Inventors and pirates: creative activity and intellectual property rights

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Abstract

This paper focuses on the choices that link the security of intellectual property rights to the environment for pirating ideas, which includes the legal system, and to the interpersonal distribution of talent. These choices include the decisions made by potentially creative people either to engage in creative activity or to be pirates of the ideas created by others and the decisions made by people who are engaged in creative activity to allocate time and effort to guarding the ideas that they create from pirating. Among other results, the analysis shows that, holding fixed the average level of talent, the existence of geniuses, who are much more talented than ordinary potentially creative people, can cause a larger fraction of potentially creative people to choose to be pirates, thereby making intellectual property rights less secure, but also can result in a larger value of ideas being created. The analysis also shows that intellectual property rights probably are too secure, in that the amount of time and effort allocated to guarding ideas from pirating probably is larger than the amount that would maximize the value of ideas created.

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1. Introduction

The law is only one of the arms the individual uses in his essentially lawless struggle. (Tim Parks, 1992, p. 77)
It is a commonplace idea that the incentive to engage in creative activity depends on the security of intellectual property rights. In analyzing this dependence, the literature typically takes the security of intellectual property rights to be a direct consequence of the legal system, and, consequently, to be exogenous with respect to creative activity.\footnote{Khan and Sokoloff (2001) review the history of patent and copyright laws in the United States. Gallini (2002) discusses recent changes in United States patent law and provides an overview of the theory and evidence on the effects of patent laws. Gould and Gruben (1996), Park and Ginarte (1997), and Evenson and Kanwar (2003) report empirical estimates of the effects of the legal system on the pace of innovation.}

This exogeneity assumption, however, neglects an essential part of the story, in that it abstracts from the choices that link the legal system to the security of intellectual property rights.

The present paper focuses on these choices. The paper analyzes a model in which within a given environment for pirating ideas, which includes the legal system, both creative activity and the security of intellectual property rights depend on the decisions made by potentially creative people either to engage in creative activity or to be pirates of the ideas created by others and on the decisions made by people who are engaged in creative activity to allocate time and effort to guarding the ideas that they create from pirating.\footnote{Usher (1987) developed a seminal model in which people decide whether to be producers or predators and in which producers also decide how much time and effort to put into guarding against predators. The present analysis uses the structure of the models of producers, predators, and guarding against predators developed by Kim and myself and summarized in Grossman (1998). See Grossman and Kim (2002, 2003) for other examples of uses of this modeling structure, albeit to address wholly different issues from those addressed in the present paper. In other related work, Cozzi (2001) focuses on the choice to be an inventor of ideas or a spy who engages in economic espionage, but Cozzi abstracts from the efforts of inventors to guard against economic espionage.}

In this model, in contrast to the standard analysis, creative activity and the security of intellectual property rights are jointly determined, and the security of intellectual property rights is endogenous.

The model defines pirating to include any appropriation of the saleable value of ideas created by others, whether such appropriation involves economic espionage and surreptitious commercialization, the violation of patents and copyrights, as in the case of pirated editions of books, or merely the creation of unauthorized imitations of ideas, as in the case of “knock-offs” of original designs. The exogenous variables in the model are the environment for pirating ideas and the interpersonal distribution of talent. The environment for pirating ideas depends both on the technology of pirating and on features of the legal system, such as patent law, copyright law, laws against economic espionage, and their administration, that either impede or facilitate pirating. The interpersonal distribution of talent allows for the existence of geniuses, who are much more talented than ordinary potentially creative people.

For simplicity, the model abstracts from differences among scientists, authors, composers, and artists, using the generic term “inventors” to denote people who engage in creative activity. The model assumes that each potentially creative person’s choice to be either an inventor or a pirate depends on whether being an inventor or a pirate would yield more wealth for him (or her).

The guarding of ideas from pirating includes any costly activity that decreases the ability of pirates to appropriate the saleable value of the ideas that inventors create, but
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