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Do WTO rules preclude industrial policy? Evidence from the global economic crisis

Abstract: The creation of the World Trade Organization (WTO) in 1995 was a landmark in the development of the liberal international economic order. Yet the global economic crisis of 2008 put the spotlight on the longstanding question whether WTO membership limited the policy choices of governments coping with distress. This Special Issue of *Business and Politics* uses the crisis as a "stress test" for evaluating the prominent thesis that multilateral trade rules presently impose sharp limits on national industrial policies. The evidence from a wide range of sectoral and national contexts suggests that the WTO's ability to constrain member governments' use of industrial policy is highly exaggerated. As we argue in this introductory essay, and as the studies in this Issue show, assertions of the WTO's strength do not reflect the incomplete and contested nature of its accords and the imperatives of policymaking in an era when many governments simultaneously intervene in national economies.

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1 Introduction

The creation of the World Trade Organization (WTO) in 1995 was a landmark in the development of the liberal international economic order. For some, the establishment of the WTO represented a significant advance towards a system of enforceable rules for global commerce that limits the power of governments to discriminate against foreign commercial interests and to act in an arbitrary and non-transparent manner. For others, WTO accords further reduced barriers to international commerce and improved the allocation of resources. At the time, these positive assessments were countered by both analysts and activists that new WTO rules and its binding Dispute Settlement Understanding would

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ultimately eviscerate national environmental, food and product safety, and industrial policies, amongst others.

While there were in the WTO's early years a number of high profile clashes between its members concerning trade restrictions (justified in some cases on environmental grounds), WTO dispute settlement has not resulted in the widespread gutting of national regulations. Moreover, dozens of states have sought to join the WTO and none have left, which is hard to square with sweeping assessments of the constraints on governments imposed by membership.[1] Earlier fears that WTO rules were inherently biased against state intervention *per se* – which is to be distinguished from state measures that discriminate against foreign commercial interests – became harder to sustain as the years went by. Still, in the area of industrial policy, a number of analysts have continued to argue that WTO rules unduly constrain the ability of governments to promote economic development through favoring selected sectors and firms.

The controversy over the degree to which WTO membership limits the industrial policy options of governments gained a new lease of life with the onset of the global economic crisis in 2007. That crisis saw substantial government intervention of many types, including steps often associated with industrial policy. In fact, advocates of industrial policy, long on the back foot in many liberal-leaning industrial economies, have had plenty of wind in their sails as the global economic crisis led many policymakers to conclude that national economies need to be "rebalanced" away from the financial sector towards manufacturing.[2] If WTO rules do indeed constrain governments' choices concerning industrial policies, then surely evidence of those constraints should be found in the period since the onset of the global economic crisis.[3] Alternatively, if governments felt industrial policy was so important and chose therefore to break multilateral trade rules, then surely evidence from the cases brought to the WTO for dispute settlement would shed useful light on the real constraints facing states. In short, the global economic crisis and what followed may be an interesting episode for studying the apparent bite of the WTO's rules.

This Special Issue of *Business and Politics* takes a multi-sectoral approach to evaluating prominent claims that multilateral trade rules presently impose sharp limits on national industrial policies. Overall, the evidence presented here suggests that claims that WTO membership rules out the use of industrial policy are exaggerated. Specifically, these assertions do not reflect the incomplete and

1 Perhaps it is more accurate to infer that whatever the downside from constraints on one's own policies are compensated by the benefits from constraints to trading partner's policies.
2 Marzinotto (2012); Sperling (2012).
3 Gourevitch (1986: p. 221).

contested nature of the WTO's accords and the imperatives of policymaking in an era when many governments simultaneously intervene in national economies. Like food safety laws, much industrial policy emerges unscathed from WTO obligations. Unlike food safety laws, the latitude in WTO rules may not necessarily be a desirable outcome.

The rest of this article is organized as follows. In the next section, we describe and contrast prominent contributions to the extensive literature contending that multilateral trade rules restrain government industrial policymaking. Section 3 evaluates those claims in light of the totality of the WTO's rules and its mechanism for resolving disputes between governments. The crisis-era industrial policy choices of Brazil – some of which have been contested by certain of its trading partners – are described in Section 4 and their relevance to the matters at hand discussed. We then present a survey of the findings of sectoral studies published in this Special Issue in Section 5, followed by concluding remarks in Section 6.

2 Kicking away the ladder?[4]

The economies of WTO member governments differ as markedly as their diplomatic clout – circumstances that are likely to have influenced the negotiation of the existing set of binding multilateral trade rules.[5] Some analysts have accused industrial countries that pursued industrial policies (IP) of "carving out a multilateral order which best suits their current development trajectory."[6] Chang and Wade have revived Friedrich List's concept of "kicking away the ladder," arguing that industrial countries used protectionist measures to get to their place atop the pecking order while prohibiting developing countries from following them by "cement[ing] the head-start advantages of their firms through the WTO agreements."[7]

Considerable criticism of the WTO for narrowing "policy space" – a phrase often taken to mean the set of allowed policy choices – has rested on the binding and reduction of import tariffs, bans on import quotas for manufactured goods, limits on subsidies, a prohibition on trade-related investment measures (an example of which are local content requirements), and the like. If high tariffs are introduced as an economy enters into each industry and subsequently gradually removed in a stepwise manner, the optimal trajectory of tariffs on industrial

4 This section draws on Aggarwal and Aggarwal (2013).
5 Rodrik (2001: p. 3).
6 Weiss (2005: p. 723).
7 Wade (2003: p. 633). See Chang (2003) on "kicking away the ladder."

products for late industrializers requires little harmonization across countries and across sectors. Following this logic, Akyuz (2005) argued that determining WTO commitments based on the needs of *current* industries, such as the binding of tariffs, is too static and sets back basic industrial policy, thereby jeopardizing technological upgrading.[8]

Policy space may also be further limited by the ban on export subsidies in the WTO's Agreement on Subsidies and Countervailing Measures (SCM). However, considerably less attention has been given to the three types of "green light" subsidies that are still permitted under Article 8 of SCM agreement: "assistance for research and development (R&D), assistance for disadvantaged regions, and assistance to adapt existing facilities to meet environmental regulations."[9] Even where subsidies are permitted, some contend that industrial country governments can afford these financial incentives while developing countries have other, more pressing uses for what limited public funds are available.

The contention has been made that the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement hinders developing countries from implementing IP. Wade (2003) argues that TRIPS makes it more expensive for developing countries to receive transfers of technology because of the overwhelming number of patents owned by industrial countries and the attendant fees charged.[10] Furthermore, the TRIPS agreement, as Wade puts it, ensures that "developing countries' rights and developed countries' obligations are unenforceable, while developing countries' obligations and developed countries' rights are enforceable" in part because of the high cost of using the WTO's dispute settlement mechanism.[11]

Gallagher (2008) aligns with Wade's view, citing the $41 billion annual South-to-North transfer of profits on patents underpinned in part by WTO rules on intellectual property (Table 1). He also cites other studies of welfare losses in developing country economies that arise from the TRIPS agreement and its apparent implications for the cost of pharmaceuticals.[12] Although extensions to implement the provisions of the TRIPS agreement for the Least Developed Countries have been granted on two occasions (from July 2005 to July 2013 and then with the most recent extension from July 2013 until 2021), this does not entirely counter Wade and Gallagher's view, since only 38 very poor nations are affected by this extension.

8 Akyuz (2005).
9 Gallagher (2008: p. 71).
10 Wade (2003: p. 624).
11 Ibid.
12 Gallagher (2008: p. 70).

Table 1 South-North transfers of patent rents due to TRIPS.

Country	Millions of 2000 dollars
US	19,093
Germany	6768
Japan	5673
France	3326
UK	2968
Switzerland	2000
Australia	1097
Netherlands	241
Ireland	18
Total	41,184

Source: World Bank (2002).

Nevertheless, the adverse influence of TRIPS on domestic policy choices has been contested.[13] While agreeing with Wade that TRIPS constrains policy space in developing countries, Gallagher points to compulsory licenses as one option that the TRIPS agreement explicitly permits. Under TRIPS Article 31, WTO members can grant a compulsory license to a domestic firm without the patent holder's consent primarily within the domestic market as long as it is conditioned upon reasonable compensation to the rights-holder and provided the license applies only to the market of the granting WTO member.[14] Others, such as Santos (2012), agree that TRIPS permit flexibilities in domestic application.[15] Santos also points to vague standards of TRIPS such as the "requirement to engage in 'reasonable' efforts to negotiate with patent holders before overriding a patent."[16] More significantly, and contrary to the views expressed by Wade and others, a new empirical study of innovation measures by DiVita (2013) finds that "the TRIPs agreement is always positively related to innovation and is highly statistically significant, even when we account the potential problem of endogeneity."[17]

The WTO agreement on Trade-related Investment Measures (TRIMs) has been the target of much criticism on the grounds that it restricts IP towards foreign investment. Wade (2003) critiques the TRIMs accord for forcing governments to treat firms equally regardless of their national origin and because it "bans performance

13 See the review in DiVita (2013) of the theoretical and quantitative evidence on TRIPs and the implications for domestic innovation.
14 World Trade Organization (1994).
15 Santos (2012: p. 588).
16 Santos (2012: p. 589).
17 DiVita (2013).

requirements related to local content, trade balancing, export requirements, and requirements on public agencies to procure goods from local suppliers (Table 2)."[18] Bora, Lloyd, and Pangestu (2000) point to the performance requirements that were used by East Asian countries during their rapid industrialization phase that would be no longer permitted under Articles III and XI of GATT, TRIPs, the multilateral rules on subsidies and TRIMs agreed in the Uruguay Round.[19]

There is also some evidence from WTO dispute settlement mechanism cases that suggests member governments have changed their policies to comply with TRIMs. For instance, China was subject to a dispute settlement proceeding in 2006 after a complaint by the US and EU over policies towards automobile parts.

Table 2 Categories of performance requirements.

Category	Performance requirement
Prohibited by the TRIMS agreement	Local content requirements Trade-balancing requirements Foreign exchange restrictions related to the foreign-exchange inflows attributable to an enterprise Export controls
Prohibited, conditioned or discouraged by the IIAs at bilateral or regional levels	Requirements to establish a joint venture with domestic participation Reqirements for a minimum level of domestic equity participation Requirements to locate headquarters for a specific region Employment requirements Export requirements Restrictions on sales of goods or services in the territory where they are produced or provided Requirements to supply goods produced or services provided to a specific region exclusively from a given territory Requirements to act as the sole supplier of goods produced or services provided Requirements to transfer technology, production processes or other proprietary knowledge Research and development requirements
Not restricted	All other performance requirements

Note: IIA – International Investment Agreements.
Source: UNCTAD (2003).

18 Wade (2003: p. 627).
19 Bora, Lloyd, and Pangestu (2000).

China then changed its policies in 2009 to conform to the TRIMs agreement.[20] Interestingly, local content requirements may be making something of a revival since the onset of the global economic crisis, as the case studies in Hufbauer and others (2013) show.

Other analysts, such as Amsden and Hikino (2000), contend that apart from performance standards in the form of export subsidies, WTO accords do not prevent member governments from promoting their industries and subjecting them to performance standards.[21] Amsden and Hikino point to the three ways in which the WTO allow import protection: allowing developing countries to take trade-restrictive measures to promote infant industries against the competition from aggregate imports that threaten the balance of payments (Article XVIII), against threats to individual industries from import surges (Article XIX on temporary safeguards), or against unfair trade practices (Article VI on anti-dumping and countervailing duties).[22]

Empirical evidence on policy choice in recent years may also be of interest. A study by Aggarwal and Evenett (2012) examined the mix of policies implemented by several larger industrial and developing economies when their governments intervened in the aftermath of the global economic crisis.[23] A large proportion of those interventions targeted only one sector of the economy, a hallmark of much industrial policy.[24] In addition to showing significant cross-country variation in the propensity to discriminate against foreign commercial interests as well as between domestic firms, the study found that countries vary in the degree to which they substitute for classic trade measures (such as tariffs, antidumping measures, and the like) with policies less regulated by WTO rules such as "migration, bailouts and state aids, competitive devaluations, investment incentives, export taxes, trade finance, and steps by subnational governments and state-owned enterprises."[25] In particular, the study finds that the worst "offenders" in terms of resort to discrimination against foreign commercial interests were also the most likely to employ state measures subject to less demanding, or no, WTO rules.[26] This result "casts doubt on some of the strong claims in the industrial

20 World Trade Organization (2008).
21 Amsden and Hikino (2000).
22 Amsden and Hikino (2000: p. 108).
23 Aggarwal and Evenett (2012).
24 If this finding (of considerable sector-specific intervention) is consistent with the view that industrial policy is alive and kicking, then this confirms and updates Rodrik's argument that the death of industrial policy has been much exaggerated (Rodrik 2004).
25 Aggarwal and Evenett (2012: p. 278).
26 More will be made later of the incomplete nature of the WTO's rules covering policies that could affect foreign commercial interests and the incentives to substitute between policies.

policy literature that WTO rules impose substantial constraints on government intervention, at least during the crisis era."[27] Still, it could be the case that WTO rules may have altered the form – rather than the quantum – of state intervention during the recent global economic crisis.

Other analysts point to discrepancies between implications of stated WTO rules and their subsequent interpretation, which in turn has affected the regulations actually implemented by states. Santos (2012) argues that repeat players which are frequently engaged in similar disputes over an extended period of time manage to change rule interpretations so as to advance their domestic economic policies within the confines of the WTO legal regime.[28] They use "strategic lawyering and litigation to pursue their policy objectives by changing rule interpretation over time and by adjusting to the rule in the most favorable way possible and testing the boundaries of the rule."[29] Also, Santos cites various other ways in which states can exercise discretion such as in the case of laws on intellectual property "limiting the patentable subject matter, setting a high inventive step standard, expanding procedural opportunities to challenge patents before and after they are granted, and imposing limitations on injunctive remedies."[30] These rules create incentives for players to resort to litigation repeatedly and protract it. A study by DiCaprio and Gallagher (2006) that compared existing rules-based analyses with a comparison of actual policy implementation aligns with Santos' view.[31] Their findings suggest that while the covered agreements of the WTO have further constricted the available policy space, member countries often waited until notification or adjudication before changing policies inconsistent with international commitments. Therefore, they argue that the realized constraints on policy space are not as significant as a reading of WTO commitments might suggest.

There is also some debate over whether the effect of WTO rules is not so much in limiting government intervention, but rather shifting state initiatives to promoting the supply-side of national economies. Gallagher (2008) points to this overlooked option in policy space after the Uruguay Round: "what is clearly WTO legal at this writing is the ability to fund human capital and public infrastructure, offer tax concessions to foreign firms, and provide marketing services to domestic firms...are all key elements of late industrialization that continue to steer clear of WTO rules."[32] Consequently, DiCaprio and Gallagher (2006) argue, some windows for policy still

27 Ibid.
28 Santos (2012: p. 554).
29 Santos (2012: p. 594).
30 Santos (2012: p. 598).
31 DiCaprio and Gallagher (2006).
32 Gallagher (2008: p. 82).

remain (Table 3). Also, governments retain the authority to require foreign firms to transfer technology, form joint ventures, and perform R&D in the host country.

However, contrary to Gallagher's view, Weiss (2005) argues such a multilateral trading order discriminates in practice against state policies that promote labor and capital-intensive industries while allowing the same policies directed at technology- or knowledge-intensive industries.[33] She notes that industrial economies, which are more reliant upon and capable in high-tech and knowledge-based industries, are not subject to the same constraints as developing countries whose skills revolve around labor- and capital-intensive industries. Labeled "Strategic Activism" by Weiss, governments that use subsidies to enhance technology, and policies such as export finance programs, infrastructure for export expansion, governance of science and technology priorities, and innovation and investment support have not been challenged in the WTO.

Some argue that the main challenges to industrial policy lie elsewhere. Gallagher (2008), Shadlen (2006), and Haque (2007) claim that regional trade agreements (RTAs) and international supply chains have intensified attendant policy trade-offs more than traditional WTO commitments. Studies show that developing countries are more likely to concede to rules relating to FDI, capital liberalization, IPR, labor and environmental standards when negotiating RTAs while collectively opposing the same measures in the WTO (Table 4). Such observations shift the debate from a comparison of the WTO and its predecessors to an analysis

Table 3 Strategies of the Newly Industrialized Countries.

GATT-Compliant	Policy instrument		WTO-Compliant
☐	Goods:	Tariff sequencing	
☐		Import licenses	
☐		Duty drawbacks	☐
	Subsidies:	Export	
☐		Production	
☐		R&D	(actionable)
	FDI:	Local content	
☐		Tech transfer	☐
		Trade balancing	
☐	IPRs:	Selective patents	
☐		Compulsory licensing	☐
☐	Other:	Skills building	☐
☐		State-run firms	☐

Source: Adapted from DiCaprio and Gallagher (2006, p. 784, table 1).

33 Weiss (2005: p. 724).

Table 4 Policy space for development and the WTO.

Policy instrument	Permitted	Agreement
Goods trade		
Tariff sequencing	*	GATT
Tax drawbacks		
Intellectual property		
Slective permission for patents	X	TRIPS
Short patent timelines with exceptions	X	TRIPS
Compulsory licenses		
Subsidies		
Export	X	SCM
R&D	*	SCM
Distribution	*	SCM
Environment	*	SCM
Cost of capital		
FDI		
Local contents	X	GATT, TRIMS
Trade balancing	X	TRIMS
Joint ventures		
Technology transfer		
R&D		
Employment and local personnel		
Tax concessions		
Other		
Human capital		
Administrative guidance		
Movement of people		GATS
Provision of infrastructure		

Source: Gallagher (2008).

of a somewhat constraining WTO environment and an even more constraining network of RTAs.[34]

Relatedly Haque (2007), amongst others, contends that the global markets in many sectors have become more concentrated and that this is a threat to the policy space of the developing countries.[35] As global value chains give multinationals the upper hand in selecting suppliers and determining their compensation, it has become difficult for developing countries to sell labor-intensive products in foreign markets. In addition, a "race to the bottom" competition between developing country producers is said to have resulted in reduced wages and neglect for labor and environmental standards in the global market. Taken

34 For specifics, see Figure 1 Weiss (2005: p. 728).
35 Haque (2007).

together, then, the challenges to industrial policy posed by global supply chains and far-reaching regional trade agreements may be more significant than the tightening of WTO rules.

In the light of the above arguments, it would appear that countries may have more leeway than critics of the WTO, such as Rodrik[36] and Wade, imply. Yet as we have seen, even aggressive interveners, such as China, have been subject to some WTO disciplines and associated dispute settlement actions as well as potentially finding new ways to circumvent these rules. Moreover, even countries that are fully complying with provisions of the WTO still have options to develop clusters, promote research and development, and promote the integration of their firms into world markets.

3 The bite of WTO rules as if the totality of the WTO system mattered

The image conjured up by much of the literature on developing countries and industrial policy that is critical of the WTO is that the limited negotiating leverage of the governments of these countries during the Uruguay Round of multilateral trade negotiations resulted in them signing a range of binding accords that substantially reduced the range of policy options that could be deployed to promote economic development. Even though there is substitutability between policy instruments, presumably we are to assume that the reduction in available policies is material in some significant sense to the attainment of the objectives of industrial policy. Moreover, for policy to be constrained by WTO rules those rules must be adhered to, so implicit assumptions about the credibility and effectiveness of the enforcement of WTO rules are being made as well. In this section we unpick the assumptions underlying this critique, drawing upon evidence and an understanding of the totality of the WTO system including the operation of its Dispute Settlement Understanding.

Even though developing countries are often lumped together as a group in critiques of the impact of WTO rules on industrial policy, with respect to certain trade policy instruments – notably tariffs, perhaps the most basic trade policy instrument of all – there is in fact considerable variation across developing countries in the degree to which current policy is constrained by WTO rules. Critics of the WTO would do well to consult the WTO's publication, *World Tariff Profiles*,

36 Rodrik, for example, has argued "... a strategy based on integration crowds out alternatives that may be more development-friendly" (Rodrik 2001: p. 32).

which is published annually.[37] According to the latest version available, in 2012 there was substantial variation across developing countries in the percentage of tariff lines that are bound at the WTO in the first place. For example, it is a fact that 29 developing country WTO members have bound less than half of their tariff lines, implying substantial freedom to raise tariffs. On the other hand, most Latin American countries that are members of the WTO have bound all, or nearly all, of their tariff lines.

Significant variation also exists across the WTO membership in the difference between the average applied tariff rate and the maximum allowed (or bound) tariff rates. When such differences are sizeable, governments have plenty of room to raise tariffs should the need arise. Indeed, before the global economic crisis struck it has been estimated that 85 WTO members could have raised their applied average tariff rates by as much as the Smoot Hawley increase undertaken by the US during the 1930s and still not exceeded their average bound rates, thereby technically adhering to their WTO obligations.[38]

One flaw, then, in the critics' argument is that of over-generalization. The constraints, such as they are, facing developing countries' industrial policymaking are not uniform. Another source of non-uniformity is the treatment of countries that have acceded to the WTO since 1995, many of whom have taken on obligations in excess of GATT members that signed the Uruguay Round.[39] Given what is known about the asymmetric nature of the bargaining process leading to WTO accession, in principle a stronger case can be made that there are more significant multilateral limits on these countries' policy space. Of course, greater constraint need not imply that that level of constraint is material, and even then, the assessment of material impact may vary across sectors.

The failure to consider the incompleteness of WTO disciplines is the second flaw in the critics' argument. For better or for worse, much has been made of the importance of state contracts and procurement policy as an instrument of industrial policy. Yet, the WTO's Agreement of Government Procurement (GPA) is a plurilateral accord, that is, one where members can choose whether to join. Many developing countries have chosen not to – so many in fact that the recent revision to the GPA was driven in part by a desire to encourage developing countries to accede. Since money is fungible, government contracts can be used to support all sorts of ancillary activities, some of which may be the targets of industrial policymaking.

37 This document is available at: http://www.wto.org/english/res_e/booksp_e/tariff_profiles13_e.pdf.

38 Evenett (2012).

39 Evenett and Primo-Braga (2009).

Another policy domain not covered by WTO accords are exchange rates. The latter is significant as a number of countries in their fast growth, catch-up phase have been accused by trading partners of maintaining under-valued exchange rates so as to promote national exports, arguably a form of industrial policy. In the light of the incompleteness of WTO accords and given the substitutability between industrial policy instruments, considerable care is needed before concluding that restrictions on a partial set of state measures materially limits the ability of a government to promote preferred firms or sectors.[40]

The third flaw in many critics' arguments involves making often-implicit assumptions about the WTO's strength. These include: (a) that WTO rules result in compliance; (b) that non-compliance would lead to WTO dispute settlement; and (c) that the threat of sanctions that follows an adverse dispute settlement ruling would result in a WTO member taking steps to come back into compliance. Each of these three assumptions can be challenged. That these assumptions tend not to be challenged may reflect implicit acceptance of the tenets of the rules-cum-compliance mind-set of Western public international law. Rather than address such matters solely in normative terms, it is preferable to examine the incentives associated with the decisions associated with each assumption (a) through (c).

What are the costs and benefits of compliance, taking account of the probability of detection (a not insignificant matter given the prevalence of much non-transparent or murky protectionism)? Under what circumstances will a trading partner bring a dispute to the WTO? Perhaps the trading partner already had leverage over the offending WTO member (through bilateral aid or military or diplomatic support), in which case the coming into force of the Uruguay Round Dispute Settlement Understanding may not have altered incentives to comply? Perhaps the trading partner too has broken WTO rules, fears counter-retaliation, and will not bring a case in the first place (a feature referred to elsewhere as the "glass houses syndrome"[41])?

Even if sanctions are allowed following a dispute settlement victory, the offending nation may be prepared to suffer the associated harm done by the sanctions or, as is allowed under WTO rules, offer some other form of compensation. In this case, the offending industrial policy measure will not be removed, calling into question what bite the WTO accord had in the first place. In short, as the saying goes, there is many a slip between cup and lip. Just because a binding rule exists does not mean it has bite, especially at a time of global economic crisis

40 Corporate reorganisation – through mergers and acquisitions – is another tool of industrial policy not covered by a separate WTO accord (in this case on competition law).
41 See Evenett (2012).

when many governments are simultaneously under pressure to intervene in favor of certain sectors or commercial interests.

The section highlights three flaws often made in assessments of the impact of WTO rules on policy choice. WTO rules relate to only a subset of the policies typically associated with industrial policy. WTO rules do not exist to prevent state intervention *per se*, typically discouraging *certain* forms of intervention that harm *certain* (not necessarily all forms of) foreign commercial interests. And even when binding WTO rules exist, their enforcement is not undertaken by an independent referee, but rather by self-interested and adversely affected WTO members that may have cut corners, in particular during periods of acute economic stress. These reasons call into question just how much bite WTO rules really have, a point that has become all too apparent since the onset of the global economic crisis as the following case study of Brazil demonstrates.

4 Crisis-era industrial policy in Brazil

The recent global economic crisis presents an interesting opportunity to assess the extent to which WTO rules may have influenced the manner in which governments chose to intervene to restore their economies' health. Given the severity of the downturn, which in the case of Brazil saw a real GDP growth rate of 5.2% in 2008 turn into a contraction of 0.3% in 2009, the pressures for intervention in many societies, both industrialized and developing, were acute. Surely, if governments felt constrained in their industrial policy formation by WTO rules, then it would show up in the years 2009 and beyond. If not then, when?

This section describes several Brazilian WTO-related crisis-era industrial policy responses. Several reasons account for the focus on Brazil. First, Brazil is large enough to matter, economically speaking. After all, it is a member of the BRICS group and is the dominant economic power in its region. Second, Brazil has a well-regarded diplomatic service and claims of ignorance of WTO rules can be dispensed with. Brazil's diplomats know the rules of the game and its trading partners know that too.

Third, in August 2011 Brazil adopted a new industrial policy titled *Plano Brasil Maior* and, given this paper was written in 2014, enough time has passed to start assessing what steps have been taken. Of course, it could be argued that in the absence of WTO rules Brazil would have undertaken a different industrial policy. However, there are enough choices in the *Plano Brasil Maior* that shed light on some of the considerations raised earlier in this paper. For our current purpose, perhaps the most useful document concerning the *Plano* is the WTO secretariat's *Trade Policy Review*[42] of Brazil, the revised report of which was published on 26 July 2013. That report was published after consultations with the Brazilian authorities. In public statements concerning the Review, while the latter certainly did not share the WTO secretariat's assessment of every fact, they did not contest the facts reported. As will become clear, Brazil's interpretation of some facts was also at odds with a number of trading partners.

Following a deterioration in the competitiveness of Brazilian manufacturing industry, which resulted in a sizeable merchandise trade deficit, Brasilia adopted a sequence of two industrial policies, the second of which covered the years 2011 to 2014 and was known as the *Plano Brasil Maior*.[43] The WTO's Trade Policy Review makes no less than 44 references to the *Plano*. These include the following statements, the first of which concerns a potential local content requirement in a high-profile sector of the Brazilian economy:

> *Under the* Plano Brasil Maior, *the Government adopted significant fiscal incentives to help the domestic auto industry recover from the effects of the global crisis. Between December 2011 and December 2012, tax breaks were offered for companies producing vehicles with more than 65% of regional content. As from 1 February 2013, the automobile sector's fiscal regime was superseded by the INOVAR-AUTO programme. Companies eligible for the programme may benefit from an Industrial Products Tax reduction of up to 30%. In order to qualify for the programme vehicle manufacturers must comply with energy-efficiency requirements and with certain domestic manufacturing or investment conditions.*[44]

Taxation of imports has been increased as part of the *Plano* as this comment shows:

> *As part of tax reforms under the* Plano Brasil Maior, *the COFINS rate [a tax to finance the national social security program] on imported goods falling under some 3300 tariff lines has been increased from 1 to 2 percentage points.*[45]

Given the above statement, it is worth noting that in 2012 Brazil's import regime had 10,031 tariff lines. This broad-based increase in the taxation of imports has been followed by other more targeted tariff increases.[46] In addition to raising import-related charges:

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42 WTO document WT/TPR/S/283/Rev.1.

43 WTO (2013: p. 12). For further information concerning this industrial policy initiative from a Brazilian government source see http://www.brasilmaior.mdic.gov.br/.

44 WTO (2013: p. 12).

45 WTO (2013: p. 57).

46 For example in October 2012, consistent with the leeway allowed under MERCOSUR's rules, Brazil raised the tariffs on 100 tariff lines between 6% and 23% (WTO 2013: p. 52). In March 2013 the members of MERCOSUR agreed to expand the number of tariff lines where tariffs departed from the common external tariff from 100 to 200.

> *Trade defense has been identified as a component of the* Plano Brasil Maior*, pursuant to which a number of steps have been taken to strengthen trade defense. Brazil has announced its intentions to increase the number of trade remedy investigators, and has implemented changes to certain procedures....The number of Brazil's AD [anti-dumping] investigations and measures in force has been increasing since the last review period; Brazil has become somewhat more active in initiating countervail (CV) investigations, and in 2012 initiated its first safeguard investigation since 2008.*[47]

Steps were also taken to promote exports:

> *In the framework of the* Plano Brasil Maior*, in April 2012 the Federal Government announced a number of measures to increase the competitiveness of Brazil's exports, partly affected by the appreciation of the Brazilian real. These measures include a substantial increase in the resources allocated to PROEX [a scheme to subsidize export credit], from R$1.2 billion to R$3.1 billion...*[48]

More generally, the *Plano* resulted in a substantial increase in the amount of financial resources made available to Brazilian firms operating in tradable sectors. The WTO Trade Policy Review notes:

> *The* Plano Brasil Maior *has also amplified a number of programmes aimed at providing support to producers and exporters of manufactured products. The BNDES [the state-owned development bank] Programme for the Sustainability of Investment (PSI) was extended until 31 December 2012 and its budget was increased to R$227 billion. The PSI finances the production, acquisition, and export of capital goods through four different subprogrammes....*
>
> *Brazilian exports of manufactured goods are eligible for a number of export finance programmes run by the Banco de Brasil (PROEX) and the BNDES (EXIM, REVITALIZE EXPORTS).*[49]

It is worth noting that automatic access to BNDES export financing schemes is conditional on meeting certain levels of locally procured content.

Brazil is not a member of the WTO's Government Procurement Agreement that, in principle at least, bans the use of price preferences for domestically-produced goods. In this respect, the following comment in the WTO's Trade Policy Review is of interest:

> *The* Plano Brasil Maior *comprises a wide range of measures, some of which may have an effect on trade. For instance, in procurement policy, the Government introduced preferential margins of up to 25% for certain domestic goods and services, including several manufactured goods.*[50]

47 WTO (2013: p. 59). Further details of the changes in Brazil's antidumping regime were given the following pages of this report.
48 WTO (2013: p. 76).
49 WTO (2013: p. 135).
50 WTO (2013: p. 133).

This characterization of Brazil's crisis-era industrial policy highlights the relevance of some of the points made in the previous section and, more importantly, reinforces the argument that the constraints imposed by WTO membership on industrial policymaking may not be as severe as some have claimed. After all, Brazil's ramping up of its export credits and more restrictive government procurement policies implicate state measures that fall outside of its multilateral trade obligations. Moreover, Brazil is allowed to amend its trade defense regime so long as it conforms with the existing WTO accords. (Of course, few nations reform their trade defense regime in the liberalizing direction, so that possibility can be fairly confidently set aside.)

The contested nature of Brazil's WTO obligations is highlighted by its fiscal incentives in the automobile sector. As in the case of export finance incentives, the tax break on offer to those selling automobiles can be obtained in more than one way. According to the Brazilian authorities, one means of satisfying the conditions for the tax break involves, amongst other conditions, production in Brazil. Another means does not involve production in Brazil but other forms of investment (specifically in research and development). In this manner, then, Brazil can claim that producing or sourcing local is not necessarily required to attain the fiscal incentive on offer. Still, as demonstrated by the questions posed to Brazil during official meetings associated with its WTO Trade Policy Review,[51] some industrial countries signaled that, in their view, this approach was at odds with multilateral trade rules.

Subsequently, in December 2013, the European Union initiated proceedings under the WTO's Dispute Settlement Understanding against Brazil concerning these automobile sector-related fiscal incentives, amongst other matters. Argentina, Japan, and the US have also joined this dispute as complainants. If Brazil prevails in dispute settlement, this measure need not be altered. If Brazil is found to be in violation of WTO rules – a decision that given the typical duration of a WTO dispute would in all likelihood be rendered effectively 5 years after the inception of the *Plano Brasil Maior* – even then Brazil has options other than reversing this element of its industrial policy.

In sum, Brazil, a large developing country that presumably knows its actions cannot escape notice, revised its industrial policy during a period of acute global economic stress in a manner that increased the discrimination against foreign commercial interests. For sure, one element of those changes is now being contested by leading economic powers, but much of Brazil's *Plano* either fell outside WTO rules or exploited the considerable leeway in those WTO rules that allow for

51 See WTO document WT/TPR/M/283/Add.1.

the imposition of protectionism. Even if Brazil has to revise some of its industrial policy following adverse WTO dispute settlement rulings, that policy is likely to have been in effect for several years and can no doubt be replaced by another form of less-than-transparent government intervention. If necessary, the cycle of non- or partial-compliance can begin anew.

5 Insights from sectoral studies of crisis-era industrial policies

This Special Issue contains five articles that focus on crisis-era industrial policy developments within a particular sector. The sectors were chosen because of their high profile, either because of their current economic heft (automobiles, finance, petroleum, wide-bodied aircraft) or their potential (the wind sector). In each analysis, crisis-era state intervention is set in its appropriate context, which often includes a track record of firm- and sector-specific favoritism from before the onset of the global economic crisis. These articles, then, do not advance the thesis that industrial policy is novel. Rather, they examine the degree to which WTO rules and other factors shaped the design, implementation, and trade partner reaction to crisis-era government intervention in these sectors.

Once the extent to which national economies were contracting became clear in 2009, many governments in industrial countries sought to restore economic growth through fiscal stimulus packages and measures to support the expansion of so-called growth poles. One such pole included the development of energy sources other than fossil fuels and the moniker "promoting green growth" was applied. According to Lewis (2014), the wind power industry is largely supported by a mix of industrial policies including direct subsidization, local content requirements, financial and tax incentives. Examples of the latter include the expansion of the U.S. Federal Production Tax Credit to include an Investment Tax Credit or straight cash payment, while China and Germany maintained feed-in tariffs.[52]

Lewis' article discusses the specific industrial structure of the wind sector, post-financial crisis resort to subsidies in the wind sector, fiscal stimulus support, and other interventions, including a general trend towards protectionist policies, such as tariff increases, trade finance, export restrictions, bailouts, and local content requirements. With increasing competition in the wind power industry, there also has been an increase in trade policy friction between governments, which has

52 Lewis (2014: pp. 511–547).

manifested itself in WTO disputes, resort to so-called trade remedies, and measures apparently inconsistent with WTO rules, such as local content requirements. To back up the claims made in this article, evidence is presented on various wind energy support mechanisms for many developing and industrial countries.

Lewis examines the WTO disputes brought against Canada and China for their interventions in the wind power industry. Before concluding that WTO rules can tame national industrial policy, however, it is worth noting that many wind sector interventions by other governments (in the BRICS, France, the US, and Spain, for example) have gone unchallenged. For example, Brazil's initial PROINFA scheme that required a 60% local content requirement has now been removed, but there is still a "nationalization index" used to access funding from the Brazilian National Development Bank (BNDES) and a high import tariff on foreign wind turbines.[53] Moreover, in China, after local content requirements were removed, Chinese firms still dominate the market and are perceived by foreign firms as receiving preferential treatment for projects.[54]

Such persistent "opaque" preferences for the use of local materials or for local firms demonstrate, it is argued, the ample remaining policy space for the wind power industry. Therefore, with the exception of the post-crisis period around 2009 when "variety of market factors have sharpened competition," and the governments needed "to garner political support for renewable energy technologies with a promise of job creation and domestic technological progress," countries continue to practice industrial policies at the expense of foreign commercial interests.[55]

The petroleum sector saw considerable state intervention in recent years as well, as Lin's article in this Special Issue shows. Lin (2014) presents case studies of the UK, representative of advanced economies that focuses on the use of post-tax subsidies and China, representative of emerging economies that focuses on pre-tax subsidies (with consumers paying prices below that of the supply and distribution costs), to illustrate various means of subsidy-centered intervention in petroleum industry. Lin "relied on the Global Trade Alert to track various forms of subsidization that might not have been captured in WTO datasets, pointing to the limitations of the global trading and investment regimes in identifying major forms of protectionism" in petroleum industry since 2008.[56]

Moreover, Lin examined interventions by governments with extensive petroleum resources. For instance, Russia increased export duties of crude and

53 Lewis (2014: pp. 511–547).
54 Lewis (2014: pp. 511–547).
55 Lewis (2014: pp. 511–547).
56 Lin (2014: pp. 549–578).

finished oil products in May and June 2011 when the export tax reached nearly US$50 a barrel and imposed oil export duties on its customs union partner Belarus.[57] Also under the Russian Energy Plan to 2030, the Central Bank of Russia was asked to refinance bank loans for the privileged firms.[58] After reviewing these and other interventions, Lin observes that attempts to "capture profit of high oil prices through various means of contractual and regulatory changes have proven mostly ineffective and contra-WTO."[59]

UK industrial policy towards the petroleum sector now includes "lock-in subsidies for fossil fuels and an increasing resort to a range of gray area incentives including tax breaks for exploration for unconventional fossil fuels and overseas investment financing" according to Lin.[60] The 2013 UK Oil and Gas Industrial Policy calls on the government to identify British interests along the supply chain and enact incentives accordingly, including requirements for local contracts, local content, fabrication, and incentives for firm internationalization and export, Lin is concerned that such measures would potentially be "contradictory to the rules of the WTO."[61]

Developing economies deploy industrial policy in this industry as well. In China, consistent with the terms of its Protocol of Accession to the WTO, the importation of petroleum is still reserved for state trading enterprises.[62] Since 2000, governmental steps have sought to boost the profitability of national oil companies with a model of "privileged corporation" that consists of a mix of price controls, low tax and dividend demands, investment promotion, and continual asset restructuring to transfer value.[63] The government also "provides favorable input prices and transfers assets to favored firms at prices that are below market value."[64] For instance, Chinese subsidies for PetroChina Ltd. in 2007 totaled RMB 37,476.7 million ($4927.4 million) and tax reductions included tax preferences, adjustments in depreciation and amortization bases and Value-Added Taxes (VAT) deductions.[65]

With respect to the question of whether WTO rules constrain the practice of industrial policy in this sector, Lin addresses this matter indirectly. Lin notes that the energy sector is not subject to sector-specific WTO rules and in his view

57 Lin (2014: pp. 549–578).
58 Lin (2014: pp. 549–578).
59 Lin (2014: pp. 549–578).
60 Lin (2014: pp. 549–578).
61 Lin (2014: pp. 549–578).
62 Lin (2014: pp. 549–578).
63 Lin (2014: pp. 549–578).
64 Lin (2014: pp. 549–578).
65 Lin (2014: pp. 549–578).

the regulation of energy in international law is "highly fragmented and largely incoherent."[66] Moreover, Lin observes "WTO members have so far undertook very limited commitments to grant access to their energy markets to foreign service operators nonetheless."[67] The incompleteness of WTO rules is compounded by ambiguity over the legal status of energy as a good or service, both of which cast doubt on any claim that the room to practice industrial policies, including those with protectionist elements, in petroleum industry is precluded by existing multilateral trade rules.

The onset of the recent global economic crisis is rightly associated with financial market dysfunction and Young's article in this Special Issue examines government intervention in this critical sector of national economies. Young (2014) analyzes the extensive government intervention in banking industry during the global financial crisis of 2008–2009 when some countries deployed resources valued in excess of 40% of their GDPs to save their national banks.[68] This article documents the empirical record and examines different types of financial protectionism in the banking industry since the crisis and assesses centrality of each country in the international banking network.

While policymakers may emphasize the goal of restoring financial stability as the purpose of state intervention in this sector, as Young shows, a dispassionate assessment would also point to the ways in which governments have intervened that go beyond this laudable goal to include both sector-specific and firm-specific favoritism. In particular, Young identifies three features of intervention in this sector: market entry restrictions, asymmetric treatment of domestic and foreign firms, and government subsidies, such as bailouts.

Young finds that the form of financial protectionism employed is associated with countries' centrality to the international financial system, but not with other forms of industrial policy nor with other aspects of the national business environment, such as the level of financial liberalization in the country.[69] Moreover, in interpreting the evidence he marshals, Young concludes that states seek out ways to engage in industrial policies even when there are incentives or rules that discourage protectionism.[70]

It has long been recognized that industrial policies in the production of wide-bodied aircraft have the potential to distort trade and investment flows. Indeed, an agreement relating specifically to this sector was negotiated by GATT members

66 Cottier et al. (2011).
67 Cottier et al. (2011).
68 Young (2014: pp. 579–613).
69 Young (2014: pp. 579–613).
70 Young (2014: pp. 579–613).

as part of the Tokyo Round in the 1970s. Subsequent understandings between the European Union and the US, the home bases of Airbus and Boeing, respectively, have been negotiated. Furthermore, disputes at the WTO between these jurisdictions as well as between Canada and Brazil, add further to the ways in which multilateral trade rules could potentially have influenced industrial policy in this sector. In his article in this Special Issue, McGuire examines these matters, as well as some perhaps less well known industrial policy developments in other countries.

Before documenting the government intervention in commercial aircraft industry since the onset of the global financial crisis, McGuire summarizes relevant features of the industrial organization of this sector. Thus he describes the structure of aircraft industry that has "high risk nature militating against private sector investment" and complex design that makes government intervention and support almost inevitable, as the Appellate Body of the WTO also noted in respect of European government support for Airbus.[71]

Then, McGuire describes and assesses national industrial policies in this sector through the lens of Global Value Chains (GVCs). McGuire shows that, in the lower tier of the aircraft industry where parts and components are made, there are low barriers to entry as a result of the products in question being standardized and market-based forms of governance, such as liberal trade policies or adherence to international standards, bite.[72] In contrast, McGuire shows that at the top-tier level of the industry there are considerable barriers such as "high non-recurring costs of aircraft development."[73] In this part of the GVC incumbents are granted advantages, and the government intervention may be necessary to help the new entrants.[74]

Although small in number, the WTO rulings on the Airbus-Boeing and Bombardier-Embraer cases show that industrial policy in this sector is susceptible to legal action. In fact, McGuire argues that direct grants are now rare and export subsidies are more strictly controlled in the aircraft industry; in other words, such rulings do appear to have some effect in reducing certain forms of direct government support, such as export finance.[75] These rulings may also have resulted in the substitution of one policy for another. As McGuire shows, countries now pursue more diffuse sectoral support, such as for R&D on composite technologies, according to evidence he has assembled from the Global Trade Alert (GTA) database.[76]

71 McGuire (2014: pp. 615–639).
72 McGuire (2014: pp. 615–639).
73 McGuire (2014: pp. 615–639).
74 McGuire (2014: pp. 615–639).
75 McGuire (2014: pp. 615–639).
76 McGuire (2014: pp. 615–639).

For instance, both China and Russia are developing, with state support, products at top-tier level that could compete with Boeing and Airbus. The Russian state has provided a range of financial support, including direct cash injections into Sukhoi and Oboronoprom in 2009.[77] In addition, in 2011, a version of the "cash for clunkers" programs that gave airlines subsidies for new aircraft purchases was used by the Russian government to support Sukhoi's domestic sales.[78] Although the largest cash subsidy went to the largest and newest regional jets, Sukhoi, these measures may well be WTO rule-compliant since they were also made available for the purchase of non-Russian made aircraft.[79]

China, on the other hand, made use of state banks to offer guarantees or other forms of finance for aerospace projects, such as "some $2.8 billion in start-up capital" that followed government approval of the C919 program, the development of new civil aircraft in China.[80] Responding to these incentives and its broader regional economic development implications, local and regional Chinese officials have made many Chinese regional airlines act as customers for Commercial Aviation Company of China (COMAC)'s jets.[81]

Although the record points to extensive government intervention in tier-one of this industry, lower tiers show otherwise. In fact, McGuire shows that Mexico, which occupies second- and third-tier places in the supply chain, is not deploying protectionist measures and, if anything, its policies demonstrates the merits of openness and liberalization and clear limits to the reach of industrial policy.[82] Overall, then, industrial policy measures are still needed to overcome significant barriers to entry in the upper-tier of the sector and governments are likely to seek means to accomplish this goal. Although governments restrain themselves somewhat, resort to research and development subsidies and the like – the former at least is arguably allowed under WTO rules – is likely to continue.

Automobiles represent one of the most significant sectors in the global economy and, taken together, cross-border trade in parts, components, and final cars exceeds a trillion US dollars. In her article in this Special Issue, Oh examines the ways in which nations have used industrial policy to revive and restructure the automotive industry since the onset of the global economic crisis by conducting case studies of China, France, and the US. Countries have employed industrial policies ranging from tax relief or subsidies to direct involvement in industry

77 McGuire (2014: pp. 615–639).
78 McGuire (2014: pp. 615–639).
79 McGuire (2014: pp. 615–639).
80 McGuire (2014: pp. 615–639).
81 McGuire (2014: pp. 615–639).
82 McGuire (2014: pp. 615–639).

restructuring plans to revive their auto industries in the wake of the financial market crash.[83]

The political justification for state intervention in the auto industry has focused on fixing market failures and structural coordination problems, as well as providing innovation-driven initiatives.[84] In fact, Oh argues many WTO member states have employed "murky" protectionist measures, such as the use of bailouts with strings attached, public procurement measures, and quantitative restrictions on imports. So widespread is this intervention that Oh argues there is little "legitimate motivation" for a member to challenge other nations' subsidy programs at the WTO.[85]

For example, Oh shows that the U.S. bailouts for GM and Chrysler, although criticized at the time as discriminating against foreign automakers, served as a precedent upon which other countries have justified their own interventions in this sector.[86] Facing significant demands at the national level for intervention, even the European Commission had to temporarily relax it strict rules against commerce-distorting financial assistance to companies. Consequently, the French government provided bailouts of €3 billion ($3.9 billion) to both Peugeot and Renault in exchange for not restructuring: halting layoffs, halting plans to move production abroad, and suspending factory closures in France for the duration of the bailouts.[87] As a result, in 2010, Renault was forced to drop its plan of outsourcing the production of its subcompact car to Turkey.[88]

China's entry to the WTO, and subsequent trade disputes in this sector, suggest that developing countries' industrial policies in the automotive industry are influenced more often by WTO rules. For instance, after joining the WTO, "China not only abandoned the local content requirement that had been employed for nearly two decades, but also lowered the tariff on imported cars from 80–100 to 25% and that on imported parts and components from 15–50 to 10% by July 2006."[89] Also, "complying with TRIMs rendered China to eliminate performance requirements imposed on foreign investors, such as subsidizing export performance, creating local content requirements, and maintaining separate regulations for domestic and imported products."[90] Still, China faced trade disputes in 2006 with the US, followed by the E.U. and Canada, which contested China's tariffs on imported

83 Oh (2014: pp. 641–665).
84 Oh (2014: pp. 641–665).
85 Oh (2014: pp. 641–665).
86 Oh (2014: pp. 641–665).
87 Oh (2014: pp. 641–665).
88 Oh (2014: pp. 641–665).
89 Oh (2014: pp. 641–665).
90 Oh (2014: pp. 641–665).

cars [the Measures Affecting Imports of Automobile Parts (DS 340)].[91] This represented the first case in which China let the dispute go through the full panel process as well as the first time it implemented an adverse WTO ruling.[92]

Nevertheless, Oh contends that domestic policy space still exists allowing for the exercise of industrial policy in automotive industry. Again referring to the case of China, Oh shows that although the disputes in 2006 have forced the government to remove a measure that placed higher tariffs on imported automotive parts, the ruling probably had virtually no effect since manufacturing of the automotive parts already operated in China in localized supply chains by both foreign and domestic firms.[93] Oh calls this strategy, whereby governments implement industrial policies and only to remove them after coming into dispute at the WTO, as "convenient compliance."[94] Overall, then, although existing WTO rules can be used to challenge the use of certain industrial policies in the automotive industry, Oh finds that countries have found ways to circumvent these rules through alternative mechanisms or from refraining from bringing cases in the first place out of the fear of retaliation.

The articles in this Special Issue bear out many of the points we made earlier. Moreover, the range of policies examined in those articles overlap significantly with those pursued by Brazil that were documented in last section's case study, implying that the crisis-era industrial policy response by Brazil may not be that unusual. Overall, while important details certain vary across the sectoral contributions to this Special Issue, a finding that is common to all is that extensive sector-specific government intervention has been a hallmark of the crisis response of many governments. As far as these leading sectors of the global economy are concerned, industrial policy is alive and kicking. This may not provide particularly fertile ground for critics of the WTO to show that existing multilateral trade rules prevented governments from adopting industrial policies that would have had a greater impact during the global economic crisis.

6 Concluding remarks

In 2015 the World Trade Organization will be 20 years old. Since its infancy, the WTO has been criticized by certain academics, analysts, competing international organizations (such as the notably less influential United Nations Conference on

91 Oh (2014: pp. 641–665).
92 Oh (2014: pp. 641–665).
93 Oh (2014: pp. 641–665).
94 Oh (2014: pp. 641–665).

Trade and Development), development ministries and aid agencies, and non-governmental organizations as limiting the industrial policy options of WTO members, in particular, those of developing countries. Evocative metaphors, such as "Kicking Away The Ladder," have been deployed by those critical of the Uruguay Round multilateral trade accords. The impasse of the Doha Round and the global economic crisis have put wind in the sails of the WTO's critics and the proponents of industrial policy. The purpose of this article has been to critically evaluate the substance of this particular critique of existing WTO accords.

A review of the literature critical of the WTO identified disparate and arguably contradictory views, including claims that have already been contested with evidence by other analysts. More importantly, the critics appear to have too generous a view of the operation of the WTO and too expansive a view of the reach of its accords. As argued above, both can be contested and many doubts appear when the incompleteness of those accords and the incentives of the WTO's dispute settlement procedure are properly taken into account. One important misconception is that in a fundamental area of commercial policy, such as tariffs, developing countries face similar constraints. In fact, many developing countries have significant freedom to raise their tariffs without breaking WTO rules. Such freedom is hard to reconcile with the rhetoric of constraint.

Moreover, as our case study of Brazil has demonstrated, even a high profile developing country has been able to exploit the WTO's existing rules – both the latitude contained therein as well as their incompleteness – to implement far-reaching industrial policy responses to the recent global economic crisis. If the WTO's apparently tough rules limit government choice, surely they would have done in the years since 2007, when many states were at their most desperate to revive their economies. Further research is needed into crisis-era policy choice to see what, if any, limits were really imposed by WTO membership during this critical time.

To be clear, the aim of this Special Issue (and this essay) is *not* to take a position on the efficacy of industrial policy – the numerous pros and cons of such policies have been effectively surveyed elsewhere.[95] Our focus, instead, is on the implications of binding multilateral trade accords for policy choice rather than whether state intervention makes sense. This issue draws upon sectoral, national, and cross-country evidence concerning policy choices since the onset of global economic crisis when desperate policymakers – and the commercial and societal interests that seek to influence them – probably faced considerable temptation to violate multilateral trade obligations. Put most mildly, our conclusion from this project is that the tensions between industrial policymaking

95 Crafts (2013) and Wade (2014).

and compliance with WTO rules may not be as severe as some have argued. The WTO has not gutted national policies towards food safety, nor it seems has it eviscerated national industrial policy at a time when governments intervened aggressively.

A reorientation of deliberations and research on the current and potential future relationship between industrial policy and WTO disciplines is called for. In fact, the area of food and product safety affords a promising place to start. The WTO agreements on Sanitary and Phytosanitary measures and Technical Barriers to Trade do not question the merits of non-efficiency objectives. Indeed both accords permit deviations from the WTO principles on non-discrimination on certain agreed, non-protectionist, transparent, and scientifically-defensible grounds. Deviations can be time-limited and subject to review on objective criteria. This serves as a reminder that reconciling the legitimate objectives of government policy with the tenets of non-discrimination is something trade negotiators and certain analysts have been thinking through for decades, a point that advocates of industrial policy might wish to dwell upon. This is not to say that food and product safety accords at the WTO work perfectly, and indeed there may be important lessons to be learned in this respect for the design of potential WTO rules implicating industrial policy choice. Still, there may be more common ground here than readers of the extant literature might be led to believe, a point that will grow in importance if the pendulum continues to swing away from neoliberal ideas that shaped much economic policymaking in the years before the global economic crisis.

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