

THE ENDURING ENIGMA OF TRIPS: A CHALLENGE FOR THE WORLD ECONOMIC SYSTEM

EDITORIAL

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The way is empty,
yet use will not drain it.

Lao Tzu, *Tao Te Ching*[†]

ABSTRACT

This special issue on trade-related aspects of intellectual property rights (TRIPS) is introduced with a perspective that focuses on the urgency of narrowing the gap in living standards between the rich nations and the poor. The 1997/98 world economic crisis highlights the question of whether creating an international market in intellectual property sufficiently addresses the interests of developing countries in the diffusion and use of knowledge. It is suggested that substantial intervention by international institutions with interests in promoting development is also required. The role of IPRs in economic development is analyzed, and this contribution points to a few areas in which consensus among international IPRs specialists is emerging. Among these is that the role of IPRs is context-sensitive, depending on the particular characteristics of countries in which IPRs systems are introduced, and depending on the specific industries in which these IPRs are employed. This context-sensitive role argues for flexible implementation of the TRIPS Agreement in developing and newly industrializing countries. In WTO implementation of the TRIPS Agreement (including review of national laws and dispute settlement) and in forthcoming WTO TRIPS negotiations (in areas such as biotechnology and genetics, the digital environment and electronic commerce, exhaustion of rights, non-violation causes of actions, competition

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[†] Book I, Chapter IV, translated by D. C. Lau (Penguin Classics 1963).

and investment), the specific interests of the developing countries must be given a priority. Just as developed countries have traditionally balanced the IPRs interests of producers, consumers, and the science and research communities, so also must the WTO balance respective global interests in technology and creativity. The author urges a more extensive role for institutions such as the World Bank in technology capacity-building.

INTRODUCTION

The world economic system is in crisis. It is not a crisis brought about by any failure of the international intellectual property system. The direct causes of the crisis, undoubtedly controversial, may well include national government policies and practices that for a long time have been inadequately attentive to the public interest. Yet the crisis in the international monetary system also reflects – whether as a cause or contributing circumstance – an inability or unwillingness of international economic policy specialists and government decision-makers to foresee that open markets coupled with the technology of the new millennium could not be relied upon on a worldwide basis to self-generate socio-economically optimal – or even tolerable – results. Decades of global economic growth facilitated by efforts in the GATT and WTO were undermined in certain countries in a relative matter of moments by failure in another leg of the Bretton Woods-based triad of economic institutions.

I open this special issue of the *Journal of International Economic Law* devoted to trade-related aspects of intellectual property rights (TRIPS) on this rather somber note because I wish to emphasize a perspective that often seems an aside to analysis of the WTO TRIPS Agreement and related international intellectual property-related institutions and instruments. The perspective is this:

the most critical policy issue to be addressed at the international level with respect to the international intellectual property system of laws and institutions is how it can best be constructed and implemented to facilitate economic growth and social welfare in the developing and newly industrializing countries.

This perspective is demanded by the ever-expanding schism between the rich nations and the poor; and because deterioration of conditions in the developing world threatens rich and poor alike. The mere commodification and protection of technology and creativity may not result in vitally needed improvements to conditions in the developing and newly industrializing world.

From the outset, the GATT Uruguay Round negotiations on TRIPS were motivated by demands from industrialized country industries for protection of the increasingly important technology and creativity components of their exports and investments.¹ Claims of under-protection of intellectual property rights (IPRs) in the developing and newly industrializing countries

¹ See F. M. Abbott, 'Protecting First World Assets in the Third World: Intellectual Property Negotiations', in the GATT Multilateral Framework, 22 Vand J Transnat'l L 689 (1989).

threatened to unravel the GATT system as the United States and European Union resorted to threats and sanctions to enforce their interests in technology and creativity.

The WTO TRIPS Agreement put in place a quasi-universal set of IPRs protection standards that satisfied the fundamental demands of (post-) industrialized country industries. The attention and energy of the WTO TRIPS Council has since been devoted to assuring that TRIPS Agreement implementation timetables are met. Financial and personnel resources have been allocated for assuring that the worldwide IPRs protection infrastructure prescribed by the TRIPS Agreement will be established.²

There is no doubt that implementation of the TRIPS Agreement will increase the economic strength of industrialized country-based enterprises. This increase will flow from the existing dominance of these enterprises in technology-dependent fields, and from the enhancement of their legal security in a wider portion of the world market.³

The equitable theory of TRIPS advocated by the industrialized country side in the Uruguay Round was that high levels of IPRs protection would likewise strengthen developing country economies. New IPRs infrastructures would encourage local innovation as developing country inventors were enabled to exploit the fruits of their own labor. Foreign enterprises would be more willing to transfer technology as it became protected under local law. Foreign direct investment would increase as local conditions became more technology protection-friendly.

All of these benefits of a new global IPRs infrastructure would flow from the operation of an international market economy in technology and creativity.

The international monetary crisis of 1997/98 implores us to ask whether an unseen hand will operate to diffuse technology-based wealth to the regions of the world where help in raising standards of living is most urgently needed. The monetary crisis reminds us that markets can be brutal as well as benign, and it suggests that the achievement of certain social, political and legal pre-conditions may be needed before markets can be left to take care of themselves.

What role can and should international institutions play in promoting the worldwide diffusion and use of technology and creativity? There is no easy answer to this question. The best course is likely to involve multiple strategies that seek to promote education, to channel financial resources where they are most needed, and to create incentives for private enterprises to share the fruits of innovation with those who are not in a position to innovate by themselves. The prescription is not the abandonment of the market

² See A. Otten, 'Implementation of the TRIPS Agreement and Prospects for Its Further Development', in this issue at 523–536.

³ This conclusion is explained more fully in F. M. Abbott, 'The WTO TRIPS Agreement and Global Economic Development', in F. M. Abbott and D. J. Gerber (eds), *Public Policy and Global Technological Integration*, at 39, 43–46 (1997).

economy system that plays an enormously important role in allocating global resources to their highest valued uses. In some areas, such as agriculture, the further encouragement of private sector initiative may be quite helpful. What is needed, however, is a fundamental rethinking of the premise that the international market in technology and creativity will generate economically and socially optimal – or even tolerable – results absent a substantial intervention by international institutions.

The WTO TRIPS Agreement is but one component of an elaborate system of international institutions and rules which regulate intellectual property and associated rights. The World Intellectual Property Organization (WIPO) and the World Bank play perhaps the major complementary roles at the multilateral level; but many other international institutions are deeply involved in IPRs-related work, including the Food and Agriculture Organization (FAO), the International Telecommunications Union (ITU), the United Nations Conference on Trade and Development (UNCTAD), the United Nations Development Program (UNDP), the United Nations Environment Program (UNEP), and the World Health Organization (WHO). Limited membership organizations such as the Organisation for Economic Cooperation and Development (OECD) are major actors in the international IPRs dialogue. Regional organizations, both those specifically concerned with IPRs matters (such as the European Patent Office (EPO) and African Regional Industrial Property Organization (ARIPO)), and those more broadly focused (including the Andean Pact, APEC, European Union, Mercosur and NAFTA), play prominent roles in developing and implementing IPRs standards, as well as in the formulation of research and development programs. All of these institutions must be fully engaged in the common enterprise of promoting the creation, diffusion and use of technology and creativity.

The international agenda for IPRs and knowledge diffusion is growing in its scope and urgency. This phenomenon is reflected in the contributions to this special issue, which are more fully explored in Section 2 of this introduction.

Adrian Otten lays out the agenda of the WTO in the TRIPS field, which agenda includes the execution of a work program built into the TRIPS Agreement, as well as new items added at the Singapore Ministerial Conference, and other items anticipated by developments such as the conclusion of treaties at WIPO to govern the digital environment.⁴ Carlos Primo Braga and Carsten Fink discuss ongoing research into the role IPRs play in the economic development process, and they reflect on ways that international institutions such as the World Bank may aid in this process.⁵ Thomas

⁴ A. Otten, above n. 2.

⁵ C. A. Primo Braga and C. Fink, 'Reforming Intellectual Property Rights Regimes: Challenges for Developing Countries', in this issue at 537–554.

Cottier leads us into the field of genetic resources, biotechnology and agriculture, where some of our greatest collective challenges lay.⁶ Jerome Reichman urges an approach to implementation of the TRIPS Agreement which emphasizes the fundamentally different conditions prevailing in the industrialized and developing countries.⁷

The contributions by Lord Sydney Templeman, myself, Harvey Bale and Robert Anderson address the role of IPRs in economic development from differing perspectives. Lord Templeman provides a concise critical perspective on the monopoly character of IPRs, and offers several suggestions for ameliorating the harsh social effects of these monopolies.⁸ My own contribution is a report prepared for the International Trade Law Committee of the International Law Association on the subject of parallel importation.⁹ That report, which has been widely circulated and commented upon, recommends the adoption of clear rules assuring the free movement of IPRs-protected goods and services. Harvey Bale provides a counterpoint to my report from the perspective of the pharmaceuticals industries, suggesting that the segregation of world markets in patented pharmaceuticals will serve valuable economic and social welfare purposes.¹⁰ Robert Anderson then addresses the relationship between laws designed to protect markets from anti-competitive abuse, and laws that protect IPRs.¹¹ He provides a perspective rather different from that of Lord Templeman, stressing a 'new' economics that emphasizes the dynamic benefits of IPRs protection and a complementarity between IPRs-based restrictions and healthy competitive markets.

1. IPRS IN THE PROCESS OF ECONOMIC DEVELOPMENT¹²

The development of sound policies for TRIPS continues to be hampered by our limited understanding of the role which IPRs can and should play in the

⁶ T. Cottier, 'The Protection of Genetic Resources and Traditional Knowledge: Towards More Specific Rights and Obligations in World Trade Law', in this issue at 555–584.

⁷ J. H. Reichman, 'Securing Compliance with the TRIPS Agreement After *US v India*', in this issue at 585–601.

⁸ Lord Sydney Templeman, 'Intellectual Property', in this issue at 603–606. As a Law Lord of the UK House of Lords, Sydney Templeman led a movement to incorporate international human rights standards in the British legal system. As an appellate judge, he had authored a seminal opinion on the parallel imports question. *Revlon Inc. v Cripps & Lee Ltd*, Court of Appeal (Civil Division), [1980] FSR 85, 22 November 1979 (United Kingdom).

⁹ F. M. Abbott, 'First Report (Final) to the Committee on International Trade Law of the International Law Association on the Subject of Parallel Importation (April 1997)', in this issue at 607–636.

¹⁰ Dr H. E. Bale, Jr, 'The Conflicts Between Parallel Trade and Product Access and Innovation: The Case of Pharmaceuticals', in this issue at 637–653.

¹¹ R. D. Anderson, 'The Interface between Competition Policy and Intellectual Property in the Context of the International Trading System', in this issue at 655–678.

¹² This section incorporates and elaborates upon contributions by this author to a seminar on Intellectual Property Rights and Economic Development (5 Mar 1998), sponsored by TechNet, the World Development Report and Economic Development Institute (EDI) of the World Bank,

economic development process. This uncertainty itself has important policy implications.

Acknowledging the unknown

Intellectual property (IP) is a defined set of the intangible products of human activity.¹³ In the sense in which IP is relevant to the process of economic development, it refers to legal claims to knowledge, information and creative expression (hereinafter ‘knowledge’)¹⁴ taking the form of patents, trademarks, copyrights, integrated circuit layout designs, industrial designs, geographical indications of origin, trade secrets and other forms of interest (constituting ‘intellectual property rights’ or ‘IPRs’).¹⁵

There is wide acceptance among international economists and other policy specialists concerned with the role of IPRs in the economic development process that our collective understanding of this role is substantially incomplete.¹⁶ This incompleteness derives from the nature of IP itself and from the measurement problems associated with it.¹⁷

Particularly in consequence of the ‘information revolution’, knowledge can be reproduced and disseminated on a worldwide basis at a very low cost.¹⁸

and an electronic conference on the same subject (22 April–19 May 1998), sponsored by TechNet, EDI and the WTO. The organizers of the electronic conference were C. A. Primo Braga (TechNet), B. Hoekman (EDI), and J.-G. Carrier (WTO). C. Fink moderated the discussion. Archives of the seminar and conference can be found at <http://www.vita.org/technet/iprs>. Experts in the fields of economics, law, political and social science, and the hard sciences from various countries and regions participated in these fora, and this essay will draw upon contributions from these experts for insights, support and critique. Where practicable, references to specific contributions are provided (with references to the electronic conference archives in the form ‘Contributor’s Name, IPRSTEAM No. –’).

¹³ F. M. Abbott, T. Cottier and F. Gurry, ‘The International Intellectual Property System’ (Kluwer Law International forthcoming).

¹⁴ ‘Information’ refers to data regarding persons, places, things, events and ideas. ‘Knowledge’ refers to information assembled with an intention to make it useful. ‘Creative expression’ refers to artists’ and authors’ work product traditionally protected by copyright and neighboring rights. There are differences in the socio-economic utility of these subject matters. For purposes of this brief introduction, these differences are collapsed, and they are collectively referred to as ‘knowledge’, except as specifically indicated.

¹⁵ For description of the various forms of IPRs, see above n. 13.

¹⁶ Accord, K. Maskus, IPRSTEAM No. 32, and other contributions.

¹⁷ Identification of the difficulties inherent in evaluating the role of IP in economic development traces back most notably to the seminal study by F. Machlup of the patent system in the United States (F. Machlup, ‘An Economic Review of the Patent System’, Subcomm. on Patents, Trademarks and Copyrights, of the Committee on the Judiciary, 85th Congress, 2nd Session (1958)), and on the international level to a related study undertaken by his collaborator, E. Tilton Penrose (E. Tilton Penrose, ‘The Economics of the International Patent System’ (1951)). There are many other notable contributions to the study of IPRs in economic development since that time. Works by K. Arrow, C. Primo Braga and C. Fink, K. Maskus, W. Nordhaus, and F. M. Scherer and D. Ross are among them.

¹⁸ Some characteristics of ease of reproduction and low cost of distribution of information and knowledge have been present in the international economy since the European Renaissance period (and arguably earlier). The Paris and Berne Conventions of the late 1800s were negotiated at least in

The distribution or diffusion of knowledge does not diminish its stock.¹⁹ Rather, the diffusion of knowledge is likely to increase its stock since knowledge tends to cumulate through use (e.g., through improvements to inventions).²⁰ All other things being equal, the global welfare-maximizing policy with respect to knowledge would be its immediate and low cost diffusion.²¹

In the TRIPS/intellectual property equation, however, all other things are not necessarily equal: knowledge must be created. It is possible that new knowledge will not be created in the absence of some form of incentive provided to its creators. IPRs – that is, private rights in knowledge – are the product of a widely held belief that individuals will forego creating knowledge unless they are able to profit from their creations by limiting their distribution.²² IPRs restrict the diffusion and/or use of knowledge²³ in order to promote economically and socially useful innovation.²⁴

As a basic proposition, and leaving aside for the moment issues relating to the situation of IPRs in various developmental contexts, to empirically determine the role IPRs play in the economic development process, we would need to measure the cause and effect relationship between restricting the diffusion and use of knowledge, and creating it.²⁵ Though economists and other policy specialists have endeavored to create mechanisms for such measurement, this task has so far proven impracticable.²⁶

Measuring the effects of IPRs in the economic development process

part as a reaction to these characteristics. Nevertheless, it is plain that advances in information processing and transmission technologies in the second half of the 20th century have had the effect of reducing the costs of distributing each marginal quantum of information and knowledge to the vanishing point as it is transmitted over an established world information infrastructure. On the implications of the information revolution for the international economic system, see C. Primo Braga and C. Fink, 'The Economic Justification for the Grant of Intellectual Property Rights: Patterns Of Convergence And Conflict', *Public Policy and Global Technological Integration* 99, above n. 3.

¹⁹ By way of contrast, the supply of goods, services and capital is limited by physical constraints.

²⁰ A new technique for increasing agricultural output is developed. Distributing information regarding that technique to farmers throughout the world might be accomplished using information distribution infrastructures serving a wide range of purposes and at a low marginal cost of reproduction. Distributing the technique to a quasi-infinite number of farmers will not deplete it. As the new technique is distributed more widely, the likelihood increases that one of its users will develop a further improvement. That further improvement might again be distributed to farmers at a low marginal cost of reproduction. The net effect is an increase in the world supply of agricultural products.

²¹ This conclusion is based on the logic that knowledge is economically and socially useful, and that increasing the distribution of economically and socially useful goods will enhance welfare. Cf. J. Barton, IPRSTEAM No. 19.

²² For a skeptical viewpoint on the role of IPRs in stimulating innovation, see Lord Templeman, 'Intellectual Property', above n. 8.

²³ It has been pointed out that the patent, for example, may encourage the prompt diffusion of knowledge, but simultaneously restrict the use of that knowledge. See C. Niranjan Rao, IPRSTEAM No. 31.

²⁴ Accord Barton, above n. 21.

²⁵ For example, we would need to determine the opportunity costs of restricting the diffusion of knowledge, and we would have to set a value on innovation.

²⁶ K. Maskus, above n. 16 at para. 1.

requires a far more complex measurement even than the general determination of cause and effect just mentioned. For any nation or region, IPRs are only one factor that will determine the course of development. Other factors include natural resource endowment, labor force characteristics, availability of capital, the size of markets and conditions of competition, and the form of government management/intervention in society.²⁷ The difficulties inherent in disaggregating IPRs from other determinants of economic development have so far precluded meaningful measurement of the role of IPRs in the economic development process.²⁸

What we know, or may be willing to suppose

Though policy specialists may not be able to make precise measurements about the role of IPRs in economic development, there is an emerging consensus that the impact of IPRs is likely to be significantly case sensitive. There are sound reasons to conclude, for example, that the role of the patent in the process of development of an automotive sector is quite different from the role of the patent in the development of a pharmaceutical sector. Similarly, there are sound reasons to conclude that the role of IPRs will be different in the economies of industrialized, developing and least developed countries, and that even among these broad categories of economic development there will be variations depending on a number of factors such as market size, local capacity for innovation and so forth.

As example, an automobile is a complex mechanical apparatus whose efficient construction depends on the pooling of a large quantity of factor resources (including significant financial capital, a trained labor force, infrastructure for transport, power supply to a factory, etc.). A patent may play a role in providing some market advantage to an automobile producer *vis-à-vis* its competitors, but the scale of investment required to enter and compete in the automotive sector means that the possession (or lack) of a patented technological component is unlikely to be the determining factor in whether an automobile plant is built, or whether it is successful.

On the other hand, the production of pharmaceutical and chemical products may be undertaken with comparatively modest factor resources once the necessary R&D to create (and test) these products has been expended. While pharmaceutical and chemical products may be very costly to develop, they are often easy to reverse engineer. The availability of patent protection

²⁷ Maskus observes: 'There is no clear answer to whether an IPRs system should favor invention (exclusion) or diffusion (access) without knowing a broad range of related national (or regional) characteristics, including society's objective function. Such answers would vary between closed and open economies and between developed and developing economies, with rapidly industrializing economies somewhere between. Equally difficult is that IPRs may operate through many subtle and indirect channels.' Above n. 16 at para. 2.

²⁸ This is not intended to discount the many valuable contributions that have been made by researchers toward the eventual accomplishment of this goal.

may play a major role in determining rate of return on investment in R&D in the pharmaceutical and chemical sectors, and may be important in determining the scale of investment in these sectors.

The presence of a patent system in a least developed country the population of which is largely dependent on subsistence farming may play a role in the development of indigenous industry. For example, local or foreign R&D on new plant varieties that are adapted to local conditions might be dependent on the availability of patent (or related IPRs) protection. However, the contexts in which patent protection would be relevant to least developed countries are rather limited.²⁹ Countries moving up the development curve whose industries face a choice between imitation (e.g., reverse engineering) of products developed in the industrialized countries, or undertaking local R&D, might find it most economically desirable to permit these enterprises to engage in imitation – replicating the economic development models followed to a varying extent by the United States, Japan, Korea and Taiwan.³⁰ Some countries may find their resources adequate to engage in fruitful imitation, but lack the resources to invest adequately in R&D to compete at the international level.³¹

Observations based on assumptions

1. IPRs systems in developing economies

IPRs take different forms and protect a variety of interests. The patent grants to an inventor of a new, useful and non-obvious product or process the exclusive right to make, use, sell and import the invention for a limited term. It is a ‘hard’ form of IPR in the sense that it precludes infringing activities by independent inventors.³² Within the industrialized countries, patents are generally attributed the following objectives: (1) to promote innovation by offering a reward to inventors; (2) to promote investment in innovation by offering an increased potential return to investors, and (3) to diffuse knowledge through the publication of patent applications and grants.³³ The industrialized country patent systems are said to incorporate an economically and

²⁹ Remarks of H. Pack, seminar on Intellectual Property Rights and Economic Development (5 March 1998), above n. 12.

³⁰ It may be argued that imitation is not likely to be as globally welfare enhancing as the generation of innovation. However, if the capacity to generate innovation is restricted to a small pool of countries the distribution of benefits might well be skewed in favor of those countries.

³¹ The TRIPS Agreement of course directly affects whether enterprises may engage in imitation or reverse engineering. The extent to which imitation of products and processes is precluded will depend on the nature and scope of the applicable IPR.

³² For the sake of clarity and simplicity, the following discussion focuses on this hard form of IPR, though the analysis applies with some variation to the other IPRs forms.

³³ Patents and other IPRs are also considered by some to protect the human rights of individuals by assuring them compensation for innovation. See T. Oppermann, ‘Geistiges Eigentum – Ein ‘Basic Human Right’ des Allgemeinen Völkerrechts’, in A. Weber (ed.) *Währung und Wirtschaft* 447 (1997).

socially useful bargain in which inventors are assisted in profiting from their creations (by receiving an opportunity to obtain monopoly rates of return on investment), while society at large receives a stock of useful products and access to knowledge (and pays monopoly prices).

When attention is turned to the developing countries, new factors are present: (1) patent applications in the developing countries are in the main filed by industrialized country-based applicants and (2) the potential for innovation in many fields may be limited because of various factor shortages (e.g., access to research facilities, educational opportunities, investment capital, etc.). What may be some of the consequences of these changed factors?

1. Economic returns from innovation will flow from the developing to the industrialized countries as rents are paid for the direct and indirect use of technology.
2. Capital investment in manufacturing facilities in developing countries is likely to be concentrated in foreign-owned or controlled enterprises which will possess competitive advantages based on investments in innovation undertaken abroad.

Taken in isolation, these factors would appear to present a negative bias in respect to the introduction of patent systems in developing country economies.

However, there are likely to be positively biased factors.

1. As economic returns to industrialized country enterprises increase, these enterprises should increase their R&D investment. This should increase the supply of innovative products to the developing countries, and in some areas (such as health care) this should generate improvements in social welfare.
2. Availability of local patent protection in developing countries may stimulate industrialized country enterprises to invest in innovative products specifically adapted to local conditions – such as pharmaceuticals directed at tropical diseases. This should generate local social welfare benefits.
3. The provision of legal security may induce foreign owners of patented technology to transfer or license that technology to enterprises in developing countries. As the training of local personnel takes place and know-how is otherwise diffused, the long term potential for local innovation and investment should be enhanced.
4. The supply of knowledge in the developing economy will be increased as a result of the local publication of foreign-generated patent information, and this should increase the local capacity for innovation.³⁴

³⁴ Note, however, that patent information is also published in the developed countries and that the grant of developing country patents may not substantially increase the flow of knowledge/information to the developing countries.

5. The provision of legal security may provide some inducement for foreign direct investment which, regardless of effects on local innovation, should enhance local economic growth.
6. If the grant of patent protection encourages innovation, then availability of patent protection in developing countries should encourage incremental local innovation, capital investment in innovation and the diffusion of knowledge/innovation, even as certain advantages also accrue to industrialized country patent holders.

That introduction of IPRs protection systems will have a negative static effect in terms of rent transfer, at least in the short-term, is generally accepted.³⁵ The positive dynamic effects of introducing IPRs protection systems are more controversial – or at least more context sensitive. In this regard it might be useful to explore some issues connected with foreign direct investment (FDI) and technology transfer mechanisms.

2. *Foreign direct investment and technology transfer*

The role that IPRs may play in enhancing FDI and technology transfer may be approached by considering: (a) how the relative presence or absence of IPRs protection affects decisions to invest based on potential market opportunities and (b) how the relative presence or absence of IPRs protection affects decisions to transfer technology.

The effect of IPRs on FDI will depend on the expectations of potential investors as to whether IPRs (such as patent or copyright) will assist in creating a protected market share (i.e., a monopoly, quasi-monopoly, etc.) that will discourage imitators in each prospective FDI market.³⁶ As to each FDI market, one important factor to consider will be the extent to which substitute products can satisfy local demand, even if imperfectly. This will depend both on technical legal matters, e.g., the breadth or narrowness of patent claim interpretation in a particular country, and on the range of available substitutes. The success of a patented pharmaceutical product that cures a specific disease, for which there is no known substitute, and which is readily copied, may depend on strong patent protection, and in such case the presence of IPRs protection might significantly affect an FDI decision based on market opportunity.³⁷ Even in such a case, if the potential market size is sufficiently large and the pharmaceutical investor an efficient producer, FDI may be attractive even in the absence of strong patent protection. Whether patent protection is available on a novel automobile engine component may be a minor issue in decision-making regarding

³⁵ See above n. 18, at 117–118. The extent of this rent transfer may depend on conditions in particular developing country markets prior to the introduction of IPRs protection. *Id.*

³⁶ An IPR may provide the basis for a monopoly, but it does not itself create demand for a product, so that the extent to which a particular product is protected by an IPR will be only one of many factors that affect an investor's evaluation of a product's market potential.

³⁷ Investors generally will consider the alternative option of exporting to a market.

the potential market for automobile sales (and profitability) in a developing country.

If an investor intends to produce mainly to satisfy export markets (e.g., an OECD-based company may use a developing country as an export platform), then the presence or absence of local IPRs protection on an end-product may be of limited relevance to an FDI decision since the investor is not primarily interested in local market conditions.³⁸

Whether and how technology transfer will take place in the context of FDI involves other factors. Fundamental questions that a business enterprise asks itself are: (a) does the foreign presence require proprietary production technology and, if yes, (b) what are the risks of the technology leaking to competitors (actual and potential), and (c) could actual or potential competitors effectively use the technology and thereby threaten the profitability of the local (or even worldwide) operation. If the risks from leakage are high but the market rewards potentially great, the investor may proceed to invest, but would almost certainly prefer a wholly owned and operated investment in which it could maintain its own maximum internal security. Whether or not IPRs protection is locally available would play some role in determining whether its security would be adequate, but even in highly developed countries *ex post facto* litigation to force discontinued use of misappropriated technology is expensive, time-consuming and often fruitless.

That businesses weigh potential market opportunities against the risks of losing even the most sensitive technology is evidenced by cases such as Boeing's ventures in China. Boeing appears to be transferring leading edge technology to the Chinese,³⁹ and given the state of China's IPRs system (to date) there is certainly considerable risk that local competitors will enter Boeing's market in Asia in the future. Obviously, Boeing has concluded that current market opportunities outweigh long-term technology risks, and IPRs protection has not to date been a controlling factor.⁴⁰

As an alternative to FDI, IPRs-holders may choose to exploit technology through licensing and royalty arrangements with third parties. As a general proposition, third-party licensing is more likely to involve less sensitive proprietary technology in which there is less potential risk from unauthorized

³⁸ This might to some extent explain the attraction of China to foreign investors despite the absence of effective IPRs protection.

³⁹ See, e.g., China: Joint Venture Plans for Airplane Composite Manufacturing Project, Aviation Industries of China (AVIC): China, Boeing Co. & Hexcel, IAC Newsletter Database, ESP-Report on Engineering Construct & Operations in the Developing World, 1 March 1998 (Lexis-Nexis News Database).

⁴⁰ This text reference to Boeing was critiqued by one participant in the electronic conference on grounds that Boeing is a special case, since the Chinese know that the US government will take a special interest in protecting Boeing against future Chinese competition. See J. Hughes, IPRSTEAM No. 34. Whether the US government has or will have such great power to enforce its views is debatable. In any case, if it is acknowledged that Boeing is relying on the US government to protect it, it is likewise acknowledged that Boeing is taking a significant risk.

use (either by the licensee or by leakage). In this context, IPRs allow licensors to commodify their technology, and IPRs may assist in protecting licensors against unauthorized use. IPRs may be important in the licensing context as they create a legal distinction between information in the public domain and proprietary information.⁴¹

Decisions to license technology take place in a wide variety of contexts and often involve an array of factors that licensors (and licensees) will consider (among them the possibilities for joint venturing). These include the risks of future competition with licensees, the comparative potential returns of licensing versus FDI, the extent to which capital is available for FDI as against the less costly alternative of licensing, the risks associated with enforcing license agreements and so forth. Protection of IPRs will enhance the legal security of licensors, and this should enhance technology transfer. However, the extent of IPRs protection remains one of a number of factors that point to a context-specific role for IPRs in the licensing process. The legal security provided by IPRs protection will also enhance – at least in the short term static sense – rent transfers from technology licensing.

Researchers trying to answer questions regarding whether and how FDI and technology transfer is increased as a consequence of introducing effective IPRs protection confront measurement problems that affect IPRs research more generally. If one asks the straightforward question, ‘Do countries that fail to adequately protect IPRs nevertheless attract FDI’, the answer is an unambiguous ‘yes’.⁴² However, such a substantial range of factors go into FDI decision-making that this simple correlation is useful only perhaps as a counterpoint to claims that effective IPRs protection systems are a necessary prerequisite to FDI and technology transfer.

⁴¹ Trade secret laws are only a partial answer to the problem of transferring technology which is not protected by other IPRs. A licensee may often find that a trade secret which has been licensed to it can also be found in a standard technical text which is in the public domain. Even if a licensor is able to extract license fees for public domain information for a remaining license period – and this prospect is doubtful in certain legal contexts – it will not be able to exercise control over that information after the license expires. In the United States, high technology companies have found it very difficult to control the leakage of ‘trade secret’ information that results from employee mobility, etc. It is doubtful that trade secret protection provides a major impetus to technology transfer.

The presence of a strong IPRs protection system in a developing country might encourage developed country exports to that country as higher prices can be charged by the exporter (because of the absence of imitators). This, however, assumes that fall-off in demand for higher priced products will not result in a reduction in overall sales that may (depending on various factors) reduce net returns. Whether IPRs protection encourages exports to developing countries is likely to be quite case specific based on a variety of factors. Weak IPRs protection in a particular developing country might encourage imports from developed countries as exporters seek to assure that demand in the developing country is not satisfied by local imitators.

⁴² See UN Transnational Corporations and Management Division, Department of Economics and Social Development, Intellectual Property Rights and Foreign Direct Investment, ST/CTC/SER.A/24 (1993).

Tentative conclusions

Among international IPRs specialists there is certainly a range of views as to the value of introducing higher levels of IPRs protection in newly industrializing, developing and least developed countries. Some are strong advocates of introducing such systems on the grounds that they are preconditions of long term economic growth, and are necessary complements to other facets of commercial law.⁴³ It has been suggested that sound governance structures are central to improving economic welfare in developing countries, and that the introduction and improvement of IPRs-related legal rules and institutions may have a positive general impact on governance within these countries.⁴⁴

Other specialists are rather skeptical of introducing IPRs systems on the grounds that rent transfer effects are likely to predominate, or that time and energy are better spent in areas (such as water and sanitation infrastructure) more likely to yield tangible benefits. There are those who would advocate a nuanced approach that would take into account the industry-specific and country-specific factors elaborated above.

Despite this range of perspectives, these specialists might nevertheless agree that (a) there are substantial gaps in our understanding based on the inherent nature of IP and difficulties in measuring its effects (b) that the role of IPRs in economic development is likely to be industry and country case sensitive and (c) that international IPRs policy-makers are seeking to strike a balance between interests in knowledge creation and knowledge diffusion under conditions in which drawing welfare-maximizing boundaries is difficult.

2. RESHAPING THE INSTITUTIONAL PERSPECTIVE

The perspective of decision-makers involved in formulating and implementing international policy with respect to IPRs should be directed to the objective of enhancing economic development and social welfare in the developing and newly industrializing countries. Achieving this objective entails the formulation of appropriate strategies, which task is made difficult by the gaps in our understanding. The best option for the present appears to involve designing and employing multiple strategies within and among the various international institutions involved in the trade, finance and IPRs fields.⁴⁵

⁴³ See, e.g., R. Sherwood, remarks at seminar on Intellectual Property Rights and Economic Development (5 March 1998), above n. 13, and IPRSTEAM Nos 24, 39, 40 & 65.

⁴⁴ See T. Cottier, 'Emerging Doctrines of Good Governance: The Impact of the WTO and China's Accession', in F. M. Abbott (ed.), *China in the World Trading System: Defining the Principles of Engagement* 119, explaining the importance of good governance. T. Cottier has suggested to this author the specific role that introducing IPRs systems may play in improving governance more generally. The TRIPS Agreement requires that IPRs rules are enforced, and creating an environment in which legal rules are enforced is viewed as an important component of good governance.

⁴⁵ Accord see above n. 5, 6 and 7.

The WTO

1. Objectives

The WTO is the central arena in which political power in the field of trade is exercised, and it is likely that the multilateral decisions regarding IPRs having the greatest economic impact will be made here. In formulating these decisions, it is important to focus on the ultimate objective of the WTO as an institution.⁴⁶ This objective may be controversial in light of the conclusion of the TRIPS Agreement.⁴⁷ Is protection of IPRs an end in itself for the WTO, or is such protection part of the institutional strategy for achieving broader goals?

The overarching goal of the WTO is to raise worldwide standards of living through the reduction of trade barriers and elimination of trade discrimination, with special attention to the needs of developing countries, and attending to the principle of sustainable development. The most articulate and compelling formulation of these objectives is found in the preamble of the WTO Agreement, in which the parties undertake their legal obligations:

Recognizing that their relations in the field of trade and economic endeavor should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, . . .

Recognizing further that there is need for positive efforts designed to ensure that developing countries, and especially the least developed among them, secure a share in the growth in international trade commensurate with the needs of their economic development, [and]

Being desirous of contributing to these objectives by entering into reciprocal and mutually advantageous arrangements directed to the substantial reduction of tariffs and other barriers to trade and to the elimination of discriminatory treatment in international trade relations,⁴⁸

The preamble elucidates the goal of raising worldwide standards of living, with special attention to developing countries, through the strategy of trade liberalization.⁴⁹

In adopting the TRIPS Agreement, WTO Members framed the role of IPRs protection within the overall WTO trade-centered strategy for

⁴⁶ See F. M. Abbott, 'The Future of the Multilateral Trading System in the Context of TRIPS', 20 *Hastings Int'l & Comp LR* 661 (1997) for a more detailed elaboration of the institutional roles of the WTO and WIPO.

⁴⁷ For an alternative view suggesting that the protection of IPRs has now become a core objective of the institution, see M. C. E. J. Bronckers, 'The Exhaustion of Patent Rights in the WTO', forthcoming in the *Journal of World Trade* (referring to the view of this author, stating, e.g., 'as a matter of principle, one may ask whether any issue of intellectual property protection can still be tackled or attacked on the basis of other WTO rules, notably the GATT's principles.')

⁴⁸ Agreement Establishing the World Trade Organization, at preamble.

⁴⁹ There is no reference to IPRs in the WTO Agreement preamble.

economic growth. Members undertook to establish new rules and disciplines concerning IPRs:

Desiring to reduce distortions and impediments to international trade, and taking into account the need to promote effective and adequate protection of intellectual property rights, and to ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade;⁵⁰

The TRIPS Agreement was added to the GATT – now WTO – framework to assure that adequate protection of IPRs promoted world trade in goods and services; and that the under- and over-protection of IPRs did not undermine the economic strategy and ultimate objectives of the organization. The protection of IPRs is part of the means to an end – to be ‘taken into account’ within a larger strategy to promote economic growth.⁵¹ The protection of IPRs may be an important part of the WTO’s strategy for achieving worldwide economic growth, and the protection of IPRs may itself be important. Nonetheless, the core objective of the WTO is to improve worldwide standards of living, and not to protect IPRs.

The overarching goal of the WTO should inform the perspective and approach of the TRIPS Council and other WTO organs (including the Dispute Settlement Body) in the context of implementing the terms of the TRIPS Agreement, and in determining the future work program of the organization, including any work to be undertaken in connection with a prospective Millennium Round.

Strategies

1. *Implementation*

The activities of the WTO TRIPS Council in the implementation of the TRIPS Agreement have so far been focused on collecting and reviewing Member IPRs laws in the light of TRIPS standards.⁵² This activity has mainly concerned the industrialized countries as to which compliance with TRIPS substantive standards became mandatory on 1 January 1996. Such activity will be intensified with respect to the developing countries and countries in transition when their principal 1 January 2000 compliance deadline comes closer into view. In what environment and with what objectives will these later compliance reviews be conducted?

As is well known, the substantive rules of the TRIPS Agreement allow significant discretion to national and regional governments in the drafting of

⁵⁰ Agreement on Trade-Related Aspects of Intellectual Property Rights, at preamble.

⁵¹ The view on the objective of the TRIPS Agreement and WTO expressed by H. Bale, a leading representative of the pharmaceutical industries, is not inconsistent with this view. Bale says: ‘the fundamental logic behind the push to make intellectual property part of the WTO and the global trading system is this: to stimulate the innovation which is increasingly important to the healthy growth of world commerce, it is necessary to protect IPRs on a global scale...’ (above n. 10.)

⁵² See above n. 4.

laws and regulations.⁵³ This discretion flows from the express terms of the legal rules, and from the customary practices of governments in respect to the adoption of IP norms. It is important to recall that IP laws in the United States, Europe and elsewhere have always been formulated to reflect a balancing of interests among producers, consumers and those engaged in research and education, and not as a one-way program in favor of producers. Consistent with this approach, the developing and newly industrializing countries should not be pressured to adopt particular standards because they are the most favored by producer interest groups.

Special attention should be given to legal rules which will aid the developing countries in achieving a reasonable balancing of interests. This should include attention to fair use provisions and rules addressing anti-competitive and abusive relationships. Developing countries should also be made aware of the many public policy-oriented exceptions to strict IPRs protection in industrialized country legal systems, such as US laws which liberally authorize the government's use of privately held patented technology.⁵⁴

The WTO and WIPO have concluded an agreement under which WIPO will provide assistance to the developing countries in drafting and implementing TRIPS-compliant laws. It will be incumbent on WIPO to provide the advice best suited to the needs of its developing country clients – consistent, of course, with the terms of the TRIPS Agreement.

2. *Dispute settlement*

As Adrian Otten points out, the number and scope of TRIPS Agreement-related dispute settlement cases have so far been rather limited owing in substantial measure to the fact that most of the rules applicable to developing countries are not yet obligatory.⁵⁵ Predictions about the future must always be undertaken with caution. Nevertheless, if we use as a predictor the number of developing countries (and their practices) cited by the US Trade Representative in its annual Special 301 report on IPRs,⁵⁶ an increase in the number and scope of TRIPS Agreement complaints brought by industrialized countries against developing countries might reasonably be foreseen.

The first TRIPS Agreement complaint to proceed to a dispute settlement panel, and ultimately to the Appellate Body, i.e., the complaint by the United States in the *India – Mailbox* case, involved a developing Member's failure to adopt a legal mechanism as clearly prescribed by the TRIPS Agreement.

⁵³ See above n. 7, for a more complete exposition.

⁵⁴ See F. M. Abbott, 'Technology and State Enterprise in the WTO', in T. Cottier and P. C. Mavroidis (eds), 1 *World Trade Forum: State Trading in the Twenty-First Century* (forthcoming).

⁵⁵ Above n. 4

⁵⁶ See, e.g., Office of the USTR, 1998 Trade Policy Agenda and 1997 Annual Report of the President of the United States on the Trade Agreements Program, at Sec. VIII (Special 301), www.ustr.gov. The USTR names numerous developing countries to its various lists, including 'priority', 'priority watch', 'watch' and 'growing concern' lists. It also lists numerous industrialized countries.

Neither the specific features of India's IPRs (non-) legislation nor the method of its application was at issue, and there was little basis for a defense by India in light of the actions pursued by its government.⁵⁷

As more subtle cases arise, in which developing countries are complained against for failure to adopt substantive standards compatible with TRIPS norms, panels formed under the Dispute Settlement Understanding (DSU) and the Appellate Body will be forced to consider the range of discretion to be accorded national and regional authorities in the implementation of those norms. In addition, as developing countries are complained against for failing to adequately enforce their laws, DSU panels and the Appellate Body will be forced to develop criteria against which to evaluate enforcement practices.⁵⁸ In formulating adjudicatory standards, the dispute settlement organs of the WTO Dispute Settlement Body (DSB) should acknowledge that the TRIPS Agreement allows substantial discretion to Members to implement its norms in accordance with national and regional public policy preferences, and taking into account social interests.⁵⁹ Furthermore, the provisions of the TRIPS Agreement addressing the application of enforcement measures should, absent extraordinary circumstances, be used only to remedy systemic failures. The WTO DSB is not designed or intended to serve as a civil appellate court for the review of private disputes; it is rather a forum for the settlement of intergovernmental disputes that warrant multilateral attention.

3. *The program of future work*

Adrian Otten most usefully lays out the parameters of the future work program of the TRIPS Council and related WTO organs. He notes that there is an agenda for future work 'built in' to the TRIPS Agreement, and that there are additional subject areas already identified for further consideration. Just as the Uruguay Round negotiations involved (arguably) competing industrialized and developing country interests, the future IPRs-related work program seems destined to continue along these same lines.⁶⁰

a. Biotechnology and genetic resources. Study of the contributions to this *Journal of International Economic Law* special issue should provide a convincing

⁵⁷ *India – Patent Protection for Pharmaceutical and Agricultural Chemical Products*, Report of the Panel, World Trade Organization, 5 September 1997, and *India – Patent Protection for Pharmaceutical and Agricultural Chemical Products*, Report of the Appellate Body, WT/DS50/AB/R, 19 December 1997. The *India – Mailbox* case is the subject of J. H. Reichman, in this issue at 585–601.

⁵⁸ See F. M. Abbott, 'WTO Dispute Settlement and the Agreement on Trade-Related Aspects of Intellectual Property Rights', in E.-U. Petersmann (ed.), *International Trade Law and the GATT/WTO Dispute Settlement System* 415 (1997) (discussing the distinction between individual case and systemic failure to enforce).

⁵⁹ Accord J. H. Reichman, in this issue at 585–601.

⁶⁰ It should be noted that there are a number of TRIPS issues that remain to be resolved among the industrialized countries, relating to, e.g., moral rights, national treatment in copyright collective societies, a 'cultural exception', and the subject matter scope of biotechnology patents.

indication that important future negotiations will focus on defining rights in genetic resources, biotechnological inventions, and plant varieties. Carlos Primo Braga and Carsten Fink emphasize that the field of agriculture and related biotechnology is perhaps of the greatest IPRs-related relevance and interest to the developing countries. The resources of the World Bank are increasingly turned to this area. Thomas Cottier speaks in terms of a broad trend in the evolution of the world economy as scientists now open up the field of exploration and exploitation of genetic resources – not unlike the opening up of the continents to exploration and exploitation from the seas, and the subsequent opening up of land and sea to large-scale mineral exploration and exploitation. Previous quantum technology shifts required the development of new rules by which wealth would be allocated. Thomas Cottier suggests that the leap in biotechnological sciences confronts the world economy once more with the need to develop new wealth allocation rules. Yet again, the world community faces a situation in which those with the technological capacity to exploit resources may be forced to rely on the resource base of those without that capacity. The developing world houses much of the world's diverse genetic resource base.

Will the genetic resource wealth of the developing world prove a major source of income for developing economies? This depends, on one hand, on technological outcomes which are rather difficult to predict. The extent to which diverse stocks of genetic resources will prove important to the science community is not yet clear. It may be that scientists will be able to devise biotechnological inventions in ways other than through bio-prospecting.⁶¹ If genetic resource stocks do in fact prove to be of great economic value, then the legal system designed to allocate genetic wealth may prove of considerable importance to the developing economies. The WTO TRIPS Council may well play a significant role in defining rights to genetic resources and plant varieties, and this is one context in which a perspective that emphasizes the need for improving the situation in the developing economies will be important.

b. The digital environment and electronic commerce. Developing and newly industrializing countries have a major stake in the outcome of negotiations concerning the legal framework for the digital environment.⁶² The Internet provides an invaluable source of knowledge for developing economies requiring only modest investments in local infrastructure. Low-cost Internet access provides a potentially valuable marketing and distribution tool for developing country producers. In post-Uruguay negotiations at WIPO on new treaties to govern the digital environment, US and European negotiators already attempted (unsuccessfully) to impose highly restrictive rules on the use of digital information, *inter alia*, via demands to restrict the fair use of

⁶¹ Recall that international debate over rights to manganese nodules on the deep seabed does not appear to have been justified by their economic value – at least for now.

⁶² See above n. 5, discussing the importance of digital resources to developing economies.

digital works, and by initiatives for highly protective rules governing the use of database materials.⁶³

The digital industries in the United States and Europe may well attempt to use the WTO TRIPS Council as a forum for achieving levels of protection for the digital environment which they were unable to secure at WIPO. Once again, the question of perspective will arise. Will the role of the TRIPS Council be to assure that US and European producers achieve maximum levels of protection, or will it be to assure that a reasonable balance is struck among the interests of producers, consumers, and the science and research communities?⁶⁴ The scope of access to digital information in the developing countries appears to be a matter of great importance.

c. The exhaustion of IPRs in international trade. One of the issues most central to the relationship between IPRs and world trade involves defining the point at which IPRs are exhausted. The international IPRs system is at present based on the grant and enforcement of rights on a national or regional basis. A patent granted by the authorities in one Member of the WTO is independent of a patent granted in another WTO Member. The same is true for copyrights, trademarks and other forms of IPRs covered by the TRIPS Agreement.

IPRs such as patents and trademarks generally entitle right holders to prevent others from distributing infringing goods and services within the territory protected by the right. If IPRs are not exhausted when a good or service is first marketed in any WTO Member, a single enterprise which secures parallel IPRs throughout the WTO system might prevent trade in the goods or services it produces or authorizes others to produce. There are few goods or services in the world market today which are not infused with some form of IPR – a trademark at least. Many goods and services are infused with multiple IPRs, e.g., the patented pharmaceutical bearing a trademark and packaged in a box with copyrighted instructions.

Exhaustion of IPRs policy is a matter of particular concern for developing country enterprises which are likely to be low-cost producers of goods and services that incorporate technology or identifying marks transferred or licensed from industrialized country enterprises. These developing country enterprises confront the prospect of being unable to place their production into the stream of world trade.

The contributions by Lord Templeman, this author, Harvey Bale and Robert Anderson each deal with the international exhaustion question from

⁶³ See P. Samuelson, 'The US Digital Agenda at WIPO', 37 *Va J Int'l L* 369 (1997) (describing and analyzing negotiation of the WIPO Copyright Treaty, and referencing negotiations on the WIPO Performances and Phonograms Treaty, and on database proposals.)

⁶⁴ C. Primo Braga and C. Fink express some concern that unwillingness by the developing countries to accept reasonable restrictions on the use of digital information might lead to a deterioration in the relatively open character of the Internet, with self-defeating long term consequences. Primo Braga and Fink, *infra* this issue, at 537–554.

differing perspectives and at differing levels of detail. I will not attempt to capture here in a few sentences the complex arguments surrounding whether WTO Members should be entitled to foreclose their markets to so-called parallel imports. There is an urgency to reaching an understanding on this question as serious inter-governmental disputes in this area are already arising.⁶⁵

d. Non-violation nullification or impairment. The TRIPS Agreement precludes TRIPS-based non-violation nullification or impairment dispute settlement actions for a period of five years. This period may be extended by consensus decision of the Ministerial Conference. In the absence of a decision extending or modifying this prohibition, non-violation actions will thereafter be permitted.⁶⁶ The TRIPS Council is called upon to make a recommendation to the Ministerial Conference on this subject prior to the end of the relevant five-year period. Adrian Otten reports that the TRIPS Council has yet to concretely address this matter.⁶⁷

Jerome Reichman analyzes the *India – Mailbox* case and the Appellate Body's rejection of the Panel's use of a 'legitimate expectations' criterion in interpreting the TRIPS Agreement. The Appellate Body considered this the impermissible incorporation of a non-violation cause of action. Jerome Reichman approves of the Appellate Body ruling, and suggests that the developing countries would suffer from the extension of non-violation causes of action to the TRIPS field because this would reduce the level of discretion open to national decision-makers in the implementation of TRIPS standards.⁶⁸

I have previously observed that there is likely to be considerable political resistance to extending non-violation actions to the TRIPS field since attributing 'market access' rights to IPRs is inconsistent with the traditional view of such rights as negative rights in favor of private actors.⁶⁹ The European Union and United States are likely to be on different sides of the non-violation dialogue as the EU seeks to protect its audio-visual market access restrictions.

Jerome Reichman is right to observe that the non-violation cause of action might well reduce developing country flexibility in implementing the TRIPS Agreement if the non-violation complaint is understood to expand the express terms of the agreement. There is, on the other hand, some sentiment among trade specialists that DSU rules should be kept consistent among the

⁶⁵ See, e.g., G. Robinson, 'Parallel Imports: US warns as New Zealand lifts ban', FT World, FT.com (Financial Times), 20 May 1998, reporting on statements of USTR C. Barshefsky and US Ambassador to New Zealand, J. Beeman, in connection with New Zealand's adoption of legislation permitting parallel imports, and response of New Zealand's Prime Minister, J. Shipley.

⁶⁶ F. M. Abbott, WTO Dispute Settlement, above n. 58 at 433–434.

⁶⁷ Otten, in this issue, at 523–536.

⁶⁸ Reichman, in this issue, at 585–601.

⁶⁹ See Abbott, WTO Dispute Settlement, above and F. M. Abbott, 'Commentary: The International Intellectual Property Order Enters the 21st Century', 29 Vand J Transnat'l L 471, 477–478 (1996).

various WTO fields in order to avoid a renewed balkanization of the GATT–WTO legal system.⁷⁰ Recall that the developing countries may themselves have certain legitimate expectations about the TRIPS Agreement, for example, an expectation that they would not be subject to extra-legal threats from industrialized countries based on non-TRIPS Agreement-based IPRs complaints. The developing countries might, on balance, stand to gain from a continuing limitation on non-violation causes of action in the TRIPS context because they would be less subject to pressure based on vague legal threats. At the least, careful (i.e., restrictive) application of non-violation doctrine appears to be in the best interests of a law-based international institution such as the WTO, and in the interests of industrialized and developing countries alike.

e. Competition and investment. Two broad areas of growing WTO interest involve the development of competition and investment-related policies and laws. These are two areas with close connection to the regulation of IPRs. The TRIPS Agreement addresses competition issues largely by allowing national governments the flexibility to develop and apply competition laws to remedy anticompetitive IPRs-related practices.⁷¹ The process of global technological integration necessarily raises concerns about the potential for anticompetitive IPRs-related activity on a trans- or multinational level.⁷² Developing countries may be particularly vulnerable to anticompetitive activity because of the more limited number of suppliers in their markets, and because of the lack of sophisticated legal infrastructure. The interests of the developing countries would appear to be well served by the incorporation of rules to protect competitive markets within the WTO framework, provided that negotiations on such rules do not become a vehicle for limiting the range of options available to national and regional governments for addressing anticompetitive practices.

Since the TRIPS Agreement establishes standards that are applicable within national and regional legal systems, and since foreign investors are subject to (and protected by) these rules, the TRIPS Agreement is inherently investment-related. There is some risk that negotiations on investment in the WTO would be used by industrialized country interest groups to further commodify IPRs protection and limit the flexibility of legal rules prescribed by the TRIPS Agreement. The relationship between the IPRs

⁷⁰ See deliberations of the International Trade Law Committee as reflected in Third Report of the Committee on International Trade Law, International Law Association, Report of the Sixty-Eighth Conference — TAIPEI 1998 (forthcoming), and Thomas Cottier and Krista Nadakavukaren Schefer, 'Non-Violation Complaints in WTO/GATT Dispute Settlement', in E.-U. Petersmann (ed.), *International Trade Law and The GATT/WTO Dispute Settlement System* 143 (1997), upon which the deliberations of the Committee were based.

⁷¹ WTO TRIPS Agreement, arts. 8:2 and 40.

⁷² See generally Public Policy and Global Technological Integration, F. M. Abbott and D. J. Gerber (eds), (1997), and R. D. Anderson, in this issue at 655–678.

rules of the TRIPS Agreement and any WTO investment agreement should be worked out with due care for developing country interests.

f. Concessions. The developing countries are not under an obligation to agree to higher and more comprehensive IPRs protection rules in the WTO. The grant of IPRs protection is a public policy decision based on balancing social welfare interests in knowledge creation and knowledge diffusion. An election to restrict knowledge diffusion is a trade concession that creates a reasonable expectation of reciprocal concession.

In the Uruguay Round, the industrialized countries offered concessions principally in the fields of agriculture and textiles. In a Millennium Round the developing countries might well consider demanding the concession of large scale financial assistance for the creation of enhanced knowledge creation and diffusion infrastructures. As discussed in the next section of this introduction, the World Bank and other international institutions have become actively engaged in the process of technology capacity-building. A large scale infusion of capital is needed to give these programs a reasonable chance of success.

The World Bank, WIPO and other international institutions

The World Bank deserves great praise for its increasing attention in assisting developing countries to diffuse knowledge and enhance capacity for local innovation. The World Bank has taken on a leading role in research concerning the role of IPRs in the economic development process. This research is closely tied to the Bank's mission of providing funds and policy advice to governments. Administrators at the Bank are concerned, for example, to know whether funds that are directed to the creation of IPRs-related infrastructure will yield economic returns, particularly as there are many alternative channels into which Bank funds can be directed.

World Bank programs include training courses for developing country technical specialists administered by the Economic Development Institute (EDI), grants for the development of knowledge-related infrastructure through the InfoDev program, and facilitation of technology and IPRs research (and its dissemination) through the Science and Technology Network (TechNet). The Consultative Group on International Agricultural Research (CGIAR), a World Bank-administered multilateral donor agency for public agricultural research in the developing world, is increasingly attending to the implications of new agriculture-related technologies.

Carlos Primo Braga and Carsten Fink describe some of the activities of the World Bank, and they also suggest ways in which the role of the Bank and other international institutions in aid of the developing countries could be enhanced.⁷³ Of particular interest is their suggestion that these

⁷³ Primo Braga and Fink, in this issue at 537–554.

institutions may serve as 'honest brokers' in relations between various interested groups, including industrialized country investors and developing country hosts.

From this author's perspective, the main issue for the World Bank is the scale of investment. At the moment, the Bank's activities specifically directed towards technology capacity-building are in the order of millions of dollars per annum. The urgent need to close the technology and development gap between the industrialized and developing countries recommends that this scale be altered by an order of magnitude towards the billions of dollars per annum.

The World Bank should be actively engaged in developing risk capital instruments through which developing country governments could encourage local investment in technology-based ventures. Moreover, the World Bank might consider whether financial instruments could be developed that would provide special incentives to the industrialized country private sector for engaging in technology transfer and knowledge diffusion.

WIPO has long played a major role in aiding developing countries in the creation of IPRs technical and legal systems. In connection with the WTO, these activities will be intensified with a view toward achieving TRIPS Agreement compliance in the developing countries. The United States has proposed a large scale project within WIPO to create a global electronic infrastructure for securing and maintaining IPRs grants. A comparable effort should be undertaken to assure the diffusion of knowledge in the developing countries, for example, through investment in providing Internet and other access to information.

There are many other international institutions involved in the aid of economic development and whose activities are directly and indirectly related to IPRs and technology capacity-building. These institutions include the FAO, ITU, UNCTAD, UNDP, UNEP and the WHO, as well as the OECD. These institutions share responsibility for narrowing the gap between the rich and poor, and in establishing a more equitable – and stable – international economic system.

3. THE ENDURING ENIGMA OF TRIPS AND THE CHALLENGES AHEAD

The enigmatic character of IPRs creates a difficult situation for TRIPS policy makers. Though industrialized country producers have at least a short-run interest in imposing high levels of IPRs protection on the developing countries, there is no convincing evidence that these high levels of IPRs protection will enhance economic development where it is most urgently required. There is increasing consensus among IPRs researchers that the role of IPRs in economic development is industry- and country-sensitive, and this would seem to argue for a nuanced approach to the formulation and

application of IPRs protection rules. The risks of underprotection of IPRs seem rather small. Knowledge might be diffused too rapidly and widely; the next innovative step might be delayed. The risks of overprotection seem rather greater. Useful knowledge would not be diffused; those who might make use of that knowledge would not have the opportunity.

We are dangerously close to a new world order characterized by a vast schism between a prosperous and stable post-industrialized North, and a desperately poor and chaotic South. The proliferation of nuclear and bio-weapons does not portend well for the creation of a neat partition behind which the rich may comfortably lounge. The emphasis of industrialized country IPRs policy makers on the static protection of wealth seems misplaced. While basic principles of morality and equity might make the case for creating a world IPRs system that encourages the diffusion and use of knowledge in the developing countries, there is no need to appeal to humanitarian instinct. The emphasis on maintaining technological advantage is a 'beggar thy neighbor' approach to the world economy ill-suited to an era in which technology and integration magnify threats to world public order.

This introduction urges a perspective in the TRIPS field focusing on ways to narrow the gap between rich and poor. Even if this perspective is accepted, there are bound to be differences of opinion on how best to translate it into action. This special issue of the *Journal of International Economic Law* includes an array of valuable ideas for meeting the challenges ahead. As organizer of this special issue, I wish to extend my deepest appreciation to all of those whose work appears here. These contributions enlighten us all.