

## *Measuring and Modeling Trans-Border Patent Rewards*

**Richard Gruner**

Professor of Law, John Marshall Law School  
7Gruner@jmls.edu

Technology transfers and controls through multi-country patenting of key technologies are increasingly common. Such practices help innovators to gain the full commercial value of these technologies worldwide and to increase associated innovation rewards. A program of international patenting related to a single invention must be constructed in light of the national scope of patent laws – that is, based on the notion that patents in a particular country like the United States will only control the use of an invention in that country. A commercially significant technology will ideally be patented and controlled in most of the countries where sales and use of products incorporating the technology will have significant commercial value. Families of patents reflect controls aimed at key markets regardless of the sources of the technologies involved. Even the smallest countries can produce commercially significant inventions in quantities by using the patent laws of foreign countries like the United States to produce commercial returns. Indeed, contrary to the assertions of some commentators, the strength of technology research in developing countries may have less to do with the strength or enforcement of patent rights in those countries than it does with the effectiveness with which technology originators in those countries use the patent laws of the United States and other developed countries with major markets.

This paper seeks to develop a model for optimal worldwide patenting and patent rewards for innovators in smaller countries where IP laws domestically may be weakly framed or enforced. It argues that a worldwide perspective focusing primarily on patents in the larger economic markets such as the United States, Japan and the European Union can incentivize and reward innovation worldwide, creating a practical worldwide patent reward system. This may also provide worldwide incentives for the development of certain patentable subject matters, such as innovative software products, that are only protected by some patent systems (as in the United States) but are not rewarded and incentivized under the laws of many countries.

An international system of patent rewards like this will at once depend primarily on the relatively stable laws and legal systems of developed countries with large commercial markets and can be implemented largely by careful planning and procedures for patent application filings by foreign innovators without substantial efforts by their home country officials or legal systems. Such a system, if implemented in connection with research in a particular foreign country, might not only bring additional research rewards to successful innovators in that country, it might also bring foreign investment to those countries that have the best researchers in a given field or that have some other

advantage in conducting a particular type of research over other venues for similar research elsewhere in the world.

In addition to describing patent rewards from this worldwide perspective, the paper will propose means for measuring which country's innovators are most effectively using leading patent systems in this way to provide international rewards for their exported technologies. Measures of outward patent flow from various countries into several key markets will be proposed, with the measures being constructed and normalized to eliminate the effects of country-to-country differences due to differences in economy sizes and scientific community sizes. Differences across technologies will be assessed to identify technology areas where particular smaller countries may already be strong in relying on foreign markets and patent rewards to support domestic technology development.