BOOK REVIEW

WHEN COOPERATION FAILS: THE INTERNATIONAL LAW AND POLITICS OF GENETICALLY MODIFIED ORGANISMS BY MARK A POLLACK AND GREGORY C SHAFFER (NEW YORK, US: OXFORD UNIVERSITY PRESS, 2009) 464 PAGES. PRICE £50 (HARDBACK) ISBN 9780199237289.

In recent years, genetically modified organisms ('GMOs') and their use in agriculture and food production have become a focal point for debate over regulatory approaches in the globalised risk society.[1] Supporters of the technology emphasise the substantial benefits promised by GMOs, seeing them as the next generation in the agricultural development of crop species. Opponents of genetic engineering, on the other hand, have stressed uncertainties over the nature and extent of risks associated with GMOs, and the potential for GMO agriculture to have adverse socioeconomic impacts.[2] These polarised perspectives are reflected in the divergent approaches to the regulation of GMOs that have been taken around the world, with some of the starkest differences seen between the United States and the European Union. Whereas the US has embraced GMO agriculture and genetically modified foods — adopting a permissive regulatory system that sees no real distinction between GMOs and their conventional counterpart organisms[3] — the EU has taken a highly precautionary approach to the technology and its use, accompanied by the introduction of stringent regulatory controls on the approval and marketing of GMOs, and on the labelling of GM foods.[4]

The regulatory differences between the EU and the US regarding GMOs — culminating in the *EC — Biotech* case, a dispute before the World Trade Organization determined in 2006[5] — have been the subject of substantial

---

1 On the notion of the risk society and its globalisation see the seminal work, Ulrich Beck, *Risk Society: Towards a New Modernity* (Mark Ritter trans, Sage, 1992) [trans of: *Risikogesellschaft: Auf dem Weg in eine andere Moderne* (first published 1986)].

2 The various arguments for and against GMOs have been helpfully canvassed in a number of government reports. See, eg, Community Affairs Committee, Senate, Parliament of Australia, *A Cautionary Tale: Fish Don't Lay Tomatoes — A Report on the Gene Technology Bill 2000* (2000); National Research Council, *Environmental Effects of Transgenic Plants: The Scope and Adequacy of Regulation* (National Academies Press, 2002); The Royal Society of Canada, *Elements of Precaution: Recommendations for the Regulation of Food Biotechnology in Canada* (The Royal Society of Canada Report, 2001).

3 Sheila Jasanoff, 'Between Risk and Precaution: Reassessing the Future of GM Crops' (2000) 3 *Journal of Risk Research* 277, 277.

4 For detailed discussion of this legislative regime see Theofanis Christoforou, 'Genetically Modified Organisms in European Union Law' in Nicolas de Sadeleer (ed), *Implementing the Precautionary Principle: Approaches from the Nordic Countries, the EU and USA* (Earthscan, 2007) 197; Gregory C Shaffer and Mark A Pollack, 'The EU Regulatory System for GMOs' in Michelle Everson and Ellen Vos (eds), *Uncertain Risks Regulated* (Routledge-Cavendish, 2009) 269.

5 *European Communities — Measures Affecting the Approval and Marketing of Biotech Products*, WTO Doc WT/DS291/R, WT/DS292/R, WT/DS293/R (29 September 2006) (Report of the Panel) ('*EC — Biotech*').

literature in international law, as well as in many other related disciplines.[6] Pollack and Shaffer's book makes an important contribution to this body of scholarship by providing an in-depth, interdisciplinary analysis of the transatlantic GMO dispute across its many aspects: domestic, bilateral and international. However, the book is more than simply an examination of an interesting case of regulatory differences and dispute between the world's two most powerful trading blocs. Rather, it skilfully uses the GMO dispute to explore a range of international legal and political theories, and to draw from the dispute broader lessons for law and policy, and for the role of international institutions in managing situations where cooperative efforts fail.

Reflecting the authors' disciplinary backgrounds in the areas of political science and international law, as well as their aim to build bridges between their two disciplines, the primary lens through which Pollack and Shaffer approach the transatlantic GMO dispute is that of international cooperation, or more accurately, the reasons for the failure of regulatory cooperation between the EU and US in the area of agricultural biotechnology policy. In and of themselves, the complexities of the *EC — Biotech* case lend themselves to a book-length analysis of this kind. However, the authors also make a compelling case as to the reasons why the GMO dispute might be considered 'emblematic' of future challenges posed to international law and institutions 'in an economically globalized world characterized by rapid technological changes having uncertain effects'.[7] On this basis, the book draws from the GMO case study various 'lessons' for international law and policy that give the analysis broader relevance and appeal beyond merely an audience of those with an interest in (or detailed knowledge of) agricultural biotechnology and its regulation. For those of us who lie outside the transatlantic realm of EU–US politics, the concluding chapter of the book also includes an interesting, albeit brief, examination of the global ramifications of EU–US regulatory differences over GMOs, especially for developing countries.[8]

---

[6] See, eg, Denise Prévost, 'Opening Pandora's Box: The Panel's Findings in the *EC — Biotech Products* Dispute' (2007) 34 *Legal Issues of Economic Integration* 67; Simon Lester, '*European Communities — Measures Affecting the Approval and Marketing of Biotech Products*' (2007) 101 *American Journal of International Law* 453; Robert L Howse and Henrik Horn, '*European Communities — Measures Affecting the Approval and Marketing of Biotech Products*' (2009) 8 *World Trade Review* 49; Freya Baetens, 'Safe until Proven Harmful? Risk Regulation in Situations of Scientific Uncertainty: The *GMO Case*' (2007) 66 *Cambridge Law Journal* 276; Ilona Cheyne, 'Life after the *Biotech Products* Dispute' (2008) 10 *Environmental Law Review* 52; Caroline E Foster, 'Prior Approval Systems and the Substance–Procedure Dichotomy under the WTO *SPS Agreement*' (2008) 42 *Journal of World Trade* 1203; Gregory Shaffer, 'A Structural Theory of WTO Dispute Settlement: Why Institutional Choice Lies at the Center of the *GMO Case*' (2008) 41 *New York University Journal of International Law and Politics* 1; Andrew Thomison, 'A New and Controversial Mandate for the *SPS Agreement*: The WTO Panel's Interim Report in the *EC — Biotech* Dispute' (2007) 32 *Columbia Journal of Environmental Law* 287; Noah Zerbe, 'Risking Regulation, Regulating Risk: Lessons from the Transatlantic Biotech Dispute' (2007) 24 *Review of Policy Research* 407; Christiane Conrad, 'PPMs, the *EC — Biotech* Dispute and Applicability of the *SPS Agreement*: Are the Panel's Findings Built on Shaky Ground?' (Working Paper No 8-06, Faculty of Law, Hebrew University of Jerusalem, 1 August 2006).

[7] Mark A Pollack and Gregory C Shaffer, *When Cooperation Fails: The International Law and Politics of Genetically Modified Foods* (Oxford University Press, 2009) 30.

[8] Ibid 292–301.

After an initial chapter that comprehensively introduces the subject matter, arguments and methodological approach taken in the book, Chapter 2 focuses on the domestic sources of the conflict between the respective EU and US regulatory regimes governing agricultural biotechnology. It takes as its departure point the puzzle of why the EU and US — despite their many political similarities — have taken sharply different approaches to the regulation of GMOs. What follows is a succinct and informative discussion of the arguments for and against the technology of genetic engineering,[9] and of the EU and US risk regulatory systems for GMOs respectively. However, the authors do more than simply describe the transatlantic regulatory differences that have arisen with respect to agricultural biotechnology. Indeed, the central goal of Chapter 2 is to explain why and how these differences arose and persist. The authors settle on a multi-causal hypothesis, arguing that differences can be attributed to 'the ability of interest groups to capitalize on pre-existing cultural and institutional differences, with an important role played by contingent events such as the European food safety scandals of the 1990s'.[10] They also question the notion that EU and US 'regulatory polarization' over GMOs was predetermined, although they go on to find that early decisions on regulatory approach on both sides of the Atlantic have produced 'self-reinforcing' systems that are resistant to change.[11]

Chapter 3 explores the attempts at bilateral cooperation on agricultural biotechnology law and policy that have taken place between EU and US regulators since the 1990s. This examination is framed by discussion of theories of transnational regulatory networks and their potential for deliberation. In recent times, many international relations scholars and international lawyers have been attracted by the idea of transnational networks — essentially collectives of government officials and advising experts — as a forum for regulatory cooperation. Leading proponents of governance via transnational networks, such as Anne-Marie Slaughter, argue that the 'soft power' (that is, 'the power of persuasion and information') deployed in such networks is more effective in promoting convergence and improved enforcement of regulatory systems and standards amongst participants than multilateral institutions.[12] Other commentators have gone further, advancing claims on behalf of transnational regulatory networks that they can foster a kind of 'deliberative democratic' rule-making process. For example, Christian Joerges and Jürgen Neyer have described the operation of 'deliberative technocratic' processes in the EU's regulatory committee procedures known as 'comitology', arguing that these processes allow delegates 'to develop converging definitions of problems and

---

9 The authors acknowledge that this discussion has been dominated by US–European commercial, regulatory and cognitive framings. They address the potential for a shift in such framings, through the involvement of developing countries, in Chapter 7.

10 Pollack and Shaffer, above n 7, 34 (emphasis altered).

11 Ibid 68–9.

12 Anne-Marie Slaughter, 'Disaggregated Sovereignty: Towards the Public Accountability of Global Government Networks' (2004) 39 *Government and Opposition* 159, 162. See also Anne-Marie Slaughter, *A New World Order* (Princeton University Press, 2004).

philosophies for their solution'.[13] Against this backdrop, a number of scholars and practitioners have advocated the use of transnational and deliberative decision-making in the area of agricultural biotechnology.[14]

Efforts to foster bilateral cooperation between EU and US regulators in respect of GMOs provide an interesting test case for assessing transnational network governance and its capacity for deliberative decision-making. Chapter 3 first provides a helpful overview of theories of transnational network governance and deliberation, noting the limited empirical evidence to date to support claims of networks as a forum of deliberative democracy. This is followed by a brief survey of the various EU–US efforts at regulatory cooperation across a range of fields that have had a mixed record of success, as well as a short discussion of different approaches to risk regulation that either endorse or reject the role of broad participation in decision-making.[15] Ultimately, the authors find that transatlantic cooperative efforts in the biotechnology field have failed, demonstrating the limits of transnational network governance and its capacity to foster deliberative decision-making.

The analysis of the reasons for failure suggests some interesting lessons for future attempts at regulatory cooperation on complex risk issues that, like GMOs, are attended by significant scientific uncertainty. The authors find, for example, that uncertainty can cut against deliberation because '[f]aced with environmental and food-safety risks that cannot be measured with absolute certainty, many European consumers, governments, and EU institutions themselves have opted in favour of a rather extreme interpretation of the precautionary principle, in which uncertainty yields not a collective search for truth, but an uncompromising rejection of GMOs, with little or no regard for the causal arguments (for example, scientific risk assessments) in their favor'[16] This statement hints that the authors view the EU regulatory approach as irrational. Arguably, however, in circumstances of scientific uncertainty, different, equally 'rational' risk regulatory approaches are possible, some of which are cautious in the face of unknowns (as in Europe) and others which prefer to push ahead with the adoption of potentially beneficial technologies unless and until scientific evidence accumulates which demonstrates risks (as in the US). In either case, the GMO case study suggests the differing attitudes to risk that underlie different risk regulatory approaches taken in circumstances of uncertainty will be resistant to change via deliberative processes.

The only area in which the authors found significant evidence of deliberative decision-making was in bilateral (and multilateral) arrangements involving a

---

13 Christian Joerges and Jürgen Neyer, 'Transforming Strategic Interaction into Deliberative Problem-Solving: European Comitology in the Foodstuffs Sector' (1997) 4 *Journal of European Public Policy* 609, 620.

14 Sean D Murphy, 'Biotechnology and International Law' (2001) 42 *Harvard International Law Journal* 47.

15 The authors reference the work of Cass Sunstein (and his critics): see Dan M Kahan and Paul Slovic, 'Cultural Evaluations of Risk: "Values" or "Blunders"?' (2006) 119 *Harvard Law Review Forum* 166 <http://www.harvardlawreview.org/media/pdf/kahan_slovic.pdf>; Dan M Kahan et al, 'Fear of Democracy: A Cultural Evaluation of Sunstein on Risk' (2006) 119 *Harvard Law Review* 1071; Cass R Sunstein, *Risk and Reason: Safety, Law, and the Environment* (Cambridge University Press, 2002); Cass R Sunstein, *Laws of Fear: Beyond the Precautionary Principle* (Cambridge University Press, 2005).

16 Pollack and Shaffer, above n 7, 109.

dialogue among scientific and technical experts.[17] These groups appear to have operated in the manner predicted by Peter Haas's theory of 'epistemic communities',[18] generating consensus on issues like GMO risk assessment methodologies given their shared sets of beliefs, principles and methods grounded in scientific disciplines. The authors remark that 'bilateral negotiations, if left entirely to scientific experts and restricted to technical questions, could result in significant deliberation and joint discovery'.[19] GMO regulation, however, is a 'multi-sectoral' matter that extends beyond technical questions capable of resolution by the application of technical expertise. In this and other areas of regulation concerned with complex risk issues, Pollack and Shaffer's analysis reminds us that there will always be 'a trade-off between effective deliberation and inclusiveness'.[20]

The next two chapters of the book turn from the bilateral context to attempts to resolve the EU–US biotechnology dispute in multilateral fora. In this regard, Chapter 4 examines four case studies: the Organisation for Economic Cooperation and Development, the WTO and its *SPS Agreement*;[21] the *Convention on Biological Diversity*[22] and its *Biosafety Protocol*;[23] and international standard-setting bodies such as the Codex Alimentarius Commission ('Codex'). This is followed in Chapter 5 by a more detailed treatment and legal analysis of WTO dispute settlement in the GMO context, focusing on the Panel ruling in the *EC — Biotech* case issued in 2006.[24] For international lawyers, it is these two chapters of the book that will probably be of greatest interest, with agricultural biotechnology providing an illuminating example of the workings (or failures) of regulatory cooperation in multilateral institutions and treaty settings.

Many readers will already be familiar with the development of GMO-related treaties like the *Biosafety Protocol*,[25] as well as of the *SPS Agreement* and its dispute settlement procedure, that has taken place since the late 1990s.[26] Less well-known, however, is likely to be the information provided by the Chapter 4 case studies on the workings of soft law mechanisms concerning GMOs, such as those under the auspices of the OECD, committees within the WTO, Codex and

---

17 Similar findings are made in Chapter 4 with respect to deliberations within the OECD and Codex on issues of scientific risk assessment.

18 This theory was elaborated by Haas in his leading work: Peter M Haas, *Saving the Mediterranean: The Politics of International Environmental Cooperation* (1990).

19 Pollack and Shaffer, above n 7, 110.

20 Ibid 112.

21 *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995), annex 1A (*Agreement on the Application of Sanitary and Phytosanitary Measures*) ('*SPS Agreement*').

22 Opened for signature 5 June 1992, 1760 UNTS 79 (entered into force 29 December 1993).

23 *Cartagena Protocol on Biosafety to the Convention on Biological Diversity*, opened for signature 29 January 2000, 2226 UNTS 208 (entered into force 11 September 2003) ('*Biosafety Protocol*').

24 *EC — Biotech*, WTO Doc WT/DS291/R, WT/DS292/R, WT/DS293/R (29 September 2006) (Reports of the Panel).

25 For an introduction to the *Protocol* see Ruth Mackenzie et al, 'An Explanatory Guide to the Cartagena Protocol on Biosafety' (Environmental Law and Policy Paper No 46, International Union for the Conservation of Nature, 2003).

26 For an excellent overview in this respect see Joanne Scott, *The WTO Agreement on Sanitary and Phytosanitary Measures: A Commentary* (Oxford University Press, 2007).

other standard-setting bodies. For instance, the authors highlight the existence and application of an obscure 'soft law' dispute settlement mechanism within the *International Plant Protection Convention*[27] (the international body recognised by the WTO for the purpose of phytosanitary standard-setting).[28]

In each of the four case studies, the authors draw attention to the persistence of two obstacles to successful international cooperation in the area of biotechnology regulation: the impact of 'distributive conflict', and the existence of 'regime complexes', that is, 'multiple, overlapping political and legal regimes'.[29] In a section that foregrounds the case study discussion, the authors draw on (and challenge) regime theory in the field of international relations, concluding that stark distributive conflicts between the EU and US over agricultural biotechnology have driven each polity to attempt to export its own regulatory model to the international level.[30] Discussion of regime complexes is likely to canvass more familiar territory for international legal readers as it addresses the well-known issue of the 'fragmentation' of international law.[31] GMO regulation provides a good example of the existence of multiple, overlapping international legal regimes in diverse fields such as agriculture, environmental protection, food safety and trade.

The authors' focus in dealing with regime complexes (or fragmented international legal arrangements) governing GMOs is the interaction of hard and soft law in such settings. Conventionally soft and hard international law are considered to be complementary as in the case of a soft law instrument which builds support for the development of binding customary international law norms. Pollack and Shaffer, however, use the GMO case study to 'demonstrate how hard and soft laws are not necessarily mutually supportive, but rather can counteract and undermine each other when multiple regimes with different functional orientations overlap'.[32] In particular, they find that the coexistence of different legal regimes governing agricultural biotechnology has led to some hardening of soft law regimes like Codex, and some softening of the hard law WTO dispute settlement system. This insight has important practical consequences. For instance, the Codex soft law regime that generates 'voluntary' international food safety standards has lost some of its traditional advantages of flexibility and the capacity for deliberative outcomes as states have become concerned about the use of Codex standards as regulatory benchmarks under the

---

27 Opened for signature 6 December 1951, 150 UNTS 67 (entered into force 3 April 1952).

28 Pollack and Shaffer, above n 7, 161–2.

29 Ibid 122.

30 Ibid 130.

31 Fragmentation has generated a substantial international legal literature as well as a study and report by the United Nations International Law Commission. For the latter, see International Law Commission, 'Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law', *Report of the International Law Commission: Fifty-Eighth Session*, UN GAOR, 61st sess, Supp No 10, UN Doc A/61/10 (2006) 400–23; International Law Commission, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, 58th sess, UN Doc A/CN.4/L.682 (13 April 2006).

32 Pollack and Shaffer, above n 7, 134.

hard law *SPS Agreement*.[33] The authors also found that the existence of various multilateral regimes governing agricultural biotechnology permitted forum shopping by the EU and US, which has ultimately led to inconsistencies among the different regimes and significant legal uncertainty.

However, Pollack and Shaffer's analysis suggests that the impacts of fragmentation within the international legal system governing GMOs (and potentially other global risk issues) may not always be negative. They comment that 'in a diverse, pluralist world … overlapping regimes can provide an important service to each other'.[34] For example, the operation of softer law regimes

> can signal states and WTO judicial decision-makers to tread softly when applying WTO law, and in particular, the *SPS Agreement* to disputes over national risk regulations. They prompt internal responses within the WTO regime to preserve its own social and political legitimacy.[35]

This is an important insight, given the concerns that have been voiced in the literature and by states over the potentially intrusive effects of WTO review of national risk measures under the *SPS Agreement*.[36] Those with a large stake in ensuring that the WTO strikes the best possible balance between national regulatory autonomy and free trade in SPS disputes include not only the EU with its precautionary stance on food safety, but also countries like Australia, which maintain a domestic quarantine regime of strict sanitary and phytosanitary controls.[37]

Chapter 5 of the book, written by Gregory Shaffer, provides a detailed examination of the operation of the *SPS Agreement* in WTO dispute settlement in the *EC — Biotech* case. This chapter is in fact a modified version of Shaffer's excellent article on the dispute and the ensuing Panel report, published in 2008 in the *New York University Journal of International Law and Politics*.[38] As the European Communities chose not to appeal the Panel's report to the WTO Appellate Body, the Panel's decision is an important legal document in its own right, though its precedential value remains unclear given the Appellate Body's

---

33 See also David E Winickoff and Douglas M Bushey, 'Science and Power in Global Food Regulation: The Rise of the Codex Alimentarius' (2010) 35 *Science, Technology and Human Values* 356.

34 Pollack and Shaffer, above n 7, 176.

35 Ibid.

36 See David Winickoff et al, 'Adjudicating the GM Food Wars: Science, Risk, and Democracy in World Trade Law' (2005) 30 *Yale Journal of International Law* 81; David A Wirth, 'The Role of Science in the Uruguay Round and NAFTA Trade Disciplines' (1994) 27 *Cornell International Law Journal* 817.

37 This issue is at the heart of a current WTO dispute involving Australia as a defendant: *Australia — Measures Affecting the Importation of Apples from New Zealand*, WTO DS367.

38 Shaffer, above n 6. The article contains a detailed breakdown of the determinations of the Panel, which is invaluable given that the report itself runs to more than 1000 pages.

tendency to refer only to its own previous legal rulings.[39] Shaffer highlights that one of the most important aspects of the Panel's decision was its 'procedural turn', which sought to eschew WTO involvement in determining substantive questions of GMO risk regulation in favour of focusing on the transparency of the process by which EU measures were adopted. Applying an analytic framework of 'comparative institutional analysis', the chapter argues that interpretative moves made by the Panel in *EC — Biotech* effectively reflected choices over the allocation of institutional authority. For instance, if the Panel had adopted a deferential stance when reviewing EU GMO regulations (as has been advocated by a number of commentators for the purposes of SPS review),[40] this would equate to allocating responsibility for risk decision-making to domestic regulatory bodies that might be responsive to the risk concerns of their own publics but take little account of the interests of affected outsiders.

Overall, the authors view the Panel's ruling in *EC — Biotech*, and the role of WTO dispute settlement, in a positive light. They argue that the WTO judicial process can aid in 'regularizing political conflicts into legal channels, encouraging states to regulate risks in more transparent ways and take into account the interests of affected foreigners'.[41] They also see the potential for the WTO Panel decision to provide leverage to those within the EU polity (such as the European Commission and pro-biotech domestic constituencies) who wish to facilitate the approval of GMOs. In this way, the authors note that though the Panel sought to avoid deciding substantive issues of risk regulation itself, its report may nevertheless act to empower actors in intra-European political processes that can help to mitigate the dispute. Left open is the question of whether this approach is consistent with the broader goal of maintaining the social legitimacy of the WTO as an institution of global risk governance in the face of strong concerns over preserving national regulatory autonomy.

Despite the Panel's rulings, the EU–US dispute over GMOs remains largely unresolved. Although the regulatory authorities in the EU have resumed approvals of GM crop varieties,[42] strong member state and public resistance remains in relation to GMOs and GM foods in Europe. This has resulted in a significant elaboration and tightening of the EU regulatory framework for GMOs

---

39 See Robert Howse, 'Adjudicative Legitimacy and Treaty Interpretation in International Trade Law: The Early Years of WTO Jurisprudence' in Joseph H H Weiler (ed), *The EU, the WTO, and the NAFTA: Towards a Common Law of International Trade?* (Oxford University Press, 2000) 35, 60–1. Reports issues in proceedings with multiple complainants are often identical: see, eg, Appellate Body Report, *Japan — Taxes on Alcoholic Beverages*, WTO Docs WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, AB-1996-2 (4 October 1996) 11–13. Arguably a number of the panel's rulings in *EC — Biotech* are already inconsistent with a later decision in Appellate Body Report, *United States — Continued Suspension of Obligations in the EC — Hormones Dispute*, WTO Doc, WT/DS320/AB/R, AB-2008-5 (16 October 2008). The report issued in WTO DS321 brought by Canada is identical to the US report: see Appellate Body Report, *Canada — Continued Suspension of Obligations in the* EC — Hormones *Dispute*, WTO Doc WT/DS321/AB/R, AB-2008-6 (16 October 2008).

40 See, eg, Andrew T Guzman, 'Food Fears: Health and Safety at the WTO' (2004) 45 *Virginia Journal of International Law* 1; Alexia Herwig, 'Whither Science in WTO Dispute Settlement?' (2008) 21 *Leiden Journal of International Law* 823; Wirth, above n 36.

41 Pollack and Shaffer, above n 7, 233.

42 This in fact occurred in the midst of the WTO dispute. See, eg, The European Parliament and the Council of the European Union, *Regulation (EC) No 1829/2003 on Genetically Modified Food and Feed* [2003] OJ L 268/1.

that has tended to make it more, rather than less, difficult for GM products from the US to enter the EU market. Chapter 6 of the book reviews the developments in both the EU and the US in the field of agricultural biotechnology policy and law over the course of the past two decades. The authors find that international and market pressures, including the results of WTO dispute settlement, have provided only weak incentives for the EU and US to change their respective regulatory systems. In the US, they diagnose a case of 'change without reform' where there has been primarily market-driven change to GMO growing and export practices without substantial reform of the US regulatory framework for biotechnology that retains its 'science-based', product-oriented focus. By contrast, in the EU they find significant reform efforts but without much change to the end result in terms of the acceptance of GMOs. In the authors' words, the EU has engaged in 'lots of costly show but with a predetermined outcome',[43] namely maintaining precautionary controls on GM crops and foods in light of public demands for strict regulation of GMOs. Pollack and Shaffer note that this situation is not set in stone — EU consumers may become more accepting of GMOs if varieties are introduced with clearer public benefits, just as pressures may mount for reform in the US if there are environmental or food safety crises linked to GM products, including new, more controversial GMOs such as transgenic animals. For the foreseeable future, however, it seems that EU–US regulatory differences over agricultural biotechnology are here to stay.

The final chapter of the book takes a step back from the transatlantic perspective at the heart of the previous analysis to assess the impact of the (ongoing) GMO conflict globally, particularly for developing countries. The chapter also seeks to generalise five broader law and policy lessons from the GMO case study. With regard to the latter, the chapter focuses not on how transatlantic and global conflict over GMO risk regulation might be *resolved* but rather 'managed in such a way that governments protect their societies from risk while simultaneously respecting the views of others and avoiding a full-scale international trade war'.[44] This approach represents a refreshing change from much of the literature on international cooperation and international risk disputes that assume the capacity of international law and international institutions to facilitate cooperation between states in all cases. As the authors point out, however, it requires adopting a more modest vision of the role of the international, which can certainly facilitate cooperation, 'but only if [states] understand the problem, bring the right tools and adjust [their] expectations about what international law and institutions can achieve in deeply politicised issue-areas'.[45] For instance, the authors acknowledge the inability of the WTO and its dispute settlement system to resolve definitively charged risk regulatory disputes but nonetheless see a role for this international institution in helping to manage the conflict, clarify states obligations and 'provide some opportunities and leverage in domestic political and judicial processes'.[46] As for the GMO conflict itself, the authors prescribe its management via a combination of methods, including achieving scientific consensus on appropriate risk assessment

43 Pollack and Shaffer, above n 7, 25
44 Ibid 281.
45 Ibid.
46 Ibid 289.

methods and establishing a common vocabulary for discussion in multilateral fora such as the OECD and Codex, and clarifying the procedural obligations of states when introducing risk regulations for GMOs that will have effects beyond borders.

The concluding part of the chapter, dealing with the implications of the transatlantic GMO dispute for developing countries, contains a survey of the trends in global agricultural biotechnology policy development. It notes how the polarisation between the EU and US, and the consequent lack of development of a global regulatory standard for GMOs, has led to a great diversity in regulatory approaches taken by developing countries. In our region, some large developing countries such as Argentina, India and China have become major GM growers (though the latter two nations have focused mainly on non-food crops such as GM cotton, as has also been the case in Australia). The uptake (and home-grown development) of biotechnology by leading developing countries such as China and India may well precipitate a more general adoption of GMOs in other developing countries. For the moment, however, the large majority of developing countries have adopted a 'wait and see' approach with respect to the technology in light of ongoing EU–US conflict over GMOs. As Pollack and Shaffer point out, from a legal perspective this might well constitute delay that would be actionable under the interpretation of the *SPS Agreement* adopted by the WTO Panel in *EC — Biotech*, but politically, it amounts to the lowest risk strategy.

Ultimately, the authors conclude that the EU–US conflict over GMOs, and the global future of agricultural biotechnology more generally, is unlikely to be settled in international courts or multilateral negotiating processes. Indeed, they stress that it will be developments of the technology of genetic engineering that demonstrate its broader public benefits — especially for the poor in developing countries — that are likely to be crucial. In the end, this conclusion points to the true limits of international law in dealing with a controversial risk issue like GMOs. International legal processes and global institutions may help to manage the fallout of divisive risk disputes but their resolution depends upon social and political processes, as well as technological developments, that lead to a consensus that any risks of a technology are outweighed by its potential benefits.

JACQUELINE PEEL*

* BSc, LLB (Hons) (Qld); LLM (NYU); PhD (Melb); Associate Professor of Law, Melbourne Law School, University of Melbourne.