Reply to the referees' comments 3

The authors would like to thank the referees for their valuable comments.

1. *>Why do firms care about relative profits?*

   We think that firms in an industry not only seek its own performance but also want to outperform the rival firms. TV audience-rating race and market share competition by breweries, automobile manufacturers, convenience store chains and mobile-phone carriers, especially in Japan, are examples of such behavior of firms.

   >Are there good reasons why all firms in a given industry should care equally about the relative profit component?

   It may be valuable to study the Bertrand equilibrium when the weight on the relative profit differs between two firms.

   >What is the economic intuition for the shrinking of the range of equilibrium prices?

   We can think that the reason why the range of the equilibrium prices shrinks under relative profit maximization is that the behavior of firms to maximize relative profits is more aggressive than the behavior of firms to maximize absolute profits. In quantity setting competition the relative profit maximizing firm produces more output than the absolute profit maximizing firm. In price setting competition the price of the good of the relative profit maximizing firm is lower than the price of the good of the absolute profit maximizing firm.

2. *>The proofs of Lemma 1, 2 and 3 should be in an appendix.*

   we can move the proofs of Lemmas to the appendix.

Sincerely

The authors