by assumption 1 it must be $c(1) < 2$, firm H 's demand is positive in the non-predatory equilibrium. Concerning the coverage of the market, the market is covered when the consumer with the lowest taste for quality buys the good. This requires that $v - p_2^L > 0$, or $v > (c_H + c_L)/2$. Since the right-hand side of the inequality is increasing in the *sum* of the qualities, the right-hand side is maximum when $s_H = 1$ and $s_L = 1 - \varepsilon$, where ε is a positive and infinitely small number. Therefore, disregarding ε , the maximum value of the right-hand side is $c(1)$, which is always lower than v due to Assumption 1.

- *As discussed below, it is important for your analysis that you assume that a consumer indifferent between the two products, will purchase from H. This should be stated.*

Done in section 3 of the revised version of the paper.

- *I believe the discount factor δ should be introduced in the statement of the model rather than on page 6.*

Done. See section 2 of the revised version of the paper.

(2) The derivation of the results is clean and well-presented. I do have a few comments to consider.

- *Preceding equation (1), in equation (1), and (3) it should be stated that $p_{2D,H}$ is a function of θ , $p_{2D,H}(\theta)$. A reader will mistakenly assume that it is a constant price rather than a price schedule.*

Done as above.

- *Before equation (2) it is stated that the expression represents the “consumer which is indifferent”. This is a bit inaccurate. The price $p_{2D,H}$ is set, in fact, so that every consumer with θ greater than this threshold is indifferent. Only consumers less than this threshold are not indifferent. On a similar note, the model does not explicitly state that if indifferent a consumer buys from H, which is presumed.*

I have corrected the inaccuracy (see section 3 in the revised version of the paper).

(3) There are a few typos to fix up as well.

- *Throughout the paper the “s” in “H’s” and “L’s” is missing.*
- *On page 5 the line between (7) and (8) should read, “...firm H’s equilibrium, duopolistic, second-period, nonpredatory profits...”*
- *On page 6 the line between (14) and (15) should read, “firm H does not prey on firm L...”*

I have fixed the typos.

(4) Finally, I am not sure about the final section (Section 5). It considers a T-period repeated game. The model makes a rather hard-to-swallow assumption that one period of zero profit knocks L out of the model, while H can sustain any amount of loss. I rationalized this (to myself) in that this is a short-hand model where H has a significant amount of financial backing and L does not. Therefore, the exit of L after one period of nonpositive profit was from a forward-looking agent expecting additional future periods of losses that H can stand, but L cannot. Modelling the T-period game, then, makes it difficult to take this view and, consequently, I can no longer rationalize why L exits with a loss and H does not. I would encourage either dropping the section, developing the full model with credit constraints, or at least providing the reader with a way to justify the exiting assumptions in your extended repeated game.

Thanks for this comment. I have dropped section 5 from the text and I have expanded the discussion about credit constraints using your suggestion.