



THE IMPACT OF INTELLECTUAL PROPERTY PROTECTION ON INNOVATION AND TECHNOLOGY DEVELOPMENT

Statement by the BIAC Committee on Technology and Industry Regarding the OECD Committee on Science and Technology Policy (CSTP) Project on IPR, Innovation and Economic Performance

January 2003

Intellectual property (IP) has become a significant factor in productivity and economic growth. Strong and effective IP protection is a particularly powerful incentive for firms to invest in generating new technology in sectors where the returns to technological investment are very long term, involve high risks and are easy to copy. IP rights provide a further impetus to innovation in that they require an inventor who seeks time-limited protection to publish the knowledge embodied in a product or process. Contrary to the frequent criticism of IP rights – that they provide a mechanism for hiding or unfairly appropriating knowledge – IP rights are a market-based mechanism for disseminating knowledge and spurring competition.

The comments that follow are made in connection with the CSTP's project regarding "IPR, Innovation and Economic Performance," undertaken in October 2002. We would like to posit our thoughts on some of the specific issues outlined in the CSTP proposal, as well as a few other IP and innovation issues that are of particular importance to the international business community.

As a threshold matter, however, we would like to call attention to the diffusion of IP related projects throughout the OECD. Over the past few years, different Directorates within the OECD have considered aspects of IP protection as it relates to their particular focus area. Two recent examples are the May 2001 treatment by the Committee on Competition Law and Policy of international exhaustion of rights,¹ and the January 2002 OECD BMBF Workshop on Genetic Inventions, IPRs and Licensing Practices. BIAC would like to recommend increased linkages among these various IP projects in order to avoid duplication and to effectively disseminate the information that is gathered in the course of these various projects. With that goal in mind, it would be very useful for the OECD to draw up an overview of its various IP-related initiatives along with a plan for creating linkages among them.

I. Scope of the CSTP Project on IPR, Innovation and Economic Performance

Although the CSTP project is focused on patents, it is worth bearing in mind that all the basic IP rights that are contained in the TRIPs Agreement (copyright, trademarks, design rights, plant variety protection, trade secrets, semiconductor layout designs and proprietary data submitted to governments

¹ BIAC members have a strong interest in this topic and participated actively in the CLP roundtable. A copy of BIAC's remarks are appended to this paper.

for gaining the regulatory approval of pharmaceutical and agricultural chemical products) are crucial to innovation and economic growth. Moreover, it is important to recall -- without undermining in any way the importance of patents -- that the development of an information economy and society depends heavily on software innovation, which is protected by copyright as well as patents. Indeed, innovation in information technology is a major force in spurring innovation in all industrial sectors.

With that caveat, our comments broadly address each of the six categories outlined in the CSTP project paper.

1. New conditions for knowledge appropriability and diffusion

Unfortunately, the environment for IP protection has changed quite dramatically since the signing of the WTO Agreement on Trade Related Aspects of IP (TRIPs), which was the first multilateral IP agreement that included not only minimum standards of IP protection but also minimum standards of enforcement. In particular, we are witnessing a backlash against IP protection in many of the developing countries that stand to gain the most from adequate and effective IP protection. Some of these countries are seeking to reopen the TRIPs Agreement, which we strongly oppose.

Although many nations have made substantial progress in the protection and enforcement of IP rights, others have failed to implement their TRIPs obligations. Developing nations are now required to abide by the provisions of TRIPs and to provide the legal structure, procedures and remedies required to achieve the minimum standards for effective IPR enforcement. Least developed countries should do so, at the latest, by the end of the extended transition period of 2016.

We continue to believe that IP rights are essential to economic development and to the encouragement of investment. It is therefore critical that minimum standards for IP protection are implemented and enforced worldwide, including in the developing world. Members of the OECD should reaffirm the current TRIPs balance between the incentives for innovation provided by IP protection and the protection of society's interests in the disclosure and dissemination of technology and oppose all attempts at weakening the TRIPs Agreement.

Reliance on standards set in the WTO TRIPs Agreement, however, may not be sufficient to maximize IP-driven innovation. It is important to recognize that the TRIPs agreement was negotiated with the technological issues of the 1980s and early 1990s in mind and included only minimum standards. Accordingly -- and notwithstanding the current short-sighted attacks on the IP protection contained in the TRIPs Agreement -- the international community needs to establish new standards of IP protection and enforcement that build on and strengthen the rights defined by TRIPs. For example, international patent norms should recognise the importance of pipeline protection for the pharmaceutical industry, where periods of marketing exclusivity are effectively being shortened by heightened competition within therapeutic classes while product development times are lengthening. Simultaneously, it is important to guard against attempts to compromise existing IP protection out of concern for such legitimate objectives as environmental protection, protection of traditional knowledge, access to medicines and biodiversity.

In other areas of technology, international norms have already been developed since the negotiation of the TRIPs Agreement. Some of these norms are contained in such international treaties as the WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT).

Governments of developing economies -- while recognising the importance of adopting strong IP

legislation -- may nonetheless face many operational hurdles as they seek to foster the growth of industry and an IP infrastructure. For example, low quality of patent examination adversely affects the certainty of patent rights, and poorly considered patent grants can create barriers to other innovations. To help alleviate some of these difficulties faced by developing countries, it is incumbent upon the OECD member governments and their industries to support the provision of technical assistance, on both a bilateral and multilateral basis, to improve the quality of patent examination, to establish domestic (or regional) patent and trademark offices and to train police, judicial and customs officials in the enforcement of IP rights.

While the WTO serves to ensure that all countries meet minimum obligations to protect and enforce IP rights, the World Intellectual Property Organization (WIPO) and the OECD also play a critical role in setting standards and ensuring that IP protection is a positive force for innovation and the development of technology. WIPO, through its administration of the Patent Cooperation Treaty (PCT), facilitates the acquisition of patents; through its technical assistance, helps developing countries and economies in transition to overcome the institutional hurdles to effective IP protection; and, through its role in treaty negotiations, can serve as the venue for the elaboration of appropriate international norms of IP protection, such as the above-mentioned WCT and WPPT. The OECD in turn, through its IP-related projects and analytical support, can help make the economic and technological case for strong IP protection and, through its ability to develop guidelines, can help in the development of principles of IP protection that will inform the standards that countries should be seeking to implement.²

Finally, positive action by government officials towards eliminating counterfeit and imitation goods is also of the utmost importance. Counterfeiting is a serious threat to legitimate commerce, as well as to public health and safety. While substantive IP laws have become more comprehensive and widespread, enforcement still remains the weak link to effective IP protection in many countries. Close collaboration between the authorities, professional organizations and rightholders is essential to achieve optimum effectiveness of enforcement. Moreover, action against counterfeiting, especially in developing nations, should not be limited to government organisations. There is a continuous need to make consumers aware of the economic damage and potential dangers caused by counterfeiting.

2. PROs and fundamental research

It is important that Public Research Organizations (PROs), especially universities, are aware of the potential use of the knowledge they generate and of how patents can contribute to the process of innovation. The real societal value of patents is when they are exploited in the production of new products or services. Because the commercial exploitation of knowledge is not the core business of universities, however, universities must try to find private companies, either existing or start ups, to exploit their patents. Moreover, commercial innovation, and ultimately society, benefits the most when universities have incentives to concentrate on fundamental research.

Finally, it is important that businesses and universities increasingly cooperate in their research activities. This cooperation should not be hampered by discussions over who owns the resulting patents.

² Countries seeking accession to the OECD should be required to provide the highest levels of IP protection and enforcement at the time of their accession. Moreover, membership in the Patent Cooperation Treaty should be promoted in order to establish an international standard of patent examination.

3. Biotechnology

We are witnessing a revolution in the life sciences that offers the promise of significant improvements in quality of life and economic growth in the 21st Century– in healthcare and medicine, sustainable industrial processes, agriculture, food and environment. These advances are made possible by an innovative, enabling set of technologies that are transforming what we know about our world. The realisation of this promise, however, depends critically on strong and effective IP rights to stimulate the investment of resources needed to research and develop these innovations, to disseminate the new technologies widely, and to provide a market-oriented framework for the exchange of rights.

By enacting and enforcing strong IP protection related to the life sciences, countries are able to nurture their own research-based biotechnology industries, to attract foreign investment in biotechnology, and to provide state-of-the-art health care and environmental protection to their citizens. Moreover, as biotechnology becomes a principal foundation for economic growth and development, protecting these IP rights can also provide countries with an opportunity to create high-value jobs for the 21st century. Many biotechnology companies, for example, invest more than 45 percent of their annual income into research and development, meaning that nearly half their value consists of intellectual capital. Life science companies also depend on IP rights to raise capital, to create the foundation for sustainable and innovative business models, and to invest in highly risky new areas of research and development over an extended period of time.

The increasing commercial application of new life science technologies, such as biotechnology, leads not only to the development of new types of products and services, but also to new forms of distribution and diffusion of technology and new types of public-private partnerships for achieving societal goals. Policy makers need to be particularly mindful of the IP policy challenges presented by the growing convergence of biotechnology with information technologies and other new technologies -- in which information, new tools and new methods are critical.

It also is important to remember that IP rights not only protect ideas and inventions, but also make possible technology diffusion and access to new inventions and the expression of new ideas. As a result, BIAC supports ongoing efforts for patent harmonisation, for patenting all biotechnology inventions that meet the standard tests of patentability, and for developing improved, market-oriented methods for diffusing new technologies consistent with promoting the underlying goals of the IP system.

BIAC supports increased attention to the relationship between IP rights and the market for technology and the dynamic economic benefits achieved by stimulating new trade, market-creation and technology diffusion. This could include exploring the relationship between property rights specifications and the opening up of new contracting horizons in ways that leverage the benefits of both. It may also be worth examining not only how IP policy affects innovation incentives and influences the transaction costs of combining fragmented rights, but also how this affects organisational modes and structures. As several academic researchers have begun to suggest, strong patent rights in biotechnology may be desirable as a means to shift organisational modes, create new entrants, and increase dramatically the range of organisational forms or strategic alliances that are available to overcome the transactional costs associated with multiple inventions in biotechnology.

4. IPR for software and services

Computer related inventions are essential tools for businesses and the backbone of several industries. The question of IP protection for computer-implemented inventions, including software, is therefore of singular importance to the business community worldwide. Because patents provide an incentive for innovation by encouraging investment in R&D and promoting the dissemination of technology through the publication of patents, BIAC believes that technologically innovative companies should be able to obtain patents to protect their inventions without discrimination as to the technological field.

The discrepancies in current patenting practices on computer-implemented inventions have been of great concern to many governments and to businesses globally. The European Patent Office and the Japan Patent Office both require that technical aspects be expressed in a patent claim. While the European Patent Office requires the claim to specify a technical feature over and above that represented by the computer alone, the Japan Patent Office is satisfied with a software invention provided the patent claim specifies a computer.

This approach can be contrasted with the practice in the United States. To obtain a patent in the United States, an invention must be implicitly within the technological arts. Although a “tangible result” is required, the invention does not have to provide a “technical contribution” as such. Moreover, there has been much concern that in the United States, patents of questionable validity have been granted for business methods. It is important to note that the US Patent and Trademark Office has taken substantial steps to improve this situation.

BIAC believes that inventions relating to software and business methods should not be treated differently from any other inventions, and should be patentable as long as they meet all of the usual requirements of patentability. The traditional way of approaching the question of whether any invention is patentable consists first in determining if the invention falls in the general domain of what is appropriate subject matter for a patent. If it does, the invention must pass the three classical tests of novelty, non-obviousness and utility or industrial applicability. This is basically what Article 27(1) of TRIPs mandates as a standard.

It is generally agreed that in order to meet the first requirement an invention claimed in a patent must present one or more characteristics of a technical nature. Because technology evolves over time, thus making the meaning of "technical" a time-dependent notion, it would be unwise to try and define further the concept of technical characteristics.

BIAC therefore urges that governments should continue to apply traditional rules regarding patentability for business methods and for software and other aspects of information and communication technology, and not devise any specialised scheme for inventions in those particular fields.

5. The impact of IPR on invention, diffusion and economic performance

Some observers have questioned whether competition and innovation could be enhanced by establishing rules to deal with IP protection in technological standardisation, especially in network apparatus and systems. On the one hand, standardisation of network apparatus and systems is necessary to achieve compatibility of network technology. On the other, the use of patented technology

in a proposed network standard creates an opportunity for abuse by the IP owner to claim exorbitant royalties or to disadvantage rivals. Given the current lack of a clear consensus regarding the proper framework for evaluating the role of IP in standard-setting activities, additional debate is necessary to define how to agree on setting a maximum cumulative rate, which if exorbitant, could inhibit industrialisation of a given product, penalising the IP right holders as well as the potential manufacturers. How to manage individual royalties, through, for example, "patent pools," should also be considered, as well as how to manage individual royalties requested by non-members of patent pools.

Moreover, further developments may well establish that standard-setting is an area in which industry self-regulation is most appropriate. Voluntary licensing whereby technology leaders promote standardisation by offering licenses on reasonable terms is the optimal solution from the industry point of view. Voluntary systems are also preferable due to their technology-neutrality.

Many BIAC members in fact participate in voluntary standard-setting organizations that have already developed guidelines to ensure fair and pro-competitive standards for their members. Issuing unduly rigid or premature government guidelines could inhibit the flexibility of these organizations to experiment with differing methods of addressing the issue of standard-setting.

Most of these voluntary standard-setting organizations have adopted some form of policy that addresses the use of IP in the standards they adopt. However, the various organizations take vastly different approaches to a number of issues related to IP in the context of standard-setting, including whether the policy applies only to patented IP or also to trademarks and copyrighted works; whether the participant has a duty to disclose the existence of IP in its possession that may be implicated by a proposed standard; whether the participant has a duty to conduct a search to determine whether it has such IP; whether the standard-setting organization will adopt a standard that implicates the IP of a participant; and whether a participant with IP that is implicated by an adopted standard must agree to license the IP to other participants and if so, on what terms.³ Given that these voluntary organizations are effectively conducting real-world experiments on what policies do and do not work, the issuance of any governmental or international guidelines should be deferred until such time as a stronger consensus develops on effective policies.

It is also worth mentioning that the concept of patent pools -- mentioned above in the context of standard-setting -- is useful for technology transfer as well. We note that a few business-to-business patent marketplaces already exist on the Internet to facilitate the worldwide licensing or transfer of individual, underutilized patents. However, many new technologies are rarely covered by a single patent and, consequently, companies that wish to use a certain technology have to seek out and separately license all the related patents. This process clearly imposes additional costs and burdens on the technology transfer process. Thus, it would be desirable for patent marketplaces to deal with groups of patents related to specific technologies, that is patent pools.

³ See Comments of the United States Council for International Business on the Joint Hearings of the Federal Trade Commission and the Department of Justice regarding Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy, July 12, 2002 (citation omitted).

6. Policy implications

With many higher value-added economic activities increasingly dependent on IP rights, the OECD member governments must help ensure that IP standards continue to improve and be effectively enforced in order to encourage, reward and protect innovation and creativity. Strong IP protection facilitates the emergence of new technologies by balancing the benefits that products and technologies provide society as a whole with the need to provide both incentives for continued innovation and an environment in which that innovation is rewarded. The historical record in the industrialised countries of the OECD demonstrates that IP protection has been one of the most powerful instruments for economic development, export growth and the creation and diffusion of new technologies. Unfortunately, many developing countries have failed to learn this lesson and have, once again, begun to question the role of IP protection in economic development.

Policies that appear to favor the spread of a given stock of knowledge by means of relaxing IP protection can only form a strong disincentive to investment in knowledge in the longer term. Moreover, firms can elect not to avail themselves of IP protection in order to keep their inventions secret and avoid having to share knowledge. Collaborative ventures between public and private research organizations would also be more difficult to build, further depressing innovation.

In general, the challenge for the international community today is to ensure that:

- all countries set high standards of IP protection and enforcement in their national laws;
- all countries recognise the special IP needs of industrial sectors whose inventions, because of regulatory requirements, reach the marketplace with considerable lags after patent grant; and
- strong IP protection is maintained even in the face of rapidly changing technology.

In assessing the value of IP protection in fostering innovation, it is critical to recall that industry requires legal certainty, a substantial reduction in costs, prompt patent examination and continued efforts to ensure the highest levels of IP protection and enforcement world-wide. The political will for such improvements will be fostered by a move towards a uniform patent system with the same specifications and claims for all countries.

Private sector innovation could further be supported by reducing the costs of acquiring, maintaining and enforcing IP rights. Nondiscriminatory trade regimes conducive to full market access for IP-protected products throughout the world are also a prerequisite to innovation.

Moreover, different industrial sectors have different priorities with respect to IP protection and enforcement. For many industrial sectors in the OECD countries -- particularly in the agricultural chemical and pharmaceutical industries -- innovation and technology development are related to the state of IP protection and enforcement outside of the OECD countries. For these industries, improved IP protection and enforcement outside of the OECD will be particularly critical. For other industries based in OECD countries, whose inventions enjoy strong protection, enforcement of the standards -- including the cost of enforcement and litigation -- within and outside of the OECD countries is paramount. For yet other industries, the need for harmonised, low cost and efficient patent systems is the principal IP issue faced.

II. Additional IP Issues of Concern to the International Business Community

1. Patent Harmonisation

Industry supports the harmonisation of the criteria for obtaining patents. The following items should be considered in the development of an efficient system among the OECD countries:

- adoption of a first-to-file system;
- early disclosure of patent applications (i.e., eighteen month publication);
- prompt action on patent applications;
- abolition of the Hilmer doctrine;
- provision of procedures for obtaining evidence, while avoiding “discovery” abuses in common law legal systems;
- improvements concerning validity and effective technical scope of the patent right;
- improvements regarding the civil and administrative enforcement of patent rights, including adequate damages for infringement, and preliminary and permanent injunctions; and
- reduction in the number and extent of required translations, preferably with a stipulation that translations only be required when a patent infringement suit has been filed.

Such a system could share a common database, a standardised novelty search and provide mutual recognition of examination results. Some industry representatives also support the adoption of a grace period, preferably harmonized at one year, while others believe that grace periods create legal uncertainty.

2. International Coordination of Patent Examinations

BIAC strongly favors an international system of patent examinations that promotes common examination standards, the use of a common database, the exchange of patent examiners and mutual recognition of search results. Such a system would also require uniform criteria for novelty and non-obviousness. Moreover, patent protection should be available for any inventions with technical content, provided they meet the classical tests of patentability (novelty, non-obviousness and utility).

In addition, as economies are becoming increasingly borderless, the establishment of an international patent should be seriously explored.

Finally, the ability of innovators to reap the benefits of their innovations may be severely circumscribed by national IP rules that permit overly narrow claim interpretation. Narrow interpretation of claims enables companies to make minor changes to other companies' patented products or processes without being found to infringe upon them. On the other hand, overly broad interpretation of claims can create a disincentive for competitors to introduce competing products on a fair and legitimate basis. An appropriate balance between rewards and incentives must be maintained.

We hope that these comments will be helpful to the CSTP as it proceeds with its project on IPR, Innovation and Economic Performance, and we look forward to providing further input on this important topic.