

Working Paper

**DOES TRIPS ART. 66.2 ENCOURAGE TECHNOLOGY
TRANSFER TO THE LDCs?:**

**AN ANALYSIS OF COUNTRY SUBMISSIONS
TO THE TRIPS COUNCIL (1999-2007)**

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Executive Summary

TRIPS Article 66.2 requires that developed country WTO Members provide incentives to promote and encourage technology transfer to the least-developed country (LDC) Members. This provision is understood as part of the bargain in which developing countries have agreed to provide intellectual property protection, which tends to favor the industrialized nations. However, the empirical question of whether developed country members have actually increased their incentives for technology transfer has received relatively little attention. This paper addresses just one facet of this broad question by analyzing the universe of available developed country self-reports (1999-2007) to the TRIPS Council regarding this obligation.

The study finds evidence that implementation of 66.2 has fallen short in a number of areas. First, lack of definitional clarity regarding the terms 'technology transfer' and 'developed country' make it unclear just exactly *which* Members are obligated to provide incentives, and for *what*. Second, many high-income and/or OECD countries have never submitted a report to the Council, and among countries that did, submissions have largely been irregular. Furthermore, of the 292 programs and policies reported, only 31% specifically target LDC WTO Members. In addition, about one-third of programs that do target LDCs do not actually promote technology transfer. Thus, out of the 292 programs, only 22% involve technology transfer to LDC WTO Members. The country reports do describe a range of seemingly worthy programs. However, the reports do not provide sufficient evidence to determine whether these initiatives represent *additional* incentives beyond business-as-usual. Thus, it is not clear whether Article 66.2 has led to any increase in incentives for technology transfer to LDC Members.

Much of the data provided in the reports lack important details, and are difficult to compare. In order to improve monitoring of compliance with Article 66.2 obligations, changes to the reporting system will be necessary. This study's findings suggest that:

First, all Members should clarify key definitional ambiguities regarding which countries are obligated by Article 66.2 and what does and does not qualify as technology transfer. Members should also agree on a common, comparable metric for measuring the extent to which incentives have their intended effect.

Second, developed country Members should provide clear, detailed data on both incentives provided and outcomes obtained, using a uniform reporting format that will be comparable across countries and time periods. Developed countries should also indicate whether and how reported incentives are additional to business-as-usual practices.

Third, LDC Members should assess and report on the extent to which effective technology transfer is contributing to building a sound and viable technological base at home, identifying gaps where access to technology remains difficult. In addition, they should submit regular reports detailing successful and unsuccessful developed country incentives, with the aim of building a set of recommended practices from the perspective of technology transferees.

The TRIPS Council has the mandate to review the reporting mechanism that was elaborated in 2003. Establishing a more effective monitoring system may contribute to more accurate assessments of the effects of the TRIPS Agreement. In turn, this information may help policymakers to manage better the relationship between intellectual property protection and development, and inform future trade negotiations.

Section I: Introduction

The inclusion of intellectual property (IP) within the Uruguay Round has been one of the most contentious issues in international trade. Historically, many countries had adopted national IP policies to meet domestic needs, with less industrialized countries usually offering weaker levels of IP protection (Jaffe & Lerner, 2004). Many countries, even relatively wealthy ones, also excluded food and medicine from patentability because of the negative effects of monopoly pricing of these products on social welfare; for example, Spain, Norway and Greece did not grant product patents on medicines until 1992 (Lanjouw, 2004). However, the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) requires all World Trade Organization (WTO) Members to provide a minimum level of IP protection, including for example, 20-year patent terms for all inventions.

The TRIPS Agreement favors the industrialized countries, home to the vast majority of patent-owners. The US-based pharmaceutical and entertainment industries, which had been lobbying the US government to demand stronger IP protection in trading partners since the 1970s, won a major success with the adoption of TRIPS in 1994 (Draho & Braithwaite, 2002). Many civil society groups have remained highly critical of the agreement, characterizing it as a wholesale rent transfer from poor to rich countries. Of particular concern has been the expected increase in the price of new medicines in developing countries (Chaudhuri et al. 2003). Arguably, the controversy over TRIPS has contributed significantly to the erosion of the WTO's legitimacy as a global institution.

Why did developing countries accept the deal? One reason may be that negotiators traded IP protection for improved access to wealthy markets for exports of agricultural goods, textiles, and other products in which the developing world had a comparative advantage (Draho & Braithwaite, 2002). There were also 'safeguards' built into the agreement, such as government rights to override patents for the public interest (compulsory licensing) (Correa, 2000). Finally, perhaps with the understanding that least-developed countries (LDCs) had potentially the most to lose from TRIPS, one clause of the treaty created a legal obligation for "developed country Members" to encourage technology transfer to the LDCs. TRIPS Article 66.2 states:

"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."

Section II of this paper analyzes the clause in further detail, but it is worth noting here that Article 66.2 reflects a positive legal obligation rather than merely a suggestion (Correa, 2005, p253). The WTO Doha Decision on Implementation-Related Issues and Concerns (WT/MIN(01)/17, para 11.2) also reaffirms the mandatory nature of the obligation. Furthermore, the obligation may be understood to include not only the provision of incentives, but also the effective functioning of such incentives. (see Correa 2005 as cited in UNCTAD-ICTSD 2005, p734).

The public debate over TRIPS reached a turning point at the 2001 Ministerial meeting in Doha, at which the WTO Declaration on the TRIPS Agreement and Public Health was issued; the declaration re-affirmed countries' rights to use compulsory licenses, granted LDCs an extension until 2016 to implement or enforce pharmaceutical patents, and reiterated the obligations of developed countries to encourage technology transfer:

“We reaffirm the commitment of developed-country Members to provide incentives to their enterprises and institutions to promote and encourage technology transfer to least-developed country Members pursuant to Article 66.2.” (WTO 2001b).

Indeed, it is widely accepted, and the WTO website notes, that “developing countries, in particular, see technology transfer as part of the bargain in which they have agreed to protect intellectual property rights” (WTO 2007). The importance of this commitment was underscored, again, with the creation in 2003 of the WTO Working Group on Trade and Transfer of Technology

Was the bargain worth it? Literature is scarce on this subject. Most of the literature on technology transfer between industrialized and developing countries focuses on why it occurs, the modes through which transfer happens, and how it can be improved, rather than on the extent to which governments have met their TRIPS obligations to encourage it (see, for example, Maskus, 2000; Branstetter et al., 2004; Maskus et al., 2004; Hoekman et al., 2005; Barton, 2007). The issue of whether or not technology transfer to LDCs has actually increased as a result of the TRIPS-mandated incentives is a broad question requiring lengthy empirical study. This paper addresses just one facet of this question: based on country self-reports to the TRIPS Council from 1999-2007, has the Article 66.2 obligation caused developed countries to increase incentives to promote and encourage technology transfer to LDC Members?

Thus, the paper does not purport to analyze the volume or nature of the technology that has actually been transferred from developed to LDC Members, but rather, it analyzes the actions taken by developed countries to encourage such transfer, based on their own reporting. Furthermore, the paper does not ask whether developed countries encourage technology transfer *at all*, but rather, whether Article 66.2 has led to an *increase* over business-as-usual to LDC Members *in particular*. I assume that developed country Members have little incentive to minimize reporting of measures they have taken to encourage technology transfer, and therefore interpret their official submissions as the maximum level of technology transfer incentives. Furthermore, I focus on public policies or programs that developed country governments undertake to encourage technology transfer, rather than on market-based technology transfer that largely occurs through private channels. This distinction is important for two reasons: first, measuring private technology transfer will be very difficult in the absence of a unified reporting mechanism; second, and perhaps more importantly, the legal obligation in Article 66.2 is on governments, rather than on private firms, to provide incentives that encourage technology transfer.

A clearer understanding of developed country Members' compliance with this obligation may be useful for several reasons. First, it may provide a better understanding of the positive and negative effects of the TRIPS Agreement in developing countries, particularly the LDCs. Second, it may affect how LDCs approach the implementation of IP. Third, it may contribute to the negotiation of stronger technology transfer obligations in the future. Finally, it may help to clarify the credibility of similar *quid pro quo* offers – that is, IP protection in exchange for technology transfer – in future trade negotiations. The final section of the paper offers recommendations for improving the country reporting mechanism in order to make monitoring more effective.

Section II: Methodology

First, without many micro-level studies, it is very difficult to measure directly whether and how the Article 66.2 obligation has influenced national policy decisions. Therefore, I focus

on examining the types of evidence one might expect to see *if* the obligation *did have* any impact. For example, if developed countries *were* fully complying with the obligation, one might reasonably expect to see:

- Regular developed country reporting of activities.
- Participation of all developed countries.
- Incentives targeting LDCs, and LDC WTO Members in particular.
- Explicit mention of Article 66.2 as a rationale for new policies.
- Incentives regarding technologies.
- Incentives for the *transfer* of technology.

(These last two points may seem repetitive, but some reported activities were either not technical, or exhibited no signs of transfer. Further details below.)

Definitions:

First, a few words on definitions are in order. The WTO clearly defines LDCs as those countries specified as such by the United Nations. Currently there are 50 LDCs – 32 are WTO Members, 10 are in the accession process, 1 is an observer, and 7 are not WTO Members. However, the WTO has no clear definition of ‘developed’ or ‘developing’ country, although the term ‘developed’ country was used in TRIPS to create this legal obligation. This definitional vagueness provides a first indication of the seriousness of the commitment: if there is no clarity regarding which particular Members are actually obligated to encourage technology transfer under Article 66.2, it is even less likely to occur in a meaningful manner. For the purposes of this paper, I use two possible definitions for ‘developed’ country: members of the Organization for Economic Cooperation and Development (OECD) and World Bank-classified high-income countries (annual GNI per capita [Atlas method] greater than \$11,116). For the OECD countries, I include all members, while recognizing that some may consider middle-income members such as Mexico and Turkey to still be developing rather than developed.

Second, there is no universally agreed definition of what comprises technology transfer, nor does TRIPS provide one. Of the 22 countries¹ that submitted at least one report, only 5 (23%) provided a definition of the term. For the sake of clarity, I rely on the United Nations definition used by New Zealand in its submissions:

“[There are] four key modes of technology transfer:

- i) physical objects or equipment,
 - ii) skills and human aspects of technology management and learning,
 - iii) designs and blueprints which constitute the document-embodied knowledge on information and technology, and
 - iv) production arrangement linkages within which technology is operated.
- (WTO/New Zealand, 2007)”

This definition is broad enough to incorporate many of the activities that developed countries reported, without losing coherence. One of the key dangers of the lack of definitional clarity is that any activity can be stretched to qualify as technology transfer – that is, even if developed countries make no policy changes, they may be able to report ongoing activities as meeting Article 66.2 obligations via definitional gymnastics. For this reason it is

¹ This figure counts the European Union as a “country” since it submitted reports outlining European Community incentives.

critical to set out an explicit, albeit broad, definition and criteria against which I measure the reported activities.

Data:

This study reviewed the universe of submissions made to the Council for TRIPS regarding developed countries' technology transfer activities. In theory, developed countries could have begun submitting such reports in 1995 when the treaty – and therefore the Article 66.2 obligation – first went into force. However, in practice, it was only after the 1998 TRIPS Council meeting, when Haiti requested further information from other WTO Members regarding Article 66.2 implementation, that a trickle of reports began to appear. It was only after the 2001 Ministerial conference in Doha mandated that the TRIPS Council put in place a monitoring mechanism for Article 66.2 that Members began to submit regular reports (WTO 2001a). The TRIPS Council subsequently decided in February 2003 (IP/C/28) that developed Members must submit full reports on activities undertaken to meet these obligations every three years, beginning at the end of 2003, with annual updates in intervening years. In summary, the first data are from 1999, and there is a significant increase in both volume and level of detail from 2003 onward.

Strengths of the data include that all reports (56 reports covering 21 Members and the European Communities, 830 pages of documents in all) were publicly available, so that it was possible to review the universe of reports submitted. Also, because the data rely on self-reporting by developed Members, they are likely to state at the maximum level the extent to which they have met their obligations – that is, if there is a bias it is likely to be uniformly toward overstatement.

Shortcomings of the data include that there is no uniform reporting format between Members, nor do various Members report in a consistent format from year to year. Furthermore, Members have different definitions of technology transfer, which are only sometimes made explicit. Finally, there is wide variance in the level of detail provided regarding target countries, size of programs, length of time of programs, and other crucial pieces of information. This lack of standard formatting has made methodical coding of the data difficult (as discussed further below).

The limitations of the data and the lack of clear definitions for some of the key terms limit the analysis to being largely descriptive. Nevertheless, by compiling and methodically quantifying and comparing developed Member reports for the first time, I hope to provide some intuition regarding the extent to which Article 66.2 has led to increased incentives for technology transfer from the developed to the least developed Members.

Coding:

I extracted six key pieces of data from each country report for each policy or program included:

1. Developed country report submissions over time;
2. Funding amounts associated with any policy or program (where stated);
3. Description of the policy or program;
4. Target country, and whether it was an LDC and/or WTO member;
5. Whether the policy or program is of a technical nature.
6. Whether the policy or program involved transfer of skills, knowledge or technologies.

The heterogeneity of the data required the use of judgment regarding coding decisions. Thus, all coding data are available upon request from the author for purposes of verification.

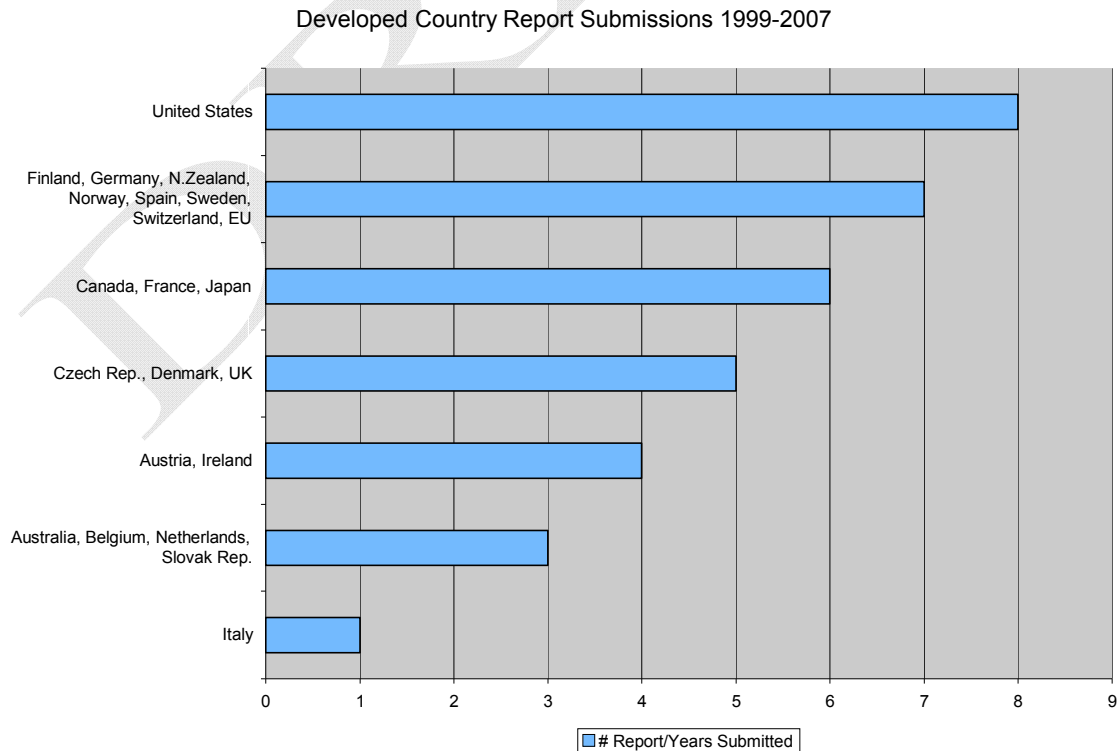
Section III: Findings

The available data allow us to address three specific questions: How broad is reporting of compliance among developed countries? How specifically targeted are the policies towards LDC Members? And do the programs encourage the transfer of technology to LDC Members? The answers to these questions may help to assess more broadly the extent to which Article 66.2 has achieved its purpose.

a. How broad is reporting of compliance among developed countries?

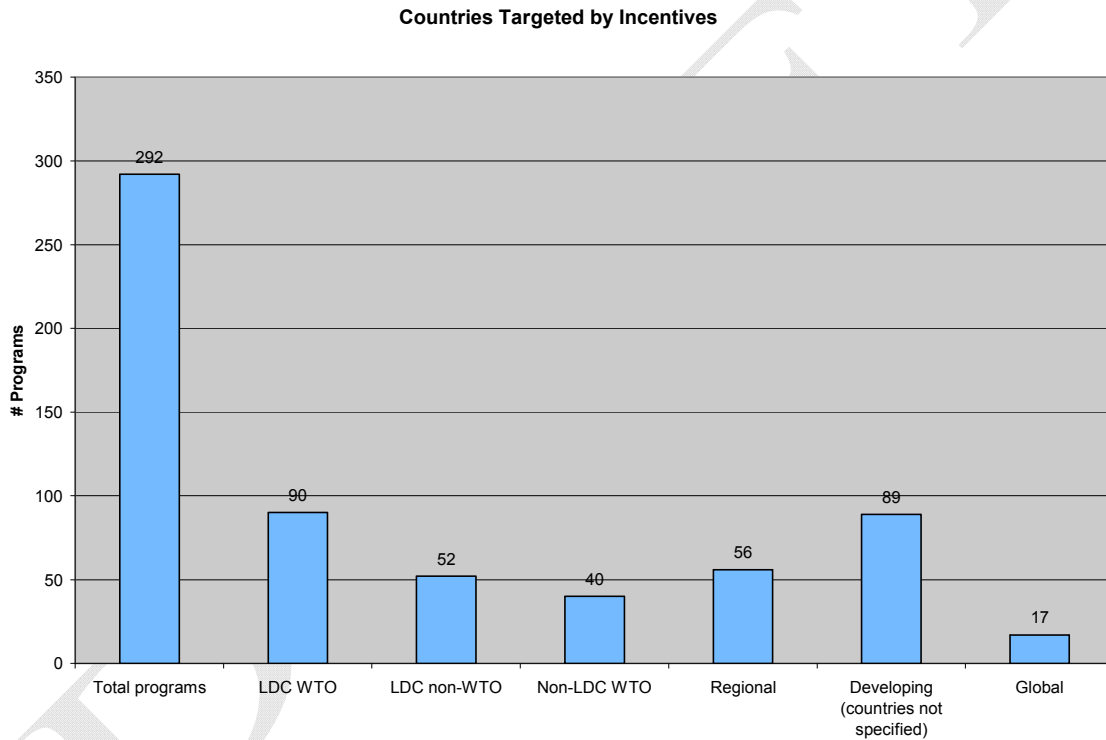
The answer depends very much on the definition of “developed.” If we take the OECD as our proxy, 21 of 30 (70%) OECD members have ever submitted a report, while 9 (30%) have not. However, the EU reports separately from many of its member states; if we accept that EU-level policies fulfill the obligations of all EU member states, then Greece, Hungary, Luxembourg, Poland, and Portugal, who never submitted any reports, are covered, and the rate of developed country participation increases to 83%. In contrast, if we use the World Bank’s high-income countries as our proxy, then only about one-third (35%) of 60 countries participated.

Among countries that ever submitted a report, out of nine years (1999-2007) in which they were explicitly asked to submit reports, one-third submitted them less than 50% of the time (four times or less). No Member submitted a report every year. While submitting a report does not necessarily provide an accurate reflection of the nature of a government’s technology transfer policies, it does provide some indication of a government’s political commitment to meeting its obligation. I assume that countries that *never* submitted a report have not adopted policies to comply with Article 66.2.



b. To what extent do policies target LDCs, and LDC WTO Members in particular?

Many of the policies and programs either poorly targeted, or did not at all target LDCs. Overall, out of 292 unique programs or policies reviewed, only 31% were targeted specifically towards LDC WTO Members; 16% were targeted toward LDC non-Members, and the remainder were targeted either to non-LDC developing countries (15%), to regions (in which LDCs may be present [particularly relevant for Africa])(17%), to developing countries as a whole (31%), or globally (all foreign countries) (6%).² Although lack of specifics in some of the reports makes it difficult to assess which LDCs were most frequently targeted, it was clear that all LDC Members were the intended beneficiaries of at least some subset of the various policies and programs.



Often, developed countries reported activities in their TRIPS Council submissions that were not targeted at LDCs. For example, in its 1999 submission, Spain reports that it provided a compiled database of Spanish-language patents to developing countries in Latin America, though none of the LDCs are Latin American countries. Other policies included LDCs among regional groupings or under the broader category of ‘developing country.’ Another example is Germany’s 2002 submission in which it described its investment program as capable of working “in any developing country where the legal framework and investment climate allows private investment. In general there are no restrictions that disadvantage the LDC countries, but neither are there any special advantages.” While LDCs may certainly

² Percentages do not add up to 100, since some policies targeted more than one category, e.g. a specific LDC as well as specific non-LDCs.

have benefited from technology transfer as a result of broader policies targeted towards all developing countries, a key aspect of Article 66.2 was to single out LDCs for preferential treatment. Therefore, when policies fail to do so, it seems unlikely that they were put in place as a result of Article 66.2 obligations.

c. Do the programs and policies encourage technology transfer to LDCs?

As discussed above, the broadness of the term ‘technology transfer’ means that it is not straightforward to determine whether a given program or policy should qualify as such. This study took a relatively broad approach to the term, and considered the following types of activities as qualifying: financing purchase of technologies, incentives for foreign direct investment, matching businesses in developed countries with those in LDCs for skills-building purposes, training (including various scholarships and other educational opportunities in technical fields), support to education systems, providing venture capital, providing insurance against the risk of doing business in LDCs for technology-related firms, building a technical training component into an aid project, and sending skilled nationals to volunteer in a technical capacity in an LDC. Despite this broad definition, many of the programs or policies either were not technical in nature or did not include a transfer component. For example, Australia reported that it provided approximately A\$100million/year for good governance programs in LDCs, but did not specify what – if any – component qualified as technological or involved transfer. Ireland forthrightly states that it does not engage in technology transfer, but argues that “in concentrating on basic needs, bilateral Irish aid enhances the ability of developing countries to avail of technology transfer opportunities provided in conjunction with other member states through our support for EU programmes in this area” (WTO/Ireland, 1999). Another example is the United Kingdom (UK), which reported that it had given grants to several drug-development initiatives for research into the ‘neglected’ diseases, arguing that these would benefit the entire developing world; while this activity would widely be considered technical, the report did not specify if the projects would result in any skills or knowledge transfer to LDCs (for example, through clinical trials). Finally, some programs that did qualify as technology transfer were not targeted at LDCs.

Of the 90 programs that specifically targeted LDC WTO Members, 64 qualified as technology transfer. If we expanded the sample to include the 116 programs targeting all LDCs (whether WTO Members or not), 84 programs qualify. Thus, if we consider the full set of 292 programs reported by developed countries, only 64 (22%) meet the criteria of targeting an LDC WTO Member with a program or policy that encourages technology transfer.

Table 1. Proportion of Reported Programs/Policies Qualifying as Technology Transfer to LDCs

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All Programs/Policies	292 (100%)
Targeting LDC WTO Members	90 (31%)
--Of which qualify as technology transfer	64 (22%)
Targeting LDCs (WTO and non-WTO)	116 (40%)
--Of which qualify as technology transfer	84 (29%)

Section IV: Discussion

The data emerging from this review of developed country reports suggests that Article 66.2 has had a rather limited impact on the creation of incentives for technology transfer to LDCs. While the country reports reflect a significant amount of activity, much of it falls under the umbrella of traditional Official Development Assistance (ODA). Thus, a key issue is the question of *additionality* – did TRIPS lead to the creation of new incentives, over and above business-as-usual? Or would developed country aid programs and trade policies towards LDCs look the same, regardless of the TRIPS obligations? In other words, was the tradeoff for LDCs necessary?

The level of generality of the data make it impossible to trace the extent to which Article 66.2 may have influenced the decision to create a particular policy or program, since many other factors are likely involved. Only in one case out of nearly 300 did a country (Sweden) explicitly claim that there was a direct relationship between Article 66.2 and a particular program. Therefore, developed countries were given the benefit of the doubt, and the study applied a relatively broad definition of technology transfer. Even so, only 22% of the programs or policies qualified as encouraging technology transfer to LDC WTO Members. Further research is necessary to discern the extent to which 66.2 may have led to new initiatives in technology transfer; however, this initial assessment of the evidence is not promising.

The analysis also uncovered a number of limitations of the data. First, there is no consistent quantitative measure for the incentives. Devising such a metric would allow countries to assess whether technology transfer had increased since TRIPS went into force and/or over time. The reports provided associated funding figures for only 50% of the programs/policies; furthermore, these figures often lumped together budget amounts for entire aid programs – in most cases, they did not provide the specific amounts attributable to LDCs or to technology transfer activities. For example, in its 2005 submission the European Union reported that 3.9 billion EUR was made available for private sector investment through the European Investment Bank; while this is an impressive amount, the report provides no indication of what proportion might be attributable to technology-related projects for LDCs. Thus, while the study extracted funding amounts from the country reports, it was not possible to calculate a meaningful aggregate sum.

Second, some of the programs explicitly include a technology transfer component, such as providing training to research scientists. However, a number of programs/policies did not make clear that technology transfer would occur, but rather implied that this would naturally take place within the context of a described activity. As specified in the 2003 TRIPS Council decision, more specific information regarding *what* technology will be transferred and *how* would considerably strengthen the reporting mechanism.

Finally, the proportion of reported activities that genuinely fulfill the Article 66.2 obligations is likely to shrink if the study were to apply a stricter definition of technology transfer. For example, this analysis included most activities that might improve a country's capacity to absorb new technologies, including, for example, support for primary education. Arguably, primary education is too far removed from the processes of technology transfer to qualify as meeting Article 66.2 obligations. In addition, the study accepted the assertion of many countries that IP training programs and technical assistance qualified as contributing to technology transfer; however, a number of concerns have been raised that IP technical assistance has hampered rather than enhanced technology transfer by imposing stricter levels of protection than necessary (UNCTAD-ICTSD 2005, p737). Thus, it is quite possible that

another study would find lower proportions of qualifying programs and policies than does this one.

Suggestions for how to address some of the deficiencies in the data are discussed in the following section.

Section V: Recommendations

The data generated by the existing reporting mechanism has a number of flaws, making monitoring difficult. However, the country reports did improve considerably between 1999 and 2007, both in their level of detail and the extent to which they were attuned to technology transfer concerns. For example, in a changed approach from previous years, the 2007 United States submission noted, “We have sought in this year's report to confine United States reporting to activities that are specifically targeted to providing incentives for technology transfer to LDC Members....the United States recognizes that this report should be targeted as much as possible with specific respect to LDC Members, in light of the LDC focus of Article 66.2. (IP/C/W/497/Add.5, p1).” The reporting format adopted by the TRIPS Council in February 2003 did contribute to improved reporting by requiring a higher level of detail than previously accepted.³ However, this analysis indicates that further improvement is both possible and necessary if the reports are to provide an accurate and usable picture of the extent to which Members are meeting their 66.2 obligations. The 2003 decision asked the Council to review the reporting mechanism in three years; the time has long passed for an improved and effective monitoring system. With this in mind, this study makes the following suggestions:

Measures for all WTO Members:

1. Agree on which countries are considered “developed” and are therefore bound by the 66.2 obligation.
2. Agree on a common definition of technology transfer and a list of programs/policies that do and do not qualify as such.
3. Provide common, comparable metrics for measuring the extent to which the incentives have their intended effect.

Measures for Developed Country Reporting:

4. Provide clear, detailed data on both incentives provided and outcomes obtained, using a uniform reporting format that will be comparable across countries and time periods.

³ Specifically, the Decision required: “(a) 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; b) identification of the type of incentive and the government agency or other entity making it available; c) eligible enterprises and other institutions in the territory of the Member providing the incentives; and d) any information available on the functioning in practice of these incentives, such as: statistical and/or other information on the use of the incentives in question by the eligible enterprises and institutions; the type of technology that has been transferred by these enterprises and institutions and the terms on which it has been transferred; the mode of technology transfer; least-developed countries to which these enterprises and institutions have transferred technology and the extent to which the incentives are specific to least-developed countries; and any additional information available that would help assess the effects of the measures in promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base.

5. Indicate whether and how reported incentives are additional to business-as-usual practices.

Measures for Least Developed Countries:

6. Assess and report on the extent to which effective technology transfer is contributing to building a sound and viable technological base, identifying gaps where access to technology remains difficult.
7. Submit regular reports detailing successful and unsuccessful developed country incentives, with the aim of building a set of recommended practices from the perspective of technology transferees.

Section VI: Summary & Conclusions

The evidence arising from this review of country reports to the TRIPS Council does not paint a rosy picture of compliance with Article 66.2. Lack of definitional clarity regarding the terms 'technology transfer' and 'developed country' make it unclear which countries are obligated to do what. Furthermore, many high-income and/or OECD countries have never submitted a report, and among countries that did, submissions have largely been irregular. In addition, a majority of the programs and policies reported do not specifically target LDCs, let alone LDC WTO Members. Furthermore, a significant proportion of programs for LDCs do not actually promote technology transfer. The country reports do describe a range of seemingly worthy programs. However, the reports do not provide sufficient evidence to determine whether these programs represent additional incentives beyond business-as-usual foreign aid.

One of the central difficulties of this study was that the existing reporting mechanism does not provide enough data to gauge with any precision the extent to which developed country incentives are actually working to promote technology transfer. It is also extremely difficult to measure changes over time, and there is no baseline from which to compare. An improved reporting system with participation from both developed and LDC Members could lead to better assessments in the future. Accurate assessments will be important both for governments dealing with the various impacts of IP protection systems and for future trade negotiations.

No LDC has brought a complaint before the WTO Dispute Settlement Body regarding compliance with Article 66.2. Even setting aside considerations of power differentials between developed countries and LDCs, such a complaint does not seem likely at this point. Given the vagueness of the language in the article, particularly regarding the terms 'developed countries' and 'technology transfer,' it is not clear how such a complaint would be decided. However, intellectual property remains one of the most contentious policy arenas within the WTO; its legitimacy may erode further if developed countries are perceived to be falling short in their technology transfer commitments. Thus, both developed and developing WTO Members have a stake in building an improved monitoring mechanism to promote technology transfer to the least developed countries.

Works Cited

- Barton, J. (2007). "New Trends in Technology Transfer: Implications for National and International Policy." Issue Paper No.18. Geneva: International Center for Trade and Sustainable Development.
- Branstetter, L., Fisman, R., Foley, C. (2004). "Do Stronger Intellectual Property Rights Increase International Technology Transfer Empirical Evidence from U.S. Firm-Level Panel Data." *World Bank Policy Research Working Paper No. 3305*.
<http://papers.ssrn.com/sol3/papers.cfm?abstract_id=610350>
- Chaudhuri, S., Goldberg, P.K., Jia, P. (2003). "Estimating the Effects of Global Patent Protection in Pharmaceuticals: A Case Study of Quinolones in India," NBER Working Paper 10159.
- Correa, C.M. (2000). *Intellectual Property Rights, the WTO and Developing Countries: The TRIPS Agreement and Policy Options*. London: Zed Books.
- Correa, C. M. (2005). Can the TRIPS Agreement Foster Technology Transfer to Developing Countries? in K. E. Maskus and J. H. Reichman (Eds.), *International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime*, Cambridge: Cambridge University Press.
- Drahos, P., and Braithwaite, J. (2002). *Information Feudalism: Who Owns the Knowledge Economy?* London: Earthscan.
- Hoekman, B., Maskus, K., Saggi, K. (2005) "Transfer of Technology to Developing Countries: Unilateral and Multilateral Policy Options." *World Development*. 33(10): 1587-1602.
- Jaffe, Adam B. and Lerner, Josh. (2004). *Innovation and Its Discontents: How Our Broken Patent System is Endangering Innovation and Progress, and What to Do About It*. Princeton, NJ: Princeton University Press.
- Lanjouw, J. and Jack, W. (2004). "Trading Up: How Much Should Poor Countries Pay to Support Pharmaceutical Innovation?" CGD Brief, Vol. 4, Issue 3. Available at: <http://are.berkeley.edu/~lanjouw/Ramseybrief.pdf>.
- Maskus, K. (2000). *Intellectual Property Rights in the Global Economy*. Washington: Institute for International Economics.
- Maskus, K., Saggi, K., Puttitanun, T. (2004). "Patent Rights and International Technology Transfer through Direct Investment and Licensing." Paper prepared for the conference, "International Public Goods and the Transfer of Technology after TRIPS," Duke University Law School, April 4-6, 2003. Available at: <<http://spot.colorado.edu/~maskus/research.html>>
- Patel, S., Roffe, P., Yusuf, A. (eds) (2001). *International Technology Transfer: The*

- Origins and Aftermath of the United Nations Negotiations on a Draft Code of Conduct. London: Kluwer Law International.
- United Nations Conference on Trade and Development (UNCTAD)-International Centre for Trade and Sustainable Development (ICTSD). *Resource Book on TRIPS and Development*. Cambridge: Cambridge University Press, 2005.
- WTO. (2001a). Implementation-related issues and concerns, Decision of 14 November 2001. WT/MIN(01)/17. 20 November 2001 <avail at: http://www.wto.int/english/thewto_e/minist_e/min01_e/mindecl_implementation_e.htm#top>
- WTO. (2001b). Declaration of the TRIPS Agreement and Public Health. Adopted on 14 November 2001. WT/MIN(01)/DEC/2 20 November 2001.
- World Trade Organization (WTO). (2007). "TRIPS Issues: Technology Transfer." <http://www.wto.org/english/tratop_e/trips_e/techtransfer_e.htm, accessed 23 December 2007>
- All submissions to the TRIPS Council are available at:
<http://www.wto.org/english/tratop_e/trips_e/intel6_e.htm, accessed 24-27 December 2007>