



# Bilateralism, multilateralism, and the quest for global free trade<sup>☆</sup>

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## ARTICLE INFO

### Article history:

Received 23 January 2007

Received in revised form 18 January 2010

Accepted 19 January 2010

### JEL classification:

F13

F12

### Keywords:

Bilateral trade agreements

Multilateral trade liberalization

Free trade agreements

GATT

## ABSTRACT

We develop an equilibrium theory of trade agreements in which both the *degree* and the *nature* (bilateral or multilateral) of trade liberalization are endogenously determined. To determine whether and how bilateralism matters, we also analyze a scenario where countries pursue trade liberalization on only a multilateral basis. We find that when countries have asymmetric endowments or when governments value producer interests more than tariff revenue and consumer surplus, there exist circumstances where global free trade is a stable equilibrium only if countries are free to pursue bilateral trade agreements. By contrast, under symmetry, both bilateralism and multilateralism yield global free trade.

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## 1. Introduction

Global trade liberalization occurs through a variety of channels, not all of which appear to be in harmony with one another. While practically every major nation is now a member of the World Trade Organization (WTO) and a participant in its complex process of multilateral trade liberalization, an average WTO member also belongs to six preferential trade agreements (PTAs) (World Bank, 2005). The schizophrenic nature of today's multilateral trading system is reflected in the somewhat conflicting rules of the WTO's key multilateral trade agreement, i.e. the General Agreement for Tariffs and Trade (GATT): while Article I of GATT requires member countries to undertake trade liberalization on a most-favored-nation

(MFN) or non-discriminatory basis, Article XXIV of the very same agreement permits WTO member countries to pursue PTAs under which participating countries grant tariff (and other trade policy) concessions to each other that they do *not* have to extend to all member countries of the WTO.<sup>4</sup> This raises the following question: would GATT serve the cause of global free trade more effectively if it did *not* include the exception to MFN provided by Article XXIV? In other words, would global free trade be easier to achieve if all WTO members were to pursue trade liberalization on *only* a multilateral basis? To address this issue, we develop an equilibrium theory of trade agreements and use it to compare the pros and cons of bilateral and multilateral approaches to trade liberalization.

We analyze the coalition proof (or stable) Nash equilibria of a game of trade liberalization between three countries that differ with respect to their endowment levels. The game (which we refer to as *bilateralism*) proceeds as follows. In the first stage, each country announces the names of its trading partner(s) with whom it wishes to sign a free trade agreement (FTA). An FTA between two countries requires them to abolish tariffs on each other and it arises iff they both announce each other's name. Next, given the world trade regime, countries choose their tariffs. Finally, international trade and consumption take place. After analyzing equilibrium trade agreements under bilateralism, we examine the stable equilibria of this game under the restriction that countries can liberalize trade on *only* a

<sup>☆</sup> For helpful comments, we thank seminar audiences at the Asia-Pacific Seminar at the University of Sydney, Fourth Annual Development Conference of the Indian Statistical Institute, George Washington University, Graduate School of Economics at Hitotsubashi University, IEFs-China Inaugural Conference at the University of International Business and Economics, Louisiana State University, National University of Singapore, SMU, University of Guelph, University of Missouri, World Bank, and the WTO. We also thank Kyle Bagwell, Rick Bond, Theresa Carpenter, Caroline Freund, Bernard Hoekman, Giovanni Maggi, Aaditya Mattoo, Andres Rodriguez-Clare, Bob Staiger, Alan Woodland, and two anonymous referees for many constructive comments and suggestions. Any remaining errors are our own.

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<sup>3</sup> The author gratefully acknowledges financial support from the Social Sciences and Humanities Research Council of Canada (SSHRC).

<sup>4</sup> While Article XXIV tries to limit the damage on non-member countries by requiring PTA members to not raise tariffs on outsiders, the fact remains that it contradicts the principle of non-discrimination that underlies the entire WTO system.

multilateral basis (we call this game *multilateralism*). By comparing equilibrium outcomes under bilateralism with those under multilateralism, we isolate the consequences of the exception to multilateral trade liberalization available to WTO members under GATT Article XXIV.<sup>5</sup> To the best of our knowledge, our paper is the first to provide such a comparison in a model in which both the *nature* and the *degree* of trade liberalization are endogenously determined.

Consistent with actual WTO experience, under our multilateralism game a pair of countries can engage in mutual trade liberalization so long as each of them extends their respective tariff reductions also to the third country — as mandated by the GATT's MFN clause.<sup>6</sup> We find that the degree of trade liberalization undertaken by two countries (say  $i$  and  $j$ ) under such a multilateral trade agreement  $\langle\{ij^m\}\rangle$  is lower relative to that under the bilateral free trade agreement  $\langle\{ij\}\rangle$ . As a result, the non-participating country (i.e.  $k$ ) actually faces *lower* tariffs in export markets under the bilateral FTA  $\langle\{ij\}\rangle$  relative to the multilateral trade agreement  $\langle\{ij^m\}\rangle$ . However, the non-member country faces discriminatory tariffs in export markets under  $\langle\{ij\}\rangle$  whereas no such discrimination exists under  $\langle\{ij^m\}\rangle$ . Due to this crucial difference between the two types of trade agreements, in our model the non-member country is worse off under the bilateral FTA  $\langle\{ij\}\rangle$  relative to the multilateral agreement  $\langle\{ij^m\}\rangle$ .

Equilibrium analysis reveals that when countries are symmetric with respect to their endowment levels, global free trade is the only stable equilibrium under both bilateralism and multilateralism. In other words, under symmetry, the freedom to pursue purely bilateral agreements has no consequences at all insofar as the obtainment of global free trade is concerned. This immediately raises the question whether this irrelevance result holds when the underlying economic environment is asymmetric in some respects. To this end, we then analyze a scenario where endowment levels are unequal across countries and find that global free trade is stable over a larger parameter space under bilateralism relative to multilateralism. This result has a powerful and surprising implication: there exist circumstances where global free trade is a stable equilibrium *only if* countries are free to form bilateral FTAs. Why? The logic is as follows. While considering whether or not to participate in multilateral trade liberalization, each country has to take into account its welfare under the trade regime that emerges in the *absence* of its participation. Since a non-participating country (say  $k$ ) is worse off under the bilateral FTA  $\langle\{ij\}\rangle$  relative to the multilateral agreement  $\langle\{ij^m\}\rangle$ , each country's incentive to participate in multilateral trade liberalization is stronger when its non-participation results in a discriminatory bilateral FTA between the other two countries as opposed to when it results in a non-discriminatory multilateral agreement between them.<sup>7</sup> In this way, the freedom to pursue bilateral agreements can act as a force in favor of multilateral trade liberalization.

Our results show that heterogeneity across countries may be an important determinant of the potential for success of multilateralism and that bilateralism has a useful role to play in the process of global trade liberalization.<sup>8</sup> An important implication of our analysis is that to

properly account for the role of bilateralism, we need to better understand *why* countries choose to enter into bilateral agreements when multilateral trade liberalization is an option. In this context it is noteworthy that while both Krugman (1991) and Grossman and Helpman (1995) noted that asymmetries across countries can play a crucial role in determining incentives for bilateral and multilateral trade liberalization, existing literature has tended to pay little attention to this issue. Indeed, in our model bilateral FTAs even fail to arise when countries have symmetric endowments since, under such circumstances, countries find it in their mutual interest to go all the way to global free trade.

In a recent paper, Aghion et al. (2007) examine a leading country's choice between sequential and multilateral bargaining of free trade agreements and provide a comparison of these bargaining processes. While we consider similar issues, there are important differences between their approach and ours. First, in our model, *all* countries are free to negotiate FTAs and countries can form multiple bilateral FTAs. Second, under multilateralism, Aghion et al. (2007) assume that countries have only a binary choice between global free trade and no agreement whereas we permit two countries to undertake trade liberalization on an MFN basis. In Aghion et al. (2007), when bilateral FTAs are forbidden (i.e. under their multilateral bargaining protocol), any single country (say country  $k$ ) can ensure that no agreement  $\langle\{\Phi\}\rangle$  prevails by simply opting to not practise free trade itself while such a country ends up facing the multilateral agreement  $\langle\{ij^m\}\rangle$  in our model. As a result, while the nature of coalition externalities (i.e. whether they are negative or positive) shapes the choice between sequential and multilateral bargaining and the circumstances under which global free trade obtains in their model, the *relative degree of the positive externality* under the bilateral FTA  $\langle\{ij\}\rangle$  compared to that under the multilateral agreement  $\langle\{ij^m\}\rangle$  is the driving force behind our analysis. More specifically, while both  $\langle\{ij\}\rangle$  and  $\langle\{ij^m\}\rangle$  generate a positive externality for the non-member by increasing its welfare relative to the status quo, the degree of the positive externality is stronger under the multilateral agreement  $\langle\{ij^m\}\rangle$ . Finally, unlike Aghion et al. (2007), we do not allow transfers between different coalitions. This is important because when transfers are possible and global free trade maximizes aggregate welfare, it necessarily emerges as the equilibrium under both sequential and multilateral bargaining. When free trade does not maximize aggregate welfare, Aghion et al. (2007) find that FTAs facilitate the achievement of global free trade iff they create negative externalities for non-members. In our model, FTAs can have this effect even when free trade maximizes global welfare and FTAs generate a positive externality for the non-member.

Our paper shares some key elements with Goyal and Joshi (2006) and Furusawa and Konishi (2007), both of which employ the network formation game developed by Jackson and Wolinsky (1996) in examining whether or not a given trade configuration is pair-wise stable.<sup>9</sup> Under symmetry, global free trade is also stable under their approach. Unlike us, however, they only examine whether the formation of bilateral FTAs results in global free trade as the stable outcome and do not analyze the consequences of adopting a strictly multilateral approach to trade liberalization. Like us, Riezman (1999) also asks whether bilateralism facilitates or hinders the achievement of global free trade. However, while we analytically derive the stable Nash equilibria of a non-cooperative game of FTA formation, Riezman (1999) uses the cooperative solution concept of the core and illustrates his results via numerical examples. Second, our model allows us to focus on asymmetries across countries in a way that cannot be done in Riezman's (1999) framework. The relationship between preferential and multilateral liberalization has frequently been analyzed in the literature in

<sup>5</sup> We do not consider unilateral trade liberalization since the presence of terms of trade considerations in our model implies that such liberalization is not in any country's interest.

<sup>6</sup> Note that in our model countries are free to sign a multilateral agreement even under bilateralism. By contrast, the multilateralism game rules out a discriminatory bilateral FTA.

<sup>7</sup> Since political economy considerations can potentially play an important role in determining incentives for bilateral and multilateral trade liberalization, later in the paper (Section 6) we consider a scenario where governments put greater weight on producer interests relative to consumer surplus and tariff revenue. We find that the presence of such political economy motives actually enlarges the parameter space over which the freedom to pursue bilateral trade agreements is necessary for achieving global free trade. See Levy (1997), Krishna (1998), and Ornelas (2005b) for analyses focusing more directly on political economy considerations.

<sup>8</sup> Saggi and Yildiz (2006) consider cost differences across countries in an oligopolistic model of intraindustry trade and uncover similar results.

<sup>9</sup> Relative to our approach, the concept of pair-wise stability implies two constraints. First, the deviating coalition can contain at most two countries. Second, the deviation can consist of severing just one existing link or forming one additional link. In order to eliminate these constraints, we follow Bernheim et al. (1987) and use the concept of coalition proof Nash equilibrium to isolate stable equilibria.

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