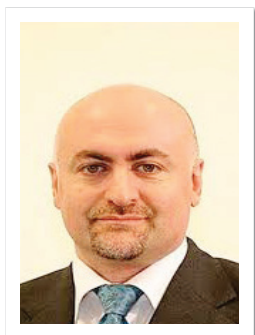




International Conference & Exhibition on Pharmaceutical Regulatory Affairs

6-7 September 2011 Baltimore, USA



Dr. Patrick Leoni

Euromed Management, France

Can patent duration hinder medical innovation for neglected diseases?

This project identifies a key strategic deterrent to initiate R&D for innovative treatments. We argue that the current patent system induces, at industry level, collusive behavior to postpone R&D for innovative treatments. We recommend the reduction of patents' duration to prevent collusion at industry level, while maintaining minimal incentives to initiate R&D.

We consider the case of many pharmaceutical firms, each owning a large pool of patents to treat some aspects/symptoms of a specific disease as well patents on other diseases for which they compete. Those firms are capable of engaging into a R&D race for an innovative treatment; if successful, this treatment eventually seizes the whole market for treating this disease and it renders the whole set of existing patents obsolete. A typical example is HIV/AIDS, where over 2000 patents for available treatments are owned by few firms, and limited efforts to develop a therapeutic vaccine have been observed.

We argue that, unless the market size is big enough, there is a collusive equilibrium among the industry to postpone R&D for the innovative treatment whenever the time horizon of the current patents is long enough. We also argue that, as the average time horizon of those patents decreases, the stability of this collusive equilibrium for postponing R&D decreases until it becomes optimal to unilaterally start the R&D. We thus point out that there exists a minimal patent duration below which no collusion for postponing R&D is possible. Moreover, this minimal patent duration is independent (to a large extent) of market returns, but it corresponds instead to the minimal financial incentive to reward innovation. This collusive behavior is thus dependant on the legal requirement for patent duration, and reducing enough the duration fosters R&D race. Our theory is consistent with observed episodes in the pharmaceutical industry.

Biography

Patrick Leoni is a Professor of Finance at Euromed Management (Marseille, France). He received his Ph.D. in Economics from the University of Minnesota in 2003, and he held research positions in Zurich, Venice and Dublin.

His research mostly focuses on designing and pricing new classes of derivatives, with a strong emphasis on health economics. He has been involved in the last few years in projects related to HIV/AIDS economic policies, and the design of derivatives to hedge against mortality risk. He wrote two books including "Economic challenges in the Fight against HIV/AIDS," he has over 25 publications in leading journals in Finance and Economics, and he is at the editorial board of four scholastic journals.