

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized
Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

PART I

International provision of public goods under a globalized intellectual property regime

SECTION 1

The concept of public goods in the expanding knowledge economy

The globalization of private knowledge goods and the
privatization of global public goods

KEITH E. MASKUS
JEROME H. REICHMAN*

Abstract

- I. Introduction and conceptual framework
 - A. International public goods and intellectual property rights
 - B. Technology transfer after the TRIPS agreement
- II. Re-regulating the global marketplace to protect knowledge as a private good
 - A. Legal and organizational impediments to the creation and diffusion of knowledge goods
 - 1. Preserving temporary competitive advantages with international intellectual property standards
 - 2. Instability and loss of balance in developed intellectual property regimes
 - 3. Exporting a dysfunctional system to the rest of the world?
 - B. Impact of intellectual property standards on the reserved welfare powers of WTO members
- III. Balancing public and private interests in an emerging transnational system of innovation
 - A. Developing countries as defenders of the competitive ethos
 - 1. A moratorium on stronger international intellectual property standards
 - 2. An institutional infrastructure for reconciling existing IPRs with national and regional systems of innovation
 - B. Maintaining the supply of knowledge as a global public good
 - 1. Dynamic properties of knowledge as a global public good
 - 2. Nurturing a transnational system of innovation

* Keith Maskus is Professor in, and Chair of, the Department of Economics at the University of Colorado, Boulder, Colorado. J.H. Reichman is the Bunyan S. Womble Professor of Law at Duke University School of Law, Durham, North Carolina. This chapter is based on a paper presented at the Conference on International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime, held at Duke University School of Law on 4–6 April 2003.

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

ABSTRACT

Global trade and investment have become increasingly liberalized in recent decades. This liberalization has lately been accompanied by substantive new requirements for strong minimum standards of intellectual property (IP) protection, which moves the world economy toward harmonized private rights in knowledge goods. While this trend may have beneficial impacts in terms of innovation and technology diffusion, such impacts would not be evenly distributed across countries. Deep questions also arise about whether such globalization of rights to information will raise roadblocks to the national and international provision of such public goods as environmental protection, public health, education, and scientific advance. This chapter argues that the globalized IP regime will strongly affect prospects for technology transfer and competition in developing countries. In turn, these nations must determine how to implement such standards in a pro-competitive manner and how to foster innovation and competition in their own markets. Developing countries may need to take the lead in policy experimentation and IP innovation in order to offset overly protectionist tendencies in the rich countries and to maintain the supply of global public goods in an emerging transnational system of innovation.

I. Introduction and conceptual framework

Economists studying international trade remain optimistic about the ability of liberal trade policies and integration into the global economy to encourage growth and raise people in poor countries out of poverty. For example, in a recent speech at Duke University, the World Bank's former Chief Economist, Nicholas Stern, showed figures depicting a significant rise in per capita GDP across developing countries as a whole in recent years.¹ His point was that, despite other obstacles to growth, more open markets, improved governance, and increasing entrepreneurial activity were generating a positive impact in poor countries. Even Oxfam, an organization that has been highly critical of globalization, in a recent report recognized the role that open trade regimes have played in providing greater opportunities for the impoverished to benefit from extended markets.²

¹ Nicholas Stern, *International Action for Fighting Poverty: An Historic Opportunity*, Lecture given at Duke University (2 Sept. 2003). See also J.H. Reichman, *Managing the Challenge of a Globalized Intellectual Property Regime*, Paper presented to the Second Bellagio Meeting on Intellectual Property and Development, UNCTAD/ICTSD, 17–20 Sept. 2003 (discussing Stern's thesis); David Dollar & Aart Kraay, *Trade, Growth, and Poverty*, Development Research Group, The World Bank (2001) (unpublished manuscript, on file with authors).

² OXFAM, *RIGGED RULES AND DOUBLE STANDARDS: TRADE, GLOBALISATION, AND THE FIGHT AGAINST POVERTY* (2002).

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

In general, we share this confidence but argue that a considerable qualification needs to be made. Open trade and investment regimes work best to encourage development and structural transformation where markets for information and technology transfer are competitive in ways that permit innovation, learning, and diffusion to flourish. Put differently, for poor countries to take advantage of globalization opportunities, they need to absorb, implement, and even develop new technologies.

An inability to do so risks increasing fragmentation and divergence from the technology-driven world economy rather than growing integration and convergence. Indeed, one could have applied Stern's optimistic description to the centrally planned economies of Eastern Europe over the period 1950–1975. They had high rates of savings (even if forced) and capital accumulation, and were generating apparently high growth. However, these economies failed to establish effective innovation systems: they lacked skills, infrastructure, and the entrepreneurial culture that could encourage competition and learning, and they relied instead on protected and inefficient industrial behemoths. These establishments could not cope well with competitive pressures dependent upon economic liberalization, and their economies stagnated.

A different kind of technological roadblock may be facing developing countries in their efforts to integrate into the world economy. A central element in global policy is the ever-increasing levels of required protection for information, technology, and creative activity through exclusive intellectual property rights (IPRs). This trend is most evident in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), a component of the Agreement Establishing the World Trade Organization (WTO).³ The TRIPS Agreement sets out a comprehensive set of minimum protection standards that Members must observe and enforce with respect to patents, copyrights, trademarks, geographical indications, confidential business information, industrial designs, and integrated circuit designs.⁴ Even stronger rules are being widely established through bilateral and preferential trade agreements that the United States and the European Union have negotiated with developing countries.⁵

³ Agreement on Trade-Related Aspects of Intellectual Property Rights, 15 Apr. 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, LEGAL INSTRUMENTS – RESULTS OF THE URUGUAY ROUND vol. 31, 33 I.L.M. 81 (1994) [hereinafter TRIPS Agreement].

⁴ See, e.g., J.H. Reichman, *Universal Minimum Standards of Intellectual Property Protection under the TRIPS Component of the WTO Agreement*, in INTELLECTUAL PROPERTY AND INTERNATIONAL TRADE: THE TRIPS AGREEMENT 21 (C.M. Correa & A. Yusuf eds., 1998); see generally JAYASHREE WATAL, INTELLECTUAL PROPERTY RIGHTS IN THE WTO AND DEVELOPING COUNTRIES (2001); CARLOS M. CORREA, INTELLECTUAL PROPERTY RIGHTS, THE WTO AND DEVELOPING COUNTRIES (2000).

⁵ See, e.g., Peter Drahos, *Developing Countries and International Intellectual Property Standard-Setting*, 5 J. WORLD INTELL. PROP. 765 (2002); Keith E. Maskus, *Strengthening Intellectual Property Rights in Lebanon*, in CATCHING UP WITH THE COMPETITION: TRADE

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

Recent agreements reached at the World Intellectual Property Organization (WIPO) on the electronic transmission of works protected by copyrights or related rights⁶ and ongoing negotiations at that organization on harmonization of patent rights⁷ continue the drive to ratchet upward global protection regimes.

The evolving system of stronger private rights in new technologies could lead to global gains in innovation and additional market-mediated information transfers to developing countries.⁸ Indeed, one can argue that the harmonization of IPRs provides developing countries with tools for technology-driven development that they would otherwise lack. By wisely managing these tools, developing countries may obtain additional foreign direct investment (FDI), more licensing of high-quality technologies, and more access to advanced knowledge goods.

We do not dispute the potential for such outcomes, although we believe that the scope for achieving them in different nations much depends on innovation policies and other complementary factors.⁹ In this introductory chapter, however, we raise some fundamental concerns about the implications of the new regime for the ability of firms in developing countries to break into global – or even domestic – markets and compete effectively. It seems increasingly likely that stronger global IPRs could reduce the scope for such firms to acquire new, and even mature, technologies at manageable costs. The natural competitive disadvantages of follower countries may become reinforced by a proliferation of legal monopolies and related entry barriers that result from global minimum intellectual property (IP) standards. Such external restraints on competition could consign the poorest countries to a quasi-permanent status at the bottom of the technology and growth ladder.

We find it ironic that, as tariffs, quotas, and other formal barriers to trade are dismantled, there has been a strong push to re-regulate world technology markets. Although the ratcheting up of global IPRs could adversely affect the growth prospects of developing countries, these nations have so far exerted little

OPPORTUNITIES AND CHALLENGES FOR ARAB COUNTRIES 251–52 (B. Hoekman & J. Zarrouk eds., 2000).

⁶ WIPO Copyright Treaty, adopted by the Diplomatic Conference on 20 Dec. 1996, WIPO Doc. CRNR/DC/94 (23 Dec. 1996); WIPO Performances and Phonograms Treaty, adopted by the Diplomatic Conference on 20 Dec. 1996, WIPO Doc. CRNR/DC/95 (23 Dec. 1996); see generally Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 V.A. J. INT'L L. 369 (1997).

⁷ WIPO, Standing Committee on the Law of Patents, Draft Substantive Patent Law Treaty, Ninth Session (Geneva, 12–16 May 2003), SCP/9/2, available at http://www.wipo.int/scp/en/documents/session_9/pdf/scp9_2.pdf (visited 5 Jan. 2004) [hereinafter Draft Patent Law Treaty]. See also John H. Barton, *Issues Posed by a World Patent System* [this volume].

⁸ KEITH E. MASKUS, INTELLECTUAL PROPERTY RIGHTS IN THE GLOBAL ECONOMY 109–42 (Institute for International Economics 2000) [hereinafter MASKUS, IP RIGHTS].

⁹ *Id.* at 199–232.

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

influence on standard-setting exercises. Indeed, the progressive re-regulation of world markets for knowledge goods is not driven by a broad consensus of economic agents in the developed world. Rather, pressures to elevate IP norms are exerted by powerful private interests whose lobbying activities hold sway in legislative and regulatory initiatives in rich countries and international forums.

These efforts are largely detached from the traditional goal of domestic IP systems to strike a balance between commercial profitability and public-interest concerns. To the extent that this imbalance makes it harder for entrepreneurs in developing countries to obtain inputs they need to compete in the production of knowledge goods, these countries could discover that the re-regulated global economy had in effect removed the rungs on which they could advance.¹⁰

As private interests take precedence over public concerns, moreover, we argue that the proliferation of exclusive rights could raise fundamental road-blocks for the national and global provision of numerous other public goods, including scientific research, education, health care, biodiversity, and environmental protection.¹¹ The architects of the new system evidently have paid little attention to these issues, believing that a clear specification of strong property rights could establish appropriate incentives for private development of modalities to advance these and other public activities. In our view, the greater likelihood is that the privatization of public-interest technologies could in many cases erect competitive barriers, raise transactions costs and produce significant anti-commons effects, which tend to reduce the supply of public goods related to innovation as such, and also to limit the capacity of single states to perform essential police and welfare functions not otherwise available from a decentralized international system of governance.¹²

In Part I of this chapter, we set out some basic principles and observations regarding the provision of global public goods (GPG) and how that provision is implicated by the increasingly internationalized system of IP protection. In Part II, we evaluate legal and organizational impediments to the creation and diffusion of knowledge goods in a re-regulated global economy. In particular, we point out that unbalanced IP regimes in developed countries may be triggering counterproductive results and the concomitant risk that efforts to lock in the temporary competitive advantages of powerful technology cartels may raise costs for the developing world.

¹⁰ See, e.g., Commission on Intellectual Property Rights (CIPR), Integrating Intellectual Property Rights and Development Policy 8–9, 11–27 (2002) [hereinafter CIPR].

¹¹ See below text accompanying nn. 100–27.

¹² In this article, we offer only an overview of essential concepts regarding global public goods and their interaction with IP protection. These issues are covered more extensively in other treatments. See, e.g., Peter Drahos, *The Regulation of Public Goods* [this volume]. For an extensive discussion of the concepts and problems of provision and distribution of such goods, see PROVIDING GLOBAL PUBLIC GOODS: MANAGING GLOBALIZATION (Inge Kaul et al. eds., United Nations Development Program 2003) [hereinafter PROVIDING GPG].

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

In Part III, we consider the seemingly paradoxical possibility that, as developing countries experiment with their own IP regimes, and with associated regimes of competition law and innovation promotion, they might re-inject a needed global stimulus to dynamic competition. They could also contribute to the evolution of national and regional strategies to maintain the supply of other essential public goods that has been compromised by the crosscutting effects of efforts to privatize the creation and distribution of knowledge and information as such.

A. *International public goods and intellectual property rights*

Global public goods might usefully be defined as those goods (including policies and infrastructure) that are systematically underprovided by private market forces and for which such under-provision has important international externality effects.¹³ The concept that a good is “public” stems from a combination of non-rivalry in consumption and nonexcludability in use.¹⁴ An item is nonrival if its use by one actor does not restrict the ability of another actor to benefit from it as well. A good is nonexcludable to the extent that unauthorized parties (“free riders”) cannot be prevented from using it. Classic examples include national defense, environmental protection, and investments in new technical information. Each of these endeavors generates results that are essentially nonrival and at least partially nonexcludable. In consequence, private markets would not provide them at all or would do so at deficient levels relative to those demanded by citizens. A role for government thus arises to resolve this market failure.

Those concerned about the efficient provision of public goods must address three fundamental issues.¹⁵ First, what are the optimal levels of the various goods to be supported? The answer depends on the underlying demand for such goods, and it may be difficult to reveal the preferences of citizens accurately. Second, how are the desired goods to be provided? Note that public policies may provide goods directly through taxes, subsidies, and public production. Alternatively,

¹³ An “externality effect” means that a failure to provide the public good imposes costs on third parties. For example, pollution arising in some countries may affect health status in others, or financial volatility in one nation may generate follow-on fragility elsewhere. In general, national policymakers are not likely to consider the well-being of foreign citizens in setting their own policies regarding public goods, which is why GPG require some form of global coordination. See PROVIDING GPG, above n. 12; Daniel G. Arce, *Leadership and the Aggregation of International Collective Action*, 53 OXFORD ECON. PAPERS 114 (2001).

¹⁴ Economic analysis of public goods has a long standing in the literature. See Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STAT. 387 (1954); TODD SANDLER, *COLLECTIVE ACTION: THEORY and APPLICATIONS* (1992).

¹⁵ See PROVIDING GPG, above n. 12, at 36–40.

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

policies may indirectly provide public goods through such regulations as competition policy, intellectual property rights, and price controls.

For example, IPRs provide a second-best resolution of the excludability—also called appropriability—problem inherent in developing knowledge goods, which could otherwise be distributed at the marginal cost of making copies.¹⁶ To the extent that such rights elicit benefits from investment that exceed these social costs, they may be welfare enhancing over either market-driven solutions or pure public provision and distribution.

A third question for policymakers is to determine the best jurisdictional level for providing public goods. As a general rule, the more localized the need, the narrower should be the jurisdiction. Thus, police, public schools, and voting processes are typically seen as local obligations under United States law and practice. National defense, macroeconomic policy, and foreign policy are federal obligations.

How to organize the provision of GPG without adequate international mechanisms has become a difficult and pressing question in recent years. In practice, this function has been left largely to national or sub-national authorities. Because there are international spillover impacts, however, reliance on national provision likely fails to meet global needs efficiently or equitably. Approaches to providing GPG are required at the international level because national regimes generally disregard cross-border externalities and the resulting need for policy coordination.

Many critical public goods have become increasingly global in their effects and supply needs.¹⁷ It is fair to say that, whereas analysis of the need for integrated systems has a long history, the actual organization, provision and distribution of GPG are at an early and critical stage. This situation is well illustrated by the emerging global system of IP protection. By long tradition, IPRs were constituted as a national policy prerogative, with relatively little attention paid to coordinating standards across countries. However, wide variations in national regulations can have significant international static and dynamic externalities.¹⁸

For example, recent economics literature points to several reasons why, acting on their own interests, countries would tend to protect new technology and product development at a level that is lower than would be globally optimal.¹⁹ The main reason is that some of the gains from innovation accrue

¹⁶ See MASKUS, IP RIGHTS, above n. 8, at 36–38. ¹⁷ See PROVIDING GPG, above n. 12.

¹⁸ Keith E. Maskus, *Regulatory Standards in the WTO: Comparing Intellectual Property Rights with Competition Policy, Environmental Protection, and Core Labor Standards*, 1 WORLD TRADE REV. 135 (2002).

¹⁹ Philip McCalman, *National Patents, Innovation, and International Agreements*, 11 J. INT'L TRADE & DEV. 1 (2002); Gene M. Grossman & Edwin L.-C. Lai, *International Protection of Intellectual Property* (2002) (unpublished manuscript); Suzanne Scotchmer, *The Political Economy of Intellectual Property Treaties* (2002) (unpublished manuscript).

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

to consumers and users in other countries, a benefit that framers of IPRs would not take into account in setting domestic standards. Countries with limited innovation capacities would logically free ride on foreign R&D investments by offering only limited technology protection. Some means of international coordination, perhaps within the ambit of the WTO, thus arguably would move global standards closer to the optimum by elevating incentives to invest.

To be sustainable, however, this coordination should take into account the development and social needs of different economies. In principle, this objective calls for a mix of differential and flexible standards, along with compensatory side payments to induce free riders to adopt and enforce stronger IPRs.

To be sure, there is some flexibility permitted developing countries in implementing the TRIPS standards.²⁰ Yet, even the minimum TRIPS requirements may overly burden poor nations in some circumstances. Furthermore, to benefit from residual flexibilities requires a degree of legal and regulatory expertise that may exceed the capacity of many countries for the foreseeable future. While the WTO Agreement offers some scope for implicit side payments through greater market access in developed countries for exports from developing countries, progress in achieving such access has been uneven.²¹ Thus, serious questions arise as to the sustainability of the attempt in TRIPS to resolve the international externality aspects of protecting new knowledge goods.

An additional criticism leveled at the emerging IPR system is that the agenda for increasing protection has been articulated and pushed by rich-country governments effectively representing the commercial interests of a limited set of industries that distribute knowledge goods. Even within some developed countries, the tendency to espouse a protectionist IP agenda seems more a reflection of policy capture than a reasoned attempt to balance domestic needs, and the long-term effects on real innovation have yet to be ascertained. At the global level, the virtual inability to date of public-minded interest groups to affect this agenda raises further questions about the sustainability of TRIPS and other elements of the system.²²

If the initial impetus for a trade-related intellectual property initiative was to prevent wholesale duplication of high-tech products, the TRIPS Agreement went well beyond that objective. Whether it strikes an appropriate balance between the needs of developers, users, and public authorities on a global scale remains open to question. At least in the short run, it seems likely to shift the

²⁰ J.H. Reichman, *From Free Riders to Fair Followers: Global Competition under the TRIPS Agreement*, 29 N.Y.U. J. INT'L L. & POL. 11 (1997) [hereinafter Reichman, *Free Riders to Fair Followers*].

²¹ See, e.g., World Bank, *Global Economic Prospects and the Developing Countries* 2002, at 37–64 (2001).

²² See, e.g., *id.* at 145–49; Carlos M. Correa, *Internationalization of the Patent System and New Technologies*, 20 WIS. INT'L L.J. 523, 544–50 (2002).

Cambridge University Press

0521603021 - International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime

Edited by Keith E. Maskus and Jerome H. Reichman

Excerpt

[More information](#)

rules sharply in favor of IP developers,²³ while the potential for long-term gains for the poorest countries seems cloudy at best.²⁴

We have suggested that the emerging international IP system bears characteristics of a GPG but that it seems flawed in execution and design. Moreover, this regime influences the ability of governments to provide other public goods. First, TRIPS constrains them from pursuing certain avenues for promoting imitation, innovation, and related social policies. Second, stronger private rights in information may raise roadblocks against deploying new technologies that could help improve the provision of environmental protection, health care, biological diversity, and basic scientific research. These topics are examined below in Part II.

B. Technology transfer after the TRIPS agreement²⁵

The international flow of technological information and its successful integration into domestic production and management processes are central to the ability of firms in developing countries to compete in the global economy. Technological change is a principal source of sustained growth in living standards and is essential for the transformation and modernization of economic structures. In most instances, developing countries find it cheaper and faster to acquire foreign technologies than to develop them with domestic resources. Such technologies may “spill over” into wider improvements in productivity and follow-on innovation in the domestic economy.

International technology transfer (ITT) is a comprehensive term covering mechanisms for shifting information across borders and its effective diffusion into recipient economies. It refers to numerous complex processes, which range from innovation and international marketing of technology to its absorption and imitation. There are also many different channels through which technology may be transferred. One major conduit consists of trade in goods, especially capital goods and technological inputs. A second is foreign direct investment (FDI), which generally transfers technological information that is newer or more productive than that available from local firms. A third is technology licensing, which may occur either within firms or between unrelated firms. Licenses typically involve the purchase of production or distribution rights and the technical information and know-how required to exploit them.²⁶

²³ Philip McCalman, *Reaping What You Sow: An Empirical Analysis of International Patent Harmonization*, 55 J. INT'L ECON. 161 (2001).

²⁴ MASKUS, IP RIGHTS, above n. 8; Pamela J. Smith, *How Do Foreign Patent Rights Affect U.S. Exports, Affiliate Sales, and Licenses?*, 55 J. INT'L ECON. 411 (2001).

²⁵ This section draws on Keith E. Maskus, *Encouraging International Technology Transfer*, draft report to UNCTAD/ICTSD (2003) [hereinafter Maskus, *Encouraging International Technology*].

²⁶ James R. Markusen & Keith E. Maskus, *General Equilibrium Approaches to the Multinational Firm: A Review of Theory and Evidence*, in HANDBOOK OF INTERNATIONAL TRADE 320