

First-to-File vs. First-to-Invent: Are We in a “Wrong” Patent Policy Regime?

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The motivation of this paper stems from the enactment of the 2011 America-Invents Act, the most significant change to the U.S. patent system since 1952. With this landmark piece of legislation, the United States ended its century-old system of awarding a patent to the person who claims to have discovered the invention first and joined the rest of the world that awards a patent to the person who files a patent application first. Behind the reason why the U.S. became the last country to adopt a first-to-file rule was the presence of the strong opposition to reform, who adduced the fact that the U.S. had led the world in invention for more than a century, and attributed that fact to the first-to-invent feature of the patent law that was in effect since 1836. The primary objective of the present paper, therefore, is to evaluate the opposition’s argument that a first-to-invent rule spurs economic growth relative to a first-to-file rule. The argument, if valid, would mean that the world economy is in a “wrong” patent policy regime.

To this end, we consider an economy with a continuum of industries, in each of which two firms compete in R&D to create a new product. To highlight the difference between the two patent-awarding rules, we assume that each new product is brought to the market after completion of two stages of innovation: intermediate and final. Analysis proceeds in three models. First, we develop a basic model, which is of partial equilibrium nature, taking profit as given. We show that growth is faster with the first-to-file rule than with the first-to-invent rule. Second, the basic model is extended to general equilibrium, endogenously determining profit and wage. The result is now reversed, i.e. growth is higher under the first-to-invent rule. Third, free entry of firms is introduced. Analysis confirms the reversal of the result under partial equilibrium.