

The Evolving Basis for Legitimacy of the World Trade Organization: Dispute Settlement and the Rebalancing of Global Interests

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Abstract

The World Trade Organization (WTO) features prominently in studies of international institutions, although it is often over-simplified either as a tool of rich world domination over the global South or as the only stop-gap preventing a breakdown in the international system. This article analyzes how the WTO has sought legitimacy for itself and for the underlying institution of free trade in the midst of questions regarding its organizational mandate and the management of international trade negotiations. Initially, legitimacy appeared to derive from an expanding membership and the lowering of tariffs in progressively more categories of goods and services. More recently, legitimacy comes from institutional deepening by means of dispute resolution procedures and rulings by the dispute settlement body. This shift, it is argued, raises foundational questions of expertise, the relationship of models to real-world outcomes, and methods for bounding disputes over scientific and economic facts. Based on a case study of Brazil's interaction with the WTO – especially in a decade-long claim against U.S. cotton subsidies – and a trend analysis of over 400 total WTO disputes, I argue that the WTO dispute process is helping to legitimize the institution of free trade through its public display of rational authority and neutral expertise. At the same time, dispute panels have begun to pass judgment on issues of scientific and econometric uncertainty. As a result, the basis for dispute judgment and the broader legitimacy of the WTO is shifting from questions of representation that have long drawn the attention of critics and WTO leaders to epistemological issues, especially concerning the basis of expertise and the design of econometric models. This article provides insights on the resolution of disputes in global trade while contributing to our understanding of the evolving role of scientific and econometric modeling at international organizations.

1. Introduction

Almost immediately after their launch in 2001, the Doha Round of World Trade Organization (WTO) negotiations entered a prolonged stalemate. A North – South divide emerged regarding agricultural subsidies, enforcement of intellectual property (IP) rights, and other so-called “non-tariff” topics of concern to governments worldwide. Notable among these are government procurement, international capital flows into and out of equity markets, and environmental and health regulations. Prevailing economic models that linked enforcement of IP rights and neo-liberal market reforms to sustainable economic growth came under attack. Walkouts from negotiating sessions and heated rhetoric concerning the very purpose of free trade talks took center stage. After years of expanding participation and broadening the WTO's mandate, participating countries became deadlocked on topics of significant domestic sensitivity. As the stalemate continued, bilateral and regional trade agreements gained ground, fewer new countries joined the WTO, and the WTO's legitimacy as the premier negotiating forum for international trade issues came under question.

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In the same period, however, dispute resolution proceedings at the WTO continued apace. International trade disputes involve the WTO in the adjudication of complex competing claims, typically backed by divergent econometric models and conflicting scientific and market data. Whereas in the first five years after the founding of the WTO in 1995 developed countries brought the majority of claims against both other developed and developing countries, by the latter half of the 2000s disputes were on a more even footing. Of special importance as precedents, claims were brought with success by developing countries against agricultural and other subsidies in the United States and European Union. As member countries began to adhere to WTO rulings, a positive feedback loop was established in which countries ranging from rich to poor accepted the authority of the WTO as a governing body. Thus, even as negotiations in the Doha Round stagnated, the WTO increased its role as the principal adjudicator of international trade disputes. In the process, the dispute settlement body (DSB) began to determine the expertise to speak authoritatively on technical issues and started to rule on the validity of competing scientific and econometric models. This still-emerging juridical role raises issues of representation and balance among competing interests that are important to the WTO's future and to the institutional legitimacy of the international trading system.

2. Dilemmas of Legitimacy and Expertise

While critics of the WTO use the term "legitimacy" (or frequently, "illegitimacy") when objecting to the economic shifts that have accompanied the lowering of trade barriers, I focus here on a more analytical interpretation as developed in political science. Specifically, legitimacy has been used to explain collective obedience to laws, rules, and edicts in the absence of omnipotent coercive power. However, extrapolating from the citizenry of a country obeying its leadership to countries ceding power to international institutions has posed both conceptual challenges for scholars and practical challenges for organizations like the WTO. This article suggests that a next step in the study of institutional legitimacy will come from perspectives developed in science and technology studies (STS), particularly analyses of dilemmas inherent to expertise in democratic systems and epistemological disputes that arise during controversies.

In political science, legitimacy has been used to understand the emergence of stable modern democracies, to compare institutional variation between nation-states, and more recently, to assess the success or failure of global governance bodies.¹ Conceptually, legitimacy has a long lineage, dating at a minimum to John Locke's emphasis on the importance of "consent by the governed" to the formation and stability of government.² Studying democratic governance broadly, and the emerging United States specifically, Alexis de Tocqueville drew attention to the specific notion of legitimacy in the 1840s. Commenting on Americans, he observed, "from Maine to Florida, from Missouri to the Atlantic Ocean, they believe that the origin of all legitimate powers is in the people."³ Max Weber's study of political and social structures in the early 20th century added specificity to Tocqueville's concept and advanced a typology of

1. M. Zürn, *Democratic Governance Beyond the Nation-State: The EU and other International Institutions*, *European Journal of International Relations* 6 (2000), 183-221; for a useful recent collection of essays on legitimacy and international organizations, see the special issue of *Review of International Political Economy* on "Legitimacy and Global Governance," introduced by: J. Brassetta and E. Tsingou, "The Politics of Legitimate Global Governance," *Review of International Political Economy* 18 (2011), 1-16.

2. J. Locke, *Two Treatises of Government* (Cambridge: Cambridge University Press, 1960), esp. Second Treatise, §95-99.

3. A. Tocqueville, *Democracy in America*, translated by H. Mansfield and D. Winthrop, (Chicago: University of Chicago Press, 2000), 358.

legitimacies across different institutions and over time, ranging across traditional, charismatic, and rational-legal authority.⁴ Drawing on this lineage, the political scientist Seymour Lipset in the late 1950s defined legitimacy as “the capacity of a political system to engender the belief that existing political institutions are the most appropriate or proper ones for the society.” Of lasting importance to the analysis of political systems, Lipset added: “the determination of when new social groups shall obtain access to the political process affects the legitimacy of the political system.”⁵

Scholarship on legitimacy gained a new impetus from the proliferation of international organizations over the past three decades and the resulting expansion of governance in the absence of an international sovereign that makes and enforces rules. Analyzing global governance, Allan Buchanan and Robert Keohane have distinguished between normative legitimacy, “the right to rule,” and a sociological basis for legitimacy, “when it [the institution] is widely believed to have the right to rule.”⁶ Critics of organizations like the WTO, they observe, argue multilateral governance lacks the right to rule because of a failure to protect human rights, labor, and the environment. Yet much of the scholarship on legitimacy drops sociological or historical considerations – in which institutions would be evaluated for their ability to earn the trust of interested communities over time, or in which researchers would seek to shed critical perspective on public demonstrations of legitimacy – to focus instead on normative criteria.⁷ As part of this agenda, metrics for legitimacy have been proposed, including institutional integrity (actual performance measured against self-proclaimed goals), inclusiveness, accountability, transparency, and comparative benefit (outcomes superior to those expected in the absence of the organization).⁸

At various points during its history since the end of WWII, the institution of free trade has confronted and overcome normative challenges to its legitimacy. However, it would be a mistake to suggest a planned, sequential process has built legitimacy for the General Agreement on Tariffs and Trade (GATT) or its successor, the WTO. Instead, the history of legitimizing free trade has involved advancing conceptual and economic arguments for reduced tariffs and other trade barriers while also persuading political elites of the benefits of GATT and WTO as the rule makers for free trade. But a limit may have been reached. First, under the “bicycle” theory of trade rounds, progressive liberalization builds the political support necessary to sustain the WTO and advance a new round of talks.⁹ As the Doha Round’s deadlock extends into a second decade, however, the domestic support necessary to sustain the WTO has begun to decline in both developed and developing countries. Second, free trade advocates have done little to manage either predicted (e.g., shifts in employment) or somewhat less expected (e.g., intensification of inequality) disruptions from global trade, sparking a backlash. The economist Dani Rodrik has suggested that globalization as an institution therefore is encountering a trilemma: it is impossible to simultaneously pursue democracy, national determination, and

4. M. Weber, *Economy and Society: An Outline of Interpretive Sociology, Volume 1* (Berkeley: University of California Press, 1978), 212-245.

5. S. Lipset, “Some Social Requisites of Democracy: Economic Development and Political Legitimacy,” *American Political Science Review* 53 (1959), 69-105; quotes at 86 and 88.

6. A. Buchanan and R. Keohane, “The Legitimacy of Global Governance Institutions,” *Ethics and International Affairs* 20 (2006), 405-437.

7. A similar point is made by Steven Bernstein, who has proposed that legitimacy involves the interaction of communities of actors with broader institutionalized norms or social structures. See: S. Bernstein, “Legitimacy in Intergovernmental and Non-State Global Governance,” *Review of International Political Economy* 18 (2011), 17-51.

8. R. Keohane, “Global Governance and Legitimacy,” *Review of International Political Economy* 18 (2011), 99-109.

9. K. Bagwell and R. Staiger, “A Theory of Managed Trade,” *American Economic Review* 80 (1990), 779-795.

economic globalization.¹⁰ Third, while the DSB interprets trade agreements when ruling on disputes, only states can enforce decisions. Nearly every ruling creates a domestic dilemma when organized interests in the losing country object to a DSB decision. Furthermore, participating states with less economic clout are disadvantaged relative to wealthier countries, especially when imposing punitive tariffs will hurt poorer domestic consumers.

This article draws upon these findings while advancing a historical approach to the analysis of legitimacy. I argue that understandings of legitimacy change over time, especially as organizations like the WTO interact with organized interests, including member countries and outside NGOs. While not an escape from Rodrik's trilemma or a new basis for normative legitimacy, the analysis developed here is crucial, I suggest, to understanding international institutions and ongoing developments in globalization writ large. I develop this point through a brief history of the WTO as the organizational entity managing the institution of free trade and a case study of a lengthy international trade dispute over agricultural subsidies. Rather than hold the WTO up to *a priori* definitions of legitimacy, this article instead considers its organizational evolution from expanding membership and broadening topics of negotiation to dispute resolution. As the WTO took on a decidedly juridical process alongside ongoing multilateral negotiations of the Doha Round, the basis for institutional legitimacy likewise shifted. For the WTO, organizational legitimacy and institutional legitimacy are inseparably intertwined. Consequently, challenges to the WTO's legitimacy that may arise from its emerging function in adjudicating disputes, including decisions on models and econometric forecasting, have significance for the underlying institution of free trade.

Views concerning legitimacy and the institution of free trade developed here are congruent with scholarship in science and technology studies (STS) on institutions and international organizations. STS pays particular attention to the source of scientific ideas and how they gain credibility and authority in international settings. Compelling accounts of the power of ideas, according to STS, need to specify how the ideas come to be framed in particular ways and how these framings come to shape institutions.¹¹ Two topics of theoretical and empirical work in STS are of particular significance to understanding the role of trade disputes in legitimizing the WTO: dilemmas of expertise in international settings and controversies and their closure.

Quandaries associated with scientific, technical, and biomedical expertise have long occupied scholars in STS.¹² Scientific experts active in international organization often must justify knowledge claims to more diverse groups (by education, technical knowledge, and epistemological viewpoints) than their peers, including in formally designed "deliberative democracy" initiatives.¹³ Other work on expertise has identified how it acts as a barrier to representative participation or can even trap experts in "double-binds" when they cannot both intervene and maintain norms of neutrality and disinterestedness.¹⁴ For experts drawn into legal

10. D. Rodrik, *The Globalization Paradox: Democracy and the Future of the World Economy* (New York: W.W. Norton, 2011), esp. 81-88 and 200-206.

11. S. Jasanoff and B. Wynne, "Science and Decision Making," in S. Rayner and E. Malone (eds.) *Human Choice and Climate Change: The Societal Framework* (Columbus, OH: Battelle Press, 1998), 1-87.

12. See, for example: S. Sismondo, *An Introduction to Science and Technology Studies* (Wiley-Blackwell, 2nd ed., 2010), esp. 180-188; B. Barnes and D. Edge, "Science as Expertise," in B. Barnes and D. Edge (eds.), *Science in Context: Readings in the Sociology of Science* (Cambridge: MIT Press, 1982), 233-249.

13. E. Löwbrand, R. Pielke, and S. Beck, "A Democracy Paradox in Studies of Science and Technology," *Science, Technology, and Human Values* 36 (2011), 474-496.

14. On expertise barriers, see: S. Parthasarathy, "Breaking the Expertise Barrier: Understanding Activist Challenges to Science and Technology Policy Domains," *Science and Public Policy* 37 (2010), 355-367; for the double-bind of expertise,

and regulatory disputes, a challenge arises concerning specific and general knowledge. The expert is asked to draw conclusions based on their general technical knowledge and experience, rather than from the detailed analysis or direct observation of the specific case at hand (which may, in fact, be unobservable if it involves predictions of future events). This article examines how creating new knowledge about the economic and behavioral outcomes produced by different agricultural subsidies is fundamentally inseparable from its political and policy implications. Consequently, the use of experts by the WTO poses an organizational dilemma as it also seeks legitimacy through democratic and managerial procedures. The WTO's power increasing lies in classifying, standardizing, and ruling on knowledge, including deciding on the validity of econometric models. This creates an inherent tension for the WTO going forward, and it may soon encounter larger-scale epistemic challenges of the sort found at the Intergovernmental Panel on Climate Change and at other international organizations.¹⁵

Scientific and technical controversies are a second area of longstanding sociological inquiry, significant as moments in which tacit or otherwise hidden dimensions of institutional rules and operations are made visible. Scholars in STS have been drawn to seemingly technical disputes for the opportunity to peer inside "black boxes" and observe human agency, contingency, and uncertainty that also underlie uncontroversial or normal science.¹⁶ As modeling has gained importance in recent years, ranging from environmental to economic, new opportunities have arisen for examining how knowledge claims are standardized, transferred to new arenas, and employed in the production of policy-relevant determinations.¹⁷ STS scholarship has been especially interested in the institutional procedures that govern how facts are established, validated, and contested in bounded ways, for example, to give models authority even when the resulting policy recommendations remain very controversial. Of particular focus here are the ways in which contestation actually helps enable the exercise of power. As I will argue below, disputes at the WTO are now central to its institutional legitimacy and help to extend its functional role in a global free-trade system.

This article therefore builds on scholarship in political science and STS by analyzing questions of expertise and the fit between economic models and real-world observations that arise in international trade disputes. I argue that through the development of a visibly deliberative approach to dispute resolution, the WTO has gained legitimacy even though decision-making remains in the hands of a narrow band of technical and economic experts. To make these points concrete, the article provides a history of the WTO, including the ongoing Doha Round, and then focuses on a major trade dispute between Brazil and the United States concerning cotton subsidies. The WTO dispute process at present is caught between representative legitimacy common to democratic systems and procedural legitimacy common to science and the law. Questions concerning the source and validity of knowledge claims about

see: A. Daemmrich, "A Tale of Two Experts: Thalidomide and Political Engagement in the United States and West Germany," *Social History of Medicine* 15 (2002), 137-158.

15. C. Miller, Democratization, International Knowledge Institutions, and Global Governance," *Governance: An International Journal of Policy, Administration, and Institutions* 20 (2007), 325-357.

16. T. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962); D. Nelkin, "Science Controversies: The Dynamics of Public Disputes in the United States," in S. Jasanoff et al. (eds.), *Handbook of Science and Technology Studies* (Thousand Oaks, CA: Sage Publications, 1995), 444-456; B. Martin and E. Richards, "Scientific Knowledge, Controversy, and Public Decision Making," in: S. Jasanoff et al. (eds.), *Handbook of Science and Technology Studies* (Thousand Oaks, CA: Sage Publications, 1995), 506-526.

17. C. Miller, "Epistemic Constitutionalism in International Governance: The Case of Climate Change." In M. Heazle, M. Griffiths, and T. Conley (eds.), *Foreign Policy Challenges in the 21st Century* (Cheltenham, U.K.: Edward Elgar, 2009), 141-163.

trade and development thus were not only central to the cotton dispute, but also figure generally in legitimating the WTO as the organizational manifestation of the international trading system.

3. Legitimacy through Growth

The WTO traces its roots to a July 1944 meeting of 44 allied nations in Bretton Woods, New Hampshire. In an effort to avoid a return to competing nationalistic economic policies that had worsened the Great Depression and contributed to the outbreak of World War II, participants agreed to establish several new multilateral institutions that would govern international trade and finance. International trade had prospered from the 1840s through the 1870s when Britain, France, and other countries negotiated deep tariff reductions. But in response to economic crises and rising late-19th century nationalist sentiments, governments raised tariffs and introduced other trade barriers. Tariffs in leading European countries and the United States were lowered again after WWI, and trade rebounded during the 1920s. Responses to the 1929 stock market crash, however, included new trade barriers starting with the Smoot-Hawley Act in the United States, which quadrupled tariffs on more than 3,200 imports. Other countries quickly followed suit, both deepening and prolonging the Great Depression as trade volumes plummeted.¹⁸

Looking ahead to the end of WWII and the need for post-war ordering of international commerce, government representatives at Bretton Woods agreed to create the International Monetary Fund (IMF), the International Bank for Reconstruction and Development (IBRD), and an International Trade Organization (ITO). While the IMF and the IBRD (later called the World Bank) were founded in 1947, the ITO never came into existence. The General Agreement on Tariffs and Trade (GATT), signed in 1947 as a transition to the ITO, instead became the institutional framework under which countries reciprocally reduced tariffs and sought to resolve trade disputes.

3.1. GATT in Action

GATT contained several principles that contributed to its endurance through four decades of trade talks. First, the “most-favored-nation” (MFN) rule held that reductions in tariffs or non-tariff barriers that created “advantage, favour, privilege or immunity” between any signatory countries applied to every member.¹⁹ Countries had incentives to work through GATT instead of negotiating separate bilateral agreements, although side deals that moved in the direction of free trade were permitted. A second key principle concerned “national treatment,” under which GATT signatories pledged identical tax levels and regulatory standards for imported and domestic products. A third important principle prohibited dumping, defined as pricing exports below the domestic price in the origin country or below the cost of production plus additions for transport and profit.²⁰ Anti-dumping took center stage in GATT negotiations in the 1960s and became controversial when the United States and European countries brought claims against developing countries in the 1970s. Reflecting geographic shifts in manufacturing, by the

18. J. Madsen, “Trade Barriers and the Collapse of World Trade during the Great Depression,” *Southern Economic Journal* 67 (2001), 848–868.

19. “The General Agreement on Tariffs and Trade (GATT 1947),” 4, www.wto.org.

20. GATT 1947, 9.

mid-1990s developing countries increasingly filed dumping suits against one another. Economists argued that anti-dumping measures protected entrenched firms without providing benefits to consumers or national economies.²¹ Nevertheless, anti-dumping suits had populist appeal for governments worldwide.

Negotiation rounds started after participating countries agreed to discuss specific product categories. Although the U.S. Congress scuttled the ITO in 1950, the country took a leading role in tariff reductions under GATT. Broadly, the post-war period saw tariffs fall across developed economies, while developing countries pursued a variety of strategies; many held tariffs high in an effort to protect nascent domestic industries, while others sought to attract foreign firms through low barriers to trade and capital flows. The Tokyo Round, which started in 1973, was the first to consider non-tariff barriers; however, final agreements in 1979 followed in the tradition of tariff reductions. Countries could file complaints in the event trading partners failed to follow through on commitments to reduce tariffs or remove trade barriers. In many instances, reports identified changes needed to align national policies to GATT's principles. But with no enforcement mechanism, countries felt little pressure to make speedy changes.²²

3.2. *Founding the WTO*

The WTO was created in 1995 as part of a major Uruguay Round accord. The eighth and final GATT negotiations started in 1986 at a meeting in Punta del Este, Uruguay. An ambitious agenda covered tariff reductions on goods; non-tariff barriers, including subsidies, import procedures, government procurement, and customs valuation methods; and new issues of intellectual property and international investment. Entering the Uruguay Round, over 120 participating countries also agreed to discuss dispute settlement procedures. On April 15, 1994, the round was completed with pledges for significant tariff reductions, promises to remove non-tariff trade barriers, and agreement on dispute resolution and enforcement governed by a new organization, the WTO. In addition to existing GATT agreements, the WTO gained oversight of the new General Agreement on Trade in Services (GATS), Trade-related Aspects of Intellectual Property Rights (TRIPS), Trade-Related Investment Measures (TRIMs), and sector-specific accords, including the Agreement on Agriculture (AoA), the Agreement on Textiles and Clothing (ATC), and a revised agreement on Sanitary and Phytosanitary Measures (SPS). Broadly, the WTO now had mandates that impinged on national governments in politically sensitive areas of product safety, health, environment, innovation, and competition policy.

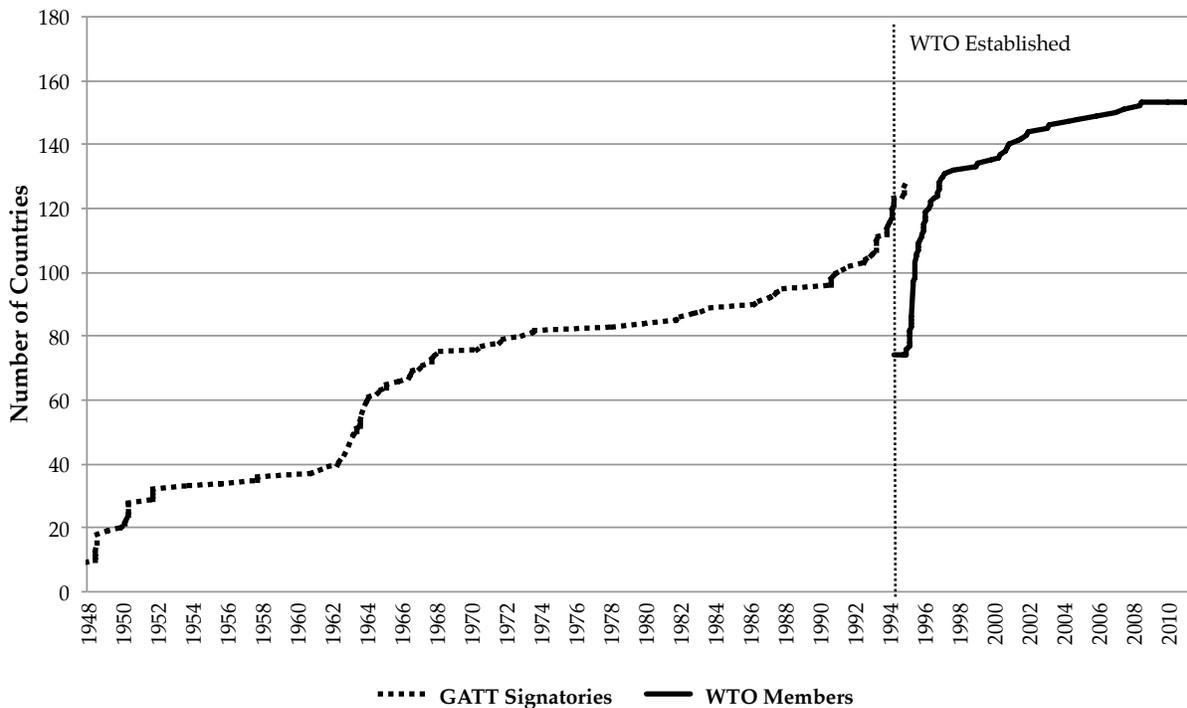
WTO officials took over existing GATT offices in Geneva and began scheduling "ministerial" conferences of trade officials (typically every two years), occasional other negotiating sessions, and regular council meetings to carry out the work of dispute resolution and trade policy review. Reflecting tensions prevalent in the Uruguay Round, some countries signed the GATT agreements through the end of 1995, even as over 70 countries joined the WTO. From 128 GATT signatories, the initial WTO membership dropped to 74 countries and only reached the prior GATT numbers in 1998 (see figure 1). Membership subsequently grew

21. I. Neufeld, "Anti-Dumping and Countervailing Procedures: Use or Abuse?" *United National Policy Issues in International Trade and Commodities*, 9 (2001).

22. E. Reinhardt, "Adjudication without Enforcement in GATT Disputes," *Journal of Conflict Resolution* 45 (2001), 174-195.

more slowly, especially once Doha Round disputes made the benefits of joining less clear to the 39 countries recognized by the United Nations that had not joined the WTO.

Figure 1. GATT and WTO Cumulative Membership



While the Uruguay Round agreements were hailed as a major breakthrough in the contentious history of trade negotiations, they also generated disputes between developed and developing countries and drew the attention of NGOs and activists. A group of developing countries sometimes called the “G-10 hardliners” – led by Brazil and India – initially opposed the inclusion of services, intellectual property rights, and investment measures in trade talks.²³ Suffering from balance-of-payments crises in the early 1990s and under IMF and World Bank pressure, they agreed to the final WTO deal. The agreement ultimately hinged on a “grand bargain” that differed from the traditional reciprocity of opening markets and lowering tariffs between countries for the same class of goods. The new deal held that OECD countries would open their markets to agricultural and labor-intensive manufactured goods, including foodstuffs and clothing; in exchange, developing countries would enforce IP and open financial markets to outside investors.

But the grand bargain also reinforced divisions between developed and developing nations. Developing countries argued the WTO negotiating process was biased in favor of rich countries and resented pressure brought to bear to sign the Uruguay deal. Subsequent WTO meetings grew acrimonious. The 1999 Seattle meeting featured thousands of protesters on the streets,

23. C. Bown, *Self-enforcing Trade: Developing Countries and WTO Dispute Settlement* (Washington, D.C.: Brookings Institution Press, 2009), 22-44.

violent clashes with police, and vociferous disputes in meeting rooms. It ended with a walkout by delegates from most developing countries.²⁴ In a stinging rebuke of the view that WTO agreements allowed a managed transition to free trade and would promote general prosperity, protesters characterized the WTO as “the most effective anti-democratic institution on earth”²⁵ While adopting a more moderate tone, representatives from developing countries – comprising the majority of new WTO membership – found that the institution operated with tacit rules. Negotiating rounds involved large sessions, but key decisions were made in smaller working groups dominated by the largest economies. Expecting a more open and democratic process, numerous countries raised the issue of how the WTO could claim to speak for all members when many felt coerced into participating by the necessity of belonging to the international trading system.

3.3. The Doha Round

Nevertheless, at the fourth Ministerial Conference in Doha, Qatar, in November 2001, WTO members agreed to launch a new negotiation round. Formally, the talks were called the “Doha Development Agenda,” rather than a new “Round.” Meetings took place under heavy security, coming just two months after the 9/11 terrorist attacks in the United States and out of concern that Seattle-style protests would be repeated. The irony of delegates gathering in a tightly policed remote location to negotiate free trade was not lost on journalists.²⁶ Participants explicitly sought to address a variety of development issues, including technology transfer and the affordability of treatments for AIDS, in addition to further reductions in tariffs and the removal of other trade barriers. Some countries contested broadening the scope of trade negotiations and fundamental differences emerged concerning agricultural subsidies and IP rights that were not easily resolved, even under the rubric of development. Talks at Doha concluded with a 10-page declaration that reaffirmed member states’ rights to regulate domestically, notably environment, labor, and services. It also outlined technical assistance and capacity building initiatives for developing countries.²⁷ Delegates announced a “work programme” of negotiations on agriculture, services, intellectual property, international investment, competition policy, government procurement, and WTO governance, all of which were to be completed by 2005.

Meetings in Cancún in September 2003 revealed a hardening of positions on agricultural subsidies, IP rights, and four “Singapore” issues (named for the first WTO ministerial conference held in Singapore in 1996), namely international investment, competition policy, government procurement, and trade facilitation. Capital flows and investment were particularly contentious in the wake of the 1997 Asian financial crisis, during which investors rapidly pulled money out of Thailand, Malaysia, Indonesia, Korea, and other countries, generating exchange rate depreciation, stock market crashes, and recessions.

The Cancún meeting also featured a recalibration of North – South relations in WTO negotiations. For example, Zimbabwe’s Ambassador Chidyausiku spoke for many developing

24. S. Ostry, “The World Trading System: In the Fog of Uncertainty,” *The Review of International Organizations* 1 (2006), 139-152.

25. J. Passacantando, “Dark Power of the WTO,” *Denver Post* (November 20, 1999), B11.

26. R. Stevenson, “Measuring Success: At Least the Talks didn’t Collapse,” *The New York Times* (November 15, 2001).

27. WTO, “Ministerial Declaration,” November 14, 2001, www.wto.org.

countries when he observed: "In Doha, they created a process where Ministers could go to the Committee of the Whole and discuss and raise issues, but nobody was taking into account what they said ... In fact, there was a smaller group taking the decisions for the whole."²⁸ A WTO G-20 was forged among developing countries, led by Brazil, China, and India, which agreed to negotiate as a unified bloc. Representing 70% of the world's rural population, the G-20 criticized efforts by the United States and the European Union to continue domestic farm subsidies and agricultural export supports. At the same time, some WTO G-20 members, notably India, objected to cutting tariffs on imported agricultural products, and four West African countries sought a specific agreement on ending cotton subsidies in the United States.²⁹ The Cancún meeting ended in disarray. North - South tensions continued unabated in follow-up meetings, despite an agreement to drop the Singapore issues.

In 2008, as the global economy slid into its most severe recession since the 1930s, economists worried that protectionist interventions could lead to another Great Depression. Russia, not yet a WTO member, imposed a variety of new tariffs, the United States included a controversial "buy American" provision in a major stimulus bill, and the number of WTO anti-dumping cases rose by 40 percent.³⁰ An IMF study noted: "Gaps in WTO commitments leave ample scope to further restrict trade, so unless all countries vigorously resist protectionism this could threaten the economic recovery."³¹ In the short term, fears were not realized. A new global G-20 of the world's largest economies was formed to coordinate macroeconomic interventions; a September 2009 meeting concluded with the statement: "we are committed to bringing the Doha Round to a successful conclusion in 2010."³² Nevertheless, subsequent meetings in Potsdam and Geneva during the next two years failed to reach a significant breakthrough, and as of late 2011 prospects for a Doha Round compromise remained remote.

In the absence of progress at the WTO, bilateral and regional trade agreements proliferated, with nearly 300 preferential deals in effect in 2010.³³ Some proponents of global free trade considered bilateral agreements a necessary precondition to multilateral solutions at the WTO. Others worried that a thicket of competing bilateral treaties would undermine momentum for the compromises needed to complete the Doha Round.³⁴ Bilateral treaties inevitably imposed externalities on other non-member countries, borne disproportionately by smaller nations. Academic economists noted that they distorted trade and were more subject to capture by industries than WTO agreements. In some instances, bilateral free trade agreements had fewer workplace or environmental controls than were found in WTO agreements. Furthermore, bilateral negotiations put smaller and poorer countries at a disadvantage relative to the United States and European Union in terms of technical expertise and staffing at meetings.

Nevertheless, by 2011 the WTO's leadership celebrated the breadth of membership and a sense of calm process in contrast to meetings in Seattle or Cancun. Writing in a blog, WTO director-general Pascal Lamy observed that the tenor had changed as the WTO ceased

28. A. Kwa, *Power Politics in the WTO* (Bangkok: Focus on the Global South, 2003), 26.

29. "The WTO Under Fire," *The Economist* (September 20, 2003), 26-28.

30. J. Miller, "Nations Rush to Establish New Barriers to Trade," *The Wall Street Journal* (February 6, 2009), A1.

31. R. Gregory, et al., "Trade and the Crisis: Protect or Recover," *IMF Staff Position Note* (April 16, 2010), 4.

32. This G-20 has nothing to do with the WTO G-20, which represents developing country interests. G-20, "Leader's Statement: The Pittsburgh Summit," www.pittsburghsummit.gov.

33. WTO, *World Trade Report 2011: The WTO and Preferential Trade Agreements* (Geneva: WTO, 2011).

34. J. Bhagwati, "Regionalism and Multilateralism: An Overview," in: J. de Melo and A. Panagariya (eds.), *New Dimensions in Regional Integration* (Cambridge: Cambridge University Press, 1993), 22-50; J. Schott, *Free Trade Agreements: U.S. Strategies and Priorities* (Washington, DC: Institute for International Economics, 2004).

integrating new members and began to hold negotiations exclusively in Geneva. Reflecting on at 2010 meeting, he stated: "There were no surprises. It was not a big jamboree, with thousands of journalists, hugely costly arrangements and sleepless nights. But a feeling of normality, a feeling that the WTO is a solid institution. This conference was more like a shareholders meeting to review annual activities and priorities."³⁵ Whether or not intended, Lamy's analogy between WTO negotiations and corporate annual meetings was appropriate. Just as any votes at shareholder meetings typically are tightly orchestrated and comments from the floor rare, the WTO sought legitimacy not through democratic voting, but through structured negotiations with attention to members' vested interests.

Furthermore, the calm that Lamy celebrated was also a sign of an institution on a plateau. Membership had leveled off at 153 countries. A great deal of world trade was duty-free and tariffs on manufactured goods averaged below 5% across industrialized economies. Developed countries nevertheless sought greater access to high-growth markets in middle-income countries for financial services, medicines, entertainment, and agricultural goods. Poorer nations had limited options for agricultural and manufactured exports, and commonly were dependent on a small number of purchasers locked in through bilateral agreements. A Doha Round compromise could expand trade globally, yet fundamental differences on domestic subsidies and other non-tariff issues meant that few proposals for compromise were emerging from either side.

For decades, first GATT and then the WTO derived legitimacy from demonstrating the network effects of membership. By joining, countries could access larger markets for exports and engage in trade negotiations in a more balanced way than found in many bilateral settings. However, as the Doha Round began, developing countries challenged WTO negotiations as biased to rich country interests and therefore lacking legitimacy. The creation of a WTO G-20 by rising middle-income nations shifted the focus of discussions from intellectual property enforcement and capital flow liberalization (of concern to the United States and European Union) to agriculture. However, with membership growth stalled and negotiation meetings breaking down in acrimony, the WTO's legitimacy as the peak organization for trade discussions came under more sustained attack than in the past, and trade negotiations independent of the WTO framework became attractive to many countries.

4. Legitimacy through Dispute Adjudication

Despite the Doha Round stalemate and attention given to negotiating rounds, the WTO in the 1990s and 2000s implemented formal procedures to resolve trade disputes and enforce decisions. In the course of taking on a juridical role, the WTO deepened its organizational function in the global system. At the same time, dispute settlement body (DSB) rulings grew ever more technical as they drew upon the testimony of scientific and economic experts. A body of common law thus emerged for international trade in the form of a sequence of rulings written in a rational, neutral, and technical-legal language, including citations to previous decisions and references to economic and scientific principles. Nevertheless, DSB decisions sometimes encountered significant resistance, especially when they went against the interests of major powers. As a direct consequence of the DSB's growing role, juridical legitimacy became

35. P. Lamy, "Ministerial Conferences: Pascal Lamy's Ministerial Conference Blog," (December, 2010), World Trade Organization, www.wto.org.

of critical significance for the WTO. Dilemmas familiar to scholars of science and technology policy emerged in which experts, selected for training and knowledge not for their representation of economic interests or through democratic voting, defined a variety of issues with deep political and economic ramifications. While such a “technical turn” helped to limit challenges to the credibility of panel members and the DSB as a ruling body, it made claims for the democratic legitimacy of the WTO more difficult to sustain.

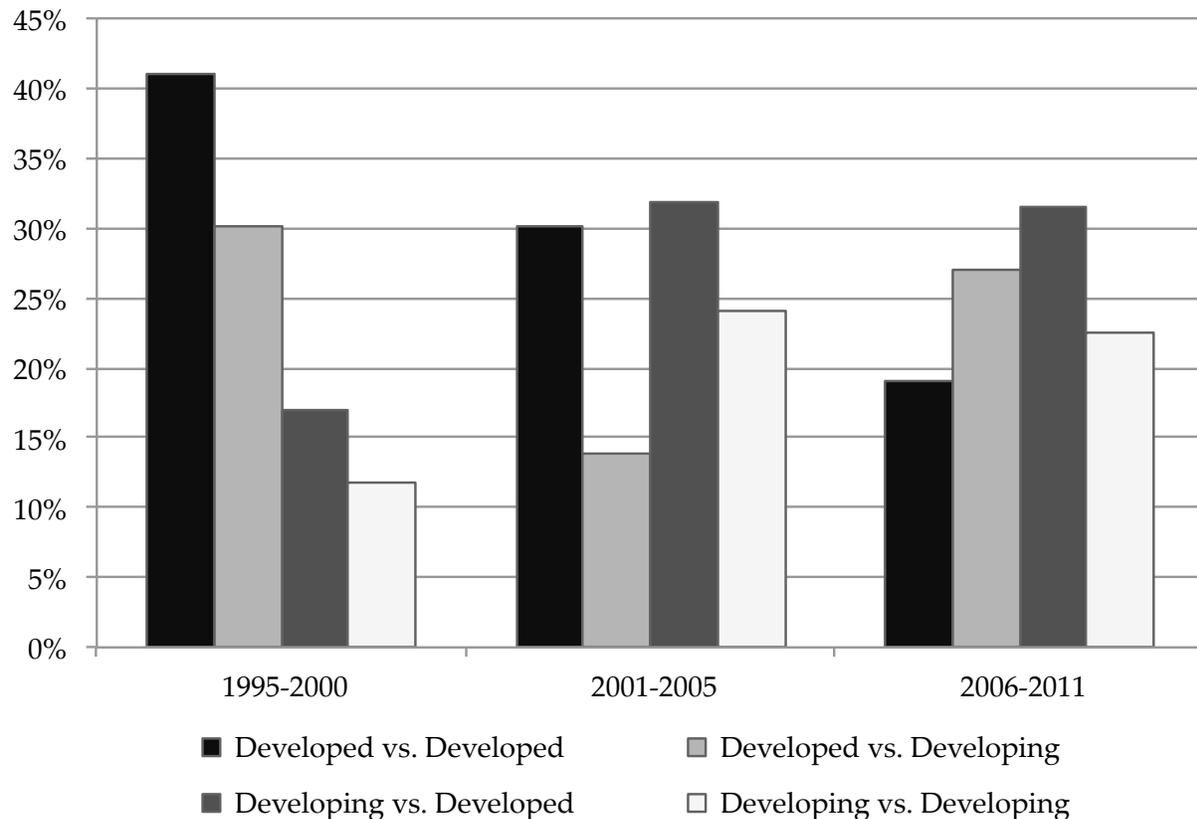
Whereas GATT relied on the agreement of all members (including the offending country) to levy sanctions, the Uruguay Round accords established the DSB with power to rule on trade disputes, monitor implementation, and authorize retaliation if countries failed to comply.³⁶ Dispute resolution at the WTO followed a four-stage sequence of consultation, panel proceedings, appellate review, and implementation. The first step was for parties to meet in an attempt to settle differences directly. If negotiations failed after 60 days, the DSB formed a panel of three (in rare cases, five) experts to hear the case. The panel, whose members had to be selected within 45 days and in consultation with the claimants, accepted written arguments from both sides, held a series of hearings to allow oral argument and rebuttals, and then delivered an interim report of findings and conclusions. Once each side reviewed and commented on the interim report, the panel issued a final report explaining whether a disputed measure violated WTO agreements. Unless a consensus at the DSB rejected the report, it became an official ruling within 60 days. Three members of a permanent seven-member appellate body, itself drawn from the general WTO membership, heard appeals that could come from either side. Members of panels and the appellate body served “in their individual capacities,” without instructions from home governments. In theory, the full process was supposed to take no longer than 15 months. In practice, disputes have extended for up to ten years or more thanks to the extension of deadlines during multiple rounds of appeals.

Countries that failed to comply with panel or appellate body rulings within a “reasonable period of time” had to re-enter direct negotiations with the complainants to determine compensation. Payments for prohibited policies took the form of new tariffs by the complainant, or tariff reductions by the losing party that were of particular benefit to the complainants. If no agreement was reached, complainants could ask the DSB for permission to impose trade sanctions. The WTO typically authorized countervailing tariffs in the same sector as the dispute although it also could authorize cross-sector retaliation.

In the DSB’s early years, the United States and European countries filed most claims, both against one another and against developing countries (see Figure 2). By the latter half of the 2000s, new complaints were on a more even footing, primarily because developed countries were filing fewer disputes against one another or against developing countries. As a percentage of new disputes initiated, complaints by developing countries against developed nations went from 16 percent in the five years starting in 1995 to over 30 percent subsequently. Critics continued to attack the WTO as lacking legitimacy, partly because of barriers faced by developing countries seeking to file disputes and partly for delayed compliance by rich-world countries to unfavorable rulings. Notable among the challenges for developing countries were the legal and technical expertise needed to develop arguments appropriately for panels to evaluate, and the direct legal, travel, and other expenses of sustaining disputes over many years.

36. WTO, “Understanding the WTO: Settling Disputes,” www.wto.org, accessed November 2011.

Figure 2. WTO Disputes Initiated



4.1. Brazil and the WTO

Nevertheless, several developing countries created explicit strategies focused to the dispute resolution process that ultimately proved important to the legitimacy of the WTO.³⁷ In particular, Brazil's president Luiz Inácio Lula da Silva (Lula) took a leading role in WTO negotiations starting in 2003, both independently and in conjunction with the WTO G-20 block. Lula's approach contrasted with that of his predecessor, Fernando Cardoso, who had led Brazil's accession to the WTO in 1995 as part of an economic liberalization strategy. Brazil had suffered from two decades of dictatorship and rampant inflation. In response, Cardoso initiated the *Plano Real*, which held interest rates high to restrain inflation (which peaked at 2,700% in 1993), balanced government budgets, introduced a new currency (the *real*) with a fixed exchange rate, reduced tariffs on foreign goods, and privatized several state-owned enterprises.³⁸ Left-leaning politicians warned that lower tariffs would hurt domestic firms, raise unemployment, and worsen poverty. Cardoso, however, held that membership in the WTO

37. Notable WTO complainant countries in the 2000s included Brazil (26 complaints), Mexico (21 complaints), India (20 complaints) and Argentina (14 complaints). See: A. Daemrich, "Stalemate at the WTO: TRIPS, Agricultural Subsidies, and the Doha Round," Harvard Business School note 711-043 (2011).

38. T. Skidmore, *Brazil: Five Centuries of Change*, 2nd ed. (Oxford: Oxford University Press, 2010), 212-219; J. Abu-El-Haj, "From Interdependence to Neo-mercantilism: Brazilian Capitalism in the Age of Globalization," *Latin American Perspectives* 34 (2007), 92-114.

would increase the efficiency of Brazilian firms and help control inflation through access to lower-priced imports. Brazil's economic potential in the wake of reforms attracted international attention. Among others, a prominent series of Goldman Sachs studies forecast that the country would be among the five largest economies in the world by 2030.

Lula's administration maintained many of Cardoso's fiscal and monetary policies, but he personally adopted a more visible and populist role in international negotiations. In the 2001 Goldman Sachs report that introduced the term "BRICs" to group rapid-growth Brazil, Russia, India, and China, the economist Jim O'Neill observed, "Representation at global economic policy meetings might need to be significantly changed."³⁹ Whereas the United States and the European Union were at the forefront of tariff negotiations in the past, the shift in trade topics to intellectual property and agricultural subsidies put Brazil and other middle-income countries at the center of the Doha Round. Lula strongly supported a Doha compromise, especially during the global financial crisis that started in 2008. Antonio Patriota, Ambassador to the United States and subsequently Brazil's foreign minister, cited a mandate from Lula: "Notwithstanding the global economic situation, one of the greatest contributions to growth by developed countries would be to complete the Doha Round. By cutting down on subsidies in agriculture they would generate growth for those most affected by the crisis."⁴⁰

4.2. *Agriculture and Trade*

Agricultural subsidies were a longstanding sore point in WTO negotiations. Under the 1947 GATT agreement, tariffs on industrial and agricultural products were to be lowered together. In practice, successive negotiation rounds excluded agriculture in order to achieve consensus on other tariff reductions. A breakthrough came in the 1994 Agreement on Agriculture (AoA), part of the Uruguay Round agreements. Under the AoA, countries had set schedules to follow when phasing out subsidies and tariffs. The United States and European Union agreed to sort tariffs and subsidies into three conceptual "boxes": a permissible green box, a transitional blue box, and a banned amber box.⁴¹ Other countries committed to reduce agricultural supports to less than 5 percent of the market production value (10 percent for developing nations) of a particular crop. Green box policies were believed to have minimal effects on production and trade; these included conservation programs, scientific research, and nutrition programs such as food stamps. Amber box policies had direct effects on production and trade; they were to be phased out over time from baseline levels. Prohibited policies varied by economic development level, but broadly included counter-cyclical payments, direct price supports by volume of harvested crop, and government-subsidized loans to farmers or crop purchasers. The blue box was believed by developing countries to be a short-term transition mechanism, but proved controversial when the European Union and United States sought to use it to postpone major changes to domestic subsidies.

The AoA included several articles intended to protect farmers and to ease the transition to a new regime of reduced tariffs and no production or export subsidies. First, it gave countries 6 years from January 1, 1995 (10 years for developing countries), to implement the agreement.

39. J. O'Neill, "Building Better Global Economic BRICs," *Global Economics Paper No. 66* (November 30, 2001), 5.

40. Interview with Antonio Patriota, then Secretary General of Foreign Affairs, Brasília, August 10, 2010.

41. These boxes vary slightly from other WTO subsidies, which are classified as green box (permitted), amber box (to be reduced), and red box (forbidden).

Second, “special safeguard” provisions allowed countries to raise tariffs temporarily if import volumes spiked or if the price of imports dropped suddenly.⁴² Third, a “peace clause” in article 13 stated that countries would exercise “restraint” from initiating WTO disputes or introducing countervailing duties based on other GATT or WTO agreements until the end of 2003.⁴³ The United States and European Union interpreted this clause to provide immunity from dispute claims so long as they demonstrated progress toward AoA commitments. Rulings by the WTO Dispute Settlement Body, notably in the course of a dispute regarding U.S. cotton subsidies, later held that article 13 was not a barrier to claims or punitive measures regarding specific commodities.

While the United States initially aligned policies with WTO commitments, notably through the 1996 Federal Agricultural Improvement and Reform Act, Congress subsequently passed emergency spending that cushioned farmers from a variety of crises. The 2002 farm bill grouped these with other counter-cyclical payments and established “production flexibility contracts” granting subsidies independent of the planted crops. The administration then categorized the revamped support as blue box, and pledged to limit it to 2.5 percent of the total annual value of agricultural production.

The European Union likewise passed reforms in 2003 that decoupled farm payments from output, giving farmers greater flexibility in crop choice. At the same time, export subsidies were restructured and categorized as blue box. Tariffs on imports remained high and direct and indirect farm subsidies comprised over 40 percent of the EU budget throughout the 2000s.

American and European agricultural policies proved controversial in WTO meetings, and complex, shifting alliances were formed. The United States and G-20 countries requested that the European Union reduce tariffs by 50 percent or more. The European Union and the G-20 argued that the United States should put all “emergency” payments and production subsidies in the amber box for elimination. Developing countries proposed safeguard mechanisms under which they could impose tariffs if imports surged by 10 percent or more, while the United States and European Union wanted the threshold set at 40 percent.⁴⁴

4.3. Brazil – United States Cotton Dispute

Agricultural subsidies in Brazil were modest, averaging below 6 percent of total farm income, compared with 12 percent in the United States and 29 percent in the European Union.⁴⁵ The primary route for government assistance to agriculture was through research and large-scale soil improvement programs spearheaded by the Brazilian Agricultural Research Corporation (Empresa Brasileira de Pesquisa Agropecuária, or Embrapa). Over the course of the 1980s and 1990s, Embrapa’s programs added phosphorus and lime to improve the soil in Brazil’s vast *cerrado* (savannah), developed strains of commodity crops that prospered in the Brazilian climate, and helped underwrite the uptake of new machinery and farming technologies.⁴⁶ Greater production at lower cost helped farmers withstand price fluctuations in

42. WTO, “Agriculture Negotiations: The Peace Clause,” www.wto.org, accessed November 2011.

43. WTO, “Marrakesh Declaration of 15 April 1994, Agreement on Agriculture,” Article 13, 53-54.

44. WTO, “WTO Agricultural Negotiations: The Issues, and Where We Are Now,” December 1, 2004, www.wto.org; R. Schnepf and C. Hanrahan, “WTO Doha Round: Implications for U.S. Agriculture,” Congressional Research Service, Report 22927 (January 4, 2010).

45. OECD, “Agricultural Policy Indicators: Producer and Consumer Support Estimates,” <http://stats.oecd.org>.

46. “The Miracle of the Cerrado,” *The Economist* (August 28, 2010), 58–60.

commodity crops and the value of Brazil's agricultural exports grew by 365 percent between 1996 and 2006. Soybean production expanded from 15 million metric tons in 1980 to over 62 million tons in 2009. Likewise, cotton farmers improved yields from below 200 kilograms per hectare (kg/ha) in the 1980s to a world-leading 1,450 kg/ha by 2009 (cotton yields in the United States averaged 920 kg/ha).⁴⁷

In 2001, the Brazilian government set up an office for the General Coordination of Disputes (Coordenação Geral de Contenciosos, or CGC) within the foreign ministry specifically focused to international trade issues. CGC was created in response to the domestic perception that the government did not sufficiently understand the emerging rules for international trade and was doing a poor job of representing Brazilian interests internationally. This perception was exacerbated over the course of four high-profile WTO disputes between Canada and Brazil concerning subsidies to the airplane manufacturers Embraer and Bombardier.⁴⁸ At the same time, Brazil's agricultural ministry grew increasingly aware of arguments by economists concerning the distortionary affects of U.S. and EU subsidies. Officials at CGC and Brazil's agricultural ministry began to consider test cases against both the United States and the European Union to hold them accountable to WTO commitments. For the United States, Brazil's initial focus was on soybean subsidies; for the European Union, the focus was on sugar subsidies.⁴⁹

Brazil's policymakers turned their attention from soybeans to cotton after participating in conferences of the International Cotton Advisory Committee (ICAC) and reading studies by Oxfam international and other organizations in 2001 and 2002.⁵⁰ Cotton prices declined in the early 2000s, dropping by 40 percent between December 2000 and May 2002. While partly blamed on the 2001 recession, numerous studies identified countercyclical payments by the U.S. government as a major culprit. Even economists at the World Bank took notice of some \$4 billion in U.S. cotton subsidies in 2002, a year in which the world cotton market was estimated at \$20 billion.⁵¹ At an ICAC conference that year, several economists extrapolated from U.S. government data on subsidies and output to quantify cotton production in the absence of the policies under question. They held that U.S. production would have declined by between 900,000 and 1.4 million tons in the years 1999-2002, with world cotton prices higher by between 6 and 22 cents.⁵² In the interim, soybean prices were rising internationally thanks to strong domestic demand in China; as a consequence, U.S. government subsidies based on market prices declined and a WTO case looked weak.⁵³

47. Instituto de Pesquisa Econômica Aplicada (Institute for Applied Economic Research), "Ipeadata Regional: Agropecuária," www.ipeadata.gov.br, accessed October 2011.

48. G. Schaffer, M. Sanchez, and B. Rosenberg, "The Trials of Winning at the WTO: What Lies Behind Brazil's Success," *Cornell International Law Journal* 41 (2008), 383-501; C. Aquino and D. Bonomo, "O Brasil e o Sistema Multilateral de Comércio: Criação de Capacidades," *Pontes* 4 (July 2008), 19-20.

49. Maintaining the parity between the United States and the European Union, Brazil eventually filed two major dispute claims on September 27, 2002: WTO, "Dispute DS 266: European Communities — Export Subsidies on Sugar;" and "Dispute DS 267: United States — Subsidies on Upland Cotton," www.wto.org.

50. International Cotton Advisory Committee, *Production and Trade Policies Affecting the Cotton Industry* (Washington, D.C.: ICAC, 2002); K. Watkins, "Cultivating Poverty: The Impact of Cotton Subsidies on Africa," *Oxfam Briefing Paper* 30 (September 2002); K. Pfeifer, G. Kripke, and E. Alpert, "Finding the Moral Fiber," *Oxfam Briefing Paper* 69 (October 2004).

51. J. Baffes, "The Cotton 'Problem'" *World Bank Research Observer* 20 (2005), 109-144.

52. ICAC, "Production and Trade Policies," 8.

53. Interview with Celso de Tarso Pereira, General Coordinator for Dispute Settlement, CGC, Brasília, January 14, 2011.

Contributing to the Brazilian government's interest, cotton farming in Brazil had grown more concentrated during the 1990s. The geographic center of power of cotton production shifted from Brazil's southeastern states to the large interior states of Mato Grosso and Bahia.⁵⁴ In 1999, growers from Mato Grosso took the lead in setting up a new trade association, the Brazilian Association of Cotton Producers (*Associação Brasileira dos Produtores de Algodão*, or *Abrapa*). *Abrapa* quickly began to develop expertise on WTO agreements and hired legal representation to assist in preparing a case against the United States. Members also began to pool resources; from an initial estimate that *Abrapa* would need to contribute approximately \$200,000 to a WTO dispute, spending eventually grew to nearly \$3.5 million over the course of eight years.⁵⁵ While the Brazilian foreign ministry's CGC department took the official lead in the eventual DSB process, *Abrapa* remained involved throughout by providing data on Brazilian cotton production and by underwriting some of the legal fees and costs of hiring agricultural economists and other experts.

Brazilian officials in the CGC were concerned about the economic and legal expertise needed to amass evidence and formalize models to the point where a WTO panel could be convinced not only of the general distortions caused by U.S. subsidies, but also of direct harm to Brazilian cotton growers.⁵⁶ Two additional intractable questions had the potential to further undermine Brazil's arguments. First, if subsidies in the United States in fact lowered global cotton prices, poor people worldwide were benefitting from less expensive clothing. While not technically germane to the specifics of a complaint on behalf of Brazilian cotton growers, it weakened Brazil's moral high ground to bring the suit on behalf of developing countries. Along these same lines, it was difficult to distinguish U.S. policies that lowered prices internationally, and thus hurt Brazilian farmers, from those that reduced price volatility in a complex global market and therefore cushioned U.S. farmers from bankruptcy in years when prices declined due to changes in demand. Second, the criticism that subsidies encouraged greater production in the United States and therefore drove down prices on international markets was oversimplified on a multi-year timeline. Cheaper cotton could motivate greater consumption, for example if consumers switched from synthetics or found new uses for cotton, thus bringing prices back up as demand rose. Alternatively, farmers and downstream purchasers could undertake a variety of behaviors in response to variation in market prices and government subsidies, such as planting other crops or storing cotton. Understanding the relationship among price, supply, and demand was a significant challenge for Brazil's CGC.

Nevertheless, the Brazilian government proceeded to file a complaint against U.S. cotton subsidies on September 27, 2002. After mandatory consultations with the United States failed to reach a compromise, the Brazilian government initiated an official dispute, with a DSB panel announced in March 2003. Following WTO rules, the DSB panel was composed with three members: Dariusz Rosati, an academic economist and Poland's foreign minister for several years in the mid-1990s; Mario Matus, a member of Chile's foreign ministry specializing in bilateral trade issues; and Daniel Moulis, a private-sector lawyer from Australia.

54. J. Kiawu, C. Valdes, and S. MacDonald, "Brazil's Cotton Industry: Economic Reform and Development," USDA Economic Research Service (June 2011), www.ers.usda.gov, accessed October 2011.

55. Interview with Haraldo Cunha, Executive President, Instituto Brasileiro do Algodão, Brasília, January 12, 2011.

56. Interview with Celso de Tarso Pereira, General Coordinator for Dispute Settlement, CGC, Brasília, January 14, 2011.

Brazil's case was based on four claims concerning U.S. government programs that allegedly violated the AoA and created "serious injury" to Brazilian cotton exporters by distorting trade flows. First, Brazil argued that U.S. cotton subsidies, which were supposed to decline from a 1992 benchmark, had instead increased. In 2000, a year of low cotton prices, American cotton producers received \$4.6 billion in government aid; even as prices rose, U.S. growers averaged \$3.5 billion from government programs, supplementing an average annual harvest value of \$4.3 billion.⁵⁷ Second, Brazil claimed that production flexibility contract payments (in the 1996 farm bill) and direct payments (in the 2002 farm bill), both of which paid farmers not to plant fruits, vegetables, or wild rice, violated WTO provisions regarding trade-distorting subsidies. In effect, these aspects of the U.S. farm bill pushed farmers to grow even more cotton instead of considering other crops. Third, Brazil protested market loss assistance and so-called Step 2 payments, which compensated domestic mills and exporters for the price difference between U.S. cotton and the average of the five lowest foreign market prices for the year. Fourth, Brazil argued that export credit guarantees, which included loans to traders and subsidized credit to foreign banks for the purchase of U.S. agricultural products, violated the AoA.⁵⁸ The overall effect, by Brazil's calculation, was a global cotton price depressed by nearly 13 percent and "serious prejudice" to the interests of Brazilian farmers, who lost nearly \$480 million in direct revenues over the 1999-2002 growing seasons. Brazil claimed \$600 million in total costs for 2001 alone, based on the total "lost revenue, lost production, losses of related services, lost federal and state revenue, higher unemployment and losses in Brazil's trade balance."⁵⁹

From the perspective of the United States, cotton was a rare bright spot compared to other declining exports. As domestic uses declined with a shift in clothing production to China and other Asian countries, U.S. cotton exports grew from 25 percent of the world market in the 1990s to 37 percent in the 2000s, earning \$2.9 billion annually. Although cotton production accounted for just 0.03 percent of U.S. GDP, it employed more than 150,000 people on 18,000 farms, with an estimated 200,000 additional jobs in textile mills, cottonseed oil production, and related businesses.⁶⁰

Responding to Brazil's WTO complaint, the U.S. government invoked both technical and legal defenses. First and foremost, the United States argued that the AoA's peace clause granted signatory countries until 2004 to phase out domestic subsidies and export promotions. According to the United States, Article 13 of the AoA superseded other agreements and Brazil's dispute had no standing. Second, the U.S. argued that key programs under question, including production flexibility contracts and market loss assistance, had already expired by the time Brazil initiated the dispute. Since they no longer existed, it made little sense to have the DSB rule them illegal. Third, the United States argued that other subsidies were permissible under the AoA. These included direct payments made regardless of production volume or crop type, as well as support for cotton farmers that guaranteed a baseline income of 72.9 cents per pound of harvested crop.⁶¹

57. R. Schnepf, "Brazil's WTO Case against the U.S. Cotton Program," Congressional Research Service, Report 75700 (April 6, 2010), 5.

58. WTO, "Dispute Settlement: DS 267, United States—Subsidies on Upland Cotton," <http://www.wto.org>; USDA, "Export Credit Guarantee Program (GSM-102)," November 2009, <http://www.fas.usda.gov>.

59. WTO, "United States Subsidies on Upland Cotton: Request for Consultations by Brazil," WT/DS267/1 (October 3, 2002), 7.

60. USDA Economic Research Service, "Cotton," <http://www.ers.usda.gov/Briefing/Cotton>.

61. WTO, "United States Subsidies on Upland Cotton: Report of the Panel," WT/DS267/R (September 8, 2004), A10-A14, B10-B17, <http://www.wto.org>.

American cotton farmers, concentrated in southern and midwestern states, saw their livelihoods threatened by the WTO dispute and lobbied the U.S. Congress.⁶² They argued that the cotton market would be inherently unstable without subsidies and price swings would hurt consumers. In 2004 House Agricultural Committee hearings, Charles Stenholm, the ranking Democratic minority member and a Texas cotton farmer, claimed, "Brazil is the world's eighth largest economy and yet calls itself a developing country. Despite its strength as an agricultural exporter, it deliberately subverted negotiations on agriculture in Cancún and seems to prefer litigation over negotiation." Connecting cotton to broader global economic changes and the legitimacy to Americans of free trade policies, he warned, "The world [should] begin answering the question as to how long you believe the United States of America can keep buying \$540 billion from you every year . . . without the law of economics taking over, or politics."⁶³ The Republican chair, Robert Goodlatte of Virginia, stated, "The United States abides by the WTO rules, and is, and has been in accord with its rules on agriculture." He nevertheless incongruously suggested, "trade negotiations offer an opportunity for the United States to increase agricultural exports."⁶⁴ Robert Zoellick, U.S. trade representative for the Bush administration, testified, "I want to assure this committee . . . that we are going to fight to defend U.S. ag[ricultural] interests, regardless of the forum, whether it be litigation or negotiation."⁶⁵

Divergent visions for the WTO were put forward alongside the legal and technical arguments. From the perspective of developing countries, absent reform to agricultural policies in first-world countries the Doha Round could not proceed and the WTO risked losing legitimacy as a rule enforcer for international trade. Brazilian policymakers, especially at the CGC, hoped that the DSB offered an alternative to stalled multilateral negotiations as a way to enforce reforms. From the perspective of policymakers in the developed world, however, the WTO was contributing to a dilemma in the political economy of free trade. In particular, as the United States reduced tariffs and accepted imports from the rest of the world, its trade balance suffered and entire sectors saw employment drop precipitously. Although arguments in congressional hearings regarding adherence to WTO rules were disingenuous on their face, they pointed to a dominant domestic perception that the United States had led the world in advocating for free trade and had sacrificed manufacturing interests in favor of international economic growth. Rather than give the United States a break in agriculture, rising countries like Brazil now were demanding additional painful policy adjustments, including through a judicial process dominated by non-U.S. interests.

4.4. Contesting the Cotton Model

An econometric model used to quantify general market distortions and direct costs to Brazilian farmers from U.S. agricultural subsidies quickly became a focal point of the dispute. DSB panelists, none of whom had a background in agricultural economics, thus found themselves ruling on technical issues with broader policy ramifications. The dispute unfolded in three stages: first, a technical fight over cotton supply and demand elasticities; second, a

62. Schnepf, "Brazil's WTO Case," 3.

63. U.S. House of Representatives, Committee on Agriculture, "Agricultural Trade Negotiations," 108th Congress, 2d Session, Serial 108-29 (April 28 and May 19, 2004), 1-2, 76.

64. U.S. House, "Agricultural Trade Negotiations," 37-38.

65. U.S. House, "Agricultural Trade Negotiations," 16-17.

dispute over the existence of a world “market” and “price” for cotton; and third, questions of access to the core model and protected information about farms and farmers. With some overlap, filings by the United States and responses by Brazil unfolded in a sequence from assumptions core to the model to the relationship of the model to the real world to social issues concerning the basis for econometric knowledge-claims.⁶⁶

In 2001, when Brazil’s cotton trade association and the foreign ministry’s trade dispute office grew aware of rising U.S. cotton subsidies, they contacted Daniel Sumner, an agricultural economist at the University of California, Davis. Sumner earned a Ph.D. in economics from the University of Chicago and had worked for the USDA for over a decade, where he supervised economics and statistics departments. On behalf of Abrapa and CGC, Sumner employed a model developed at the Food and Agricultural Policy Research Institute (FAPRI), a joint program of Iowa State University and the University of Missouri-Columbia. With government funding, FAPRI develops multi-year projections for the U.S. agricultural sector and international commodity markets, “grounded in a series of assumptions about the general economy, agricultural policies, the weather, and technological change.”⁶⁷ Since its origins in 1984, FAPRI has developed and updated models for dairy, ethanol, grains, livestock, oilseeds, and sugar. Initially, the model was based on 171 equations; by 2004 it had expanded to over 800 equations that calculate biological and economic relationships within a particular commodity (e.g., corn acreage planted relative to corn prices) and among commodities (e.g., the relationship of dairy cow numbers to feed prices, or shifts in planted acreage of soybeans, wheat, or other crops relative to corn price changes).⁶⁸ FAPRI forecasts have become self-fulfilling over time since USDA officials use them to plan subsidy budgets and farmers are informed of final crop price predictions and subsidies before they plant. FAPRI traditionally assumed agricultural commerce was centered in the United States. But at the time of the cotton dispute, a shift was underway in global cotton consumption from the United States to China as the principal market maker.

Sumner used the FAPRI model to develop “counterfactual scenarios” for global cotton output, consumption, and prices without each of six distinct U.S. subsidy programs and without all of them. To account for delays between planting and harvesting (and shipping to international markets), he introduced a one-year time lag between subsidy and market impact. In his analysis, Sumner carried out a sequence of steps: first, modeling the supply effects of removing each of the subsidies; second, putting the changed U.S. supply (which shrank in the absence of subsidies) into a simulation model of global cotton supply and demand; third, calculating rising world market prices (a consequence of reduced U.S. production), modeling the response by suppliers in other countries, and figuring in the resulting mitigation of price increases. For cotton specifically, the FAPRI model measured demand based on domestic data from a variety of purchasers, notably cotton mills. To resolve missing data, Sumner’s estimates included an adjustment – a residual equal to world exports minus world imports – that ensured world demand equaled world supply. Sumner’s adjustment was the same as a longstanding FAPRI method of determining the market-clearing price for any particular commodity by

66. Sociologists examining scientific disputes have identified a similar sequence when finding that closure is achieved through social and political mechanisms, not via additional experimentation. See: H.M. Collins, *Changing Order: Replication and Induction in Scientific Practice* (London: Sage, 1985), esp. 90-96.

67. Food and Agricultural Policy Research Institute, “About FAPRI,” www.fapri.iastate.edu, accessed October 2011.

68. Food and Agricultural Policy Research Institute, “Documentation of the FAPRI Modeling System,” FAPRI-UMC Report 12-04 (2004), 3.

setting supplies to equal demand. In an issue that would come to the forefront of the WTO dispute, the FAPRI model did not use U.S. exports as an input measure to generate supply-side changes, but instead calculated them as the difference between domestic production and domestic consumption. Sumner reported his findings to Brazilian officials, who cited them directly in WTO filings.⁶⁹

Table 1. Elasticity Calculations at the center of the Brazil - United States Cotton Dispute

Parameter	Brazil's WTO Claim	United States FAPRI Elasticity
U.S. cotton supply elasticity	0.80	0.21
Rest of World cotton supply elasticity	0.20	0.33
U.S. cotton demand elasticity	-0.20	-0.82
Rest of World cotton demand elasticity	-0.20	-0.39

Source: WTO, "United States – Subsidies on Upland Cotton: Recourse to Arbitration by the United States," WT/DS267/ARB/2 (August 31, 2009), 41.

In December 2003, 9 months after the DSB panel was established, the U.S. government presented alternative figures for supply and demand elasticity that were central to Brazil's dispute claims (see Table 1).⁷⁰ The U.S. government relied on economists at the USDA and Bruce Babcock, an agricultural economist at the Iowa State University Center for Agricultural and Rural Development, for technical arguments. Both sides calculated supply elasticity in the same way, namely as a ratio of the percentage change in acreage planted to the percentage change in price. Under Sumner's calculations on behalf of Brazil, farmers in the United States would plant 8 percent more acreage if the price increased by 10 percent. He arrived at this figure by first incrementally removing each of the six contested subsidy programs and calculating the subsequent decrease in planted area, production, and subsequent exports. In a second step, he derived the supply elasticity from producers' responses to the subsidy programs. U.S. farmers, in Brazil's arguments to the WTO, reacted strongly in the short-term to announcements of new subsidies or to their removal. Farmers in the rest of the world, by contrast, did not receive subsidies and instead responded directly to market signals. According to Brazil's claim, farmers worldwide reacted in the opposite direction from U.S. farmers to the "shocks" induced by the contested subsidy programs.⁷¹

The United States countered that Sumner's values were too high, considering that many of the USDA subsidies were of short-term duration and not announced far enough in advance to shift production significantly. While conceding that farmers would adjust crop output based on price changes over the long term, the United States argued that in the short term, the supply elasticity was far smaller. Turning to specific subsidies, the United States defended decoupled payments, crop insurance, and export credits as having a far lower effect (or none at all) on farm

69. D. Sumner, "Boxed In: Conflicts Between U.S. Farm Policies and WTO Obligations," *Cato Trade Policy Analysis* 32 (December 5, 2005), 9.

70. WTO, "United States—Subsidies on Upland Cotton: Comments of the United States of America Concerning Brazil's Econometric Model," WT/DS267 (December 22, 2003)

71. D. Sumner, "A Quantitative Simulation Analysis of the Impacts of U.S. Cotton Subsidies on Cotton Prices and Quantities," WT/DS267 (September 9, 2003), Annex I.

production. The U.S. government also calculated that farmers in other countries had higher supply elasticity than in Brazil's claim, based on modeling domestic farmer responses to subsidies and then anticipating how farmers elsewhere responded to the new equilibrium point. The proper question for analysis, according to the United States, was the price of cotton in the absence of subsidies, not how producers would react before the equilibrium point was reached.

Disagreement over demand elasticity followed directly from questions of how farmers respond to price signals. Under Sumner's model, worldwide cotton demand would drop by 2 percent for each 10 percent price increase. Brazil identified several specific subsidy programs that reduced the net price paid by buyers of U.S. cotton and therefore influenced demand. At the same time, Brazil claimed that end consumers, who were not especially sensitive to the price of raw cotton, were the primary determinants of cotton demand. The United States, by contrast, argued that demand varied considerably around the world and independent of subsidy programs. U.S. cotton mills, the purchasers who mattered most, were sensitive to even small moves in price. At the same time, the rest of the world – dominated by China and other east and southeast Asian clothing producers – was less price sensitive. Nevertheless, the U.S. model estimated demand response at nearly double that of Sumner's analysis. Without explicitly arguing the point, the United States implied that price volatility was the most important risk posed to cotton growers. By reducing volatility through subsidies, the United States was contributing to lower demand variation. Manufacturers could plan on longer time frames, to the benefit of the farmers that produced cotton.

Overall, according to U.S. filings to the WTO, Brazil's claims exaggerated the effects of U.S. agricultural policies. In the real world, supply and demand curves were slower to equilibrate in response to subsidy programs. While not disputing the rational actor underlying the FAPRI model, the United States was in effect arguing that Brazil believed in an unrealistically fast response by farmers to market forces. The United States' calculations for low domestic supply elasticity but large demand elasticity together supported its argument that subsidies were not distorting world markets. Likewise, calculations of a higher supply elasticity and larger demand elasticity in the rest of the world relative to Brazil's figures reinforced the argument that U.S. subsidies had little effect on international prices and therefore did not hurt cotton growers in Brazil. When rebutting the U.S. arguments, Brazil asserted that considering only long-run equilibrium points would ignore large adverse effects caused throughout the adjustment process.⁷² Rather than wait for a final outcome, the WTO should weigh farmer and consumer behaviors starting when subsidies were put into place.

Sumner's views on subsidies, which were central to Brazil's arguments to the WTO, thus contrasted with those of his former colleagues at the USDA and the U.S. government more generally. He later expounded on the issue at greater length in a review essay of the agricultural economics literature.⁷³ Historically, observational and empirical studies had led economists to support subsidies as a solution to the classic "farm problem" of seasonal variability in prices and the risks posed by crop failure. According to Sumner, by the 1980s most academic economists considered a variety of market-based hedging and other financial instruments as

72. WTO, "United States – Subsidies on Upland Cotton: Recourse to Arbitration by the United States," WT/DS267/ARB/2 (August 31, 2009), 38.

73. See: D. Sumner, J. Alston, and J. Glauber, "Evolution of the Economics of Agricultural Policy," *American Journal of Agricultural Economics* 92 (2010), 403-423.

less distortionary to the economy, sufficient to address seasonal price variability, and a way to reduce the costs of crop failure for farmers and consumers.⁷⁴ Yet commodity price spikes and crashes continued and remained a topic of dispute, with economists and policymakers divided between supporters and opponents of subsidies. Arguments concerning the relationship of subsidies to crop price variability that remained unresolved after decades of observational and modeling research in the economics discipline thus confronted DSB panel members responsible for the cotton dispute.

The DSB panel undertook significant effort to make sense of the underlying economic arguments put forth by Brazil and the United States. In a 2009 review of many years of back-and-forth, the panel first sought to narrow the terms of dispute regarding supply and demand elasticity before articulating key decisions. Panelists thus held: “In the context of the argumentation of the parties, the concepts of short-run and long-run relate to the process of economic adjustment arising from the exogenous change in the economic environment.”⁷⁵ Turning to the cotton dispute specifically, the panel observed that exogenous factors were principally the presence or removal of U.S. subsidies. Noting the challenges facing farmers outside of the United States – especially information access and high switching costs among crops – the DSB panel ruled in favor of Brazil’s short-run elasticities: “Producers in the rest of the world are not able to immediately and fully profit from the increase in the world price of cotton ... Using long-run elasticities, which assumes that all adjustments have been completed (or that there are not adjustment costs), will underestimate the adverse effects of the measures.”⁷⁶ Brazil’s supply and demand elasticities became the basis for the panel’s rulings and the foundation for compensation claims.

As a second line of defense, the U.S. government challenged how Brazil arrived at specific costs to Brazilian farmers and disputed calculations of a global price depression from U.S. subsidies. Adopting a strikingly post-modern argument, the United States suggested there was no such thing as a universal product, “cotton,” a “world market” for cotton, and therefore no single cotton price. Instead, cotton varied by quality and types of uses and every country had its own markets with variation in prices. Then the United States insisted that Brazil specify the “subsidized product” for each of the kinds of subsidies that were harming its domestic growers.⁷⁷ Likewise, the United States argued that the WTO AoA reference to price effects “in the same market” required Brazil to identify the “particular domestic market ... in which price effects are alleged to have occurred.”⁷⁸ The panel ultimately consistently ruled against these arguments. When doing so, the panel members provided definitions of cotton based on USDA grading methods, cited dictionary or other common definitions of “price” and “price suppression,” and interpreted the AoA text on “same market” as distinct from any particular geographic area.⁷⁹

74. B. Gardner, “Why Experts on the Economics of Agriculture have changed their Policy Tune,” in J. Antle and D. Sumner (ed.), *The Economics of Agriculture* (Chicago: University of Chicago Press, 1996), 225-243.

75. WTO, “United States – Subsidies on Upland Cotton: Recourse to Arbitration by the United States,” WT/DS267/ARB/2 (August 31, 2009), 38.

76. WTO, “United States – Subsidies on Upland Cotton: Recourse to Arbitration by the United States,” WT/DS267/ARB/2 (August 31, 2009), 39.

77. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267R (September 8, 2004), 288. References here and below are taken from the final panel report, which incorporates prior filings and extensive direct quotes from materials submitted to the WTO panel by Brazil and the United States in the course of the dispute.

78. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267R (September 8, 2004), 290.

79. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267R (September 8, 2004), 291-295.

As a third tactic, the United States warned that Brazil's WTO dispute claim "does *not* provide the model itself, including detailed specification of the equations therein. As a result, Brazil is essentially asking the Panel and the United States to accept Dr. Sumner's results on faith alone."⁸⁰ In response, Brazil observed that the model was developed using U.S. government funding and the full "electronic version of the model was available for use by the United States government upon coordination with FAPRI staff."⁸¹ Aligned to the request for the model itself, the United States also argued that because Sumner had not retained the original outputs of his work, it was impossible to evaluate his use of FAPRI.⁸² In a sequence potentially leading to repetitive circular arguments, the United States warned that its economists could not replicate Sumner's findings and therefore could not fairly evaluate the price impacts claimed by Brazil. Disputing that Sumner's work was in fact based on the FAPRI model, the United States further argued, "Dr. Sumner's economic analysis cannot serve as a basis for any findings on the effect of challenged U.S. subsidies."⁸³

The DSB issued an interim ruling late 2003 concerning access to the FAPRI model and the basis for Brazil's quantitative claims. Panel members defined which data and analyses would be used to make decisions, thereby undermining attempts by the United States to create a loop in which key economic claims made by Brazil were weakened by questions about their empirical or epistemological foundations. Specifically, the DSB stated: "The Panel will assess the reliability and relevance of the FAPRI model on the basis of the evidence presented to it by the parties."⁸⁴ Materials not filed in official briefs would not weigh on panelists' decisions. At the same time, the panel expressed frustration concerning U.S. demands for access to the model, noting: "We say that the U.S. has all of the information (i.e., both the FAPRI model and Brazil's information) ... because Brazil itself has never had access to all of the data comprising the FAPRI model ... FAPRI has made all of the information available to the U.S.. Why it had done this in the case of the U.S., but not Brazil, relates to the relationship (commercial and otherwise) between FAPRI (which receives U.S. funding for its work) and the U.S. Government. FAPRI has provided all of the information to the U.S. on the express stipulation that the model not be provided to the Panel or Brazil."⁸⁵ Panel members thus avoided a potentially unsolvable dilemma for the WTO of defendants gaining the right to unpack every assumption underlying complex econometric models. While beneficial to Brazil's claims, the WTO panel ironically narrowed FAPRI as a closed input - output model even as the parties to the dispute were opening it to critical inquiry.

In a flurry of briefs, formal requests, and counter-arguments in December 2003 and January 2004, questions of privacy and data access came to the fore even while both countries continued to dispute supply and demand elasticity. The United States requested additional proof of distortions caused by direct payments and counter-cyclical subsidies. In response, Brazil argued that it could do no better than macro estimates without farm-specific identifiers that would make it possible to match payments to farms with subsequent harvest data. Brazil revealed that

80. WTO, "United States—Subsidies on Upland Cotton: Report of the Panel," WT/DS267R (September 8, 2004), 28, emphasis in original.

81. WTO, "United States—Subsidies on Upland Cotton: Report of the Panel," WT/DS267R (September 8, 2004), 29.

82. WTO, "United States—Subsidies on Upland Cotton: Comments of the United States of America Concerning Brazil's Econometric Model," WT/DS267 (December 22, 2003), 1.

83. WTO, "United States—Subsidies on Upland Cotton: Comments of the United States of America Concerning Brazil's Econometric Model," WT/DS267 (December 22, 2003), 2.

84. WTO, "United States—Subsidies on Upland Cotton: Report of the Panel," WT/DS267/R (September 8, 2004), 31.

85. WTO, "United States—Subsidies on Upland Cotton: Report of the Panel," WT/DS267/R (September 8, 2004), 30.

the USDA had provided such information for rice following a Freedom of Information Act request filed by one of its consultants. The United States, however, informed the panel that rice data had been released in error and requested “Brazil and its agents return all copies of the erroneous rice release.”⁸⁶ By implication, any similar data for cotton was also considered private. The DSB panel thereupon requested that the United States release the information, allowing for privacy by assigning anonymous numbers to each farm. The panel warned, “A refusal by the United States to provide the information as requested without an adequate explanation may lead to adverse inferences being drawn.”⁸⁷ Responding to the panel, the U.S. government explained that releasing farm-specific planting information would violate the Privacy Act of 1974.⁸⁸ Brazil rebutted with an alternative interpretation and case precedence within the United States concerning the Privacy Act before observing that under WTO accords, member states could not invoke domestic laws as the basis for not complying with the dispute process.⁸⁹

The U.S. strategy to demand the computer code and equations for Brazil’s econometric analysis – and access to underlying data that Brazil could not provide – ran into a roadblock as the WTO panel began to deny U.S. requests. Panel members called on experts hired by both parties to explain their simulations and present findings concerning the link between subsidies and general market distortions as well as specific costs to Brazilian cotton growers. When ruling on the specific issue of access to the model, the panel excoriated the United States for demanding that Brazil provide the FAPRI model to the U.S. government when Brazil did not have access to the underlying data, explanations of key assumptions, and details of formulas that made up the model. While the ruling adopted measured tones, the panel was clearly irritated by the sequence: “While Brazil instructed the organization which owned and operated the model (FAPRI) as to the modifications and adaptations that Brazil believed needed to be made to produce the econometric results presented to the Panel, Brazil could not itself autonomously check the use of those modifications and adaptations. When the United States asked to be able to analyze the model and its workings, FAPRI stipulated that neither Brazil nor the Panel could have similar access.”⁹⁰ Overall, the panel report emphasized “procedural fairness between the parties” even as the panel members sought to avoid criticism of their own lack of experience with agricultural econometric modeling: “we observe that the simulations were prepared by experts and explained to the panel by experts.”⁹¹

Both parties to the dispute thus invested considerable resources into deconstructing one another’s claims, first disputing assumptions about supply and demand elasticity, then debating the conceptual basis for considering international markets to be real, and finally engaging in tit-for-tat demands about access to underlying data. As a consequence, the “black box” of the FAPRI model was opened to critical scrutiny. Furthermore, as experts were called to testify, the basis for their claims on behalf of Brazil or the United States were probed, whether an empirical observation or a probabilistic forecast through an econometric model. On the other hand, certain issues were deemed out of bounds to the dispute. For example, the background

86. WTO, “Annex K-37: Letter from the United States,” WT/DS267/R/Add.3 (December 18, 2003), K-66.

87. WTO, “Annex L: Panel’s Supplementary Request for Information,” WT/DS267/R/Add.3 (February 3, 2004), L-71.

88. WTO, “Annex I-18: Answers of the United States of America to the Panel’s Additional Questions,” WT/DS267/R/Add.2 (February 11, 2004), I-664.

89. WTO, “Annex I-22: Brazil’s Comments on U.S. 11 February Comments,” WT/DS267/R/Add.2 (February 18, 2004), I-734.

90. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267/R (September 8, 2004), 285.

91. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267/R (September 8, 2004), 285.

and composition of the panel itself was not raised as a concern by the United States or Brazil. Likewise, even though expertise was central to the dispute, the disciplinary training, publication records, and work experience of the experts who testified to the panel did not become a way of seeking to undermine the credibility, and thus authority of the experts, as is often the case in U.S. courtrooms. Nevertheless, the cotton dispute came to hinge upon a set of unobservable counterfactuals as modeled quite differently by Brazil and the United States. What appeared to be technical questions of supply and demand elasticity were also deeply political choices about agricultural subsidies in the United States and the relationship of domestic laws governing data access to the international adjudicatory role of the WTO.

4.5. Rulings, Appeals, and Closure

The dispute panel issued a wide-ranging but detailed 351-page ruling in September 2004, finding generally that U.S. cotton policies had “result[ed] in serious prejudice to Brazil’s interests in the form of price suppression in the world market.”⁹² Significantly, the panel held that the AoA peace clause did not preclude the WTO from considering Brazil’s claims against the United States under other GATT agreements. The panel therefore ruled: “The issue of fulfillment of the conditions of Article 13 of the Agreement on Agriculture is to be resolved using generally applicable DSU rules and procedures.”⁹³ Having established their standing, panel members found that none of the U.S. domestic support programs cited by Brazil were protected by the peace clause and that all fell under the purview of the AoA. Next, the DSB held that even expired programs were eligible for claims concerning distortionary price impacts during their duration.⁹⁴ The panel report especially singled out production flexibility contract payments and direct payments as violating WTO “green box” subsidies. Furthermore, most of the export credit guarantees and the Step 2 payments were declared export subsidies in violation of the AoA. The panel report concluded that the United States must “bring its measures ... into conformity with the Agreement on Agriculture,” including by removing subsidies within six months.⁹⁵

After the United States appealed the DSB panel ruling, an appellate body held in 2005 that price-contingent subsidies (marketing payments, market loss payments, and countercyclical payments) all acted to suppress international prices and that domestic support measures, including production flexibility contracts and direct payments, violated the AoA. The appellate body also found that export credit guarantee programs were not exempt from the AoA. The ruling included specific deadlines for the removal or modification of U.S. subsidies. Despite several changes by the U.S. Department of Agriculture in 2005 and 2006, notably elimination of Step 2 payments, Brazil requested evaluation by a WTO compliance panel. According to Brazil’s analysis, the United States continued to provide subsidies to cotton producers worth \$3 billion annually. The WTO’s compliance panel ruled in December 2007 that the United States had acted inconsistently to phase out prohibited subsidies and countervailing measures.

92. WTO, “Dispute Settlement: DS 267,” <http://www.wto.org> (accessed November 2011).

93. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267R (September 8, 2004), 23.

94. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267R (September 8, 2004), 18–27.

95. WTO, “United States—Subsidies on Upland Cotton: Report of the Panel,” WT/DS267R (September 8, 2004), 350.

In the meantime, Doha Round negotiations had turned more explicitly to cotton. Brazil's complaints about U.S. subsidies were seconded by a group of African countries, including Benin, Burkina Faso, Chad, and Mali. For these and other West and Central African countries, cotton accounted for between 5% and 10% of GDP and generated more than 30% of all export earnings.⁹⁶ An effort was begun to negotiate a global cotton agreement that would supersede the specific Brazil – United States dispute. Initially, negotiators made progress. A WTO Ministerial declaration in late 2005 noted the commitment to “an explicit decision on cotton within the agriculture negotiations,” including a plan under which “all forms of export subsidies for cotton will be eliminated by developed countries in 2006,” and “trade distorting domestic subsidies for cotton production [will] be reduced more ambitiously than under whatever general formula is agreed.”⁹⁷ However, the chairman warned in an annex that there was no consensus among countries regarding the timing to eliminate subsidies. With the Doha Round generally stalled, the cotton initiative similarly failed to reach general agreement.

Brazil thereupon pushed forward with the DSB process. Following another round of appeals regarding U.S. compliance with the 2004 panel ruling, WTO arbitrators ruled in August 2009 that Brazil could impose a total of \$829 million in countermeasures, reduced from Brazil's \$3 billion claim. Demonstrating the significance of the dispute over supply and demand elasticity, arbitrators used Brazil's figures to calculate the global adverse effects of U.S. subsidies and apportioned Brazil's retaliation to its 5.1 percent of world cotton production.⁹⁸ For only the second time in its history, the WTO approved cross-sector retaliation, including on intellectual property (IP) and services, permitting \$268 million in retaliation annually.⁹⁹ After domestic consultations, Brazil's foreign trade office, (Câmara de Comércio Exterior, or CAMEX), published a list of 102 products imported from the United States that would face higher tariffs, including cotton, pharmaceuticals, automobiles, and electronics. On March 15, 2010, CAMEX also proposed IP retaliation measures: shortening patent and copyright terms on movies, software, and pharmaceuticals and other chemicals; permitting Brazilian firms to use IP without the patent holder's consent or remuneration; suspending laws prohibiting importation of infringing products; and creating a special IP registration tax.¹⁰⁰ The move was controversial, even within Brazil. Domestic firms worried that the precedent would lead to weaker enforcement of illegally copied products and importers feared being cut off from key U.S. exports, including medicines and entertainment.

Facing the combined threat of higher tariffs on exports and undermining of IP, the Obama administration sought a negotiated solution. In June 2010, the office of the United States Trade Representative signed an agreement under which the United States transferred \$147.3 million annually as technical assistance to Brazil's cotton sector and pledged to avoid trade-distorting cotton subsidies in the next farm bill, which would be discussed in quarterly meetings of

96. WTO Committee on Agriculture, “Sectoral Initiative in Favour of Cotton: Joint proposal by Benin, Burkina Faso, Chad, and Mali,” TN/AG/GEN/4, May 16, 2003, www.wto.org, accessed October 2011.

97. WTO, “Doha Work Programme: Ministerial Declaration,” WT/MIN(05)/DEC (December 22, 2005).

98. WTO, “United States – Subsidies on Upland Cotton: Recourse to Arbitration by the United States,” WT/DS267/ARB/2 (August 31, 2009), 50-52.

99. In 2000, the WTO authorized cross-sector retaliation for Ecuador against the European Union in a dispute concerning banana imports. The dispute was resolved without retaliation or direct payments.

100. Government of Brazil, Chamber of External Trade, “U.S. Cotton Dispute,” (March 15, 2010), www.brasilemb.org/press (accessed November 2011).

agriculture and trade officials from both countries.¹⁰¹ After eight years of WTO adjudication, Brazil could claim success. Brazil's trade minister, Miguel Jorge, explained: "The dispute helped the WTO system, since it demonstrated that developing countries can win if they have a properly prepared case. Agricultural subsidies will never be reduced through bilateral agreements, so we need Doha to be completed."¹⁰² By early 2011, the Brazilian cotton industry had established a new organization, the Instituto Brasileiro do Algodão, to manage the largest international compensation payments in WTO history. As the 2012 farm bill entered congressional hearings, U.S. representatives were in regular communication with the government of Brazil.

The WTO has long confronted a challenge to its legitimacy from the perception in developing countries that it exists as a tool to enable the United States and European countries to control international trade. A criticism of the WTO and other multilateral organizations holds that great powers use international institutions to conserve and extend their authority.¹⁰³ Through the procedural and juridical function of the DSB, the institution of free trade has gained in stability and authority during the 2000s, even as other aspects of trade negotiations stalled. In effect, the WTO is building a body of common law and a type of constitutional order through institutional practices and panel rulings. In the case of the cotton dispute and the significant precedent it created, the world's leading agricultural power – the United States – was bound by rules it helped to write. In Brazil, the outcome was reported as a strategic victory of a long-term investment in the WTO dispute process and an economic victory for agribusiness. Perhaps unavoidably, the cotton dispute played into the hands of American critics of multilateralism and weakened the WTO's legitimacy in the United States. A television advertisement by the American Association of Retired Persons (AARP) in mid-2011 suggested, "If Congress really wants to balance the budget, they could stop spending our money on things like a cotton institute in Brazil."¹⁰⁴ Nevertheless, confronted with either adhering to the DSB's rulings or abdicating on deep WTO commitments, the United States made domestically controversial commitments to reform agricultural policy. Brazil's cotton case succeeded through a concerted effort by the government and the cotton trade association to underwrite a lengthy dispute, including sponsoring econometric research to file the initial dispute and counter claims made by the United States. At the same time, the DSB was under pressure to demonstrate greater openness to dispute filings by developing countries.

5. Legitimacy through Global Balance

Analysts of international governance often ignore the WTO dispute process, or mention it only in passing in contrast to higher-profile and more visibly contentious negotiating rounds. Scholars who examined dispute settlement under GATT and the DSB in its early years, whether considering individual cases or analyzing cumulative data, found that both negotiated

101. Schnepf, "Brazil's WTO Case," 1-2; Office of the U.S. Trade Representative, "U.S., Brazil Agree on Framework Regarding WTO Cotton Dispute," June 17, 2010, <http://www.ustr.gov>.

102. Interview with Miguel Jorge, Brasília, August 11, 2010.

103. G. J. Ikenberry, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order after Major Wars* (Princeton: Princeton University Press, 2001).

104. AARP, "Tell Washington: Stop Cuts to Medicare and Social Security," www.aarp.org/politics-society/advocacy (accessed November 2011).

settlements and final rulings were largely to the benefit of developed country complainants.¹⁰⁵ Developing countries settled early and for less advantageous outcomes than were possible.¹⁰⁶ Critics picked up on the issue to argue that the DSB was biased against developing countries.¹⁰⁷ However, it was unclear whether bias stemmed from an explicit preference for rich country interests; unequal access to the financial, econometric, and legal resources necessary to bring and sustain a dispute; or peculiarities of the cases brought in the late 1990s and early 2000s. For the WTO, a perception of bias posed the threat that countries would not enforce decisions seen to lack legitimacy or that suits would be brought by only a few participants in the international system.

To analyze trade dispute filings and outcomes since 1995, I created a database from WTO sources encompassing 424 disputes completed or underway as of late 2011. Disputes were categorized by complainants (developed versus developing country, using OECD definitions) and by DSB rulings, including by appellate panels and arbitrators. Of the WTO dispute cases initiated since the Uruguay Round agreement was signed, nearly 60 percent have achieved a clear resolution in one of three ways: a panel ruling by the DSB with enforcement by the winning party, a mutually agreed settlement, or withdrawal of the dispute by the complainant. A win or loss was determined by reading panel, appellate, and arbitrator reports. For the majority of cases that reached a final ruling, outcomes were clear. In other cases, decisions were coded based on the preponderance of DSB rulings. If a claimant won 75 percent or more of their arguments or if the defendant conceded to 75 percent or more of the dispute by agreeing to implement DSB recommendations, the case was coded a win. Cases also were coded as wins for the complainant if withdrawn prior to final ruling because the defendant removed the domestic policies in question. For a small number of cases under a second round of appeals (1 percent of the total), wins or losses were coded based on the preponderance of the previous two rulings under the expectation that DSB panels are unlikely to reverse two prior rulings. For mutually agreed outcomes, cases were coded as wins for complainants if the compromise required the losing side to make domestic policy changes (e.g., by removing tariffs or eliminating subsidies). Cases characterized by the WTO as mutually agreed solutions that did not describe the exact settlement were dropped from the analysis. Withdrawn disputes that were the result of the defendant removing the policy in question were coded as wins for the complainant. The remaining 40 percent of cases are presently in consultation (32 percent), awaiting creation of a panel (5 percent), or are under review by constituted panels (3 percent). Seven cases are in limbo since the terms of their DSB panels expired; these were not included in the analysis.

Considering the totality of disputes since the DSB began its work in 1995, it is clear that the Brazil - United States cotton case fits into a still-developing pattern of greater global parity. From initiating over 70 percent of disputes between 1995 and 2000, developed countries brought 44 percent of new disputes thereafter (see Figure 2, above). Final verdicts by the DSB also show a shift over time towards greater equality between developed and developing countries, although with a pronounced differential dating to the second half of the 1990s.

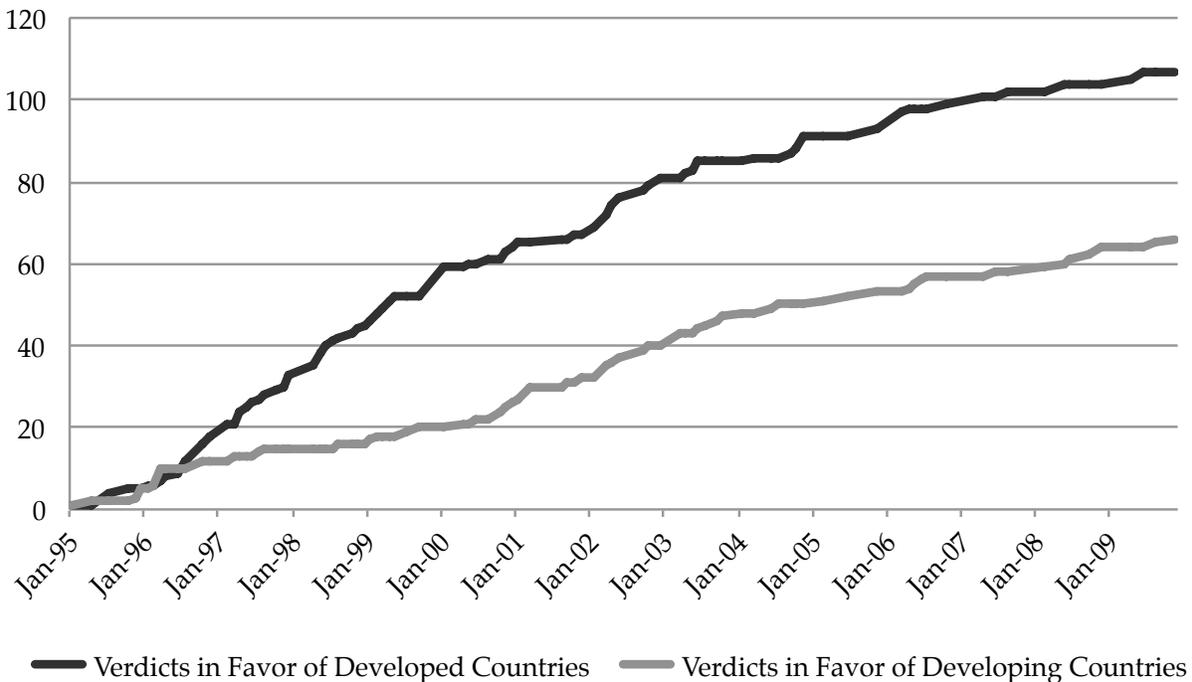
105. G. Shaffer, *Defending Interests: Public-Private Partnerships in WTO Litigation* (Washington, D.C.: Brookings Institution, 2003); M. Busch and E. Reinhardt, "Bargaining in the Shadow of the Law: Early Settlement in GATT/WTO Disputes," *Fordham International Law Journal* 24 (2000), 158-172.

106. M. Busch and E. Reinhardt, "Developing Countries and General Agreement on Tariffs and Trade," *Journal of World Trade* 37 (2003), 719-735.

107. A. Kwa, *Power Politics in the WTO* (Bangkok: Focus on the Global South, 2003); for additional analysis of critics of the WTO, see: G. Shaffer, "How to Make the WTO Dispute Settlement System Work for Developing Countries," International Centre for Trade and Sustainable Development Resource Paper 5 (March 2003).

Roughly half of all suits have been resolved through early settlement or suspended in light of ongoing negotiations among disputing countries. Of the disputes that have reached final verdicts, developed countries continue to hold a nearly two to one ratio. Yet much of this differential stems to significant discrepancies in rulings between mid-1996 and early 2001. Since that time, the DSB has issued final rulings in favor of developed and developing countries at a nearly equal rate of frequency (see Figure 3).

Figure 3. Cumulative WTO Dispute Rulings

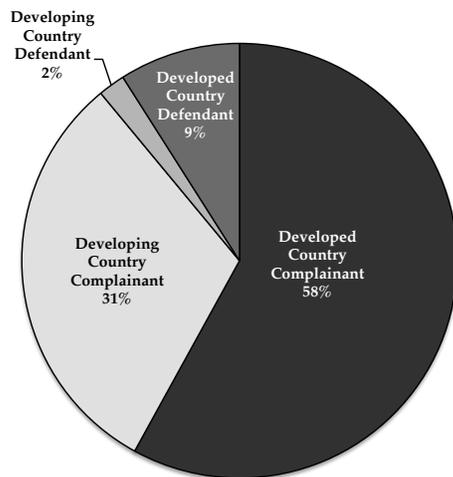


Analysis of dispute outcomes over the past sixteen years reveals several important trends (see Figure 4). Dividing the DSB's history in half, a notable recalibration of dispute outcomes has occurred since 2003. Two specific points can be made concerning dispute outcomes that are of importance to the organizational legitimacy of the WTO and the institutional legitimacy of the free trade system. First, whereas developed countries as complainants or defendants won two-thirds of cases between 1995 and 2002, complete parity was achieved between developed and developing countries between 2003 and 2011. The balance occurred primarily because developing countries began to win more cases as complainants. Second, it is striking that complainants in recent years have been winning nearly every case for which a clear outcome can be identified. Even in the case of negotiated settlements, defendants have been forced to change policies. Countries participating in the international trading system appear to be learning what cases to bring and how to win. At the same time, the emergence of a global common law governing trade through cumulative DSB rulings has incrementally reduced uncertainty and alternative interpretations of underlying WTO agreements. The legitimacy of the international trading system has been strengthened, especially in developing countries, thanks to clear outcomes of final rulings or disputes withdrawn because respondents modified

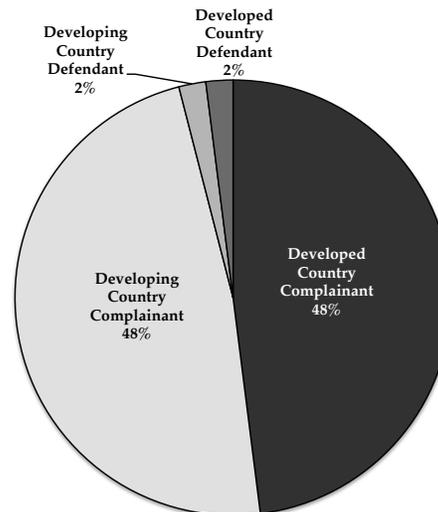
trade policies. The shift, however, carries some risk of weakening the WTO's legitimacy in developed countries precisely at a historical moment in which free trade is under attack for its negative affects on employment in manufacturing and service sectors.

Figure 4. Balancing WTO Dispute Outcomes

1995-2002 (DS 1-279) Panel / Appellate Rulings



2003-2011 (DS 280-424) Panel / Appellate Rulings



6. Conclusions

The idea that all nations will benefit from trade, primarily by specializing in areas of comparative advantage, has deep roots in political economy. Writing in Britain in the midst of the industrial revolution, David Ricardo argued that international trade would promote more efficient allocation of capital and labor and would generate gains to all trading partners through specialization.¹⁰⁸ Contemporary economists have built on Ricardo's theory as a positive description of the world as it is, with analytical models focused to debates over the terms of trade, consumer preferences, and technology and industrial infrastructure in developed and developing countries.¹⁰⁹ At the same time, the WTO has undertaken a normative agenda of remaking the world into a global free trade zone. Interestingly, the WTO is not attempting to conceptualize the world as a single entity. Great heterogeneity – diversity of wealth and variation in the production of goods and services – are fundamental to the international trading system. But the WTO is reconfiguring people's relationships to goods and services by facilitating trade and the consequent conversion of things and ideas into property, including ones previously gifted or kept local. Unsurprisingly, there has been considerable opposition from the losers in the free trade system and attendant challenges to the legitimacy of the WTO.

Institutional legitimacy is front and center in the current era of globalization. In light of a multi-year economic slowdown in the United States and the European Union, domestic

108. D. Ricardo, *The Principles of Political Economy and Taxation* (London: J. M. Dent, 1911, first published 1817), 77-93.

109. K. Matsuyama, "A Ricardian Model with a Continuum of Goods under Nonhomothetic Preferences: Demand Complementarities, Income Distribution, and North-South Trade," *Journal of Political Economy* 108 (2000), 1093-1120.

dislocations from international trade and debates over industrial policy rank high on policy agendas. At the same time, developing countries continue to question delays in the removal of rich-world agricultural subsidies. Barriers to international capital mobility remain a point of contention on both sides. At the WTO, an important shift has taken place from the strategy of building organizational legitimacy through expanding membership to institutional deepening via the dispute process. As trade disputes grew in significance during the 2000s, a rebalancing of rulings occurred with greater numerical equality between developed and developing countries. Yet, as the Brazil - U.S. cotton dispute vividly illustrates, decisions by the DSB reach deeply into national politics and the resulting contention will inevitably fuel further challenges to the WTO's legitimacy.

This article has argued that legitimacy is constructed over time. Rather than serving as a fixed metric against which to judge performance, legitimacy is better understood as arising out of the interactions among diverse communities who must accept, enact, and enforce the authority and rulings of an organization like the WTO. In turn, novel international organizations are the visible face of underlying institutions like free trade that now affect communities and individuals worldwide. WTO dispute rulings offer a salient set of case studies to examine issues of legitimacy and the exercise of rational power in the contemporary era. Panel reports extract arguments from both sides, cite individual scientific, technical, and economic experts, define technical terms and common phrases found in WTO agreements, and then announce precedent-setting rules. Written in a language of "we" – referring anonymously to the panelists and by implication to the broader WTO membership – rulings are crafted as a voice of reason and rationality amidst the divergent economic interests of disputing parties. Rulings play a distinctive functional role in building the juridical authority of the DSB. As a result, I have argued, they also play a significant role in building legitimacy for the WTO.

Associated with the dispute process, the WTO now faces challenges that arise from expert knowledge and testimony in adversarial judicial settings. Thought by the founders of the WTO to be inherently neutral and above challenge, experts instead are subject to dilemmas associated with bias, imperfect fits between the laboratory or econometric model and the real world, and uncertainty once core assumptions are opened to critical scrutiny. A longstanding tenet in the sociology of knowledge holds that expert authority derives not just from individual technical savvy and access to unique methods that unlock underlying principles or rules of nature, but also from processes of constrained scrutiny and the patrolling of disciplinary boundaries.¹¹⁰ In the course of dispute processes opening up otherwise closed "black boxes" of econometric models, the WTO has become one of a few key sites for working out how knowledge claims will be formulated, framed, and validated on the international level.

Modeling, from colonial maps to contemporary econometric forecasts, has a history of use and abuse by imperial powers.¹¹¹ The WTO at its core seeks to structure trade negotiations so that deals are balanced, and to decide disputes so that rulings are not determined solely by the will of the most powerful but instead through procedures and reason. As a result, the WTO now operates as a gatekeeper of acceptable evidence, must determine what counts as a valid

110. T. Gieryn, *Cultural Boundaries of Science: Credibility on the Line* (Chicago: University of Chicago Press, 1999), 65-114; S. Jasanoff, *The Fifth Branch: Science Advisers as Policymakers* (Cambridge: Harvard University Press, 1990), 61-83; M. Warren, "Deliberative Democracy and Accountability," *American Political Science Review* 90 (1996), 46-60.

111. B. Cohn, *Colonialism and its forms of Knowledge: The British in India* (Princeton, NJ: Princeton University Press, 1996); B. Wynne, *Rationality and Ritual: The Windscale Inquiry and Nuclear Decisions in Britain* (Chalfont St. Giles, UK: British Society for the History of Science, 1982).

economic fact, and interprets the relationship of a model to reality. This implies a need to attend to the WTO's own knowledge-making processes to ensure they facilitate deliberation without losing credibility. To do so, WTO may soon be compelled to foster greater openness in the dispute adjudication process. A first step would be to accept more amicus briefs and perspectives from non-governmental organizations in dispute cases.

Perspectives developed here about legitimacy and the WTO also apply to other international institutions in a historical moment in which middle-income and developing countries have impressive growth prospects. A transition in economic power presently underway associated with the rise of the BRICs (Brazil, Russia, India, and China) is not yet fully accompanied by changes in representation at multilateral institutions. The WTO cotton case, for example, was associated with a broader shift for the United States from international price-setter for cotton to one of many price-takers. With domestic consumption falling rapidly in the 1990s and 2000s, even as China's imports boomed, the United States became subject to fluctuations in global markets like other commodity exporters. The initial internal adjustment took the form of subsidies to producers. However, with farm income from subsidies now at risk thanks to WTO rulings, the United States is entering a more intensified period of adjustment to global forces, one that it long imposed on others and avoided itself. In this period of very challenging international adjustment, the legitimacy of free trade and of the WTO as an organization will prove paramount. At the WTO, it is of vital importance not so much to get the facts right (which indisputably is of significance to the credibility of any one ruling), but to design a knowledge-making and adjudication system with legitimacy worldwide. While the WTO appears headed in the right direction, the road ahead remains formidable.