NBER Post-Doctoral Fellowship

Brief Project Description

Project: Strategic Non-Disclosure of Patent Applications

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Date: December 8, 2015

In a letter sent to the U.S. Senate in 1999, 25 Nobel laureates forecast the end of innovative activity by small innovators in the United States (Modigliani, 1999). They argued that the then-proposed automatic publication of all pending patent applications (18 months after the initial filing) would hurt innovation because it deprived innovators of their status of secrecy. If the details of new technologies were put in the public sphere without the necessary protection that patents (may) offer, who would apply for a patent and risk their technologies to be up for grabs? And without the licensing revenues from patents or the profits stemming from a cost advantage, who would incur the costs of R&D in the first place? In contrast to this, Graham and Hegde (2012, 2015) draw a much brighter picture by showing that only a relatively small fraction of eligible patent applicants opt out of the automatic publication. Does secrecy have little value after all?

The research project I propose for the post-doctoral fellowship at the NBER falls into a broader research agenda of mine on strategic disclosure of intellectual property. In a first set of projects, I have asked which role patents and patent applications play as a source of informational advantage in the market place. In a recent publication (Ganglmair and Tarantino, 2014), I argue that firms reveal private information to allow for the continuation of a process of collaborative innovation between competitors when a rival would otherwise walk away. The decision to disclose is embedded in a model of standard setting where the information to disclose (i.e., a secret) can be viewed as a patent or patent application. In a related project (Ganglmair and Oh, 2014), I study a firm's incentives to reveal the existence of an unpublished patent application (without disclosing its contents) outside such a standard setting environment.

The results in Graham and Hegde (2012, 2015) are striking and inspiring yet far from closing the debate over whether secrecy is of any significant value to innovators. For the proposed project, I intend to shed more light on the question of why innovators choose (or do not choose) non-disclosure of intellectual property.

The Argument: The value of non-disclosure (i.e., non-publication) of a patent application is higher if the application describes a new method or process relative to an application that describes a new product. The reasoning behind this claim is the following.

Suppose the patent applicant markets a product that reads on the application. If the application describes a new product (i.e., the marketed product), then the product itself discloses some (or all) of the contents of the patent application. If, instead, the application describes a new process (e.g., used in the manufacturing of the marketed product), then the product itself is less likely to disclose the content of the application. This is because, unlike the characteristics of a product, the method or process employed to manufacture a product is less visible. As a result, an applicant with a process patent application finds non-publication more desirable and is more likely to opt out than an application with a production patent application.

The Data: In order to identify process and product patent applications, I am using the methodology developed in an ongoing project (Ganglmair and Robinson, 2015). We exploit features of the language and structure of patent claims and use textual analytics to categorize patent claims from granted patents as either process claims or product claims. This methodology can be readily applied to patent applications, and the claims categories serve as proxies for process and product innovation.

Combining the newly generated data on the claims categories with the application-level information on disclosures in (Graham and Hegde, 2015), I will be able to empirically test the theoretical arguments that suggest that the value of non-disclosure for process innovation is higher than for product innovation.

References

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