

Referee report on
Low quality as a signal of high quality
MS-457

My reading of the paper's question is the following: Can firm enhance the signaling role of price by upsetting their customers along observable quality dimensions of their purchase?

Reading this paper, I learned that the answer to this question is possibly yes.

a. Motivating examples

I found the wine and the beer examples not very convincing. In the case of wine, I am not at all convinced that glass and cork constitute low quality packaging. More importantly, I do not find it convincing the idea that glass and cork are perceived as low quality packaging (observable quality) by consumers. Hence, I don't think the example offers any support to the idea that low observable quality can be a signal of high unobservable quality. The same criticism applies, in my view, to the beer example.

Differently, I found more convincing the example of the newspapers. It goes more in the direction of the theoretical intuition behind the model that is "... for many products and services, one must go to greater inconvenience to obtain higher quality ..". Indeed there are further examples one might think of. Take for instance fine cigars, or pipes, or top quality wines, or spirits. Normally, such items are not sold in any corner shop or supermarket. Rather, it is often the case that, even in big cities, these are sold in only a handful of shops and depending of his location, the potential customer has to spend hours of his time to get to the shop and find the product he is interested in.

b. Structure of the model, information set, and equilibrium concept

1. Structure of the model

The modeling assumptions regarding the distribution of the willingness to pay (WTP) are not entirely satisfactory to the extent that the distribution of HH does not follow directly from the distributions of H quality in each dimension alone. I wonder whether this aspect could be improved working with other types of distributions such as, for instance, the binomial distribution rather than the continuous uniform distribution adopted in the paper.

2. Equilibrium concept

The concept applied in the paper –as it emerges from the analysis – is that of Perfect Bayesian Equilibrium. In order to assess and fully understand the equilibrium analysis developed in the paper it would be important to provide a formal definition of the equilibrium concept. This also in the view of the fact that some consumers are informed and therefore, it seems important to clarify whether such consumers can provide information to uninformed agents.

c. Is the quality or the price?

If I am correct, in all the separating equilibria, high unobservable quality goods are sold at a higher price than low quality goods. When separation occurs both in terms of prices and observable quality, low observable quality helps the seller of high intrinsic quality good to the extent that upward distortion in the price level needed to achieve separation is lower compared to the equilibrium in which both type of sellers provide the same observable quality.

Moreover, as it appears from the analysis low observable quality alone, does not serve as a signal of quality (at least in equilibrium) to the extent that separation always implies different prices for high and low unobservable quality, respectively.

Therefore, it seems to me that the signaling role is still due (mainly) to the price, rather than to the low observable quality.

Having said that, it seems that there could be scope to analyze whether providing low observable quality could have a signaling effect off equilibrium. For instance, depending on the refinement concept applied to off equilibrium beliefs, it seems plausible that equilibria in which separation occurs only through the price and both types provide high observable quality, might be not robust to the extent that high quality sellers might benefit relatively more than low quality sellers from deviations that consist in providing low observable quality. This leads to my next point.

d. Refinement concept and prevailing equilibrium

In my opinion, the analysis would benefit if the refinement criteria used were spelled out more clearly, that is if they were formally defined in the context of the model. This holds with respect to the intuitive criterion as well as to the Divinity criterion. In addition, the authors should assess the robustness of their analysis with respect to the refinement criterion adopted. In general, forward induction based refinement tend

to rule out pooling equilibria even in situation in which pooling seems a very plausible outcome, as it is for instance, when the probability of low intrinsic quality is very low. One would expect a discussion of such issue also with reference to refinement criteria alternative to the one used in the paper.