

BOOK REVIEW

Intellectual Property Rights and Climate Change: Interpreting the TRIPS Agreement for Environmentally Sound Technologies. By WEI ZHUANG, Cambridge University Press, 2017. ISBN 9781316662892.

Addressing climate change is one of the central challenges of the global community for the coming decades. In *Intellectual Property Rights and Climate Change*, Wei Zhuang has produced an excellent, comprehensive, and thought-provoking contribution to discussions of intellectual property rights (IPRs) and climate change. She is to be congratulated. She admirably addresses a set of issues important to the way that technology may be diffused among the countries needing to implement climate change mitigation strategies, yet which face obstacles in innovating or licensing the relevant technologies. She tackles the role that IPRs can and should play in the process of innovation and technology diffusion. No doubt the book will be referred to as an important part of the literature in the area.

Determining the appropriate role of IPRs in addressing climate change is subject matter that has been on the international agenda for a number of years. Zhuang's book quite comprehensively pulls together the existing literature. The book is principally in two parts.

The first part assesses the best available evidence whether IPRs are promoting or inhibiting diffusion of technology, in particular between countries at different stages of economic development. She demonstrates that, in terms of patented technologies, innovation and technology transfer are today predominantly taking place among a number of high-income countries, and a small number of emerging market countries, notably China (and to a more modest extent Brazil and India). In this regard, Zhuang's research confirms that it is no longer realistic to differentiate the international community along 'developed' and 'developing' lines. There are gradations among levels of economic and technological development that require more complex approaches.

It has previously been observed that climate change mitigation technologies have different characteristics than the technologies central to the pharmaceutical sector, in particular. In the pharmaceutical sector, a patent on a specific chemical compound or biologic may block access/diffusion to a critical therapy for which no effective substitutes are available; and such technologies may be reverse engineered with relative ease. On the other side, there are multiple technologies involved in alternative energy supply, and in climate mitigation strategies, such that a single patent or technology is

less likely to block the field. Markets for patented technologies to address climate change may inherently be more competitive than markets for pharmaceutical technologies. Problems and solutions may be quite different. Zhuang argues that notwithstanding these differences, patents and other forms of IPRs are, in fact, inhibiting access to climate change mitigation technologies in many countries, in particular in terms of refusals to license and the imposition of abusive licensing conditions. Moreover, Zhuang argues that access to patent data is in many cases insufficient to allow use of key technologies because there is significant undisclosed know-how that is important for transforming patent data into useful goods and services. Such data either are not licensed, or are licensed under abusive conditions. Zhuang makes a persuasive case that there are concrete obstacles to diffusion of climate change mitigation technologies that should be addressed in the interests of accelerating and introducing greater equity into the global response, and in the interests of addressing climate change on a wider scale through the participation of more countries.

The second part of Zhuang's book is an exhaustive analysis of the impact the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement may have on solving the problems addressed in the first part of the book. With extensive references to the existing literature and recognized authorities, she explains the extent to which existing TRIPS flexibilities may be used to overcome obstacles to technology diffusion. There are few texts which have been more exhaustively analyzed from a legal standpoint than the TRIPS Agreement, including with respect to the scope of its flexibilities. In that regard, it is exceedingly difficult for anyone to say anything 'new'. But, Zhuang's extensive review of interpretative approaches serves well to bolster her ultimate perspective and recommendations as to how balances should be struck. She builds a strong foundation upon which her ultimate recommendations are based.

Zhuang's recommendations principally involve clarifying and potentially expanding the use of compulsory patent licensing; clarifying the scope and enhancing the remedial measures available through enforcement of competition law, and; pursuing a Doha Declaration-analog for IPRs and Climate Change. Compulsory licensing of patents is the subject of an extensive literature in respect of access to medicines. By now there is widely shared understanding, at least among experts, regarding the procedural requirements and scope of authority for the grant and implementation of compulsory licenses. Zhuang argues that the extent of flexibilities recognized with respect to public health goods should also be applicable with respect to climate change mitigation technologies. Although it has been suggested elsewhere, she presents perhaps the most exhaustive analysis to date of why the Article 31(f) problem (compulsory licensing predominantly for the supply of the domestic market) that necessitated the negotiation of the Article 31bis amendment to the TRIPS Agreement with respect to pharmaceutical products is also relevant to the climate change technologies arena, and why WTO members should extend the Article 31bis solution to cover patents relevant to addressing climate change.

The chapter on the use of competition law to address abusive practices with respect to IPRs related to climate change mitigation is one of the most important contributions of the book. Zhuang again reviews what by now is a fairly extensive

literature regarding the wide authority of WTO members to adopt and enforce competition law with respect to anticompetitive restraints, including anticompetitive agreements among undertakings, abuse of dominant position, and abusive licensing practices. Just as already is taking place in the public health arena, Zhuang argues that more should be done to enhance the capacity of developing country competition authorities to take action to facilitate technology transfer. This reviewer has a bit of a philosophical difference with Zhuang regarding a couple of her suggestions. She recognizes that the weight of authority concludes that use of *per se* competition rules is allowable under the TRIPS Agreement. She nevertheless proposes that WTO members negotiate to make clear that the TRIPS Agreement does not preclude the use of such *per se* rules. To this reviewer, such a clarification is unnecessary. Negotiations may ultimately be counterproductive. No reasonable interpretation of the TRIPS Agreement precludes the adoption of *per se* rules. Conversely, by opening up the subject to negotiation there is the ever-present risk that new rules would be unduly restrictive. She also proposes that WTO members negotiate a list of licensing practices that are to be considered abusive. Again, WTO members under the current regime enjoy the flexibility to address abusive licensing practices as they deem appropriate, within the general constraint that the approach is consistent with the TRIPS Agreement (Article 8.2). History teaches that negotiations within the WTO should be approached with caution, because the solution sought may not be the inevitable compromise that is ultimately found. In this reviewer's view, bargaining away from today's flexibility is unlikely to improve the situation for competition authorities. The risks are greater than the potential rewards. But, this is a matter of judgment, and not intended to discourage WTO optimists such as Zhuang.

Perhaps most focused on by Zhuang is the proposal for some Doha-type Declaration on IPRs and Climate Change. As Zhuang well notes, this is not a new idea. Already it was proposed and discussed in the run-up to the Poznań (2008) Conference of the Parties (15) of the United Nations Framework Convention on Climate Change (UNFCCC), and discussed on expert panels at that meeting. Zhuang does an excellent job laying out the cases for and against negotiation and adoption of such IPRs and Climate Change Declaration. On the positive side, she observes that the Doha Declaration was adopted against the backdrop of WTO Members seeking to exercise flexibilities allowed under the TRIPS Agreement, but facing obstacles of political and economic pushback from certain governments and industry groups. The Doha Declaration mainly clarified existing flexibilities under the TRIPS Agreement, and confirmed an interpretation favorable to promoting access to medicines for all. The Doha Declaration played a role in solidifying a trend toward acknowledgment of the important public health interests at stake in the TRIPS framework. Just so, from the favorable standpoint, an IPRs and Climate Change Declaration could reinforce the availability of flexibilities and firm a trend toward recognizing the critical need to mitigate climate change and promote sustainable development.

Zhuang recognizes that the WTO may not be the most appropriate forum for negotiation and adoption of a Declaration since the subject matter of climate change is more specifically dealt with by the UNFCCC, and that the United Nations more generally may be a better forum for such a Declaration. But, she also indicates that

the WTO must play a role since the Declaration would address subject matter covered by the TRIPS Agreement.

She also suggests that the IPRs and Climate Change Declaration would cover subject matter different than the Doha Declaration on the TRIPS Agreement and Public Health, and that this entails development of a new text. Her proposals on specifics are fairly limited, mainly with reference to a few earlier proposals from developing country governments.

On the negative side, Zhuang acknowledges that there would be political obstacles to successfully negotiating a progressive IPRs and Climate Change Declaration, though she does not find this dissuasive. In earlier discussions of this possibility, this reviewer has referred also to the tough political fight that no doubt would accompany the negotiation of a IPRs and Climate Change Declaration, and whether this would be the best use of scarce negotiating capital. This reviewer, like Zhuang, concluded that it would on balance be useful to pursue the matter. The current international political environment surrounding climate change and IPRs seems to suggest that negotiations must simply forgo participation of the USA. Absent some dramatic reversal of perspective, there seems virtually no possibility that the USA would agree to support a flexible interpretation of the TRIPS Agreement in favor of addressing climate change. In that regard, one would need to consider the relative utility of a Declaration without the USA.

Zhuang finally suggests that governments may wish to negotiate some new mechanisms or guidelines to promote equitable licensing of technologies, modelled perhaps on the Fair, Reasonable and Non-Discriminatory (FRAND) licensing model used for some technology standards patents. She recognizes that there is a difference in character between patents relating to commercializable products and patents relating to technical standards, and that more attention must be given to how a fair licensing model would work in her proposed context. Nevertheless, it is an interesting idea. It is 'not dissimilar' from some of the proposals surrounding 'effectively automatic' compulsory licensing of essential medicines, combined with a fair royalty, proposed in the public health context. One might at least in part think of the Medicines Patent Pool model based on voluntary licensing that has enjoyed some success in the pharmaceutical arena, though again the contexts are different.

Developments at the WTO over the past several years have highlighted that the multilateral rules affecting climate change mitigation are by no means limited to those regulating IPRs and the transfer of technology. Addressing the problem of climate change will require a holistic approach even from the standpoint of WTO law. Zhuang's new book does an excellent job in addressing one important element of that. That was the author's intent, and that intent was well carried out. As a reminder, nonetheless, it should be read in the context of the need for broader trade law reforms.

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