Panel: Are the Current IPR Systems Stimulating Innovation and Development?

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Moderator: Paul Romer, Stanford University
The Panel consisted of:
Dominique Guellec, Chief Economist, European Patent Office
Keith Maskus, University of Colorado at Boulder
Ashis Arora, Carnegie Mellon University

Summary

Dominique Guellec, European Patent Office

Are the current IPR's systems stimulating innovation and development? The answer to this issue is far from being reached. However, in the last decades we have seen an important progress in designing and implementing IPR's policies focused to accomplish this goal. Also, we need to be cautious when looking at the process of international harmonization of patent protection. The role of the patent system is not only to stimulate R&D, but also to foster the implementation and diffusion of existing technologies. Patent rights allow firms to protect inventions and make more feasible the process of knowledge transfer among different industry players and countries. Thus, without IPR's there will be less licensing, technology transfers, etc. The process of harmonization must be limited, mainly because economic and innovation systems can be very different across countries or regions. For example, in more liberal economies the innovation process may have less steps allowing for a higher level of creative destruction. However, this can produce negative effects in other economies.

The issue of enforcing IPR's in developing countries has to be seen from the perspective of reaching an efficient social outcome that looks towards the interests of all parties involved. Nevertheless, this is always mediated by whether certain country has a benevolent government that is forward looking or not. Patent systems in the south do not need to be a perfect copy of the north. For LDC's the model may include weaker patents with lower duration (5 to 10 years), which has been shown to be very efficient in countries such as Korea and Chile. Another important issue to consider is the process of technology transfer between the north and the south. Nowadays, we don't have an efficient framework to materialize this process, since Patent Offices are more likely to deal with the technical issues associated to the innovation process and less with the political issues of patent policy.

Keith Maskus, University of Colorado at Boulder

The current system of IPR's at international level is mainly enforced by the TRIPS (Agreement on trade-related aspects on Intellectual Property Rights). This system establishes a set of minimum standards in comprehensive fields, allows setting some limitations and safeguards, and applies to all countries whether they are current or expected members of the WTO. Regarding the legislation for less developed countries there are several limitations especially concerning enforcement and compliance. Even though there have been a number of initiatives to enhance the process of cross-country harmonization, it remains at embryonic level even for developed countries.

Intellectual property rights comprise different legal mechanisms to protect innovation, including trademarks, copyrights, patents and trade secrets among others. Under a balanced IPR system economies can achieve important goals: For example it is possible to induce more R&D, granting some degree of market power to the innovator or stimulate the creation of markets for technology where firms can exchange their patented knowledge. Creating stronger IPR's in developing countries can have important positive effects on the economy, but must be observed carefully. A clear positive effect of IPR's can be the stimulus of technological change not only developing technologies internally but also by incorporating more advanced external technologies. Also the internal market size and variety of goods available will be improved. However, under weak institutions granting

more market power through IPR's it may have negative effects on the economy by reducing competition and finally rising costs of inputs, medicines and agricultural technologies.

Since there is an important lack of empirical evidence it is difficult to answer whether or not the current IPR systems are stimulating innovation in less developed countries. Weak IPR's have been an effective component for technology adoption in some fast-growth economies and intellectual property protection may be less important for poorer countries where other priorities may be achieved first. Therefore experimentation on the right property right scheme in less developed countries is an important issue to examine.

Ashis Arora, Carnegie Mellon University

The relationship between IPR systems and development can be examined within four different aspects. First of all we have the role of IPR in fostering R&D and innovation. Several studies (e.g. Levin et al. 1987, Cohen et al. 2000) have shown that in most industries patents are less used to secure the returns of innovation than other mechanisms, such as first mover advantages and secrecy. However, patent protection is seen as very valuable even for those industries that do not patent too much, and provide an important stimulus to engage in R&D (Arora et al. 2003).

The second issue is whether patent rights allow the efficient allocation of R&D effort. The existing evidence on IPR's and entry is mixed. On the one hand, strong IPR's may deter entry allowing the incumbent to slow down the peace of creative destruction (e.g. Microsoft). On the other hand, strong patent rights can benefit the entry of new firms.

A third important factor is related to the extent to which patents can facilitate the commercialization and trade of patented technologies. In this case the existing evidence is also mixed. For example Gans et al. (2004) found that patenting an innovation increases the probability that startup firms license the patent instead of exploit it in-house. From an international perspective, Yang and Maskus (2003) found a positive relationship between IPR's regimes and licensing, whereas Branstetter et al. (2002) found no evidence of an increase of technology licensing to unaffiliated parties for countries that strengthened patent protection. (But they see an increase in transfer to affiliates).

Finally, the biggest problem is associated with the knowledge created from non-profit organizations such as Universities, government labs, etc. Patented knowledge produced in these domains is usually licensed for commercial purposes locking the access to the knowledge created. Most of the biomedical patent disputes in the US come from university based patents (e.g. Oncomouse – Harvard, Canvan – Miami, Stem Cells – Wisconsin)

Discussion

Are stronger IPR's beneficial for less developed countries? It is truth that in the case of developed economies there is a legitimate debate on whether stronger IPR's promote innovation and growth, however for the case of LDC's there is not a single cost benefit analysis showing that an increase in property rights protection is Pareto improving for those economies. Therefore we must be cautious about trying to enforce an IPR system where it may have a negative impact in economic performance and welfare.

Do most of the patent problems come from university patenting? There is not empirical evidence to support this claim. In reality the problem relies on too many people holding complementary tools to reach an innovation. Therefore the innovation process can be affected by the need of transferring all the rights needed to get the necessary building blocks.

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