

Patents in new technologies

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Abstract

Our analysis adds some new insights to the importance of the use of patents in new technologies. We present a new R&D investment in a Cournot competition model. We thoroughly analyze its short and long term economical effects. For old technologies, the long term economical effects are not very sensitive to small changes in the efficiency of the R&D programs neither to small changes in the market structure. However, for new technologies, the long term economical effects are very sensitive to small changes in the efficiency of the R&D programs and also to small changes in the market structure. We find a favorable economical region for firm F_1 , a favorable economical region for firm F_2 and a recovery region for both firms characterized by the initial production costs of both firms. For new technologies, if Firm F_i decides not to invest or to stay out of the market (in period 1) and if Firm F_j has this private information about Firm F_j 's decision, then Firm F_j plays in such a way that will keep Firm F_i out of the market during the entire duration of the game.

Keywords: Strategic *R&D*, endogenous spillovers, patents.