

Does TRIPS Art. 66.2 Encourage Technology Transfer to LDCs?

An Analysis of Country Submissions to the TRIPS Council (1999–2007)

UNCTAD – ICTSD Project on IPRs and Sustainable Development

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Introduction

The issue of whether or not technology transfer to least developed country (LDC) members of the World Trade Organization (WTO) has actually increased as a result of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)-mandated incentives is a broad question requiring lengthy empirical study. This policy brief 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 led developed countries to increase incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to LDC members?

The present policy brief does not analyse the volume or nature of the technology that has actually been transferred, but rather examines the actions taken by developed countries to encourage such transfer. Furthermore, the brief 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. There may be some debate over whether TRIPS requires developed country members to provide additional incentives over business as usual, or whether any incentives will suffice to meet the obligations. From a purely legal perspective, interpretations of the article are likely to vary. However, from a development-oriented perspective, it is critical to discern whether LDCs have indeed benefited from increased technology transfer in exchange for their obligation to protect intellectual property (IP).

The study focuses on public policies or programmes that developed countries undertake to encourage their enterprises or institutions to engage in technology transfer, rather than on market-based technology transfer that largely occurs through private channels. This distinction is important for three reasons: (a) measuring private technology transfer will be very difficult in the absence of a unified reporting mechanism; (b) market-based flows from the most advanced economies to the least developed are likely to be minimal in the absence of policies that offer additional incentives;¹ and (c) perhaps most importantly, the legal obligation in article 66.2 is on Governments rather than on private firms.

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 effects of the TRIPS Agreement in developing countries, particularly in the LDCs. Second, it may affect how LDCs approach



the implementation of IP protection. 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, technology transfer in exchange for other concessions - in other treaty negotiations. The final section of the brief offers recommendations for making monitoring of article 66.2 compliance more effective.

1. Article 66.2 of the TRIPS Agreement

One of the WTO's TRIPS Agreement objectives is that "the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology."² 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."³ Perhaps with the understanding that LDCs had potentially the most to lose from TRIPS, article 66.2 created a legal obligation for developed country members to encourage technology transfer to the LDCs. The article reads:

"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."

Article 66.2 establishes a positive legal obligation - it does not merely make a suggestion.⁴ The 2001 WTO Doha Decision on Implementation-Related Issues and Concerns⁵ reaffirms the mandatory nature of the obligation, as does the 2001 Declaration on the TRIPS Agreement and Public Health.⁶ Member Governments are not obligated to carry out technology transfer themselves, but rather, are to provide incentives to their "enterprises and institutions" to encourage technology flows to LDC members. The obligation may be understood to include not only the provision, but also the effective functioning of such incentives.⁷ The importance of this commitment was underscored again in 2003 with the creation of the WTO Working Group on Trade and Transfer of Technology, and the TRIPS Council decision requiring developed countries to submit detailed annual reports on their article 66.2 activities.

Has the bargain been met? Literature is scarce on this subject. One recent analysis by Correa examined the 2006 country reports to the TRIPS Council, and concluded that developed countries have generally failed to meet

their 66.2 obligations.⁸ However, most of the literature on technology transfer between industrialized and developing countries does not focus on the extent to which Governments have met their legal obligations to encourage it, but rather on why it does or does not occur, how it happens, and how to improve it.⁹

Methodology

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, this policy brief focuses 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 in good faith, 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;¹⁰
- Incentives regarding technologies; and
- Incentives for the transfer of technology;¹¹

Definitions

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.¹² However, WTO has no clear definition of "developed" or "developing" country, although the term "developed" country was used in TRIPS to create this legal obligation. The lack of clarity regarding which particular members are actually obligated to encourage technology transfer under article 66.2 may impact the effective implementation of the provision. This study uses two possible definitions for "developed" country: members of the Organization for Economic Cooperation and Development (OECD) and World Bank-classified high-income countries (annual gross national income (GNI) per capita (Atlas method) greater than \$11,116). For the OECD countries, it includes 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 standard definition of what comprises technology transfer, nor does TRIPS provide one. Of the 22 countries¹³ that submitted at least one report, only five

(23 per cent) provided a definition of the term. For the sake of clarity, this brief relies on the relatively broad definition used in the TRIPS Council submissions of New Zealand, which states:

Technology transfer is interpreted in this report broadly to include training, education and know-how, along with any capital component. Using the United Nations definition, New Zealand sees 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.¹⁴

This definition is broad enough to incorporate many of the activities that developed countries reported, without losing coherence. One of the key risks 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 critical to set out an explicit, albeit broad, definition and criteria against which this study measures the reported activities.

Data

This study reviewed all submissions made to the TRIPS Council regarding developed countries' technology transfer activities from 1999 to 2007.¹⁵ In theory, developed countries could have begun submitting such reports in 1995, when the agreement - 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. Members began to submit regular reports after the 2001 Doha Ministerial Conference mandated that the TRIPS Council put in place a monitoring mechanism for article 66.2.¹⁶ The TRIPS Council subsequently decided in February 2003 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.¹⁷ 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 from 1999 to 2007 (56 reports covering 21 members and the European

Communities, 830 pages of documents in all) were publicly available, so 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 individual 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 programmes, length of time of programmes, and other crucial elements 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 confine the analysis to being largely descriptive. Nevertheless, by compiling and methodically quantifying and comparing developed member reports for the first time, the study aims 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

Five key pieces of data from each country report were coded:¹⁸

- Country report submissions from 1999-2007;
- Funding amounts associated with any policy or program (where stated);
- Target country, and whether it was an LDC and/or WTO member;
- Whether the policy or programme is of a technical nature.
- Whether the policy or programme involved transfer (of skills, knowledge or technologies).

2. Findings

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

Figure 1: Developed Country Report Submissions (1999–2007)

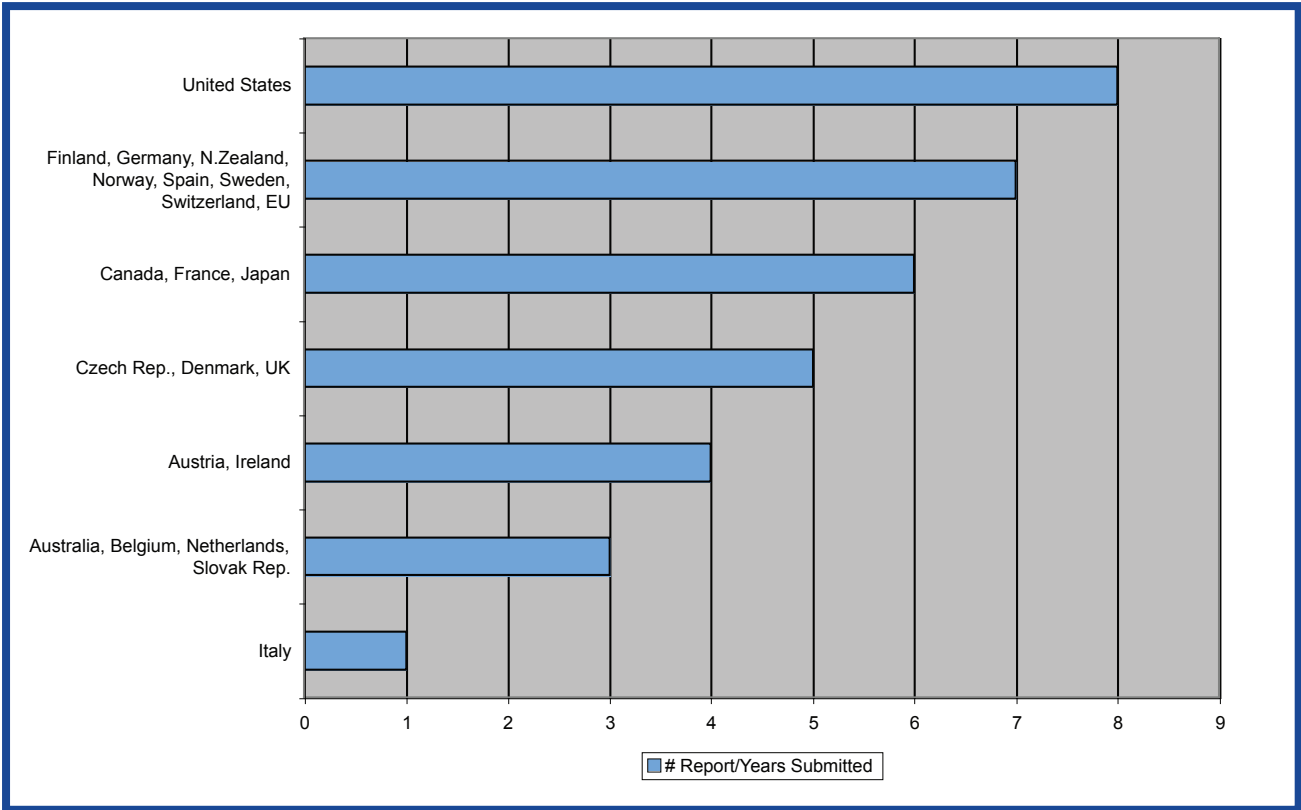
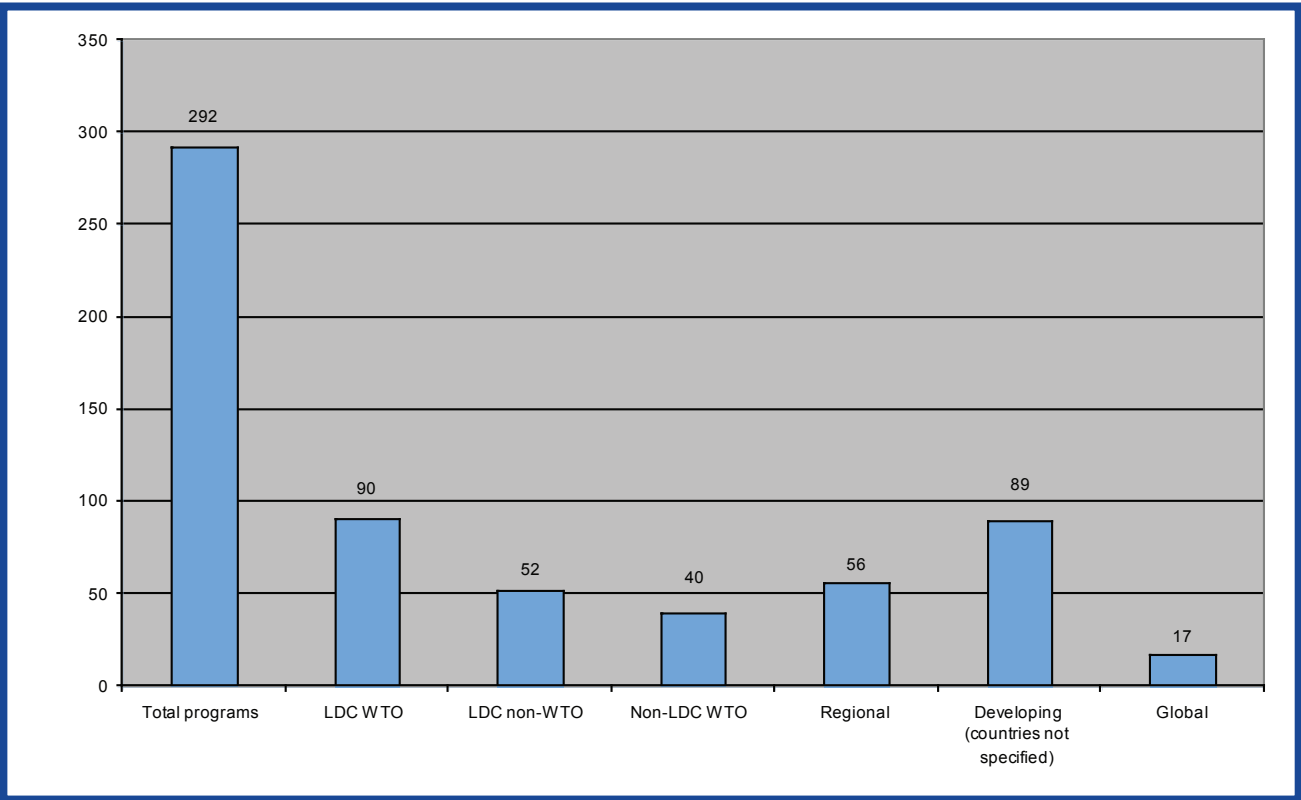


Figure 2: Countries Targeted by Incentives



How broad and regular is reporting among developed countries?

The answer depends very much on how one chooses to define “developed country”. If one takes the OECD as proxy, 21 of 30 (70 per cent) of OECD members have submitted a report at least once, while nine (30 per cent) have not. However, the EU reports separately from many of its member States; if one accepts that EU-level policies fulfill the obligations of all EU member States, then Greece, Hungary, Luxembourg, Poland and Portugal, which never submitted reports, are covered, and the rate of developed country participation increases to 83 per cent. In contrast, if one uses the World Bank’s high-income countries as proxy, then only about one third (35 per cent) of 60 countries participated.

Among countries that submitted a report at least once, out of nine years (1999-2007) in which they were explicitly asked to submit reports, one third submitted them less than 50 per cent 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 commitment to meeting its obligation. This policy brief assumes that countries that never submitted a report have not adopted policies to comply with article 66.2.

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

Many of the policies and programmes either poorly targeted, or did not at all target LDCs. Overall, out of 292 unique programmes or policies reviewed, only 31 per cent were targeted specifically towards LDC WTO members; 16 per cent were targeted toward LDC non-members, and the remainder were targeted either to non-LDC developing countries (15 per cent), to regions in which LDCs may or may not be present (17 per cent), to developing countries as a whole (31 per cent), or globally (all foreign countries) (6 per cent).¹⁹ 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 programmes.

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.²⁰ 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 programme 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.”²¹ While LDCs may certainly 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. Presumably, one reason for this preferential status was that LDCs would be less likely to receive technology transfer through regular market channels if they competed directly with middle-income countries. Therefore, when policies fail to target LDCs specifically, it seems unlikely that they were put in place as a result of article 66.2 obligations.

Do the programmes 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 programme or policy should qualify as such. The level of generality of the data makes it impossible to trace the extent to which article 66.2 may have influenced the decision to create a particular policy or programme, since many other factors are likely involved. Only in one case did a country (Sweden) explicitly claim that there was a direct relationship between article 66.2 and a particular programme.²² Therefore, developed countries were given the benefit of the doubt, and the study applied a relatively broad definition of “technology transfer”. It 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 programmes or policies either were not technical in nature or did not include a transfer component. For example, Australia reported that in 2006-2007 it provided approximately \$300 million for governance assistance programmes in LDCs, but did not specify what - if any - component qualified

as technological or involved transfer.²³ Ireland stated directly that it is not involved in technology transfer, but argued 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.”²⁴ The United Kingdom 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).²⁵ Finally, some programmes that did qualify as technology transfer were not targeted at LDCs.

Of the 90 programmes that specifically targeted LDC WTO members, 64 qualified as technology transfer. If one expanded the sample to include the 116 programmes targeting all LDCs (whether WTO members or not), 84 programmes qualify. Thus, if one considers the full set of 292 programmes reported by developed countries, only 64 (22 per cent) meet the criteria of targeting an LDC WTO member with a programme or policy that encourages technology transfer.

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

| | N |
|---|------------|
| All Programmes/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%) |

Developed countries seem to be over-reporting the measures they have taken to meet article 66.2 obligations. At the same time, the level of information provided is too general to enable reliable conclusions regarding the magnitude, growth, or effectiveness of the incentives put in place.

3. 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 developed country enterprises and institutions to transfer technology to LDCs. Many of the activities in the country reports fall under the umbrella of traditional official development assistance. 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 programmes and trade policies towards LDCs look the same, regardless of the TRIPS obligations? In other words, did LDCs gain in technology transfer in exchange for committing to stricter levels of IP protection? Further research is necessary to develop a more detailed picture of the extent to which article 66.2 may have led to new initiatives in technology transfer. However, this initial assessment of the evidence is not promising.

A number of limitations in the data constrained the analysis. 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 funding figures for only 50 per cent of the programmes or policies; furthermore, these figures often lumped together budget amounts for entire aid programmes - 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 EU reported that 3.9 billion euros were made available for private sector investment through the European Investment Bank.²⁶ While this amount is substantial, 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, more detail is needed regarding the functioning of the incentives. Some of the programmes explicitly include a technology transfer component, such as providing training to research scientists. However, a number of reported activities did not make clear how a given incentive or programme would lead to technology transfer, but rather implied that this would naturally take place. As noted 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 programmes 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.²⁷ In his 2007 analysis, Correa used a stricter definition of technology transfer than the one employed here, arguing “there must be a credible relationship between the incentive and the outcome.” Using a more rigorous definition of technology transfer would yield even lower proportions of qualifying programmes and policies.

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

4. Recommendations

The data generated by the existing reporting mechanism has a number of flaws, making monitoring difficult. However, 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 provided.²⁸ 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... in light of the LDC focus of article 66.2”.²⁹ 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 article 66.2 obligations.

The 2003 decision requested the TRIPS Council to review the reporting mechanism in three years; the time has long passed for an improved and effective monitoring system. Such a system, at a minimum, would require WTO members to:

1. Agree on a common definition of technology transfer and a list of programmes/policies that do and do not qualify as such;
2. Agree on common, comparable metrics for measuring the extent to which the incentives have their intended effect;
3. Use a uniform reporting format that will be comparable across countries and time periods; and
4. Indicate whether and how reported incentives are additional to business as usual practices;

The system could be further strengthened with active participation from the LDCs, in particular to:

5. 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; and
6. 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.

Achieving these objectives will not necessarily be easy or straightforward. After all, debates on this topic have been ongoing since the 1960s; the most prominent effort - the negotiations over a draft International Code of Conduct on the Transfer of Technology in the 1970s and 1980s - never came to fruition, as countries could not resolve major issues.³⁰ Furthermore, it may be counterproductive to put additional tasks on already under-resourced LDC missions to WTO. In light of the challenges involved, it may be more feasible to narrow the scope of work at first, for example, by focusing on one or two fields that are of particular interest to the LDCs, such as agriculture- or health-related technologies.

Furthermore, other concerned members of the international community, such as international organizations, non-governmental organizations (NGOs), and/or academics could contribute by:

7. Developing a “toolkit” for assessing best practices in both the reporting and functioning of incentives.³¹ Such a toolkit is likely to require detailed case studies of successes and failures, with input from LDC governments and private sector demandeurs of technology;³²
8. Drawing lessons from the experience of monitoring technology transfer clauses in other treaties, such as in international environmental agreements; and
9. Monitoring the annual submission of reports (watchdog function).

Nevertheless, while many aspects of the monitoring system could be improved with technical support, assessment of compliance is likely to remain a political exercise. This is because TRIPS is relatively clear on country obligations regarding IP protection, but remarkably vague on what would comprise satisfactory compliance with article 66.2. How many incentives, and how much technology transfer is enough? From how many developed countries to how many LDCs? For how long? Who decides? The letter of the law offers scant guidance on these questions. The first step may be to develop a better system for understanding what has been happening, so that countries can have a

clear picture of the extent to which the expected benefits of TRIPS are or are not being realized.

Conclusion

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”³³ 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 programmes and policies reported do not specifically target LDCs, let alone LDC WTO members. Furthermore, a significant proportion of programmes for LDCs do not actually target technology transfer. The country reports do describe a range of programmes that certainly may benefit LDCs. However, they do not provide sufficiently detailed data to determine whether article 66.2 led to any additional incentives beyond business as usual foreign aid.

One of the central challenges 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 contributions from both developed and LDC members could lead to better assessments in the future. Finally, there is a need for a negotiated understanding of what comprises an acceptable level of compliance.

Establishing an effective mechanism will require time, attention, political capital and financial resources. In assessing these costs, one should bear in mind that many resources have already been dedicated to implementing other parts of the TRIPS Agreement, particularly those pertaining to tightening IP protection and enforcement. An equal amount of political attention should be devoted to ensuring that the agreement’s purported benefits, namely technology transfer, are realized.

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, IP remains one of the most contentious policy arenas within the WTO, and the institution’s credibility may further suffer if developed countries are perceived to be falling short in their technology transfer commitments. Both developed and LDC members could benefit from an effective monitoring system that promotes accountability, as it would recognize developed members that have taken bona fide measures to comply, focus attention on those members that have not, and provide general lessons on effective modes of technology transfer.

Finally, if the task of devising an effective monitoring system proves impossible, members should consider revising and strengthening the article text. More comprehensive technology transfer clauses have been negotiated into other treaties. For example, the United Nations Framework Convention on Climate Change (UNFCCC) stipulates that developed country parties (defined as OECD members) not only promote and facilitate, but also finance the transfer of environmental technologies to developing countries.³⁴ If technology transfer flows are not forthcoming, it is difficult to see why LDC members should implement other parts of the TRIPS Agreement that may be detrimental to their economic and social development.

system proves impossible, Members should consider revising and strengthening the article text. More comprehensive technology transfer clauses have been negotiated into other treaties. For example, the UN Framework Convention on Climate Change (UNFCCC) stipulates that developed country Parties (defined as OECD members) not only promote and facilitate, but also finance the transfer of environmental technologies to developing countries.³⁴ If technology transfer flows are not forthcoming, it is difficult to see why LDC Members should implement other parts of the TRIPS Agreement that may be detrimental to their economic and social development.

KEY CONCLUSIONS AND RECOMMENDATIONS

The study finds evidence that implementation of TRIPS Article 66.2 has fallen short in a number of areas:

- 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.
- Many developed countries have never submitted a report to the TRIPS Council, and among countries that did, submissions have largely been irregular.
- Of the 292 programmes and policies reported, only 31% specifically target LDC WTO Members. In addition, about one-third of programmes that do target LDCs do not actually promote technology transfer. Thus, out of the 292 programmes, only 22% involve technology transfer specifically targeted to LDC WTO Members.
- The reports do not provide sufficient evidence to determine whether these initiatives represent additional incentives beyond business-as-usual. Thus, it is unclear whether Article 66.2 has led to any increase in incentives for technology transfer to LDC Members.

In order to improve monitoring of compliance with Article 66.2, changes to the reporting system will be necessary. This study’s findings suggest that Members should:

1. Agree on a common definition of technology transfer and a list of programmes/policies that do and do not qualify as such;
2. Agree on common, comparable metrics for measuring the extent to which the incentives have their intended effect;

3. Use a uniform reporting format that will be comparable across countries and time periods; and
4. Indicate whether and how reported incentives are additional to business-as-usual practices.

The system could be further strengthened with active participation of the LDCs, in particular to:

5. 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; and
6. 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.

Finally, other concerned members of the international community, such as international organizations, NGOs, and/or academics could contribute by:

7. Developing a “toolkit” for assessing best practices in both the reporting and functioning of incentives. Such a toolkit is likely to require detailed case studies of successes and failures, with input from LDC governments and private sector demanders of technology;
8. Drawing lessons from the experience of monitoring technology transfer clauses in other treaties, such as in international environmental agreements; and
9. Monitoring the annual submission of reports (watchdog function).

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Endnotes

- 1 Dominique Foray. *Technology Transfer in the TRIPS Age: The need for new types of partnerships between the least developed and most advanced economies*. Geneva: International Centre for Trade and Sustainable Development (forthcoming).
- 2 WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), 1994, Art 7; emphasis added.
- 3 See http://www.wto.org/english/tratop_e/trips_e/techtransfer_e.htm. Other WTO agreements, including the Agreement on the Application of Sanitary and Phytosanitary Measures, and the Agreement on Technical Barriers to Trade, also contain technology transfer clauses. However, the focus

here is on TRIPS because this treaty arguably has the greatest potential impact on technology transfer flows.

- 4 Carlos Correa, 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*, 2005, p253.
- 5 World Trade Organization. Implementation-related issues and concerns, Decision of 14 November 2001. WT/MIN(01)/17. 20 November 2001, para 11.2 Available at <http://www.wto.int/english/thewto_e/minist_e/min01_e/mindecl_implementation_e.htm#top>
- 6 World Trade Organization. Declaration of the TRIPS Agreement and Public Health. 14 November 2001. WT/MIN(01)/DEC/2. 20 November 2001.

- 7 Correa, 2005, as cited in UNCTAD-ICTSD. *Resource Book on TRIPS and Development*. Cambridge University Press. 2005, p734.
- 8 Carlos Correa, Intellectual Property in the LDCs: Strategies for Enhancing Technology Transfer and Dissemination. Background Paper No.4: *UNCTAD: The Least Developed Countries Report*, 2007.
- 9 See, for instance, Keith Maskus. *Intellectual Property Rights in the Global Economy*. Washington: Institute for International Economics, 2000; Keith Maskus, Kamal Saggi & Thitima Puttitanun, "Patent Rights and International Technology Transfer through Direct Investment and Licensing.", 2004. 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>; Lee Branstetter, Raymond Fisman & C. Fritz Foley .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*. (2004) http://papers.ssrn.com/sol3/papers.cfm?abstract_id=610350; Bernard Hoekman, Keith Maskus & Kamal Saggi. „Transfer of Technology to Developing Countries: Unilateral and Multilateral Policy Options.” (2005), *World Development*. 33(10): 1587-1602. John Barton. *New Trends in Technology Transfer: Implications for National and International Policy*. Issue Paper No.18. Geneva: International Center for Trade and Sustainable Development, 2007; Foray (forthcoming) .
- 10 While explicit mention of Article 66.2 is not necessary to indicate a developed country’s compliance with its obligations, it is a small piece of evidence that there is some linkage between the TRIPS obligation and the country’s policies, and therefore merits some attention.
- 11 These last two points may seem repetitive, but some reported activities were either not technical, or exhibited no signs of transfer.
- 12 See WTO website, http://www.wto.org/english/thewto_e/whatis_e/tif_e/org7_e.htm
- 13 This figure counts the European Union as a “country” since it submitted reports outlining European Community incentives; that is, the 22 “countries” are comprised of 21 separate country reports and one European Community report.
- 14 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - New Zealand - IP/C/W/497/Add.3. 3 December 2007, para. 3.
- 15 These reports can be found by first going to: http://www.wto.org/english/tratop_e/trips_e/techtransfer_e.htm, then conducting the automatic search for “Implementation of Article 66.2 of the TRIPS Agreement: Information from Developed Country Members.”
- 16 World Trade Organization. Implementation-related issues and concerns, Decision of 14 November 2001. WT/MIN(01)/17. 20 November 2001, para 11.2. Available at <http://www.wto.int/english/thewto_e/minist_e/min01_e/mindecl_implementation_e.htm#top>
- 17 Council for Trade-Related Aspects of Intellectual Property Rights - Implementation of Article 66.2 of the TRIPS Agreement - Decision of the Council for TRIPS of 19 February 2003. IP/C/28
- 18 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.
- 19 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.
- 20 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - European Communities and Their Member States. 6 August 1999. IP/C/W/132/Add.4. p11.
- 21 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - European Communities and Their Member States. 13 February 2003. IP/C/W/388/Add.6. p40.
- 22 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - European Communities. 26 January 2004. IP/C/W/412/Add.5 p61.
- 23 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - Australia. 3 December 2007. IP/C/W/497/Add.7. p1.
- 24 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - Supplement Germany and Ireland. 20 October 1999. IP/C/W/132/Add.4/Suppl.1. p 6.
- 25 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - European Communities. 12 December 2005. IP/C/W/452/Add.6. p92-97.
- 26 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - European Communities. 14 April 2005. IP/C/W/431/Add.3/Suppl.1. p1.
- 27 UNCTAD-ICTSD. *Resource Book on TRIPS and Development*. Cambridge University Press. 2005, p737
- 28 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.”
- 29 Council for Trade Related Aspects of Intellectual Property Rights - Report on the Implementation of Article 66.2 of the TRIPS Agreement - United States. 3 December 2007. IP/C/W/497/Add.5. p1.
- 30 Surendra Patel, Pedro Roffe, & Abdulqawi Yusuf (eds). *International Technology Transfer: The Origins and Aftermath of the United Nations Negotiations on a Draft Code of Conduct*. London: Kluwer Law International, 2001.
- 31 I thank Mr. Elly Kamahungye, First Secretary, Permanent Mission of Uganda in Geneva, for this suggestions.
- 32 I thank Mr. Travis Lybbert, Assistant Professor, University of California, Davis, for this suggestion
- 33 The United Nations Framework Convention on Climate Change (UNFCCC) includes provisions that clearly define the obligations of one set of countries “Annex II” - essentially the OECD countries - to promote, facilitate and finance technology transfer to another set of countries, “non-Annex I,” essentially developing countries.
- 34 UNFCCC Article 4.5: The developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies.

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All country reports to the TRIPS Council are available at:
<http://www.wto.org/english/tratop_e/trips_e/techtransfer_e.htm>

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ICTSD welcomes feedback and comments on this document. These can be sent to Ahmed Abdel Latif at aabdellatif@ictsd.ch, or where applicable, to the author directly.

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