

Referee's Report MS#984-1  
"Endogenous Timing in Quality Choices and Price Competition"  
By L. Lambertini and A. Tampieri

The authors extend Aoki's two-stage model of vertical quality (Mussa and Rosen) choice and price competition in two ways: (1) add one stage at the beginning where firms choose order (First or Second) of moves, and (2) consider parameter ranges where market is completely covered in price competition equilibrium. Aoki compares takes order of moves as given and compares equilibria between sequential and simultaneous moves and restricts parameter range so there are some consumers that do not buy anything.

The authors make the following contributions. Addition of stage at the beginning which endogenizes order of moves that result in sequential or simultaneous moves is straightforward but is an important extension in order to complete the analysis of the framework. It is shown there are three equilibria, two pure strategy equilibrium where firms move simultaneously and one mixed strategy equilibrium. I find the second contribution very interesting. When the market is completely covered (equilibrium of price competition in last stage), the only marginal consumer is one that decides to buy from high quality firm or low quality firm. There is no need to choose quality taking into account both this marginal consumer and a consumer that will not buy anything otherwise. As result, marginal profit from quality improvement is independent of rival quality since size of sale does not matter. This means the marginal benefit of improving own quality is independent of rival quality – i.e., best response correspondence is linear. This means sequential and simultaneous move equilibria coincide and order of moves become irrelevant.

I think there could be a little more explanation, similar to the proceeding paragraph, about profit functions (15) and best response correspondences (16) and (17) and slopes (18),(19).

I don't think the term "committing a mistake" (Corollary 2) is quite the right term for choosing actions that are not part of pure strategy equilibria. "Uncoordinated" might be a better term. The players are playing the correct equilibrium mixed strategies. The outcome is different from either of the pure strategies being played.

Minor comments:

P3, line 3, "there merges" => "it emerges"

P7, line -7, "entails" => "implies"

P9, line -3, "turn now on " => "turn now to"