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LIBERALIZATION**

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INTERNATIONAL TRADE



Centre for Economic Policy Research

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ABSTRACT

Can Bilateralism Ease the Pains of Multilateral Trade Liberalization?*

Using the influence-driven approach to endogenous trade-policy determination, we show how a free-trade agreement (FTA) with rules of origin can work as a device to compensate losers from trade liberalization. The FTA constructed in this paper is characterized by external tariff structures that are negatively correlated across member countries, ensuring efficiency gains and, through reduced average protection, compatibility with the multilateral trading system's requirements. It is also politically viable and we demonstrate that, in the countries concerned, governments are willing to include its formation in the political agenda even though, in equilibrium, political contributions from producer lobbies decline after the agreement.

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1

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NON-TECHNICAL SUMMARY

The resurgence of regionalism has sparked a vast literature on the role of regionalism in a multilateral world. In the popular press, the debate is often couched in terms of 'regionalism and – or versus – multilateralism'. Are regional integration arrangements (RIAs) 'building blocks' or 'stumbling blocks' towards freer global trade and how do they affect multilateral trading arrangements (MTAs)? Though much has been written on the subject, no consensus seems to be emerging beyond the belief that RIAs are here to stay. A large part of the literature has attempted to find out whether or not a division of the world economy into trading blocs is likely to raise or lower welfare. In that literature, although there are some analyses of tariff negotiations, trade policy derives mainly from optimal tariff considerations.

Although useful, this literature is both open to criticism (are optimal tariff considerations important in trade policy decision-making?) and to the observation that governments are seldom solely economic welfare maximizers. Another literature examines the political economy of integration and the implications of different types of institutional arrangements. This paper belongs to that literature, more precisely to the political economy contributions that view regionalism and multilateralism as complementary. We take the view that regionalism can help sustain multilateralism by emphasizing compensation, an aspect so far neglected. We concentrate on the need to compensate losers from a reduction in protection and on the facilitating role that an RIA can play in this regard. This emphasis seems warranted in view of the experience of the first wave of regionalism, in which the frequent failure of South-South arrangements has been largely attributed to a lack of compensatory mechanisms between (often) very unequal partners. In contrast, in the North-South arrangements of the second wave, availability of compensation funds as in the EC's second enlargement, have been instrumental to their success. Indeed, observers have argued that the Southern partners in the second EC enlargements would not have opened their economies as much on their own and, most recently, that the Europe Agreements have had a similar effect on the Central and East European economies.

This paper suggests that regional arrangements, such as free-trade areas (FTAs), offer three political-economy advantages that have been neglected so far. First, they provide a way of compensating losers. Second, they can be designed to yield welfare-enhancing reductions in protection for both members

and non-members. Finally, by reducing the average protection of member countries, they help them meet the requirement of 'offers', now required of all World Trade Organization (WTO) members when joining regional agreements. This should present a non-negligible advantage for the many newcomers to the WTO.

Our argument is the following. Consider two symmetric countries, A and B, whose trade policy (initially non-discriminatory) is determined, as outlined in the political support function literature, by each country's government trading off contributions from industry lobbies (conditioned on the adoption of distortionary trade taxes), against the social costs that such taxes entail. We show how an FTA with rules of origin can enable both countries to reduce external tariffs selectively (through a cooperative agreement) while simultaneously maintaining producer prices in import-competing sectors at their initial level. Maintaining producer prices is the key to success, since this guarantees that political support does not decline following the FTA's formation.

An example will illustrate the argument. Let electronics be an import-competing sector in A and textiles an import-competing sector in B. Neither country is large enough to meet the partner country's import demand at the initial (tariff-ridden) domestic prices. Both sectors are initially protected by a non-discriminatory tariff. Let now A and B form an FTA with rules of origin, in which A maintains its pre-FTA tariff in textiles and eliminates its tariff on electronics, while B maintains its pre-FTA tariff in electronics against the rest-of-the world (C) and eliminates its textiles tariff.

Under this scenario, free trade within the area enables textiles producers in B to ship their output tariff-free to A, enjoying A's protection and likewise for electronics producers in A. Consequently, producer prices are unchanged, and governments in both countries can enjoy political support as before the FTA. But consumer prices are reduced: consumers in B can now obtain electronics at their world price, and consumers in A can obtain textiles at their world price (consumer-price differences between A and B cannot be arbitrated because of rules of origin which prevent the trans-shipment of goods originating from the rest-of-the-world through the area's internal borders). In the paper, we show that, although tariff revenue shrinks, the reduction in consumer prices raises welfare in A and B and the reduction in the average tariff of the zone, with respect to the rest-of-the-world, raises non-member welfare.

Consider next the MTA implications of such an arrangement. As member countries of the FTA have reduced their average tariff, they are in a position to

offer multilateral tariff reductions. Thus, if the bargaining that takes place during the formation of an FTA is driven by political-economy considerations, and if – indeed as required by GATT article XXIV – the average tariff rate of member countries must be reduced, trade diversion within the FTA may well turn out to be globally welfare-increasing. In short, if the cooperative arrangements are properly designed, they can reduce the cost of compensating losers and, in the process, make everyone better off. This compensation mechanism, which is internal to the FTA, is clearly not available in multilateral negotiations.

In short, if indeed political-economy considerations are important in the negotiations of FTAs, one should observe an ‘exchange’ of protection among members so that post-FTA tariff structures should be negatively correlated among members. Indirect evidence, based on import patterns between Canada and the United States, is consistent with this prediction.

During the American Civil War a friend of mine, who was a careful student of the military operations, used often to remark that the war was one in which the South had all the victories, and the North, all the substantial successes. Protectionists do score many victories, or so-called victories. What I wish to point out is the continual and substantial success of Free Trade throughout the world.

Sir Robert Giffen¹

1 Introduction

Regionalism is mushrooming and appears to be here to stay. The first wave, which appeared in the 1960s, was made up primarily of North-North and South-South regional trading arrangements (RIAs), the latter being generally recognized to have been less successful than the former. Different, primarily North-South arrangements appeared during the 1980s in a second wave which sparked a vast literature on the role of regionalism in a multilateral world. This literature, which was recently surveyed by Winters (1997) and Panagariya (1998) (see also the edited volumes by Anderson and Blackhurst, 1993; de Melo and Panagariya, 1993; and Bhagwati and Panagariya, 1996), has largely focused on two issues: (i) Should a division of the world economy into regional trading blocs be expected to raise or to lower welfare? (ii) Does regionalism help or hamper multilateral efforts at trade liberalisation?

In most of the literature addressing issue (i), the common rationale for regional and multilateral trading arrangements is to internalize terms-of-trade externalities, as in Krugman (1992). This approach is probably best suited to analyze the first wave of regionalism, although it is not clear that optimal-tariff considerations weigh heavily in trade-policy decisions. In addressing issue (ii), the arguments have instead been couched in a political-economy setting emphasizing institutional differences between various types of regional arrangements. On the negative side, Levy (1997) uses a political-economy approach à la Mayer (1984) to argue that RIAs may jeopardise the multilateral trading system if they offer disproportionately large gains to agents in integrating countries, raising their reservation utility over the multilateral free-

¹Speech delivered at the annual dinner of the North Staffordshire Chamber of Commerce at Stoke, December 15th 1897, and reported in Giffen (1904).

trade level. Using the political-support approach to endogenous policy formation (but different modelling assumptions) Krishna (1998) and Grossman and Helpman (1995) show that FTAs are more likely to be adopted if they are trade diverting, suggesting that politically successful FTAs are likely to be of the harmful type. On the positive side, Ethier (1996) interprets the new wave of regionalism as an endogenous response to the development of the multilateral system, suggesting that regional integration can spur multilateral liberalization by facilitating coordination. Hillman et al. (1995) also argue that governments exchange market access in the WTO or in RIAs because the mutual political gains conferred by reciprocity lower the political costs of trade liberalization.

Although the weight of theoretical conjectures suggests that there is some ground for concern about the spread of regionalism, it is fair to say that the debate is still open, if for no other reason because the historical evidence is itself ambiguous (see Irwin, 1993). This paper takes the view that whether or not regionalism should be a source of concern, it is probably here to stay; therefore, in the words of de Melo and Panagariya (1993), “a more constructive approach is to ask whether mechanisms can be devised to ensure that regionalism complements multilateralism and does not fragment the world into inward-looking blocks” (p. 9). In this spirit, we show how the external tariff structure of a free-trade agreement (FTA) can be designed so as to generate welfare gains while preserving the ability of member countries to protect import-competing interests from the adverse consequences of trade liberalization, thus making the agreement politically viable.

An FTA is politically viable if it satisfies two criteria. Following Grossman and Helpman (1995), we first assume that the formation of an FTA is on the political agenda and show that the agreement under consideration is politically viable using an extension of their notion of a “pressured stance”.² We also verify that governments are willing to put the formation of an FTA on the political agenda; that is, that any decline in equilibrium contributions after the agreement’s signature would be offset by efficiency gains. Using this two-step approach, we show (by construction) how an FTA with rules of origin can enable both countries to cooperate towards

²A “pressured stance” is defined as a decision that the government takes partly in response to offers of support by interest groups.

a selective reduction of external tariffs while simultaneously maintaining producer prices in import-competing sectors at their initial level, a key condition for continued political support.

An example will illustrate the gist of the argument. Consider two countries (A and B) whose textiles and electronics producers compete with imports from the rest of the world, and suppose that each country is too small in each sector to meet its partner's import demand at the initial (tariff-ridden) domestic prices. Let the two countries form an FTA with rules of origin in which A maintains an unchanged external tariff on textiles but eliminates protection in electronics, while B does the reverse. Free trade within the area enables B 's textiles producers to ship their output tariff-free to A , enjoying A 's protection; likewise, A 's electronics producers can export to B and enjoy B 's protection. Under suitable demand conditions, producer prices are unchanged, so that import-competing interests do not oppose the FTA. Moreover, as we show that equilibrium post-FTA contributions (based on external tariffs) are inferior to pre-FTA contributions (based on MFN tariffs) by no more than the valuation of the FTA's efficiency gains in the objective function of governments, the latter have no reason to oppose placing the formation of the FTA on the political agenda.

The arrangement's most interesting aspect is that it leads to reduced *consumer* prices, as B 's consumers can now obtain electronics at their world price, while A 's consumers can obtain textiles at their world price. (Consumer-price differences between A and B cannot be arbitrated because of rules of origin, which prevent the trans-shipment of goods originating from the rest of the world through the area's internal borders.) Although tariff revenue shrinks in both countries, we show that the consumer-price reductions raise welfare in A and B ; with no opposition from import-competing lobbies, these welfare gains are sufficient to make the agreement politically viable.

The remainder of the paper is organised as follows. Section 2 introduces the model used in section 3 to establish an FTA that is politically viable and globally welfare-enhancing. Section 4 introduces extensions (no compensation, asymmetric partners), discusses consistency with GATT article XXIV and gives *prima facie* evidence for the Canada-U.S. FTA (CUSFTA). Section 5 concludes.

2 The model

Two small (price-taking) and symmetric³ countries, A and B , produce and consume three goods, labelled 1, 2 and 3. Consumers have identical, quasilinear preferences. Goods 1 and 2 are made with sector-specific capital and intersectorally mobile labour. The presence of a fixed endowment of specific capital generates diminishing returns in sectors 1 and 2, whereas sector 3 employs only labour under constant returns to scale. Thus, the productivity of labour in sector 3 determines the economywide wage rate, as in Grossman and Helpman (1994). Both countries import goods 1 and 2 from the rest of the world and export good 3 to it, with no transportation costs between any pair of countries. Good 3 serves as numéraire.

We model the formation of an FTA in a two-period framework. This intertemporal aspect is not introduced for its own sake, but only to highlight an important distinction between two types of political contributions. In period 1, each country's trade policy is nondiscriminatory and is determined as the outcome of a domestic political game *à la* Grossman-Helpman, in which lobbies representing owners of specific capital bid for protection with truthful contribution schedules.⁴ We will call these contributions 'type-1' contributions. At the end of period 1, governments decide whether or not to put the formation of an FTA on the political agenda in A and B ; if they do, lobbies contribute, once and for all, in favour of the agreement or against it. We will call these one-off contributions 'type-2' contributions. If the agreement is adopted, the governments of A and B seek again type-1 contributions in period 2, but now conditioned on external rather than MFN tariffs, and they act cooperatively, maximizing a joint objective function. If the agreement is rejected, period 2 is identical to period 1. The political viability of the FTA, if it is on the political agenda, depends on the welfare gains it is able to generate and on the net sum of aggregate type-2 contributions. Whether or not governments are willing to put it on the agenda depends not only on type-2 contributions and welfare effects, but also on a comparison

³The symmetry assumption is discussed in section 4.

⁴In each country, industry lobbies simultaneously face their government with contribution functions conditioned on the vector of domestic prices. Those functions satisfy Bernheim and Whinston's (1986) 'truthfulness' property by which, in a neighbourhood of the equilibrium, the derivatives (with respect to domestic prices) of the industry's contributions and profit functions are equal. The resulting 'truthful Nash equilibrium' is unique and coalition-proof.

of the level of type-1 contributions before and after the agreement.

With a finite time horizon and no links between periods in either demand or supply functions, the intertemporal aspects of the game can be disregarded and the equilibrium calculated separately for each period. Accordingly, two problems must be considered: one in which governments use MFN tariffs, characterized below, and one in which they use external tariffs in an FTA, solved in section 3.

To rule out unnecessary complications, as in Cadot, de Melo and Olarreaga (1996), we assume that capital ownership is sufficiently concentrated to ensure that industry lobbies disregard the effect of trade protection on the cost of living.⁵ Sector 3 is not allowed to lobby for export subsidies. Normalizing world prices to unity in all sectors and letting t_k^i be country i 's tariff in sector k , the domestic price of good k in i is $p_k^i = 1 + t_k^i$ (consumer and producer prices are equivalent). Type-1 contributions C_k^i from producers of good k ($k = 1, 2$) in i can be written as $C_k^i(t_k^i, b_k^i)$ for some constants b_k^i , whose determination is discussed in section 3. Welfare is $W^i(t_1^i, t_2^i)$. Using vector notation, $\mathbf{t}^i = (t_1^i, t_2^i)$, $\mathbf{b}^i = (b_1^i, b_2^i)$, and the government's problem in country i can be written as

$$\max_{\mathbf{t}^i} V^i(\mathbf{t}^i, \mathbf{b}^i) \equiv C_1^i(t_1^i, b_1^i) + C_2^i(t_2^i, b_2^i) + aW^i(\mathbf{t}^i) \quad (1)$$

for some constant a . Let $\bar{\mathbf{t}}^i$ be the solution to problem (??); we use bars to indicate variables evaluated at their period-1 (pre-FTA) equilibrium values. It is shown in Cadot, de Melo and Olarreaga (1996) that, under quasilinear preferences, $\partial W^i / \partial t_k^i = (m_k^i)' t_k^i$, where $(m_k^i)'$ is the own-price derivative of country i 's import-demand function in sector k . Thus, ignoring corner solutions at free trade (import subsidies are not allowed) $\bar{\mathbf{t}}^i$ satisfies the first-order condition

$$\frac{\partial V^i}{\partial t_k^i} \equiv \frac{\partial \pi_k^i}{\partial t_k^i} + a \frac{\partial W^i}{\partial t_k^i} = y_k^A + a(m_k^i)' t_k^i = 0. \quad (2)$$

We need to impose the technical condition that at the period-1 equilibrium level of tariffs $\bar{\mathbf{t}}^i$, the combined output of A and B does not exceed the demand from each one

⁵Lobbies consider that their share of aggregate consumer surplus is of negligible magnitude compared to their share of aggregate producer surplus. Therefore, they do not internalize the externality that their own protectionist demands exert on consumer expenditure, nor do they lobby against the demands of other sectors.

of them individually. Formally, let \tilde{t}_k^i be defined by $y_k^A(1 + \tilde{t}_k^i) + y_k^B(1 + \tilde{t}_k^i) \equiv c_k^i(1 + \tilde{t}_k^i)$ where y_k^i and c_k^i are respectively i 's output and consumption of good k . The condition can be stated concisely as:

Assumption 1 $\tilde{t}_k^i \leq \tilde{t}_k^j$ for $k = 1, 2$ and $i = A, B$.

Given that A and B are symmetric, Assumption 1 means that in the period-1 (pre-FTA) equilibrium, import-penetration ratios in sectors 1 and 2 are at least equal to one half (as $y_k^A + y_k^B = 2y_k^i \leq c_k^i$ for $i = A, B$).

3 Compensating losers in an FTA

Before we turn to the formal analysis of the agreement's political viability, we need to state a technical result first established by Richardson (1993); namely, that an FTA introduces a wedge between the consumer and producer prices of imported goods, provided that rules of origin prevent consumer arbitrage. (We define rules of origin as regulations preventing the transshipment of goods from the rest of the world through the area's internal borders.) More precisely, in an FTA with rules of origin, producer prices are necessarily equalized across the area, whereas consumer prices are not.⁶ We will denote producer prices by p_k^i and consumer prices by q_k^i ; let also $\mathbf{t} = (t_1^A, t_2^A, t_1^B, t_2^B)$ be the the area's external tariff vector.

Lemma 1 (Richardson, 1993) *In an FTA with rules of origin and satisfying Assumption 1, the consumer price of good k is $q_k^i = 1 + t_k^i$ in country i , but its producer price is $p_k^i = 1 + \max\{t_k^A, t_k^B\}$ in the entire area.*

Proof If $t_k^A = t_k^B$, the lemma holds trivially; suppose that $t_k^A \neq t_k^B$, and label countries so that $t_k^A > t_k^B$. As transportation costs are nil between A and B , B 's producers sell in A ; as $t_k^A \leq \tilde{t}_k^A$, they can sell their entire output without depressing k 's market price in A . Thus, the price relevant to B 's producers is not $1 + t_k^B$, but $1 + t_k^A$: producer prices are equalized at $p_k^B = p_k^A = 1 + t_k^A$. As B 's output is shipped

⁶The reader may wonder why symmetric countries would ever want to set different tariffs. In the initial (period-1) equilibrium, no strategic interaction exists between A and B ; in such a context, symmetry implies that they must set equal tariffs. But in a strategic context like an FTA, asymmetric tariffs can emerge both in cooperative and noncooperative settings (see e.g. Cadot, de Melo, and Olarreaga, 1996).

entirely to A , B 's consumption is met by imports from the rest of the world priced at $q_k^B = 1 + t_k^B$. In A , rules of origin prevent consumers from purchasing quantities of good k imported by B from the rest of the world; consequently, $q_k^A = 1 + t_k^A (= p_k^A)$. Thus, $q_k^B = 1 + t_k^B < q_k^A = 1 + t_k^A$. \square

Lemma 1 highlights the key role played by rules of origin in an FTA. Together with Assumption 1, rules of origin ensure that the price of k in the more protected market (A) is sheltered from downward pressure arising from the relatively low price prevailing in the less-protected market (B). As a result, if B forms an FTA with A while simultaneously reducing its external tariff on k , its producers can avoid being exposed to the competitive pressure of imports from the rest of the world by simply diverting their output to A 's protected market. Stated differently, rules of origin enable A to 'export its protection' to B , as Krueger (1993) first noted (although Krueger was referring to the protection extended to intermediate-goods producers when final goods are subject to rules of origin in an FTA). This is the mechanism on which we rely to protect losers from trade liberalization.

Suppose now that the formation of an FTA is on the political agenda, and consider the following proposal. Barriers to intra-bloc trade (i.e. to trade between A and B) are, of course, to be removed. But in addition, A and B agree to set their external tariffs cooperatively⁷: A eliminates its external tariff on good 1 and maintains an external tariff on good 2 just equal to its pre-FTA MFN tariff, while B does the reverse. Loosely speaking, an FTA will be said to be politically viable if the sum across partners of contributions for and against the FTA and economic efficiency (properly weighted) is positive. More precisely, the following must hold. In each country, lobbies offer type-2 contributions for or against the FTA to their government.⁸ Grossman and Helpman (1995), who pioneered this approach, showed that truthful contributions are in this context simple amounts related to the loss or gain that the lobbies expect

⁷Although A and B agree to set external tariffs cooperatively, they still set them separately, unlike in a customs union, where they would necessarily agree on a *common* external tariff.

⁸Because the opportunity to form an FTA occurs only once in our two-period framework, participating governments are necessarily committed to staying in the FTA once it is formed. In an infinite-horizon model, some mechanism —like an entry-and- exit cost— would be needed to prevent governments from renegotiating the participation issue with their lobbies. We are grateful to Raquel Fernandez for attracting our attention to this issue.

from the FTA. Thus, if lobby k expects to gain from the agreement, it will offer a contribution $0 \leq F_k^i \leq \Delta\pi_k^i$ (the change in industry profits attributable to the FTA) in its favour; if it expects to lose, it will offer a contribution $0 \leq N_k^i \leq -\Delta\pi_k^i$ against it. We will call F^i the set of sectors such that $\Delta\pi_k^i \geq 0$ and N^i the set of sectors such that $\Delta\pi_k^i < 0$. If the FTA is implemented, in equilibrium the government of each country must be just indifferent between implementing it or not, otherwise lobbies on the winning side could reduce their contributions without altering the outcome. Thus, lobbies on the losing side (those who oppose the agreement) must bid the whole valuation of their expected losses, implying that $N_k^i = -\Delta\pi_k^i$ for all $k \in N^i$.

In this section, we assume that A and B can use inter-country transfers to compensate for tariff-revenue losses due to the agreement; section 4 shows how the FTA can be implemented without such transfers. Let ΔW^i denote the welfare change attributable to the agreement.

Definition 1 *An FTA is politically viable with compensatory transfers if there exist contributions $F_k^i \in [0; \Delta\pi_k^i]$ such that*

$$\sum_{i=A,B} \left(\sum_{k \in F^i} F_k^i - \sum_{k \in N^i} \Delta\pi_k^i + a\Delta W^i \right) \geq 0.$$

Definition 1 extends Grossman and Helpman's definition of a 'pressured stance' to a context where compensatory transfers are possible; we use it in the following proposition to construct an external tariff structure that ensures the FTA's political viability and maximizes the sum of the member countries' domestic objective functions V^A and V^B , given truthful contribution schedules. Let $\hat{\mathbf{t}} = (\bar{t}_1^A, 0, 0, \bar{t}_2^B)$; that is, $\hat{t}_1^A = \bar{t}_1^A$ (A 's initial MFN tariff in sector one); $\hat{t}_2^A = 0$; $\hat{t}_1^B = 0$; $\hat{t}_2^B = \bar{t}_2^B$ (B 's initial MFN tariff in sector two).

Proposition 1 *An FTA with rules of origin and with an external tariff vector equal to $\hat{\mathbf{t}}$ is politically viable with compensatory transfers.*

Proof By symmetry, the initial (period-1) tariffs of A and B on k are identical: $\bar{t}_k^A = \bar{t}_k^B$ for $k = 1, 2$; consequently, $\bar{p}_k^A = \bar{p}_k^B$. As $\hat{t}_1^A > \hat{t}_1^B = 0$, B 's output of good 1 is sold in A ; applying Lemma 1, $\hat{p}_1^A = \hat{p}_1^B = 1 + \hat{t}_1^A$. Moreover, as $\hat{t}_1^A = \bar{t}_1^A$, it follows that

$\hat{p}_1^A = \bar{p}_1^A = \hat{p}_1^B = \bar{p}_1^B$. By the same argument, $\hat{p}_2^A = \hat{p}_2^B = \bar{p}_2^A = \bar{p}_2^B$. Thus, producer prices are unchanged in both countries, implying that $F_k^i = N_k^i = 0$ for all k and i . It follows that the agreement is politically viable if and only if it raises the area's aggregate welfare.

As producer prices are unchanged, so is producer surplus. Therefore the variation in welfare is the sum of the changes in consumer surplus and tariff revenue. Consider country A . The change in A 's consumer surplus is $\bar{t}_2^A \bar{c}_2^A + \delta_2^A$, where $\delta_2^A > 0$ is the deadweight loss induced in A by a tariff \bar{t}_2^A . The change in A 's tariff revenue has two components. In sector 1, trade diversion reduces tariff revenue by an amount equal to $\bar{t}_1^A \bar{y}_1^B$. In sector 2, tariff revenue equal to $\bar{t}_2^A (\bar{c}_2^A - \bar{y}_2^A)$ is eliminated. Thus, the total variation in A 's welfare is:

$$\begin{aligned} \Delta W^A \equiv W^A - \bar{W}^A &= \bar{t}_2^A \bar{c}_2^A + \delta_2^A - \bar{t}_1^A \bar{y}_1^B - \bar{t}_2^A (\bar{c}_2^A - \bar{y}_2^A) \\ &= \delta_2^A - \bar{t}_1^A \bar{y}_1^B + \bar{t}_2^A \bar{y}_2^A. \end{aligned}$$

Similar calculations for B yield $\Delta W^B = \delta_1^B - \bar{t}_2^B \bar{y}_2^A + \bar{t}_1^B \bar{y}_1^B$. Thus, the aggregate welfare change for the FTA is:

$$\Delta W \equiv \Delta W^A + \Delta W^B = \delta_2^A + \delta_1^B + (\bar{t}_1^B - \bar{t}_1^A) \bar{y}_1^B + (\bar{t}_2^A - \bar{t}_2^B) \bar{y}_2^A = \delta_2^A + \delta_1^B > 0.$$

This establishes that $\hat{\mathbf{t}}$ satisfies the political-viability constraint of Definition 1. \square

Given that aggregate type-2 contributions in favor of the FTA are nil, it remains to be shown that member governments are willing to put it on the political agenda in the first place, i.e., that the net effect of the agreement's efficiency gains and of any variation in type-1 contributions after its signature would leave the governments of A and B at least as well off as before in terms of V . Strictly speaking, governments could trade off positive net type-2 contributions against the discounted value of any drop in type-1 contributions after the agreement. However, we will show below that such an intertemporal trade-off need not be envisaged here.

In each period, type-1 truthful contribution schedules are of the form $C_k^i = \max \{ \pi_k^i - b_k^i; 0 \}$, where the constants b_k^i determine how the rents generated by protection at the expense of consumers are shared between lobbies and the govern-

ment. Let \bar{V}^i and \hat{V}^i stand respectively for the equilibrium value of the government's objective function before and after the FTA (i.e. in period 1 and in period 2). Let also \bar{V}_{-k}^i and \hat{V}_{-k}^i stand for the pre- and post-FTA values of V^i when sector k is not allowed to lobby; for instance, \bar{V}_{-1}^i is the pre-FTA value of V^i when only sector 2 is active in lobbying. Finally, let W_F^i be the free-trade level of i 's welfare, and note that the functions \bar{V}^i , \hat{V}^i , and aW^i all coincide at free trade.

Proposition 2 *The FTA's efficiency gains are appropriated by lobbies through reduced contributions; i.e., $\bar{V}^i = \hat{V}^i = aW_F^i$.*

Proof Sector k 's constant b_k^i is set endogenously to verify $\bar{V}^i(b_k^i, \cdot) = V_{-k}^i$; in words, sector k sets b_k^i so as to leave the government just indifferent between choosing the equilibrium tariffs \bar{t}^i and ignoring sector k altogether.⁹ Solving by induction, if sector 1 is not allowed to lobby, sector 2 behaves as a single principal and sets b_2^i so as to leave the government just indifferent between free trade and the tariff maximizing $C_2^i(t_2^i, b_2^i) + aW(t^i)$. Thus, $V_{-1}^i = aW_F^i$; it follows that sector 1 sets b_1^i so as to satisfy $\bar{V}^i = aW_F^i$. (Starting the induction with sector 1 leads to the same result.) It is now a simple matter to establish the second equation, namely $\hat{V}^i = aW_F^i$. In the FTA, by Lemma 1, producers of good 1 sell only in A and producers of good 2 sell only in B ; therefore, the only active lobbies are those of sector 1 in A and sector 2 in B . Using an argument already made, each lobby acts as a single principal and leaves the relevant government indifferent between free trade and the distorted equilibrium, by an appropriate choice of the constant b_k^i . It follows directly that $\hat{V}^i = aW_F^i (= \bar{V}^i)$. \square

Proposition 2 demonstrates that the utility of governments, inclusive of type-1 contributions, is unaffected by the formation of the FTA. This result seems at odds with that of Proposition 1, which established that producers were indifferent to the FTA but that governments weren't because of welfare gains. The reason for this apparent discrepancy is that lobbies are able to appropriate all the efficiency gains generated by the move from MFN tariffs to a regional arrangement through reduced type-1 contributions rather than increased profits. In turn, the ability of lobbies to

⁹This principle has close parallels in agency theory. A detailed analysis of the endogenous determination of the constants b_k^i can be found in Grossman and Helpman (1994).

appropriate the entire rents from protection (and consequently the efficiency gains generated by an FTA) stems from the absence of inter-lobby rivalry in a model where the wage rate is fixed and cost-of-living externalities are not recognized. Should some element of rivalry be present, the basic result of this paper —namely, that an appropriately-designed FTA is politically viable— would remain valid (indeed, it would be strengthened), but member governments would be able to retain some of the induced efficiency gains.

Note also that the welfare-maximising tariff vector that is politically viable in the sense of definition 1 will be such that the tariff in the protected sector in country A will be smaller than \bar{t} . To see this note that by lowering the tariff in the protected, welfare unambiguously increases but at the same time, firms start opposing the FTA. As at \bar{t} the FTA is ‘strictly’ politically viable, in the sense that the inequality in definition 1 is strictly positive (as shown in proposition 1), then by continuity there exists a tariff lower than \bar{t} that satisfies the political constraint and procures further welfare gains.

4 Extensions and applications

4.1 Implementation without compensatory transfers

The FTA constructed in Proposition 1 relies on monetary transfers between members. In the present framework, where governments trade off domestic welfare against monetary contributions from lobbies, inter-country transfers to compensate for welfare losses are quite natural. Moreover, such transfers are common in RIAs (a prominent example is the structural-funds system in the European Union). Indeed, Sapir (1993) stressed the role of compensation funds in the success of the EC’s second enlargement to Southern European countries. By contrast, the fact that many of the early South-South regional agreements of the 1960s failed has been largely attributed to the lack of compensatory mechanisms between unequal partners (see e.g. Foroutan, 1993). However, one may object that there is a logical inconsistency in ruling out lump-sum transfers domestically (such transfers would enable governments to solve income-distribution problems without having recourse to distortionary trade taxes) while at the same time using them to solve distributional problems between coun-

tries. Therefore, we consider in this section how the FTA characterized in Proposition 1 can be implemented without compensatory transfers. Let us call “import goods” the goods imported by the regional bloc from the rest of the world (goods 1 and 2 in our example).

Corollary 1 *The FTA characterized in Proposition 1 is politically viable without compensatory transfers whenever the price elasticity of demand for import goods is sufficiently large in both member countries.*

Proof As type-2 contributions are nil, the FTA is politically viable without inter-country transfers if and only if $\Delta W^A \geq 0$ and $\Delta W^B \geq 0$. The former condition is equivalent to $\bar{t}_2^A \bar{y}_2^A \geq \bar{t}_1^A \bar{y}_1^B - \delta_2^A$; the latter to $\bar{t}_2^B \bar{y}_2^A \leq \bar{t}_1^B \bar{y}_1^B + \delta_1^B$. As symmetry implies that $\bar{t}_k^A = \bar{t}_k^B$ and $\bar{y}_k^A = \bar{y}_k^B$, superscripts can be disposed of and the political-viability condition can be rewritten, after slight rearrangement, as $-\delta_2^A \leq \bar{t}_2 \bar{y}_2 - \bar{t}_1 \bar{y}_1 \leq \delta_1^B$. It can be seen by inspection that, as deadweight-loss terms δ_k^i are increasing in the own-price elasticities of demands, higher values of those elasticities enlarge the range of pairs (\bar{y}_1, \bar{y}_2) satisfying the political viability condition. \square

Corollary 2 has a normative implication beyond that of Proposition 1. The welfare efficiency of *any* given FTA can be enhanced at no political cost by selective elimination of external tariffs, pairwise, in sectors with high demand elasticities.¹⁰ Such a move, while preserving across-the-board internal free trade, would allow member countries to exchange protection among themselves while generating consumer-surplus gains. It is also worth noting that, if trade protection took the form of quantitative restrictions, importing countries would typically retain only a fraction of the quota rents, so that the issue of compensation for loss of such rents would lose importance.

4.2 Asymmetric FTA partners

While the symmetry assumption permits the construction of a clearcut argument at minimum computational cost, it is too strong to provide a basis for policy prescriptions. Its role in our analysis is to ensure that period-1 MFN tariffs are equal, so

¹⁰Note that if markets 1 and 2 are symmetric, in the sense that $\bar{t}_1 = \bar{t}_2$ and $\bar{y}_1 = \bar{y}_2$, then the FTA without transfers is always welfare increasing, regardless of relative demand elasticities.

that producers in import-competing sectors are indifferent between selling at home or abroad at the initial tariff vector. Suppose, then, that tariffs are not equal in period 1. The FTA's external tariff structure must provide undiminished protection to producers in the whole area while opening up one country in each sector to external competition. This dual requirement, which is the essence of our argument, can be achieved by setting, in each sector, an external tariff equal to $\max\{\bar{t}_k^A, \bar{t}_k^B\}$ in one country and zero in the other one. (The availability of compensatory transfers makes the identity of each country irrelevant.) Then, in both of the area's import-competing sectors, the common producer price is at least as high as it was in either country before the FTA. As a result, import-competing interests do not oppose the agreement; in fact, producers of good k in the country that was initially the least protectionist in sector k support the agreement, as internal free trade enables them to share in the other country's high level of protection. However, one country's producer-surplus gains are the other's tariff-revenue losses, and the net effect on the agreement's political viability depends on the parameter α , introducing an indeterminacy that symmetry avoids. As for consumer-surplus gains, they are ensured, as in the symmetric case, by the elimination of one member's external tariff in each sector. Thus, relaxing the symmetry assumption does not affect the logic of our argument but clouds it with an indeterminacy of little practical significance, since it hinges on the unmeasurable parameter α .

4.3 Implications for GATT's article XXIV

It is easy to verify that the external tariff structure set up in Proposition 1, i.e., $\hat{t} = (\bar{t}_1^A, 0, 0, \bar{t}_2^B)$, is in conformity with article XXIV of the GATT and its 1994 understanding: As required, the FTA covers all trade, and the area's import-weighted average external tariff is smaller than before, as no tariff is raised while two are eliminated. Thus, the FTA is WTO-consistent.¹¹

The argument can be carried one step further. Article XXIV's requirement that no tariff be raised applies on a country-by-country basis, rather than on the area's

¹¹Although most RIAs among developing countries make use of the WTO's enabling clause exempting them from the constraints of Article XXIV, FTAs among OECD countries are still subject to its requirements.

average external tariff. Thus, the fact that some countries reduce their external tariffs when joining an FTA cannot be used by others to raise theirs, even if the area's average external tariff ends up lower than before the agreement. By contrast, when countries form a customs union, Article XXIV allows for compensatory changes at the tariff-line level among member countries according to the mechanism stipulated in article XXVIII. That is, a country can raise its external tariff provided that other member countries reduce theirs by a "sufficient" amount when converging to the common external tariff. Although the formation of preferential trading agreements under Article XXIV has been considered by some observers as a 'loophole' in the MFN principle that ought to be eliminated, our analysis suggests that a case might in fact be made for an *extension* of Article XXIV —specifically, we suggest that the more flexible criterion applied by the WTO to customs unions should be extended to FTAs. The reason is that whereas the trade diversion making piecemeal external liberalization palatable to import-competing lobbies is costless in our model, it is unlikely to be so in reality. Thus, import-competing sectors forced to redirect their activity away from their domestic market to a more protected partner country may demand increased external protection in the latter. Such an increase in external protection in one of the member countries would violate Article XXIV in its present form, even if it were compensated by the elimination of external protection in other member countries. This, in our view, creates unnecessary hurdles on the political viability of FTAs regardless of their potential to raise world welfare.¹²

4.4 Prima Facie evidence: The Canada-US FTA

If compensating the losers from trade liberalization matters in the political-economy process leading to the formation of regional trading agreements, Proposition 1 suggests that the changes in external tariff structures following the formation of an FTA should be negatively correlated across members. That is, whenever a member country maintains substantial external protection in a given sector, other members can afford to reduce their own protection in that sector while returning the favor in other ones (provided that the supply and demand conditions characterized in Assumption

¹²Finger (1993) discusses the appropriateness of GATT rules on RIAs and GATT's lack of success in enforcing these rules.

1 hold). If effective, this exchange of protection among member countries should be reflected in trade patterns: the growth of intra-bloc trade in import-competing sectors (with goods flowing from relatively open member countries to more protected ones) should be correlated with the growth of imports from the rest of the world to those relatively open member countries.

We checked indirectly for those predictions using Canada-US SITC trade data at the 4-digit level (816 tariff lines) before and after the signature of the Canada-US FTA (CUSFTA) in 1987. Although trade flows measure changes in protection only indirectly (and no doubt pick up other effects as well), they have the advantage of also capturing the effect of non-tariff barriers, which would otherwise be difficult to quantify. We estimated panel regressions on growth rates of exports and imports at the tariff-line level, using a “between-regressor” technique (to get rid of general time trends) for two sub-periods: 1983-1987 (3264 observations) and 1988-1996 (7344 observations). First, we regressed average growth rates of Canadian exports to the US on average growth rates of Canadian imports from the rest of the world at the tariff-line level for the period 1983-1987. The estimated coefficient (-0.16E-6) was insignificant, with a *t*-statistic of -0.06. The same regression run on the 1988-1996 period gave an estimate of 0.28, significant at the 99% (*t*-statistic of 4.5). Qualitatively similar results were obtained when regressing the average rate of growth of US exports to Canada on US imports from the rest of the world at the tariff-line level.

These correlations are only suggestive and should, of course, be interpreted with caution, as many factors other than CUSFTA and the Uruguay Round negotiations may have contributed to shape trade patterns between Canada and the US. Nonetheless, they appear to be at least consistent with the implications of the kind of political-economy considerations analyzed in this paper.

5 Concluding remarks

Whereas FTAs are often considered, for a variety of reasons, as worse arrangements than customs unions (see e.g. Krueger, 1997), this paper purported to show that the ability of member countries to maintain different degrees of external protection in an FTA can in fact be used to mitigate the impact of existing protectionist pressures.

The argument is, in essence, a very simple one: if it is generally acknowledged that members of an FTA exchange market access for their domestic exporters, we show that they can also exchange protection for the benefit of their import-competing interests, and that they can do so at lower welfare costs than if each member had to protect each and every one of its import-competing industries. Clearly, this is a second-best argument requiring some sort of political-viability constraint. But constraints of that sort are prevalent in actual policy-making, and our preliminary check on US-Canada data suggests that they may indeed exert a significant influence on trade-policy outcomes, along the lines predicted by our results.

As a by-product of our analysis, we have highlighted three types of advantages offered by FTAs which have hitherto been neglected in the literature. First, they provide a way of compensating losers, an aspect largely overlooked (except for Hillman et al., 1995), but of key practical importance.¹³ Second, following the logic of Kemp and Wan (1976), FTAs can be designed so as to yield welfare-enhancing reductions in protection (this issue is analyzed formally in Krishna and Panagariya, (1998)). Finally, by reducing the average external protection of member countries, they can help meet the requirement of ‘offers’ that WTO members face when joining regional agreements (for instance, Argentina and Uruguay decreased their average external tariff from 40% in 1986 to 12% in 1996 while forming the MERCOSUR with Brazil and Paraguay). This can represent a non-negligible advantage for the many newcomers to the WTO.

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