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**How Effective are International Intellectual
Property Laws? Evidence from Patenting
Decisions in Agricultural Biotechnology**

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How Effective are International Intellectual Property Laws? Evidence from Patenting Decisions in Agricultural Biotechnology *

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Abstract

I examine whether new patent laws affect decisions to patent in more than one country for firms in the agricultural biotechnology industry. I assemble a unique data set on agricultural biotechnology patent applications spanning a time period in which patent laws change. I analyze inventions first applied for in the US and firms' subsequent patent applications for the same inventions in seven other countries. By conditioning the data on an initial US patent application, I am able to isolate the propensity to patent, a potential negative side effect of instituting stronger patent policy, from the innovative effects of patent policy. Using an econometric structural model, I estimate the incremental profits firms would receive from patenting an invention in more than one country. Through the model, I separately identify issues affecting demand for the invention, cost of application, and the probability firms receive a patent grant. I find that recent increases in protection do not significantly increase the likelihood a firm patents abroad; increased trade within a country significantly increases the likelihood a firm patents abroad; and country effects rather than patent law effects significantly explain the variation in firms' decisions to patent abroad. Many developing countries recently implemented increases in the strength of their patent laws in exchange for more generous international trading rights. My findings suggest that the patent laws changes will not induce a significant increase in firms' propensity to patent in these countries.

1 Introduction

The international community currently struggles with the decision to require strong, uniform intellectual property (IP) rights across countries to coincide with lower international trade barriers. In

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