

This paper develops a basic R&D-based model to analyse the impact of the degree of competition on the rate of arrivals of innovations, thereby on long-term growth. The authors suggest that a novelty of their analysis is the introduction of Cournot competition between firms producing a good embedding a new idea from the R&D sector. (In comparison, the standard literature assumes that each variety is produced by a monopoly)

From a technical point of view, the analysis is well conducted and neat (if we except few typos regarding the numbering of equations). However, I am not convinced by the contribution of this article. Reasons are given below.

First of all, the authors consider "Cournot" competition as a novelty and argue that it yields to interesting results. I am afraid that this argument is not true. See for instance, Denicolo and Zanchettin (2010) who even compare outcomes under Bertrand and Cournot competition.

Second, the authors argue that one of their main result is (see conclusion):

"Sustained innovations are possible if, and only if, some intellectual property rights prevent the free use of an invention; otherwise, the market tends to be highly competitive. In this case, few resources are available for the R&D activity and the growth rate falls. By contrast when no firm has direct competitors, the state of knowledge moves forward because the private incentives for further research are maintained".

To me this is the essence of intellectual property rights (IPR) to give incentives to innovators to invest resources in R&D by giving a right to produce and sell a product embedding a new idea. It's then seems tautological to argue that if returns to R&D are lower (due to competition), there should be less innovations and thus lower growth. Standard R&D-based models capture this feature because this is the way they are built.

I am not convinced by the arguments given in p. 5 to justify the introduction of Cournot competition in the model. As the model is specified, the value of an innovation is given by the sum of the present value of profits of firms producing the good embedding a new idea. That is to say, there is no imitation or illegal copy. Every firm is paying a fee equal to its profit under Cournot competition to get the right to use an idea. Such formalisation is then closer to the licensing of an idea to several producers.

But then, the question which arises is the following: how can we justify the fact that innovators sell licenses to several producers who compete "a la Cournot"? Aggregate profit under monopoly is in effect greater than under Cournot competition. Thus an innovator should prefer to sell the patent to a single firm.

Finally, I could not see in a clear-cut manner "the two levels of competition under different market structures: the inter-sector monopolistic competition and the intra-sector Cournot oligopoly". While the intra-sector competition is obvious, I am not sure about the inter-sector monopolistic competition. The comparison with the result of Grossman-Helpman outcome which the authors recover when the number of firms producing each variety is set to one reinforce my doubt regarding the real contribution of the paper, especially in light of my previous point.

Vincenzo Denicolo & Piercarlo Zanchettin, 2010. "Competition, Market Selection and Growth," *Economic Journal*, vol. 120(545), pages 761-785, 06.