Developing countries and the WTO: Policy approaches

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Making TRIPS work for developing countries

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Effective developing-country decision making concerning TRIPS, and international intellectual property (IP) rulemaking more generally, is hampered by a number of factors. The first is an inevitable consequence of these nations' enormous diversity in terms of economic circumstances. This diversity translates into quite disparate interests with respect to TRIPS. So while congruent negotiating positions across the developing world are possible, widely conflicting ones can arise too.

The second difficulty is that intellectual property rights are designed with certain assumptions as to what a protectable intellectual production should look like, and these categories are abundant in the developed world but much less so in most developing countries. In the latter nations, creativity may be common but cannot easily be described or communicated in ways that lend it to IP protection. According to one commentator (Boyle 1996: 125), "the author concept stands as a gate through which one must pass in order to acquire intellectual property rights. At the moment, this is a gate that tends disproportionately to favor the developed countries' contributions to world science and culture. Curare, batik, myths and the dance 'lambada' flow out of developing countries, unprotected by intellectual property rights, while Prozac, Levis, Grisham and the *movie Lambada!* flow in – protected by a suite of intellectual property laws, which in turn are backed by trade sanctions". One may question the basis for his argument since corporations and not individuals tend to own the most valuable rights, but the consequences he describes are accurate.

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The third difficulty is that the sophisticated and aggressive intellectual property forum management and other political strategies employed by the United States and the European Union seem to undermine WTO multilateralism. Increasingly, developing countries are pressured outside the WTO forum to raise their IP standards well above those required by TRIPS to become what is commonly dubbed "TRIPS plus".

On the other hand, I would argue that consumers everywhere are affected by the phenomenon of IP overprotection. If correct, it is possible to envisage the emergence of powerful transnational alliances to counter this situation that could lead to greater balance in national and international IP rules. There is some evidence that such alliances are being formed and that developing-country negotiating stances in forums like the WTO and the World Intellectual Property Organization (WIPO) are being influenced by these informal coalitions consisting of diplomats, NGOs, "counter-experts" and some companies.

Intellectual property and the varied interests of developing countries

The current conventional wisdom is that the world's most successful nations are those best at producing, acquiring, deploying and controlling valuable knowledge. Knowledge, especially new knowledge unavailable to one's rivals, is key to international competitiveness and therefore to national prosperity. Those who accept such a view tend to assume, first, that knowledge-based economies are nowadays wealthier, almost by definition, than traditional or natural-resource–based ones. Second, that wealth-creating knowledge, of the kind that turns economies into knowledge-based ones, comes almost exclusively out of universities, corporate laboratories and film, music, art and design studios, and not out of such unlikely places as peasant farmers' fields and indigenous communities. Third, this transformation requires the availability of high US- or European-style standards of intellectual property protection and enforcement. In short, rich countries have such standards, poor countries do not. Therefore, to be like rich countries, poor countries must adopt these standards; the "magic of the marketplace" will presumably conjure up the rest.

Taking the first assumption, this is of course basically true. Nonetheless, reality defies lazy platitudes. While Singapore is a prosperous and increasingly creative economy (Chow et al. 2007), the similarly sized Qatar and Brunei are just plain rich. India, with Bollywood, its impressive and rapidly expanding software industry and its sizeable and growing biotechnological capacity in relation to its GNP, is mired in poverty that

may take generations to eliminate. Of course, India cannot become a rich, oil-based economy when there is no oil to base its economy on. But most Indians work on the land, and the diffusion of state of the art knowledge and technologies is only one part of the whole solution to the problem of how to eke a decent income from agriculture.

Turning to the second assumption, statistics produced by international organizations like the UN Development Programme, WIPO and the World Bank suggest that most developing countries are not only failing to be innovative but actually have to improve their innovation climate dramatically before they can be competitive in high-technology fields, except perhaps as assemblers and exporters of high-tech goods invented elsewhere, like Costa Rica. Admittedly, our usual indicators of innovation, such as R&D spending, education statistics and patent counts do not tell the whole story and may in fact be misleading. But there appears clearly to be a massive innovation gap between the rich and poor worlds that is not going to be bridged for a long time except by a few elite countries, like China, India and Brazil.

But is such a negative and pessimistic view about developing countries entirely accurate? Is there really a massive knowledge and innovation gap between the rich and poor worlds? Confusingly, the best answer to both questions is "yes and no". The "yes" part is obvious. North America, Western Europe and East Asia have a massive lead over the rest of the world in virtually all of the usual social and economic indicators. But why is there a "no" in the answer at all? Because there is a cultural bias in how we use terms like "knowledge economy" and "knowledge worker" whose effect is to underestimate the presence and vital role of applied knowledge in all societies including those appearing to be the most backward and traditional.

Creativity is not the sole preserve of suited knowledge workers in glassy office blocks, professional artists and musicians and laboratory scientists. If necessity really is the mother of invention, you would surely expect to see most innovation where the needs are greatest. And no needs are greater than those of desperately poor people getting themselves and their families through each day alive and well. Whether we look at health or agriculture, we find that peasant communities are often able to draw upon a huge body of knowledge passed on through many generations (for examples see Dutfield 2005; Posey 1999). The same applies to hunters and gatherers. Local knowledge, technologies and traditional cultural expressions can be highly evolutionary, adaptive and even novel. In short, knowledge held within "traditional" societies can be new as well as old. We should not be surprised by this. Traditional knowledge has always had adaptive elements because the ability to adapt is one of the keys to survival in precarious environments.

So can we just assume, as we tend to do, that the world's knowledge and innovation "hotspots" are urban areas located almost exclusively in Europe, North America and East Asia? In fact, there are many other innovation hotspots, some in the most remote and isolated regions of the world. The problem is that few people recognize them as such, and few of those are in positions of real power or authority. Consequently, innumerable opportunities to harness local knowledge and innovation for trade and development are missed (see Gupta 2006).

Today's more positive view, which informs the work of many development workers, seriously challenges the idea that knowledge wealth necessarily goes hand in hand with material wealth, and that innovation cannot be common where there is mass poverty. What they point out also is that knowledge and creative people may be far less scarce than are the institutions to help convert knowledge into wealth for local people and for the benefit of the wider economy (Gupta 2006). Consequently, traditional knowledge and local innovations are being underutilized.

The third assumption that we come to is that achieving national prosperity and international competitiveness requires countries to make available high US- or European-style standards of IP protection and enforcement. Naturally, transnational corporations like governments to believe this. Indeed, corporate lobbying has largely been responsible for the barely accountable extension of patents, trademarks and copyright to completely new kinds of subject matter in recent decades. We can now patent microbes, plants and animals, even genes that have just been discovered. We can trademark the MGM lion's roar. The binary code behind software programs is classed as a copyrightable work of literature. Protection terms have been extended. The copyright term for authored works in Europe, the United States and many of their trade partners now continues for 70 years after the author's death.

But do developing countries really need to adopt such standards, as they increasingly have to, not so much because of TRIPS but as a result of new commitments arising from bilateral trade agreements? Arguably not. In fact, such standards may make them worse off. The historical record strongly suggests that many of today's economic leader countries were themselves "knowledge pirates" in the past, and benefited from being so (Ben-Atar 2004; Dutfield and Suthersanen 2005). As for the present, a good case could be made for arguing that we in the developed world are not becoming knowledge-*based* economies as quickly as we are becoming knowledge-*protected* economies, or even – and this is a bit more worrying – knowledge-*overprotected* ones, in which dominant industries maintain their market power by tying up their knowledge in complex bundles of legal rights and instruments such as patents, copyrights, trademarks and restrictive contracts and licensing agreements. Such bundles of rights often cover just one product; a drug for example may be protected by a trademark, multiple patents, trade secrets and copyright on the instructions.

It is far less clear that the creativity and innovation coming out of laboratories and studios is increasing at a rate anywhere near as fast as the rapidly growing size of corporate IP portfolios. Worryingly, this level of protection may not only be a bad thing for consumers in terms of higher prices, but it may actually stifle far more innovation than it promotes. And things are getting worse. Every major company has to have an intellectual property management strategy, which usually entails the aggressive acquisition and enforcement of rights, because everybody else has one. Among the harmful consequences are increased prices and reduced access to knowledge.

Another trend to mention here is that public interest and procompetitive limitations and exceptions to the rights in many parts of the world are being narrowed. That is a serious concern for developing countries seeking to acquire expensive life-saving drugs. Other likely negative effects include undue constraints on the reproduction and distribution of educational materials in countries where such materials are scarce, expensive and desperately needed.

What is now much less arguable than the consequences of these trends is that the incorporation of negotiations on IP standards of protection and enforcement, whose outcome was the TRIPS Agreement, was actively and aggressively promoted by developed-country governments including the European Community and industry associations and professional lobbyists.[1] The primary aim was to deal with at least three threats to the interests of large corporations and to the competitiveness of developed world economies, none of which was to enhance the development prospects of developing countries. These perceived threats were copyright piracy, unauthorized use of trademarks and unwelcome competition from generic drug firms able to take advantage of patent regimes' excluding drugs from protection. The underlying assumption, only partially correct, is that the interests of developed countries as represented by governments and the European Commission and those of transnational corporations headquartered in those nations, are congruent.

As a consequence of the huge stakes involved and of the way it came into being, TRIPS has always been controversial. For many critics, IP should never have been part of the Uruguay Round negotiations that led to the WTO's establishment. They say that IP is not trade-related, and should as a result be dealt with elsewhere. They certainly have good reason to question the need for the Uruguay Round to have covered intellectual property. Indeed, even some of those who were most enthusiastic about TRIPS have joined the sceptics, albeit for different reasons. For

example, the very influential Bruce Lehman, a former head of the US Patent and Trademark Office, now claims in public that the United States would have been better off pushing for strict environmental and labour standards in the Uruguay Round instead of insisting with so much determination on an IP agreement.[2] But the critics are wrong to say that intellectual property is not trade-related. IP has always been inherently trade-related.

While we may accept as given that TRIPS was not intended to benefit developing countries,[3] it does not automatically follow that TRIPS cannot benefit them. I make this assertion not only because of the pro-development and social welfare language in several TRIPS articles, but for two other reasons. First, much of the language of TRIPS is "strategically vague". Consequently, it is subject to various plausible interpretations that may with imagination and vision translate into quite a lot of policymaking freedom. Second, developing countries are extremely widely differentiated in terms of scientific, industrial and technological capacities and market opportunities. Consequently, their interests are differentiated too. For the developing world generally, TRIPS is almost certainly a net loss, at least in the short term.[4] But for some developing countries, gains from implementing parts of TRIPS are definitely possible, especially in cases where certain industrial sectors are already fairly advanced. Of course it is not this simple. TRIPS was one of a whole package of agreements and so developing countries may have calculated that while TRIPS was a loss, they could identify net overall gains from the whole package of WTO agreements.

What developing countries are likely broadly to agree upon is that substantive harmonization of IP rights at the level of today's developed countries is very unlikely to be in any of their interests, in large part because it would close the door on past development strategies that worked. For example, in a comprehensive study of the evolution of the Japanese patent system, which shows that for almost all of its existence it was very much "TRIPS minus", Fisher (2004) is drawn to conclude that: "the meteoric rise from feudal serf to technological whiz-kid that the country has undergone in less than 150 years is little short of astounding, and poses the question of whether it could be repeated today. The homogenisation of patent law, the claim implicit in TRIPS that one size can, and indeed should, fit all, does not adequately correspond with the picture of Japan's evolution" (113).

Research by Kim (2003) on the experience of South Korea led him to find that "strong IPR [intellectual property rights] protection will hinder rather than facilitate technology transfer to and indigenous learning activities in the early stage of industrialisation when learning takes place through reverse engineering and duplicative imitation of mature foreign

products". He also concluded that it is "only after countries have accumulated sufficient indigenous capabilities with extensive science and technology infrastructure to undertake creative imitation in the later stage that IPR protection becomes an important element in technology transfer and industrial activities" (5).

However, while all developing countries have good reason to oppose harmonization in favour of differentiation, this does not make their interests identical. Lall's (2003) research found ample evidence that "the need for IPRs varies with the level of development". Based in part on the work of Maskus (2000: 95–96), he went on to say:

> Many rich countries used weak IPR protection in their early stages of industrialisation to develop local technological bases, increasing protection as they approached the leaders. Econometric cross-section evidence suggests that there is an inverted-U shaped relationship between the strength of IPRs and income levels. The intensity of IPRs first falls with rising incomes, as countries move to slack IPRs to build local capabilities by copying, then rises as they engage in more innovative effort. The turning point is $7,750 per capita in 1985 prices ..., a fairly high level of income for the developing world. (Lall 2003: 11)

It is one thing to say that relatively advanced developing countries prefer, if given the opportunity denied to them by TRIPS, to weaken their IP rights in order to advance their capacities to innovate through imitation-derived technological learning, and then strengthen them later when they are more innovative. It is quite another thing to assume that such a policy works just because many governments have favoured it. Nonetheless, intuitively it makes much sense and there is a wealth of historical experience to back it up.

Competitive liberalization and the erosion of multilateralism

TRIPS may well be more harmful than beneficial for the developing world as a whole. Nonetheless, attempting to unify developing countries in a blanket opposition to all of its provisions is utterly unachievable. The interests are just too diverse, not just between countries but within them. For example, India tends to take a strong pro-copyright stance because of Bollywood, but is much more sceptical about patents, tending to side with most other developing countries. Besides, whatever the views of individual developing countries vis-à-vis TRIPS, the fact is that the central position of the Agreement in the international IP regime is under threat, as multilateralism itself is being circumvented and eroded. Until recently,

TRIPS seemed to be the most important element of the effort to pull up developing countries' IP standards of protection and enforcement to the level of the developed countries and to modernize IP protection so as to accommodate rapid advances in emerging fields like biotechnology and the digital technologies. But now, if recent trade deal-making and the views of people like Lehman are anything to go by, TRIPS may be outliving its purpose for those corporations that successfully lobbied for an IP agreement in the Uruguay Round and the governments that took up their demands. Why? First, because the WTO system of trade governance currently does not make it easy to achieve radical revision of existing agreements or, for that matter, consensus on the need for new ones. Second, developing countries have tended not to implement TRIPS with much enthusiasm, and enforcement measures continue to be inadequate from the view of the IP owners. Third, for the developed countries and transnational industry, other forms of trade diplomacy seem to further their interests more effectively.

What does transnational industry actually want? In the area of patents, the priority is global harmonization pitched at a level such that TRIPS is the floor, the absolute minimum that is acceptable. Moves are afoot at WIPO to go much further than TRIPS by intensifying substantive patent law harmonization in the interests of helping well-resourced companies to acquire geographically more extensive and secure protection of their inventions at minimized cost (Musungu and Dutfield 2003). Substantive harmonization is more than just making the patent systems of countries more like each other in terms of enforcement standards and administrative rules and procedures. It means that the actual substance of the patent standards will be exactly the same to the extent, for example, of having identical definitions of novelty, inventive step and industrial application. Given the rich countries' interests in harmonization, it is likely to result in common (and tightly drawn) rules governing exceptions to patent rights, and the erosion of freedoms to exclude from patentability types of subject matter or technological fields on public policy or national interest grounds.

Harmonization is important with copyright too, especially in such areas as term of protection and subject matter; for example, the developed countries are encouraging the developing countries to extend the term of copyright protection beyond that required by TRIPS to life of the author plus 70 years, as in Europe and the United States. But the situation is a little different. One reason is that the complex array of stakeholders[5] whose economic and moral interests are affected by copyright makes harmonization much more difficult to achieve. Another is that rapid technological developments have made the transnational copyright industries determined to achieve an international regime that is sufficiently dynamic

to respond speedily to the massive opportunities and vulnerabilities afforded by technological advances that (1) provide new means for copyright owners to disseminate their works to the public but that also (2) threaten to undermine the control over markets in these works by enabling copiers to flood markets with unauthorized versions of these works and by allowing potential consumers to copy them. Such "dynamic responsiveness" cannot be achieved at the WTO, since, as we mentioned, the WTO agreements have proved not to be susceptible to the substantial periodic revisions that would be necessary to satisfy industry.

The TRIPS approach to achieving ever-higher IP protection levels is being supplemented by an expanding menu of alternatives. These include technical assistance, threats and intimidation, and "forum management" including the use of WIPO and bilateral trade and investment agreements.

The provision of IP technical assistance by international organizations, developed-country governmental agencies, IP offices and business and law associations has become quite controversial. Such assistance often seeks to promote standards of IP protection higher than those required by TRIPS in order to protect the interests of providers and funders. Indeed, "industry experts have played a prominent role in IP-related technical assistance initiatives undertaken in the United States" (Matthews and Munoz-Tellez 2006: 648).[6] Such assistance may involve training programmes, the dissemination of propaganda extolling the virtues of intellectual property and the harm caused by piracy and even the drafting of legislation.

Sometimes rich countries are alleged to resort to intimidation and threats of trade sanctions against poor countries they accuse of condoning piracy or of having "inadequate" IP systems. The United States has been particularly aggressive in this regard. Indeed, its government is required to take a tough stance against "offending" countries under the country's domestic trade law.[7]

Forum management refers to a strategy sometimes referred to as forum shifting (see Braithwaite and Drahos 2000). The former term is more accurate and better accommodates the sophistication of US trade and IP strategy, which can involve both the opening up of new forums and the closing of old ones. Most countries seek to use it, but only the powerful nations can practice it well. Weaker countries normally must unite to have a chance of being good forum managers.

The idea behind the forum management concept is that where negotiations take place can make a big difference to their outcome, and is therefore a strategic matter. Achieving goals relating to certain issues can involve the opening, closing and shifting of negotiating or jurisdictional forums. For example, in the 1980s the United States opened up GATT

as another forum to pursue its IP-related interests. At the same time it kept the WIPO forum open to introduce "TRIPS-plus" standards through new conventions such as the WIPO Copyright Treaty, and the Substantive Patent Law Treaty currently under negotiation. On the other hand, while the United States is seeking to confine traditional knowledge (TK) to WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, several developing countries have insisted that TK also be covered by WIPO's Standing Committee on the Law of Patents, and in the TRIPS Council.

Perhaps the most significant new development in the field of IP forum management is the proliferation of bilateral and regional negotiations on trade and investment that have led to many developing countries' adopting heightened standards of IP protection through the resulting agreements. These bilateral and regional agreements have proved to be a useful way to get individual, or sometimes groups of, developing countries to introduce so-called "TRIPS plus" provisions that go beyond what TRIPS requires, such as:

(1) extending patents and copyright to new kinds of subject matter;
(2) eliminating or narrowing permitted exceptions including those still provided in US and European IP laws;
(3) extending protection terms;
(4) introducing new TRIPS-mandated IP rules earlier than the transition periods allowed by TRIPS; and
(5) ratifying new WIPO treaties containing TRIPS-plus measures.

In addition, they appear sometimes to require, at least implicitly, that developing-country parties drop certain IP-related demands the same countries are making in multilateral forums such as the TRIPS Council.

The United States and the European Community both use the bilateralism strategy, but the United States has been the more aggressive. Nonetheless, as an active and sophisticated IP forum manager, the US interest in bilateralism and regionalism does not mean abandoning the multilateral approach. In this case, forum management entails the proliferation of forums, keeping as many open at the same time as possible. According to the former United States Trade Representative, Robert Zoellick, US trade strategy is about not putting all of America's eggs in one basket:[8]

> When the Bush Administration set out to revitalize America's trade agenda almost three years ago, we outlined our plans clearly and openly: We would pursue a strategy of "competitive liberalization" to advance free trade globally, regionally, and bilaterally.... At its most basic level, the competitive liberalization strategy simply means that America expands and strengthens its options. If free trade progress becomes stalled globally – where any one of 148 economies in the World Trade Organization has veto power – then we can move ahead regionally and bilaterally. If our hemispheric talks are progressing stage-by-stage, we can point to more ambitious possibilities through FTAs [free trade agreements] with individual countries and sub-regions. Having a strong bilateral or sub-regional option helps spur progress in the larger negotiations.

It is perhaps because of these developments that criticisms of TRIPS and WTO multilateralism seem to have become less shrill in the last few years. For many people there are far worse things going on in intellectual property diplomacy than anything that happens in the rooms and corridors of the WTO!

Implications for TRIPS negotiations

So far in this chapter we have raised some important issues relating to international IP rulemaking and the developing countries. We have also criticized certain trends in IP law, suggesting that they are harmful, or at least suboptimal, to developing countries and probably – and this is a highly significant point – to people everywhere. TRIPS deserves criticism for failing adequately to accommodate the freedom each WTO member should have, within reason, to design the IP rules that best serves its interests. However, imperfect as the WTO rulemaking and enforcement system undoubtedly is, developing countries should use the WTO regime to the maximum in order to achieve the necessary checks and balances so that the opportunities in TRIPS, and international trade more generally, can be exploited to their best advantage.

Achieving the necessary checks and balances should be about far more than opposing TRIPS-plus. For one thing, developing countries should have a positive agenda concerning IP rights; rather than just oppose developed country initiatives, they should be putting forward their own proposals based on assessments of how they can design IP rules to support domestic industry and the public interest. In any case, it is unrealistic to expect the WTO to shelter developing countries from TRIPS-plus pressures in other forums.

So are developing countries making the most of their opportunities in the WTO to pursue a positive pro-development IP agenda? And if not, what can they do? Without doubt, developing country WTO members have succeeded in resisting further tightening of the TRIPS rules and have had some small victories along the way by concentrating their efforts on a set of issues that a sufficient number of them deem important. On the other hand, other important matters are accorded insufficient attention.

Perhaps the issues in which developing countries have invested the most effort in terms of agenda setting and the submission of substantial proposals are public health and the review of Article 27.3(b), which has covered the exceptions to patentability in the field of biotechnology, the *sui generis* system for plant varieties and the relationship between TRIPS and the Convention on Biological Diversity. Traditional knowledge has also been discussed as part of this review. It is probably not coincidental that public health and Article 27.3(b) issues have been the focus of a great deal of NGO campaigning. In addition, some developing countries have actively debated the subject of geographical indications, which may arguably be useful means for traditional rural populations to generate wealth from products based on the application of their local knowledge, which is otherwise difficult to protect by patents. It is important here also to mention technology transfer and the transitional periods, neither of which is a particularly "sexy" issue for NGOs, but which are of special importance to the least-developed countries because of certain provisions in TRIPS that are specific to that category of poor countries.

Let us look more closely at the subjects of public health, Article 27.3(b), traditional knowledge, technology transfer to LDCs and the transition periods for the LDCs. The coverage of these subjects should provoke consideration of at least three key questions: (1) Are these the issues that developing countries should be focusing on? (2) Are positive results being achieved? And (3) are issues of greater strategic import for developing countries and for which prospects for success may be greater being overlooked?

Public health

At the November 2001 Doha Ministerial Conference, the WTO members adopted the Declaration on the TRIPS Agreement on Public Health. The Declaration was a response to concerns expressed by many developing countries that the patent-related obligations in the TRIPS Agreement and the fairly constrained limitations and exceptions to the rights formed a barrier to access to life-saving medicines due in large part to the effects that patent monopolies have on prices.

The Declaration could not have resulted without a great deal of developing country unity plus support from a few sympathetic developed countries, some powerful NGO actors and a small group of expert legal advisors who we might wish to refer to as "counter-experts". It opens by stating, "the TRIPS Agreement does not and should not prevent Members from taking measures to protect public health". Perhaps the most important paragraph is the fifth, which clarifies the freedoms all WTO

members have with respect to compulsory licensing, their determination of what constitutes a national emergency or other circumstances of extreme urgency, and exhaustion of rights. Thus, the declaration reaffirms the right to use to the fullest the provisions in TRIPS allowing each member "to grant compulsory licenses and the freedom to determine the grounds upon which such licenses are granted". The declaration explicitly mentions that public health crises "relating to HIV/AIDS, tuberculosis, malaria and other epidemics, can represent a national emergency or other circumstances of extreme urgency".

One matter the declaration left unresolved is whether governments can only grant a compulsory license to a domestic manufacturer. Since TRIPS stipulates under Article 31(f) that unauthorized use of a patent shall be "predominantly for the supply of the domestic market", awarding a license to an overseas manufacturer would conflict with TRIPS since the use would be to supply a foreign market. This is an important issue because many poor countries lack the capacity to manufacture the HIV/AIDS treatments and would therefore need to import them from countries like India, an important supplier of relatively cheap generic drugs. To make the situation even more difficult, India is required by TRIPS to introduce product patents on drugs from 2005 and has recently complied. Normally patents prevent not just the unauthorized sale of protected products but also their manufacture. Therefore, even if a poor country granted a compulsory license to a generic firm in India or in any other foreign country, if the drug were protected by a patent in the generic firm's country too, the licensee would not actually be able to make the drug.

The obvious solution would be for the rules to be changed so that manufacture of the patented drug would not in such cases have to be predominantly for the supply of the domestic market. Paragraph six of the Declaration acknowledges this problem, instructing the TRIPS Council "to find an expeditious solution to this problem and to report to the General Council before the end of 2002". No solution was reached within this deadline, and it was only in August 2003 that one was agreed, the August 30 Decision (WTO 2003a).

The most important part of the August 30 Decision is paragraph two, which provides the terms under which a WTO member may export a pharmaceutical product under a compulsory license to a country with no or insufficient manufacturing capacity on the basis of a waiver of the condition in Article 31(f). These terms are fairly detailed, in part because the pharmaceutical industry was concerned that drugs manufactured under the waiver might be diverted to other markets.

On 6 December 2005, a more permanent solution was found when the WTO members agreed to amend TRIPS by adopting a protocol that

supplements TRIPS with the insertion of an Article 31 *bis* and an annex. Together these have the effect of making Article 31(f) inapplicable in the case of an eligible exporting member supplying an eligible importing member with a drug under certain clearly defined terms (WTO 2005).

To date, no developing country has been able to take advantage of this rather complicated system. One wonders whether all of the considerable effort in devising and adopting it will lead to any substantial enhancement in access to medicines for the poor.

Despite so much attention being given to this issue, one very important matter concerning public health that has *not* been adequately debated in the TRIPS Council to the great cost of developing countries is that of test data exclusivity as provided in Article 39. For pharmaceutical companies whose drugs are soon to go off patent, the way that governments regulate third-party access to and use of clinical-trial and other test data can, at least in some cases, make a difference as to when a generic firm can enter the market with its equivalent product. Clearly the stakes are very high, especially for poor countries with large numbers of people unable to afford the drugs they need to stay alive.

Article 39.3 provides for the protection of test data in respect of pharmaceutical and agricultural chemical products that utilize new chemical entities. It must be protected against "unfair commercial use". Disclosure of such data is prohibited but may be allowed if necessary to protect the public or if legal protection measures against unfair commercial use are already in place. In justifying such provisions, Article 39.1 refers to Article 10 *bis* of the Paris Convention, according to which "any act of competition contrary to honest practices in industrial or commercial matters constitutes an act of unfair competition".

How countries may give effect to Article 39.3 is unclear but the vagueness of the language suggests that WTO members have a fair bit of leeway to interpret it as they see fit. Some of them have provided a period of exclusivity – typically at least five years – to the originator of the data during which drug regulators may not use the data to determine whether to approve the marketing of purportedly equivalent products, and generic firms may not use it in an attempt to convince regulators that their product is sufficiently "equivalent" to be marketable. Alternatively, the provision can be interpreted as not prohibiting regulators from doing this but merely as preventing generic producers from being able to acquire the data through dishonest commercial practices (UNCTAD-ICTSD 2005: 531).

In the case of test data protection, strategic vagueness has probably not served the developing countries well. In the absence of an agreed minimalist interpretation in the TRIPS Council, developing countries are

being pressured to emulate the developed countries by implementing Article 39.3 in their national laws in the form of a limited period of data exclusivity. On account of industry lobbying, data exclusivity provisions frequently crop up in bilateral and regional free trade agreements where the United States is one of the parties. In some cases, they are bound to become a barrier to the market entry of generic drugs, thereby unduly and unnecessarily restricting price-lowering competition and limiting the freedoms of governments to do much about it.

Consider two recent free trade agreements, the 2004 US-Chile FTA and the 2005 US-Dominican Republic-Central America FTA (US-DR-CAFTA). The US-Chile FTA provides that generic companies are prohibited from marketing a new chemical entity-based drug on the basis of undisclosed clinical trial data submitted to the government as a condition of its approval. This prohibition is for at least five years after the approval date. In some cases this will hold up the marketing of the generic drug until some years after the expiry of any patent on the drug.

The US-DR-CAFTA differs somewhat, for example, in recognizing that some countries may approve a new drug on the basis of its prior approval in another country (e.g., the United States) without the company having to submit clinical trial data in those countries too. But, as with the US-Chile FTA, the prohibition on marketing the generic version is for at least five years from the date of approval of the original pharmaceutical product.

Such a provision applies even in cases where a generic firm is seeking to enter the national market before the original manufacturer, who may not be interested in supplying this particular market. Clearly, these requirements have the potential to stall the introduction of generics in cases where the patent has already expired *or where there was no patent in the first place*, and are not balanced by any language affirming the right of countries to respond to public health crises as they see fit.[9] This is despite the aforementioned clarification in the Declaration on the TRIPS Agreement and Public Health that "the TRIPS Agreement does not and should not prevent members from taking measures to protect public health".

Article 27.3(b) and traditional knowledge

In essence, Article 27.3(b) concerns exceptions to patentability in the area of biotechnology. It permits WTO members to exclude from patentability "plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall

provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement."

The review of the provisions of Article 27.3(b) began in 1999 and is ongoing. At Doha, ministers representing WTO members clarified their commitment to opening up negotiations on issues relating to Article 27.3(b) to include the relationship between the TRIPS Agreement and the Convention on Biological Diversity (CBD), and the protection of traditional knowledge and folklore. According to paragraph 19 of the Ministerial Declaration,

> We instruct the Council for TRIPS, in pursuing its work programme including under the review of Article 27.3(b), the review of the implementation of the TRIPS Agreement under Article 71.1 and the work foreseen pursuant to paragraph 12 of this Declaration, to examine, *inter alia*, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments raised by Members pursuant to Article 71.1. In undertaking this work, the TRIPS Council shall be guided by the objectives and principles set out in Articles 7 and 8 of the TRIPS Agreement and shall take fully into account the development dimension.

The key challenge for developing countries is that many of them remain unclear about how to tailor their patent regulations to promote their interests in the acquisition, development and application of biotechnology, and therefore how best to exploit these flexibilities. In essence, two types of flexibility exist in Article 27.3(b). These are (1) the optional subject matter exceptions and (2) the possibility to define the terms in a variety of ways. Clearly, the language of this provision is complicated. But it is also subject to a wide range of interpretations, a situation that allows policy makers to implement TRIPS in a very large number of possible ways. Inevitably, developing-country WTO members vary in terms of where they should focus their energies, and where they would prefer these negotiations to lead.

The challenges that subsequently arise are threefold. The first is to identify all possible ways that Article 27.3(b) can be interpreted. The second is to identify the goals that governments wish to use their biotech-related patent rules to further. This must surely be based upon assessments of present biotech capacity of the country in question and of its future potential. The third challenge is for government policy makers on the basis of such an assessment, and a decision on the goals it wishes to pursue, to select from all of the possible interpretations the optimal patent rules available under Article 27.3(b).

Understandably, though, much of the discussion on Article 27.3(b) has focused on how best to address a wide range of moral, political and economic concerns about "patenting life" and "biopiracy" (to use two popular NGO slogans). Far less consideration has been paid to how developing countries can best take advantage of the subparagraph to further their development interests.

The CBD-TRIPS relationship and the protection of TK and folklore, both positive and defensive, are also being discussed in other forums. These include WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, and the Conference of the Parties to the CBD and its subsidiary working groups. Not surprisingly, similar debates and proposals come up in each of these forums. Some developed countries, most notably the United States, prefer to confine debate on IP and genetic resources, the CBD and traditional knowledge to WIPO's Intergovernmental Committee, and treat these as purely technical issues that can be resolved by modifying the implementation of existing norms rather than creating new ones.

One key developing-country demand that has come up in all the forums is that of disclosure of origin including prior informed consent. Many developing countries are counting on the WTO as the forum that can secure the incorporation of disclosure of origin in international patent law while accepting that more far-reaching norm-creating activities such as drafting a possible treaty on the protection of traditional knowledge should be left to WIPO.

"Disclosure of origin" has become a collective term for certain requirements to be incorporated into patent law. These requirements vary widely in terms of the weight and nature of the legal, administrative or informational burdens placed on patent applicants and owners. Accordingly, it is convenient to describe three types of disclosure requirement.

The first may be called "voluntary disclosure" and would encourage the disclosure of genetic resources and/or traditional knowledge relevant to an invention being patented. Its omission would not disqualify the patent application from being accepted, being granted or being subsequently enforced. In other words, non-compliance gives rise to no legal consequences.

The second version is "mandatory disclosure". Failure to disclose or dishonest disclosure would have one or some of the following consequences: the patent application would not be accepted; it would be rejected during the prosecution stage; if granted it would not be enforceable; or if granted it would be revoked with possible criminal sanctions for wrongdoers. The burden of compliance is placed on the patent applicants and the patent granting offices. The role of provider country governments

would be to monitor compliance and take legal action in cases of alleged non-compliance.

The third version can be called "proof of legal acquisition". This would tie the patent system more closely to the CBD's access and benefit sharing (ABS) provisions, in particular to the ABS regimes operating in those countries directly providing the genetic resources and/or traditional knowledge. One way to implement this is to require patent applicants to submit with their application official documentation from provider countries proving that genetic resources and – where appropriate – associated TK were acquired in accordance with the ABS regulations including conformity with such obligations as prior informed consent, with the terms mutually agreed between providers and the recipients, and with the need to comply with CBD Article 8(j), which deals with the knowledge, innovations and practices of indigenous and local communities, and requires that benefits from their usage be shared with them.

In May 2006, Brazil, India, Pakistan, Peru, Thailand and Tanzania proposed in the WTO General Council that new text be incorporated into the TRIPS Agreement under Article 29, which deals with conditions on patent applicants. Paragraph 2 of the proposed Article 29 *bis* on disclosure of origin of biological resources and/or associated traditional knowledge would state the following:

> Where the subject matter of a patent application concerns, is derived from or developed with biological resources and/or associated traditional knowledge, Members shall require applicants to disclose the country providing the resources and/or associated traditional knowledge, from whom in the providing country they were obtained, and, as known after reasonable inquiry, the country of origin. Members shall also require that applicants provide information including evidence of compliance with the applicable legal requirements in the providing country for prior informed consent for access and fair and equitable benefit-sharing arising from the commercial or other utilization of such resources and/or associated traditional knowledge. (WTO 2006)

Clearly this issue is important to some developing countries. But should it be? It is an open question, but while developing countries understandably do not wish to be exploited, the measures proposed by those six countries are unlikely to work in practice without an effective and inexpensive monitoring system for cross-boundary genetic resource transfers. No such system is in operation yet. Besides, so much of the discussion on disclosure of origin seems to be about preventing so-called "biopiracy". Relatively little consideration has been given to encouraging collaborations with foreign institutions and scientists that can help developing countries to enhance their scientific and technological capacities in order to generate wealth from their biological resources.

Geographical indications

Geographical indications (GIs) are defined in the TRIPS Agreement as "indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin". GIs are similar in function to trademarks, the difference being that the former identifies a product with a particular territory, whereas the latter identifies a product with a company or brand.

WTO members are required to permit legal action enabling traders to prevent: (1) the designation or presentation of a good (such as a trademark) that suggests, in a manner that misleads the public, that the good in question originates in a geographical area other than the true place of origin; and (2) any use that constitutes unfair competition. Article 23 deals solely with wines and spirits, which are subject to additional protection. This evidences how far the European wine- and spirit-exporting countries were willing to go in pursuit of their economic interests with respect to such goods.

In November 2001, the WTO members attending the Doha Ministerial Conference agreed "to negotiate the establishment of a multilateral system of notification and registration of geographical indications for wines and spirits by the Fifth Session of the Ministerial Conference". With respect to the possible extension of the enhanced protection of geographical indications to products other than wines and spirits, it was agreed that issues related to this matter would be addressed in the Council for TRIPS, an indication of the lack of consensus.

Despite the fact that they are in TRIPS largely at the instigation of the European Commission, GIs have for several years been promoted as a concession to developing countries that they ought to take advantage of. Supposedly, they provide the means by which developing countries can use IP to protect categories of local rural knowledge that they possess in abundance. In particular, the European Union and the Swiss government are very keen to promote GIs worldwide by arguing that this part of TRIPS can potentially provide substantial gains for developing countries. This seems plausible when one considers that GIs are especially appropriate for the produce of small-scale producers and cultivators, and, it should be underlined here, not just for foods and beverages but also handicrafts and other hand-made items. As one scholar argues, when countries adopt GIs they implicitly accept "the underlying philosophy of the distinctiveness of local and regional products". Furthermore, "globalization of ... artisanally-based principles" inherent to geographical indications "counters the standardization of products which is normally considered the outcome of the internationalization of the agro-food

industries [and] assists small family firms to resist the industrialization and corporatization of production" (Moran 1993).

GIs appear superficially to be a subject that developing countries should be able to adopt a unified stance on. Indeed, generally speaking, developing countries consider the additional protection extended to wines and spirits to typify the lack of balance in TRIPS. But after that, the consensus starts to break down.

Many developing countries are rich in traditional knowledge having applications in agriculture, food production and small-scale manufacturing. So GIs would appear to have real potential in terms of developing and exploiting lucrative markets for natural products including those manufactured by resource-poor farming communities. Such countries tend to favour the extension of the additional protection to cover all products, not just beverages. Are they right to be so pro-GI with respect to products they wish to export? Possibly they are, but caution should be exercised. GIs are useless without good standards of quality control and marketing, and up-to-date information on markets, including foreign ones, if the products are to be exported. At present the potential of geographical indications for developing countries is somewhat speculative because this type of IPR has been used only in a few countries outside Europe. Moreover, many GIs have quite small markets, and a relatively small number trade internationally.

Other developing countries do not have an abundance of TK and are key exporters of products that compete with well-established GI-protected goods coming from Europe. For those countries, GIs may be considered a threat and not an opportunity. Indeed, some such countries are understandably concerned that the present enthusiasm for GIs among Europeans is really about protectionism. For example, New World developing country wine-producer countries like Chile and Argentina and also South Africa are competitors with Europe, and tend to be unhappy about the privileged status of wines and spirits because this serves the interests of their Old World competitors. Many of the place names in these countries originated in Europe. Some developed countries, such as Australia, feel the same way.

In short, there can be no "developing country position" on GIs and it is futile to try to achieve one. But since the interests and negotiating positions of developed countries also differ sharply, these negotiations on GIs could end up in stalemate.

The least-developed countries

Under TRIPS, the least-developed countries (LDCs) were allowed until 1 January 2006 to apply the Agreement in full. However, they have managed to secure two extensions. The Doha Declaration on the TRIPS

Agreement and Public Health allowed LDCs to delay implementation of patent protection for pharmaceutical products and legal protection of undisclosed test data submitted as a condition of approving the marketing of pharmaceuticals until 1 January 2016. In November 2005, the TRIPS Council extended the deadline for fully implementing the rest of TRIPS by a further seven and a half years to 1 July 2013. Undoubtedly, these are achievements for LDCs, even if some of them have already implemented some or all of TRIPS.

As for technology transfer, the Ministerial Declaration expressed agreement on the establishment of a Working Group to examine "the relationship between trade and transfer of technology, and of any possible recommendations on steps that might be taken within the mandate of the WTO to increase flows of technology to developing countries". The Doha Decision on Implementation-related Issues and Concerns reaffirmed the mandatory nature of Article 66.2, according to which "developed country Members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base". The TRIPS Council was directed to establish "a mechanism for ensuring the monitoring and full implementation of the obligations in question".

Pursuant to this, in February 2003, the Council for TRIPS adopted a decision requiring the developed country WTO members to "submit annually reports on actions taken or planned in pursuance of their commitments under Article 66.2" (WTO 2003b). Such reports must provide the following information: (1) an overview of the incentives regime put in place to fulfil the obligations of Article 66.2, including any specific legislative, policy and regulatory framework; (2) identification of the type of incentive and the government agency or other entity making it available; (3) eligible enterprises and other institutions in the territory of the Member providing the incentives; and (4) any information available on the functioning in practice of these incentives.

It is hard to see such pressure on developed countries to comply with Article 66.2 going very far. The real difficulty is that technologies tend to be privately owned and governments are limited in terms of how far they are able and willing to intervene so as to assure they are transferred to the LDCs.

Conclusions and a proposal for more development-friendly IP rulemaking

Historical evidence shows that well-designed IP systems can benefit national economies just as poorly designed ones can harm them. But how

does one go about designing and negotiating an appropriate IP system or fine-tuning an existing one? The economic and social impact of IP reform is very hard to predict reliably, especially in the long-term. This is particularly the case for developing countries. This is a real handicap in the present situation where countries are pressured to negotiate and implement new multilateral trade rules, bilateral or regional free trade or investment agreements, and to respond to powerful stakeholder groups – often foreign ones – demanding changes to national regimes that may not serve the interests of their citizens and other domestic stakeholders. Such difficulties in measuring impacts make it difficult for governments and their representatives to know what negotiating position to adopt on IP, how best to handle complex trade issue-linkage bargains, and how far they should accommodate the demands of international business interests clamouring for change to domestic IP rules.

As with other areas of business regulation, IP policymaking and negotiation position formation is, or at least should be, a matter for *national* decision making involving the collaboration of all *national* stakeholders, including owners, users and the public. Foreign interests should not be ignored but government business regulation is about what is good for the national economy and the country's citizens. Good policymaking cannot be based solely on the implementation of obligations accepted in multilateral treaties or regional or bilateral trade agreements. Unfortunately, policymaking often seems to be done in this way, which is to say that policy*taking* is the norm rather than policy*making*. What we have here are political and technical challenges.

Until recently, intellectual property was a subject for specialists, and was considered to have little if anything to do with, for example, biodiversity conservation, the rights of indigenous peoples and poor farmers in developing countries, human rights (except for author's moral rights) or spiritual values, or with the interests of consumers, patients or librarians to name just a few. Therefore, IP lawyers and commercial intellectual property user groups were the only ones assumed to have a legitimate interest in IP regulation and the only "experts" able to offer rational and objective technical advice to policy makers.

In recent years this state of affairs is being challenged by alternative voices. These are much more critical of the excessive influence of the rather closed network of IP experts and interest groups, and are more sceptical that stronger rights are in the best interests of the national population or the developing world. Several NGOs have actively sought to reverse the IP strengthening trends of recent years in the developed and developing worlds. They are highly skilled and motivated networkers disseminating information and organizing their campaigns through Web sites, newsletters, media and e-mail alerts, sign-on declarations and letters circulated on the Internet, parallel sessions to intergovernmental conferences and attention-seeking stunts.

NGOs and the counter-experts who advise them on the technicalities, and in some cases on the political strategy, provide both opportunities and threats for developing countries. The NGO-led access to medicines campaign is a case where these organizations and the counter-experts they recruited provided invaluable political *and* technical support for developing country WTO members. Efforts by the open source and access to knowledge movements to defend existing limitations and exceptions to IP rights and block the extension of IP rights to cover new types of production and subject matter are also proving to be useful for developing countries as they seek to transform WIPO into a more development-friendly organization, and tap into alternative technical assistance networks that help in conceiving better-balanced IP rules at home and more sophisticated position statements in international forums.

However, there is a danger when NGOs set the agenda and developing countries fall into line without sufficient reflection as to where their national interest really lies. Much of the discussion relating to the Article 27.3(b) review seems to exemplify the pitfalls. Arguably, the conduct more generally of many developing countries in the TRIPS Council over the years may also justify some anxiety about this. One cannot help but wonder if more attention should have been paid to other parts of TRIPS, including copyright, which for many developing countries is more important than patents and is a complex IP right that is extremely hard to design and regulate.

This article closes with a new approach that may contribute to better and more development-friendly IP negotiating and rulemaking outcomes whether at the WTO or elsewhere. It is based on a suggestion made by a group of developing countries at the first session of the Inter-sessional Intergovernmental Meeting on a Development Agenda for WIPO, which is that implementing pro-development principles and guidelines in WIPO might involve:

> undertaking independent, evidence-based "Development Impact Assessment" (DIA) to consider the possible implications of each norm-setting initiative for core sustainable development indicators such as innovation, access by the public to knowledge and products, job creation, poverty alleviation, equity, respect for cultural diversity, protection of biodiversity, health, and education, particularly in developing and least developed countries. (WIPO 2005)

To date, nothing has been done to consider how DIAs might work in practice. So let us briefly explore what might be the advantages of development impact assessments and how they could be conducted. As we will see, the WTO is one forum where they might be applied. One can

immediately think of some positive strategic and practical results arising from their promotion and operationalization. First, making DIAs a requirement in terms of norm-setting would place a heavy burden of proof on those demanding strengthened IP protection to produce more convincing evidence of its necessity than they customarily offer.

Second, if conceived holistically, development impact assessments would broaden the investigation of the effects of IP reform far beyond narrow conceptions of economic efficiency such as Pareto optimality[10] or Kaldor-Hicks efficiency,[11] important as these may be, toward wider and deeper notions of development that incorporate human welfare and environmental sustainability. Consequently they could become an extremely valuable and appropriate analytical and decisionmaking tool for development.

As to what IP DIAs would look like, one can envisage them having at least two elements. The first is the assessment itself. The second is the ongoing consultation process involving stakeholders and independent experts. The assessment would comprise determination of the *timing* of the DIA, its *objectives*, its *scope*, the *development indicators* to be selected and of what *data* to be generated for measuring performance levels and monitoring trends in respect of the indicators. The assessment would lay out the *benefits*, *costs* and *risks*, but would not be just descriptive and analytical. It would of necessity be prescriptive; it must feed into policymaking, otherwise it is pointless.

The timing of the DIA is very important. It could take place at the start of negotiations or during the drafting stages of a given proposal, reform or agreement. But ex post DIAs may also generate useful results, for example, in terms of taking advantage of the interpretative flexibilities in adopted agreements like TRIPS and of designing "damage limitation" responses and counterproposals.

The DIA could be very broad or reasonably narrow and would be determined by the following factors:

- The scale of the assessment
  One could envisage an ambitious DIA whose scale is sustainable development in all its aspects. But in many cases, this would be infeasible and unnecessary. Or it could deal with a specific development objective like one of the Millennium Development Goals or Targets. Alternatively, one could focus the DIA on a particular issue of current concern to developing countries, such as the extent to which access to knowledge, technology transfer or the achievement of food security would be, or are being, facilitated or hindered.
- The scope of the negotiation, proposal, reform or agreement
  The breadth could cover a whole agreement. This would be a huge task, especially with a complex and wide-ranging agreement like TRIPS and if a broad range of development indicators were being considered. It could, on the other hand, be more modest in its aims, such as assessing an FTA, provisions being considered for a WTO Ministerial Declaration or trade round, or a specific legal reform or rule change such as disclosure of origin, extension of copyright term or introduction of five years' pharmaceutical test data protection.
- The number of development indicators
  A small number of indicators could be used, such as ones relating to the achievement of food security, or to universal access to medicines. On the other hand, one could select a range of indicators to cover a broader development issue (or issues), such as those that may be gleaned from the United Nations Development Programme Human Development Reports. Clearly, the number of indicators selected would largely depend on whether the focus of the DIA is development in its broadest sense or a specific development-related issue, or a development objective.
- The geographical or economic breadth to be covered
  The DIA could have a global scope or it could be confined to a national economy. Alternatively, it may be limited to a specific economic activity, business sector or type of product.
- The extent of accuracy desired
  One could envisage a thorough in-depth assessment. This may in some cases be expensive and time consuming. On the other hand, "quick and dirty" DIAs may still be worthwhile.

The consultation process should be multi-stakeholder and democratic, ensuring that all groups with an interest and expertise to offer including consumers and the poor have the opportunity to design, influence, monitor and review the process. If not, there is a real danger that the DIA could lack all legitimacy and be perceived as "rubber stamping" decisions already made. Also, without such an inclusive and open process, it will be much more difficult for governments to determine where exactly the national interest lies in respect to IP policymaking and negotiating.

Notes

1. According to Sell (2003), TRIPS is a case of twelve US corporations making public law for the world. This only makes sense if one takes it to mean that the active engagement of these firms was a necessary condition for there being a TRIPS Agreement, but not a sufficient one. Influential as they undoubtedly were, these corporations did not actually sit down and write the TRIPS Agreement themselves. Not only did divisions emerge

between Europe and the United States that required compromises, but developing countries were much more involved in the drafting than Sell and others give them credit for. As Watal (2001) explains, they achieved favourable language in ten of the 73 articles, albeit with the necessary support of a few developed countries.

2. For example at the 13th Fordham University conference on International Intellectual Property Law and Policy, New York, 31 March 2005.
3. Indeed, a strong case could be made for the claim that TRIPS was meant to harm developing countries. One of the ways that businesses persuaded the US government to take a proactive stance on IP in the GATT was to produce statistics showing how far developing country pirates and counterfeiters were free-riding on US innovation. Accordingly, and if correct, gains for US business from eliminating such free-riding would be equivalent to the losses for developing country businesses, consumers and economies that, thanks to TRIPS, would now have to pay for what previously they had acquired for free or very cheaply. There again, the piracy statistics presented by industry to the US government were not credible anyway.
4. According to the World Bank, "if TRIPS were fully implemented, rent transfers to major technology-creating countries – particularly the United States, Germany, and France – in the form of pharmaceutical patents, computer chip designs, and other intellectual property, would amount to more than $20 billion" (World Bank 2001). Stated baldly, and if the assumptions on which the research is based are reliable, this means that TRIPS represents a $20 billion-plus transfer of wealth from the technology-importing nations – many of which are developing countries – to the technology exporters – few if any of which are developing countries – that may or may not be outweighed by future gains.
5. These include authors, publishers, performers, film production companies, phonogram producers, Internet service providers and broadcasters.
6. In the United States, much of the technical assistance is targeted at the enforcement of rights, which in many developing countries are mostly owned by foreigners. Some of it is provided through the US Agency for International Development and is classed as overseas aid.
7. The 1988 Omnibus Trade and Competitiveness Act in its Special 301 provision requires the United States Trade Representative office annually to "identify those foreign countries that deny adequate and effective protection of intellectual property rights, or deny fair and equitable market access to United States persons that rely upon intellectual property protection".
8. Letter from Robert Zoellick to David Walker, Comptroller of the United States, 3 December 2003, available from http://www.ustr.gov/releases/2003/12/2003-12-03-letter-gao.pdf.
9. For a more detailed explanation of the data protection-related problems with US-DR-CAFTA, see Abbott (2004).
10. "If an economic system is Pareto efficient, then it is the case that no individual can be made better off without another being made worse off. It is commonly accepted that outcomes that are not Pareto efficient are to be avoided, and therefore Pareto efficiency is an important criterion for evaluating economic systems and political policies." Wikipedia, "Pareto Efficiency", available from http://en.wikipedia.org/wiki/Pareto_efficiency, accessed 9 November 2006.
11. "Using Kaldor-Hicks efficiency, a more efficient outcome can leave some people worse off. Thus, an outcome is more efficient if those that are made better off could in theory compensate those that are made worse off". Wikipedia, "Kaldor-Hicks Efficiency", available from http://en.wikipedia.org/wiki/Kaldor-Hicks_efficiency, accessed 9 November 2006.

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