The Customs Union issue:
Why do we observe so few of them?*

Giovanni Facchini† Peri Silva‡ Gerald Willmann §

August 27, 2009

Abstract

The number of preferential trade agreements has greatly increased over the past two decades, yet most existing arrangements take the form of free trade areas, and less than ten percent can be considered to be fully fledged customs unions. This paper develops a political economy model of trade policy under imperfect competition to provide a positive explanation for the prevalence of free trade areas. In a three–country setting, a representative from each prospective member is elected to determine the tariffs to be applied on imported goods. Under a customs union, the necessity to coordinate tariffs leads voters to strategically delegate power to more protectionist representatives. Contrary to most of the existing literature, we show that strategic delegation may imply that free trade areas increase welfare compared to customs unions. Moreover, the model also indicates that free trade areas are more likely to be politically viable than customs unions.

JEL classification numbers: F10, F11, F13

Keywords: Strategic delegation, Preferential Trade Agreements.

†Erasmus University Rotterdam, Universitá degli Studi di Milano, Centro Studi Luca d'Agliano, CEPR and CES–Ifo; phone: ++31-(0)10-4082341. email: facchini@ese.eur.nl.

‡University of North Dakota and Centro Studi Luca d'Agliano. Gamble 290 L. Centennial Drive, Grand Forks, ND 58202, USA; phone: ++1-701-7773351; email: peri.da.silva@und.nodak.edu.

§K. U. Leuven and CES–Ifo, Naamsestraat 69, 3000 Leuven, Belgium; phone: ++32-16-326790; email: gerald.willmann@econ.kuleuven.be.

1 Introduction

In the last two decades the world economy has witnessed an impressive increase in the number of preferential trade agreements that entered into force. Interestingly, as reported by the World Trade Organization,[1] over ninety percent of the agreements effective as of April 2008 take the form of free trade areas (FTAs) or other limited scope deals, while slightly less than ten percent are represented by customs unions (CUs) (see Figure 1). This evidence is in many ways surprising, as the existing literature has indicated that CUs are – at least from the point of view of the welfare of the member countries – the optimal form of preferential agreements.[2]

How can the role of FTAs as the dominant preferential trading arrangement be explained? We answer this question by developing a political economy model of trade policy determination that enables us to analyze the formation of preferential trade arrangements and to compare the social welfare effects and political viability of free trade areas and customs unions. In order to do so we construct a simple three–country, three–good model, in which two potential member countries strategically interact to choose the tariff levels to be implemented vis à vis each other and the rest of the world, whereas the rest of the world implements most-favored-nation tariffs.

The underlying economic structure is the oligopolistic model used in several analyses of regionalism,[3] in which each prospective member produces different subsets of final goods, and 'small' countries are able to influence their import prices because markets are segmented and firms are price setters. In each country, individuals derive income from labor supply and from the profits of an oligopolistic firm, whose ownership is unevenly distributed among the citizenry. Building upon this structure, we consider a representative democracy framework in which the policy maker in charge of international trade policy is chosen from among all citizens, and the elected representative is unable to commit ex-ante to a given policy.[4]

We model the choice of the trade policy regime as a four–stage game. In the first stage, each potential member country votes to decide whether a non–discriminatory MFN trade policy, a free trade area or a customs union will be implemented. In the second stage, the

---

[1]See: $http://www.wto.org/english/tratop\_e/region\_e/region\_e.htm$.

[2]See Woodland (1982) for an early contribution in a perfectly competitive setting, Saggi (2006) and Ornelas (2007) for more recent models based on an oligopolistic market structure. For the overall desirability of preferential agreements, see for instance the symposium introduced by Lahiri 1998.

[3]See Freund (2000), Krishna (1998) Ornelas (2005b), Saggi (2006) and Ornelas (2007) among others.

[4]Thus, we follow the basic framework of Besley and Coate (1997), where citizens in democratic systems choose representatives (politicians) rather than directly voting for policies. Our setting is well suited to describe the working of the European Union's common commercial policy (CCP), whereby each member state is represented by a minister in the trade policy making body (the Council of Ministers).
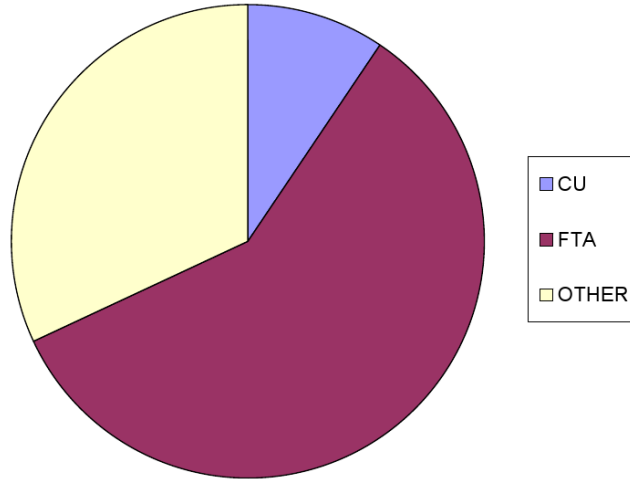
Figure 1: Preferential Trading Arrangements by type (April 2008)

citizenry chooses a representative, who will then select the tariff level vis à vis the rest of the world in the third stage of the game. The emerging trade policy is non–discriminatory under the MFN regime. If instead a preferential agreement is in place, free trade will prevail between members countries, while external tariffs will be coordinated or not, depending on the type of the agreement. In the fourth stage, firms compete in quantities, taking as given the trade policy that has been set in the third stage.

In our setting, the individual with the median ownership share is the pivotal player. Assuming that the median voter receives a fraction of the profits which is lower than the population's average, we show how the distribution of income in each country relates to the choice of trade policy regime. We establish several interesting results. First, we find that the necessity to coordinate tariffs in customs unions leads the median voter to strategically delegate power to a more protectionist representative.[5] This does not occur when a free trade area or an MFN regime is chosen, as no tariff coordination occurs and markets are segmented.

---

[5]The idea that a principal might benefit from delegating decision making power to an agent who is "tougher" than himself had been suggested already by Schelling (1956). Jones (1989) and Segendorff (1989) have formalized it in a general bargaining setting, while Willmann (2006) and Laussel and Riezman (2005) have applied it to the endogenous formation of trade policy for respectively a small and a large country. Gatsios and Karp (1991) have instead highlighted the potential role it can play – within a customs union – in attributing to one member country the power to set the common external tariff.

Second and in contrast to the literature, which has found that a customs union welfare dominates a free trade area (Ornelas 2007, Saggi 2006), we show that strategic delegation may lead customs unions to be welfare–dominated by free trade areas if the degree of income inequality is sufficiently low. Moreover, in our model, free trade areas raise welfare relative to the MFN regime independently of the distribution of income, while customs unions decrease welfare relative to the MFN regime if the degree of income inequality is sufficiently small.

We also investigate the political viability of the trade regime in the first stage of the game. Since the median voter has a lower than average stake in the oligopolistic firm, profits derived from high tariffs are less important for political viability than for social welfare. We show that *irrespective of the particular income distribution*, customs unions are not politically viable,[6] whereas free trade areas are politically viable if income inequality is sufficiently low.[7] Our main conclusions are robust to the introduction of asymmetries in the extent of market competition, as well as to differences in the distribution of income across member countries.

Two important messages thus emerge from our analysis. On the one hand, countries characterized by geographically specialized production patterns are more likely to form a free trade area, the smaller is the income inequality within each country. On the other, countries whose production structure are very different are unlikely to form customs union, independently of the income distribution. Our model thus represents one possible explanation for why we observe only few customs unions around the globe, and why they typically involve - like in the case of the European Union - "similar" countries.

The rest of the paper is organized as follows. In section 2 we introduce the model and determine the equilibrium prices and quantities taking as given the tariff levels implemented by each country. In Section 3 we determine the equilibrium tariff levels under different trade policy regimes, and compare the social welfare effects of the different preferential trade agreements. In Section 4 we examine the political viability of the different preferential trade arrangements, while in section 5 we extend our analysis by introducing asymmetries in the size of member and non–member countries, as well as in the income distribution across countries. Section 6 concludes.

---

[6]In a stylized lobbying model Richardson (1994) has reached a similar conclusion, showing that an FTA might be more desirable from the point of view of a lobby than a CU, since "...in an FTA a domestic industry need to lobby only the domestic government for a particular tariff, whereas, in a CU, a given tariff requires that a larger legislative group be courted".

[7]Notice that only welfare enhancing free trade areas can be sustained as an equilibrium in our framework. Our findings thus strengthen an earlier, similar result obtained by Ornelas (2005a), in a setting where trade policy is driven by pressure groups' activities. For a more pessimistic view, in which pressure groups' activities can lead to the formation of welfare reducing free trade areas, see Grossman and Helpman (1995) and Krishna (1998). The key difference between the two sets of models is that in the latter tariff rates toward non member countries are assumed to be fixed, while in Ornelas (2005a) they are endogenous.

2 The Model

To analyze the formation of preferential trade agreements, we employ a standard oligopolistic trade model that has been used in several analyses of regionalism (Freund 2000, Krishna 1998, Ornelas 2005b and Ornelas 2007). In particular, we consider a three–country, three–good setting, where country A and B are prospective members, while country F is an aggregate entity that stands for the rest of the world. Good 0 is a basic good that is produced in all three countries, using only labor according to the identity production technology $X_0 = L_0$. This good is freely traded and serves as the numéraire. As a result, if this good is produced in equilibrium, wages will be equal to 1. Goods 1 and 2 are instead produced by duopolies, with one firm being located in country F, and the second in member country A (good 1) and member country B (good 2) respectively.[8] The two goods are produced using labor and a sector specific input according to a constant returns to scale production function, which gives rise to a constant marginal cost of production c (in terms of the numéraire). Oligopolistic firms compete in quantities (Cournot competition).

Introducing notation that will prove useful later on, let $x_{s,d}^i$ denote the quantity of good i produced in country s and consumed in country d. Our geographically specialized production pattern implies that $x_{B,d}^1 = x_{A,d}^2 = 0$. Each country can apply tariffs on trade with its partners unless a preferential trade agreement is in place.[9] Denote by $t_{s,d}$ the tariff applied by country $d \in \{F, A, B\}$ on imports from country $s \in \{F, A, B\}$, where clearly $t_{d,d} = 0$. Country d's tariff matrix is described by $\mathbf{t}_d = (t_{A,d}, t_{B,d}, t_{F,d})$. The tariffs applied by the various countries can be denoted more synthetically in matrix form by $\mathbf{t} = (\mathbf{t}_F, \mathbf{t}_A, \mathbf{t}_B)$ where the tariff on products traded between PTA members is zero, as are the elements on the diagonal.

The population in each country consists of a continuum of individuals of mass one. Each individual supplies one unit of labor, but individuals differ in the stake they own in the specific factor employed by the profitable duopolists. We denote by $\gamma_{s,l}$ the fraction of the oligopolistic sector's profits allocated to individual l in country s. We assume that the oligopolistic sector's distribution of profits is the same in countries A and B. Without loss of generality, we normalize the fraction of the profit that is received by the average voter to one ($\overline{\gamma} = 1$). Typical wealth distributions then imply that $\gamma^m \leqslant 1$ (Alesina and Rodrik 1994). Following Dutt and Mitra (2002), γ^m can also be considered an inverse index of inequality

---

[8]We will relax this assumption in section 5.

[9]If a preferential trade agreement is in place and member countries' external tariffs are different, then we assume that rules of origin are applied to prevent the duty free trans–shipment of goods between countries A and B.

– or an index of equality in the distribution of assets.

Preferences are identical across countries and individuals and can be described by the following quasi-linear, additively separable, utility function:

$$u(x) = x^0 + \sum_i u_i\left(x^i\right) \tag{1}$$

where $u_i(.) = Hx^i - \frac{x^{i2}}{2}$, implying that the demand for goods 1 and 2 are linear and take the form $x^i = H - p^i$. The assumptions used on the supply side and demand side of the model imply that markets for goods 1 and 2 are *segmented*, i.e. prices in country s are not affected by tariffs imposed by country d.

Given the preferences described by equation 1, the indirect utility of individual l in country j can be written as follows:

$$v\left(\mathbf{t}, \gamma_{j,l}\right) = 1 + \gamma_{j,l}^i \pi_j^i\left(\mathbf{t}\right) + \sum_d \sum_i t_{d,j}^i x_{d,j}^i\left(\mathbf{t}_j\right) + \sum_i \left[u\left(x_j^i\left(\mathbf{t}_j\right)\right) - p_j^i\left(\mathbf{t}_j\right) x_j^i\left(\mathbf{t}_j\right)\right] \tag{2}$$

where the first term represents labor income and the second is the share of profits of sector i, $\pi_j^i\left(\mathbf{t}\right) = \sum_d \left[p_d^i - c - t_{j,d}^i\right] x_{j,d}^i$, allocated to individual l in country j. The third term captures tariff revenues which are rebated lump-sum to each individual, and the fourth describes consumer surplus, where $x_j^i = \sum_s x_{s,j}^i$ is the total quantity of good i being sold in country j.[10]

As for the sequence of events, we consider a four stage game among the three countries where different trade policy regimes can be chosen by country A and B. In the first stage, each perspective member holds a sequence of votes to choose between a non–discriminatory "most-favored-nation" trade policy, a free trade area or a customs union. In the second stage, the population of each country elects a representative who will, in the third stage, decide the countries' tariff policy. If no preferential agreement is in place, each country's representative will choose the non–discriminatory tariffs to be applied on all trade. If a preferential agreement is in place, then the representatives of countries A and B decide tariffs on country F. In this case, the formation of a free trade area does not require cooperation between elected representatives to decide tariffs on country F, whereas we follow the literature in assuming that the formation of a customs union does. In stage four, firms

---

[10]In choosing identical quasi-linear preferences, linear demand curves, and firms competing in quantities under constant marginal costs, we follow the vast majority of the literature which has analyzed the formation of preferential agreements under imperfectly competitive markets (see for instance Freund (2000), Goyal and Joshi (2006), Krishna (1998), Ornelas (2005b, 2007), and Saggi (2006)). As it will become clear, the choice of these simple functional forms is important to obtain an analytical solution for the relationship between the trade policy regimes and the degree of strategic delegation.

compete in quantities, taking as given the trade policy that has been set during the third stage. We solve the model backwards, starting from stage four.

2.1 Fourth Stage: Production and Consumption Choices

In the fourth stage of the model, firms make production choices taking as given the tariff matrix $\mathbf{t}$. If a preferential agreement between countries A and B is in place, then $t^i_{AB} = t^i_{BA} = 0$ for all i. Otherwise, countries apply MFN tariffs on imports. Notice that country F always applies MFN tariffs on goods imported from A and B, and that the tariffs chosen by F do not affect the equilibrium in A and B, since markets are segmented in this model. This allows us to focus on the equilibrium outcomes in countries A and B.

In general terms, country s' firm producing good i solves the following problem with respect to country d's market:

$$\max_{x^i_{s,d}} \left[p^i_d - c - t^i_{s,d} \right] x^i_{s,d}$$

where to save on notation we have omitted the fact that quantities and prices are a function of the tariffs. The first order condition is given by

$$\frac{\partial p^i_d}{\partial x^i_{s,d}} x^i_{s,d} + p^i_d = c + t^i_{s,d} \quad \text{for all } d \tag{3}$$

Focusing on country A (a similar analysis applies to B) and using our assumption of linear demand, equation (3) implies that

$$
\begin{aligned}
x^1_{A,A} - x^1_{F,A} &= t^1_{F,A} \\
x^2_{B,A} - x^2_{F,A} &= t^2_{F,A} - t^2_{B,A}
\end{aligned}
\tag{4}
$$

Thus, a firm's sales in country A differs from its competitors' sales according to the difference in the tariffs imposed on imports. Rearranging, we obtain the following equilibrium prices and quantities

$$
\begin{aligned}
x^1_{A,A} &= \frac{\left(H + t^1_{F,A} - c \right)}{3} & x^2_{B,A} &= \frac{\left(H + t^2_{F,A} - 2t^2_{B,A} - c \right)}{3} \\
x^1_{F,A} &= \frac{\left(H - 2t^1_{F,A} - c \right)}{3} & x^2_{F,A} &= \frac{\left(H + t^2_{B,A} - 2t^2_{F,A} - c \right)}{3} \\
p^1_A &= \frac{\left(H + t^1_{F,A} + 2c \right)}{3} & p^2_A &= \frac{\left(H + t^2_{F,A} + t^2_{B,A} + 2c \right)}{3}
\end{aligned}
\tag{5}
$$

where we assume that $H > c$. As it is clear from expressions (5), the price of good 1 and 2 in A depends only on the trade policies adopted by that country and does not depend on the trade policy adopted by any other country, because markets are segmented.

3 Second and Third Stages: Determining Tariff Policy

In this section we determine the trade policy chosen under the different scenarios. We start by analyzing the non–cooperative setting (MFN and FTA) in which countries A and B independently determine their policy vis à vis the rest of the world and compare the resulting levels of protection. We turn next to the analysis of the cooperative outcome (CU) and compare then welfare across the different trade policy regimes.

In terms of the political process, we model the workings of a representative democracy. Voters in each country select a citizen as their representative, and elected representatives set tariffs. An important feature of this two-stage political process is the possibility for the median voter to strategically delegate representation to a different citizen, to obtain a more favorable outcome than the one he could obtain by representing the country himself.[11]

3.1 Non–cooperative trade policies

Our representative democracy framework calls for the population of each country to elect a citizen who will choose the tariff level to be applied on imports. The objective of each representative is then to find tariffs that maximize his own welfare, given the tariffs chosen by other countries. We represent the share of the representative's profit by using 'hats' and continue to focus our analysis on country A. The representative's problem is given by:

$$\max_{t_A} v\left(\mathbf{t}, \widehat{\gamma}_A\right) \tag{6}$$

where the indirect utility function is described in (2). The difference between the MFN and the FTA regimes is that in the former the tariffs applied on imports do not depend on the good's country of origin, while if A is part of an FTA with B, imports from B are allowed to enter free of duty. Assuming that an interior solution exists,[12] the tariff vector chosen by

---

[11]Compared to the popular "protection for sale" approach introduced by Grossman and Helpman 1994, the setup we have adopted focuses on voters preferences, irrespective of their ability to influence the policy making process through contributions. If one were to translate this into the "protection for sale" framework, it would imply a consumer lobby that is more powerful than industry specific interests.

[12]See Helpman (1997) for details.

representative $\hat{\gamma}_A$ is given by

$$\mathbf{t}_A = \mathbf{t}_A(\hat{\gamma}_A, \hat{\gamma}_B) \tag{7}$$

In other words, the tariff vector chosen by the representative in country A depends on his identity and potentially also on the identity of the other country's representative. Who will serve as the country's representative in the determination of trade policies? Our setup allows us to invoke the median voter theorem to answer this question. The median voter's second stage problem is given by:

$$\max_{\hat{\gamma}_A} v\left(\mathbf{t}\left(\hat{\gamma}_A, \hat{\gamma}_B\right), \gamma_A^m\right) \tag{8}$$

We are now ready to establish our first result:

Proposition 1 *If trade policies are set non–cooperatively, strategic delegation does not arise in equilibrium. Furthermore, if an FTA is formed, tariffs applied to non–member countries are (weakly) lower than under a MFN arrangement.*

Proof. Focusing on country A, we start by solving, for a given representative $\hat{\gamma}_A$, the MFN tariff determination problem. The first order conditions for problem 6 is given by:

$$
\begin{aligned}
-\frac{\partial p_A^1}{\partial t_A^1} x_A^1 + x_{F,A}^1 + t_A^1 \frac{\partial x_{F,A}^1}{\partial t_A^1} + \hat{\gamma}_A \frac{\partial \pi_{A,A}^1}{\partial t_A^1} &= 0 \\
-\frac{\partial p_A^2}{\partial t_A^2} x_A^2 + x_A^2 + t_A^2 \left(\frac{\partial x_{F,A}^2}{\partial t_A^2} + \frac{\partial x_{B,A}^2}{\partial t_A^2} \right) &= 0
\end{aligned} \tag{9}
$$

where we have used the fact that $x_{B,A}^1 = x_{A,A}^2 = 0$. Using equilibrium prices and quantities from (5) we obtain

$$
\begin{aligned}
t_A^{MFN,1} &= \frac{(H-c)(1+2\hat{\gamma}_A)}{11 - 2\hat{\gamma}_A} \\
t_A^{MFN,2} &= \frac{(H-c)}{4}
\end{aligned} \tag{10}
$$

from which it immediately follows that the tariff choice in country A does not depend on the identity of country B's representative.

Turning now to the choice of the country's representative under a MFN policy, the first

order condition of problem (8) is given by:

$$\underbrace{\sum_i \frac{\partial v\left(\mathbf{t}^{MFN}\left(\widehat{\gamma}_A, \widehat{\gamma}_B\right), \gamma_A^m\right)}{\partial t_A^{MFN,i}} \frac{\partial t_A^{MFN,i}}{\partial \widehat{\gamma}_A}}_{\text{Term 1}} + \underbrace{\sum_i \frac{\partial v\left(\mathbf{t}^{MFN}\left(\widehat{\gamma}_A, \widehat{\gamma}_B\right), \gamma_A^m\right)}{\partial t_B^{MFN,i}} \frac{\partial t_B^{MFN,i}}{\partial \widehat{\gamma}_A}}_{\text{Term 2}} = 0 \qquad (11)$$

where from equation (10) we know that Term 2 is equal to zero since $\frac{\partial t_B^{MFN,i}}{\partial \widehat{\gamma}_A} = 0$. Moreover, equation (10) also imply that $\frac{\partial t_A^{MFN,1}}{\partial \widehat{\gamma}_A} > 0$ and $\frac{\partial t_A^{MFN,2}}{\partial \widehat{\gamma}_A} = 0$ so that equation (11) can be re-written as $\frac{\partial v\left(\mathbf{t}^{MFN}(\widehat{\gamma}_A, \widehat{\gamma}_B), \gamma_A^m\right)}{\partial t_A^{MFN,1}} = 0$. Thus we have that

$$\left(\frac{H + t_A^{MFN,1} - c}{3}\right)(1 + 2\gamma_A^m) - 4t_A^{MFN,1} = 0$$

We can substitute $t_A^{MFN,1}$ as described in (10), which yields

$$\widehat{\gamma}_A = \gamma_A^m$$

In other words, the median voter in each country *does not* delegate power. The equilibrium MFN tariffs are then expressed by

$$\begin{aligned} t_A^{MFN,1} &= \frac{(H-c)(1+2\gamma^m)}{11 - 2\gamma^m} \\ t_A^{MFN,2} &= \frac{(H-c)}{4} \end{aligned} \qquad (12)$$

and similar expressions apply to country B. Thus, our geographically specialized production pattern implies that $t_A^{MFN,1} = t_B^{MFN,2}$ and $t_A^{MFN,2} = t_B^{MFN,1}$ in equilibrium.

Turning now to the analysis of the FTA, the solution of problem 6 is given by

$$\begin{aligned} t_{F,A}^{FTA,1} &= \frac{(H-c)(2\widehat{\gamma}_A + 1)}{(11 - 2\widehat{\gamma}_A)} \\ t_{F,A}^{FTA,2} &= \frac{(H-c)}{11} \end{aligned} \qquad (13)$$

and similar expressions apply to country B. Following the same logic as in the MFN case, we can identify each member country's representative under an FTA. It is easy to show that

$$\widehat{\gamma}_A = \gamma_A^m$$

9

Thus, once again the median voter in each country does not delegate power. The equilibrium tariffs are then given by

$$
\begin{aligned}
t_{F,A}^{FTA,1} &= \frac{(H-c)(1+2\gamma^m)}{(11-2\gamma^m)} \\
t_{F,A}^{FTA,2} &= \frac{(H-c)}{11}
\end{aligned}
\tag{14}
$$

Similarly, we can solve country B's median voter problem and show that $t_{F,A}^{FTA,1} = t_{F,B}^{FTA,2}$ and $t_{F,A}^{FTA,2} = t_{F,B}^{FTA,1}$. Comparing equation 14 and 12 thus immediately establishes the second part of the result. ■

The intuition for the first part of Proposition 1 is as follows. In our model, markets for goods 1 and 2 are segmented, and as a result the equilibrium prices in country A bare no relationship to the equilibrium prices in country B. Moreover, in this non-cooperative setting, tariffs applied by country A can differ from the tariffs applied by country B. Clearly, the median voter does better by simply representing her own interests, because she has no influence on the partner's decision in this case.

As for the second part of Proposition 1, the decline in the tariff applied to the non–produced good is the result of the median voter's successful efforts to attenuate the degree of trade diversion generated by the preferential access granted to the partner country. This result has been obtained before in the literature and is known as "the tariff complementarity effect" (Saggi 2006 and Ornelas 2007).[13]

Finally, for future reference, note that the tariff applied on imports of good 1 decreases with the extent of income inequality both under the MFN and the FTA regimes. This result holds because less inequality means that the median voter owns a higher share of the domestic firm and hence has a greater interest in a higher tariff. We turn next to the study of cooperative preferential agreements.

3.2 Cooperative trade policies

The main feature of customs unions is that member countries coordinate their external trade policies and apply common external tariffs. Following the literature,[14] the external

---

[13]Estevadeordal, Freund and Ornelas (2008) find strong support for the presence of this effect in their empirical study of preferential trading arrangements in Latin America.

[14]Ornelas (2007) and Saggi (2006) model the choice of common external tariffs to maximize the aggregate welfare of the countries. In this case, the representative voter would correspond to the average voter in our paper. In a model with strategic delegation,Willmann (2006) assumes that legislators maximize their aggregate welfare when choosing the most-favored-nation tariffs for a small economy. Similarly, Grossman and Helpman (2005) assume that the legislative majority maximizes its aggregate welfare when choosing

tariff in a CU is chosen so as to maximize the joint welfare of the two countries' representatives,[15] i.e. it is the solution to the following problem

$$\max_{t^i} v\left(\mathbf{t}, \widehat{\gamma}_A\right) + v\left(\mathbf{t}, \widehat{\gamma}_B\right) \quad for \quad i = \{1, 2\} \tag{15}$$

where $\hat{\gamma}_A$ and $\hat{\gamma}_B$ are the elected representatives in the two countries and now tariffs applied on trade with country F are equal ($t^i = t^i_{F,A} = t^i_{F,B}$) across countries, but not necessarily across sectors. The resulting tariff vector chosen is given by

$$\mathbf{t}^{CU} = \mathbf{t}^{CU}(\hat{\gamma}_A, \hat{\gamma}_B) \tag{16}$$

As before, in the second stage of the model, in country A the representatives will be chosen by the median voter as the solution to the following problem

$$\max_{\widehat{\gamma}_A} v\left(\mathbf{t}^{CU}\left(\widehat{\gamma}_A, \widehat{\gamma}_B\right), \gamma_A^m\right) \tag{17}$$

and the same is true in country B. We are then able to establish our second result:

Proposition 2 *If trade policy is set cooperatively, strategic delegation occurs, and the elected representative is an individual with an ownership share in the import competing firm twice that of the median voter.*

Proof. The first order conditions of problem (15) are given by

$$
\begin{aligned}
-\frac{\partial p_A^1}{\partial t^1} x_A^1 + x_{F,A}^1 + t^1 \frac{\partial x_{F,A}^1}{\partial t^1} + \widehat{\gamma}_A \frac{\partial \pi_{A,A}^1}{\partial t^1} &= 0 \\
-\frac{\partial p_A^2}{\partial t^2} x_A^2 + x_{F,A}^2 + t^2 \frac{\partial x_{F,A}^2}{\partial t^2} + \widehat{\gamma}_B \frac{\partial \pi_{B,B}^2}{\partial t^2} &= 0
\end{aligned}
\tag{18}
$$

where we have used the fact that by symmetry $x_A^1 = x_B^1$, $x_A^2 = x_B^2$, $\pi_{A,A}^1 = \pi_{A,B}^1$, and $\pi_{B,A}^2 = \pi_{B,B}^2$ in equilibrium. Using (5), we can obtain the following expressions for the tariff levels:

$$
\begin{aligned}
t^{CU,1} &= \frac{(H - c)(1 + 2\widehat{\gamma}_A)}{(11 - 2\widehat{\gamma}_A)} \\
t^{CU,2} &= \frac{(H - c)(1 + 2\widehat{\gamma}_B)}{(11 - 2\widehat{\gamma}_B)}
\end{aligned}
\tag{19}
$$

---

most-favored-nation tariffs for a small economy.

[15]Which seems realistic as long as both countries are of similar size.

It is clear from (19) that the greater the share of profits received by the elected representatives, the higher the tariff applied on trade with non-members.

Turning now to the selection of the representative, the first order condition of problem 17 is given by

$$\frac{\partial v\left(\mathbf{t}^{CU}\left(\widehat{\gamma}_A,\widehat{\gamma}_B\right),\gamma_A^m\right)}{\partial t^{CU,1}}\frac{\partial t^{CU,1}}{\partial \widehat{\gamma}_A} = 0 \tag{20}$$

where we used $\frac{\partial t^{CU,2}}{\partial \widehat{\gamma}_A} = 0$ following (19). From equation (19) we know that $\frac{\partial t^{CU,1}}{\partial \widehat{\gamma}_A} \neq 0$, which implies that equation (20) yields $\frac{\partial v}{\partial t^{CU,1}} = 0$. Substituting equilibrium conditions (5) into equation (20) yields the following:

$$(H - c)\left(1 + 4\gamma^m\right) - \left(11 - 4\gamma^m\right)t^{CU,1} = 0 \tag{21}$$

Substituting $t^{CU,1}$ from (19) we have that

$$\widehat{\gamma}_A = 2\gamma^m \tag{22}$$

∎

The intuition for Proposition 2 is as follows. In the case of customs unions, the benefits of implementing a tariff on imports of good 1 accrue to country A, while the costs of the tariff are equally shared between the member countries. However, cooperative tariff setting forces the representatives to internalize the negative externalities on country B from a tariff imposed on imports of good 1. Anticipating this cooperative outcome, the median voter in country A is better off by delegating power to a representative who is more protectionist than herself.

Substituting (22) in equation (19) we can calculate the common external tariffs

$$
\begin{aligned}
t^{CU,1} &= \frac{(H - c)\left(4\gamma^m + 1\right)}{\left(11 - 4\gamma^m\right)} \\
t^{CU,2} &= \frac{(H - c)\left(4\gamma^m + 1\right)}{\left(11 - 4\gamma^m\right)}
\end{aligned}
\tag{23}
$$

In contrast to the other regimes we have considered so far, in a CU the tariff on the good not produced domestically also depends on the identity of a representative, namely the representative of the partner country. Note that the tariffs on both goods are increasing in γ^m, i.e. they decrease in the extent of inequality for similar reasons as discussed before.

3.3   Welfare Comparison

In this section, we compare the welfare levels that can be achieved in the three possible trade policy scenarios we have considered, and in doing so we weigh equally the utility of all individuals, focusing on the average voter's indirect utility function, $v(\mathbf{t}, \overline{\gamma})$ as our welfare measure.[16]

We start by considering welfare under the two types of preferential trading agreements. From equations (14) and (23), it is clear that the common external tariffs under a customs union are higher than the external tariffs in an FTA, independently of the distribution of income. This result is well known, and has been obtained before, for instance, by Freund (2000), Saggi (2006) and Ornelas (2007) in models where tariffs were chosen so as to maximize aggregate welfare. In these settings, tariffs are higher in a CU than in an FTA because in a CU member countries take into account the profits of each other's firms in choosing trade policy, while this is not the case in an FTA. Thus, higher tariffs vis à vis the rest of the world are chosen to preserve the preferential treatment reserved to the member countries' firms in the CU. In our framework, this mechanism is complemented by the strategic delegation effect present under the CU (and absent under the FTA regime), which also leads the median voter to delegate trade policy making to a representative who has a much higher stake than herself in the local duopolist's profits.

Higher tariffs resulting from the coordination of trade policies in a CU imply in Saggi's (2006) and Ornelas' (2007) models that the CU brings about higher welfare levels for member countries than the free trade area. In our setting, this is not necessarily true. In fact, as we have shown in Propositions 1 and 2, tariffs are not chosen to maximize aggregate welfare, but are determined by the median voter, who strategically delegates power in the case of the CU, but does not do so in the case of the FTA. Since representatives seek to maximize their own well being when choosing external tariffs, this gives rise to the possibility that - from the point of view of overall welfare - a CU might not necessarily improve upon an FTA. In particular, if income inequality is low (γ^m is high), the representative setting trade policy in the CU will have a much higher stake than the average citizen in the firm's profits, and twice the share of the representative chosen in an FTA (the median voter). Consequently, tariffs chosen under a CU if income inequality is low will be substantially higher than those maximizing aggregate welfare, while those chosen under an FTA will be instead much closer to the welfare maximizing ones. This observation is at the hearth of our next result:

---

[16]See also Facchini, Lorz and Willmann (2006).

Proposition 3 *Free trade areas raise member countries' welfare relative to customs unions as long as the fraction of profits received by the median voter exceeds a critical level $\tilde{\gamma}^m_{FTA,CU}$.*

Proof. See Appendix A. ∎

Recall that welfare is the sum of factor income, tariff revenues and consumer surplus (equation 2). Since external tariffs are higher in a CU than in an FTA, consumer surplus (profits) is lower (higher) in a CU than in an FTA. In principle combining these two terms yields ambiguous results, but it can be shown (see Appendix A) that the profits shift from the firm located in country F to the firm based in the other member country is so much higher under a CU than under an FTA as to more than compensate for the losses in consumer surplus. To understand the result we need thus to consider the behavior of tariff revenues under the different regimes. If the degree of inequality is low, that is $\gamma^m \in (\tilde{\gamma}^m_{FTA,CU}, 1)$, then the common external tariffs in a CU are high enough as to substantially reduce import flows from non-members. As a result, tariff revenues in a CU are lower than in an FTA and induce a decrease in member countries' welfare when moving from an FTA to a CU.

We can now turn to the welfare ranking of the preferential arrangements versus the status-quo MFN regime.

Proposition 4 *The following holds:*

i) *The creation of a free trade area raises member countries' welfare relative to the MFN regime, regardless of the fraction of profits received by the median voter.*

ii) *If the share of profits received by the median voter exceeds a critical level $\tilde{\gamma}^m_{CU,MFN} \in (\tilde{\gamma}^m_{FTA,CU}, 1)$, then a customs union decreases member countries' welfare relative to the MFN regime.*

iii) *If $\gamma^m \in (\tilde{\gamma}^m_{FTA,CU}, \tilde{\gamma}^m_{CU,MFN})$ then a customs union welfare dominates the MFN regime but it is dominated by an FTA.*

Proof. See Appendix B. ∎

To understand the intuition behind this result, let us start by considering part i). Proposition 1 shows that country A's tariff on good 1 is equal under the MFN and FTA scenarios. Thus, there are no welfare differences related to the consumption of good 1.[17] The profits of the firm producing good 1 in country A on the other hand increase since it has preferential access to country B's market after the formation of the FTA. At the same time, country

---

[17]Remember that country B does not produce good 1.

1. CU   1. FTA   1. FTA

2. FTA   2. CU   2. MFN

3. MFN   3. MFN   3. CU

$$0 \qquad\qquad \tilde{\gamma}^m_{FTA,CU} \qquad\qquad \tilde{\gamma}^m_{CU,MFN} \qquad\qquad 1 \qquad\qquad \gamma^m$$
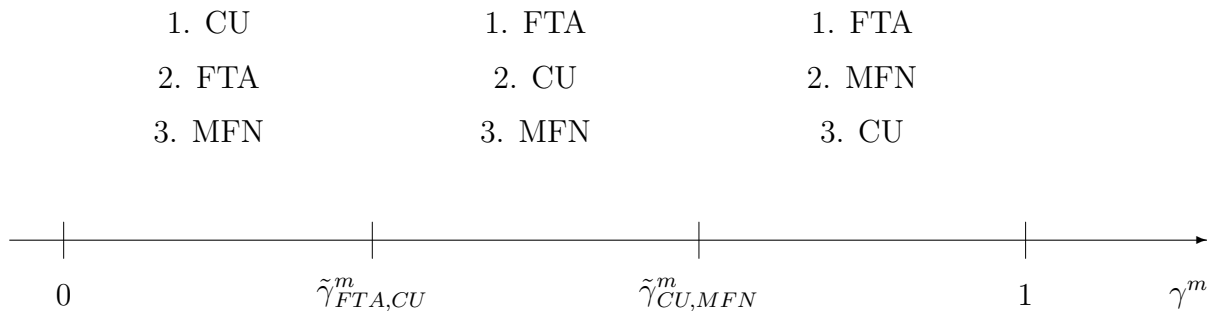
Figure 2: Welfare Ranking

A relies only on imports to meet its demand of good 2, and if an FTA is created, country B's firm has duty free access to country A's market. It can be shown that the tariff revenue loss on imports of good 2 are higher than the consumer surplus gains associated to a lower domestic price for that good (see Appendix B). This is due to a deterioration in the terms of trade vis à vis both the other member country (as a result of preferential access) and the rest of the world (because of the tariff complementarity effect). Combining the two markets, we can show that the increase in profits in the market for good 1 exceeds the welfare losses in the market for good 2, and this does not depend upon the income distribution.[18] Thus, the reduction in external tariffs brought about by the tariff complementarity effect, combined with the exchange of preferential access that occurs in the FTA is key to understand our finding.[19]

As for part ii), we have shown that the common external tariff applied in a CU on imports of good 1 is higher than the MFN tariff applied on that good by country A. Thus, the price of good 1 is higher in country A under the CU than under the MFN regime. In this case, we can show that the shift in profits brought about by the creation of a CU from the firm based in F to the firm based in A – both in country A's and country B's market – dominates the loss in consumer surplus in country A induced by the price increase (see appendix B). In the case of good 2, the comparison of prices under a CU and the MFN regime is ambiguous, and the result depends on the degree of income inequality. If the latter is sufficiently high, the price of good 2 declines and consumer surplus on good 2 increases in country A when

---

[18]This result depends on the assumption that the two member countries' markets are symmetric and on the fact that the tariff which is affected by the creation of the FTA does not depend on γ^m.

[19]Notice that this result closely resembles the one obtained by Ornelas (2007), who suggested that "In such a case, while it is impossible for a country to benefit directly from a constraint on its policies towards the imports from partner countries ..., it can gain if preferences conceded presuppose preferences received."

moving from an MFN to a CU. In this case, clearly, the change in consumer and producer surplus in the two markets is positive. On the other hand, if inequality is sufficiently low, the price of good 2 under a CU is higher than in the MFN situation. Thus consumer surplus declines, but the symmetric structure of the model implies that the common external tariff applied on good 1 in the CU is also very high, yielding large gains in profits for the firm based in country A. As we show in appendix B, the overall result in the two markets is a net increase in consumer and producer surplus across goods. Then, changes in tariff revenues are again key to explain the result. If the degree of inequality is sufficiently low, that is if $\gamma^m \in (\tilde{\gamma}^m_{CU,MFN}, 1)$, then the increase in the tariff rate brought about by the creation of the CU is so high as to lead to a substantial decline in tariff revenues and thus in overall welfare.

Finally, result iii) follows immediately from i), ii) and proposition 3. Figure 2 summarizes our findings.

4   First Stage: Political Viability of PTAs

In this section, we focus on the first stage of our model to study the political economy of the formation of preferential trade agreements. To find the equilibrium trade policy regime, we look for the Condorcet winner, i.e. the regime that beats any other in any pairwise comparison. We start by considering a vote in which each country is asked to choose between the MFN regime and the formation of an FTA. Once the outcome of this vote is known, the polity is asked to choose between the result of the first vote and a deeper form of integration, namely a Customs Union.[20]

If countries A and B decide to form a preferential agreement, then voters choose the representative that will decide trade tariffs as described in the previous section. Otherwise, the MFN trade policy remains in place. The set-up of the problem allows us to conclude that the median voter is pivotal in the voting process. Since the decision to form a preferential agreement has to be supported by both countries, then an FTA (CU) is established if {FTA, FTA} ({CU, CU}) is a Nash equilibrium of this game.

Political viability of preferential agreements is measured using the median voter's indirect utility function, $v(\mathbf{t}, \gamma^m)$. Of course, the latter is not the same as that of the average voter, which we used to establish the welfare rankings in the previous section. Our first result provides a characterization of the conditions under which a free trade area will be preferred

---

[20]Alternatively, we could start by considering the decision between the MFN arrangement and a CU and then, in the second stage, pit against each other the winner vs. an FTA. The two sequences deliver the same final outcome.

to the status quo.

Proposition 5 *The formation of a free trade area will be preferred by the median voter over the MFN regime if the share of profits received by the median voter $\gamma^m \in (0,1)$ exceeds a critical level $\breve{\gamma}^m_{FTA,MFN}$.*

Proof. See Appendix C. ∎

Proposition 5 says that an FTA is politically viable if the level of inequality is sufficiently small. To understand the intuition behind this result, we can write the change in the median voter's indirect utility comparing the MFN regime to the formation of a PTA as follows:

$$\Delta v\left(\mathbf{t}^{MFN}, \mathbf{t}^{PTA}, \gamma^m_A\right) = \underbrace{\Delta v\left(\mathbf{t}^{MFN}, \mathbf{t}^{PTA}, \overline{\gamma}_A\right)}_{\text{Social welfare}} - \underbrace{(1 - \gamma^m_A)}_{\text{Inequality}}\underbrace{\left(\Delta \pi^1_A\left(\mathbf{t}^{MFN}, \mathbf{t}^{PTA}\right)\right)}_{\text{Pr ofits}} \quad (24)$$

where 'Δ' represents the change in variables from the MFN regime to a preferential agreement and $\mathbf{t}^{MFN}, \mathbf{t}^{PTA}$ represent, respectively, the tariff matrixes in the MFN regime and when a preferential trading arrangement has been introduced. The second term on the right-hand-side of equation (24) highlights the importance of profit changes when comparing the different trade regimes. Equation (24) indicates that the change in the median voter's indirect utility is positively correlated with the change in social welfare, while it is negatively correlated with changes in the product of profits and inequality.

From Proposition 4 we know that an FTA always increases social welfare relative to the MFN regime. This implies that the first term on the right-hand-side of expression (24) is positive. Furthermore, we also know from Proposition 4 that this term does not depend on the extent of inequality. As for the second term, we know from the previous discussion that an FTA increases profits relative to the MFN regime. As we have shown in appendix B, the increase in profits generated by the creation of an FTA relative to the MFN regime does not depend on the extent of inequality.[21] Since $\gamma^m \in (0,1)$, the second term on the right-hand-side of equation (24) is positive and decreases with γ^m. Recalling that the change in welfare does not depend upon γ^m, the result follows immediately.

Even if an FTA is always welfare enhancing compared to the MFN regime, it is not always politically viable. This is because, as shown in equation (24) an increase in profits relative to the MFN regime is not as important on political grounds as it is on welfare grounds, since the median voter owns a below-average share of the industry.

---

[21]This is true since Proposition 1 indicates that the MFN and FTA tariffs applied by country A on good 1 are the same, and the tariffs applied by country B on good 1 under the MFN and FTA regimes do not depend on the extent of inequality (see expressions (12) and (14)).

We are now in a position to consider the outcome of a vote between the MFN regime and the creation of a CU, which only takes place if the MFN regime is chosen in the first round. Our result is summarized in the following:

Proposition 6 *A customs union will never be chosen over the MFN regime.*

Proof. See Appendix C. ∎

To understand the intuition behind this result, recall that profits are always higher in a CU than in the MFN regime. Thus, in the comparison of the welfare change brought about by the formation of a CU, profits play a very important role in establishing the conditions discussed in proposition 4, under which the CU welfare dominates the MFN regime. As shown in equation (24), the only difference between the (change) in the median and the average voter's welfare is due to the former having a lower ownership share in the duopolist firm's profits. It is this factor that explains why the CU is never viable from a political point of view.

Notice the difference between our findings in Propositions 5 and 6. Whereas an FTA can be sustained in equilibrium if income inequality is sufficiently low, a CU can never be. Two main factors explain this result. On the one hand, an FTA always dominates the MFN regime from the point of view of welfare, while this is not true for a CU. On the other, while profits increase both when an FTA and when a CU are introduced, in the former they increase by less than in the latter. As the median voter's share in the profits is lower than the average's, profits are less important on the political ground than on the welfare ground. From this argument it immediately follows that

Proposition 7 *A customs union will never be preferred over a free trade area.*

From our analysis, we can thus conclude that only the formation of an FTA is a politically viable alternative to the MFN regime in our setting with representative democracy.

5   Extensions

In this section, we extend our analysis in two directions. First, we study the effect of an increase in market competition on welfare and on the political viability of different trade policy arrangements by allowing the number of firms active in F to be larger than one. Second, we consider the consequences of asymmetries in income distribution between prospective member countries. While carrying out these analyses, we retain all other assumptions of the model.

5.1 Changes in the number of firms in country F

Let $n_F > 1$ be the number of firms in country F producing goods 1 and 2, while one firm produces good 1 (2) in country A (B). The equilibrium prices and quantities for country A are then given by:

$$x^1_{A,A} = \frac{\left(H + n_F t^1_{F,A} - c\right)}{n_F + 2} \qquad x^2_{B,A} = \frac{\left(H + n_F t^2_{F,A} - (n_F + 1) t^2_{B,A} - c\right)}{n_F + 2}$$

$$x^1_{F,A} = \frac{\left(H - 2t^1_{F,A} - c\right)}{n_F + 2} \qquad x^2_{F,A} = \frac{\left(H + t^2_{B,A} - 2t^2_{F,A} - c\right)}{n_F + 2}$$

$$p^1_A = \frac{\left(H + n_F t^1_{F,A} + (n_F + 1) c\right)}{n_F + 2} \qquad p^2_A = \frac{\left(H + n_F t^2_{F,A} + t^2_{B,A} + (n_F + 1) c\right)}{n_F + 2} \qquad (25)$$

where $x^i_{F,A}$ represents the quantity of good i produced by a firm located in country F and consumed in country A. Similar expressions apply to country B, where the differences reside in the fact that country B produces good 2 rather than good 1.

The solutions of the second and third stages of the model follow the same steps as in the previous sections. It is easy to show that the results described in Proposition 1 continue to hold, which implies that the median voter does not delegate power in the MFN and FTA regimes, i.e. $\widehat{\gamma} = \gamma^m$.[22] Moreover, the result of Proposition 2 applies also in this case, as we find the same level of strategic delegation in the formation of customs unions, $\widehat{\gamma} = 2\gamma^m$. In other words, the degree of strategic delegation in the case of a CU depends only on the number of countries sharing the cost of protection: an increase in the number of firms producing goods 1 and 2 in the rest of the world does not alter the incentives faced by the median voter in the two member countries.[23] The equilibrium tariffs in the three possible

---

[22] As we explain in Section 3, the median voter does better by representing herself since member countries do not coordinate external tariffs in these two cases and since markets are segmented.

[23] More generally, a similar model with m symmetric perspective member countries would yield $\widehat{\gamma} = m\gamma^m$. The details of the proof are available upon request from the authors.

scenarios are given by:

$$t_A^{MFN,1} = \frac{(H-c)(1+2\gamma^m)}{3n_F - 2n_F\gamma^m + 8}$$

$$t_A^{MFN,2} = \frac{(H-c)}{n_F + 3} \tag{26}$$

$$t_A^{FTA,1} = \frac{(H-c)(1+2\gamma^m)}{3n_F - 2n_F\gamma^m + 8}$$

$$t_A^{FTA,2} = \frac{(H-c)}{3n_F + 8} \tag{27}$$

$$t_A^{CU,1} = t_A^{CU,2} = \frac{(H-c)(1+4\gamma^m)}{3n_F - 4n_F\gamma^m + 8} \tag{28}$$

Notice that MFN and FTA tariff levels are negatively related to the number of firms in F. In the case of customs unions, tariffs may instead increase or decrease with the number of firms in country F. It is easy to show that if the level of inequality is sufficiently low ($0.75 < \gamma^m < 1$), then the tariffs chosen under a CU increase with the number of firms active in country F. The opposite is true if inequality is high.

To gain some intuition for the relationship between tariffs under different trade regimes and the number of firms in country F let us start by considering trade policies chosen as to maximize social welfare (i.e. the average individual's utility). We can use expressions (26), (27), and (28)[24] to conclude that under this hypothesis, there exists a negative relationship between tariffs and the number of firms in country F. As shown by Krishna (1998) in a similar framework,[25] the higher the number of firms in the non-member country, the greater is the degree of trade diversion brought about by a preferential agreement. It is exactly to offset trade diversion that welfare maximizing external tariffs decrease with the number of firms in F.

In the MFN and FTA regimes, the fraction of profits received by the representative voter (the median) is less than the fraction received by the average voter, since $\gamma^m < 1$. Thus, an increase in profits due to an increase in tariffs matters less to the representative than to the average voter, and this explains the negative relationship between tariffs and the number of firms in country F in the MFN and FTA regimes. On the other hand, the representative in a CU may receive a fraction of profits greater than the average voter. In this case, tariffs may increase or decrease with n_F depending on the fraction of profits he receives. If this fraction is significantly greater than the fraction received by the average voter, (i.e. if

---

[24]In this case, the tariffs that maximize welfare in the MFN and FTA regimes can be found by replacing $\gamma^m = 1$ in expressions (26) and (27). In the case of customs unions, we replace $2\gamma^m = 1$ in expression (28).

[25]Although with external tariffs assumed to be exogenous. See Krishna (1998, pp. 236 and 247).

$0.75 < \gamma^m < 1$ and hence $2\gamma_m > 1.5^{26}$), then an increase in the number of firms active in F leads to an increase in the common external tariffs. Thus, an increase in the number of firms in country F increases so much the strategic gains in profits for firms based in member countries brought about by trade diversion, as to increase the common external tariff chosen by the representative.

To assess aggregate welfare, we continue to focus on the average voter's and look at the behavior of $v(\mathbf{t}, \overline{\gamma})$. Using external tariffs derived in expressions (27) and (28), once again we can easily see that the common external tariffs under a CU are higher than the external tariffs under an FTA. Likewise, the representative of each country under a CU is more protectionist than under an FTA due to the strategic delegation effect discussed above. The difference with respect to the previous sections resides in the assumption that the number of firms based in country F is greater than the number of firms located in member countries ($n_F > 1$). As we discuss above, our framework implies that the higher the number of firms in the non-member country, the greater the degree of trade diversion under a preferential agreement, given the external tariffs. These observations are important in explaining the following result.

Proposition 8 *Free trade areas raise member countries' welfare relative to customs unions if the fraction of profits received by the median voter exceeds a critical level $\tilde{\gamma}^m_{FTA,CU}(n_F)$. This threshold is decreasing with n_F.*

The proof of Proposition 8 follows along the lines of Proposition 3.[27] The first part of this result says that the formation of an FTA welfare dominates the formation of a CU if the degree of inequality is sufficiently small. The same reasoning that explains Proposition 3 applies here. If the degree of income inequality is sufficiently low, each representative in the case of a CU chooses external tariffs that are substantially higher than the external tariffs maximizing aggregate welfare, while the external tariffs chosen under an FTA are more in line with welfare concerns.

Moreover, the second part of Proposition 8 argues that an increase in the number of firms in country F tends to make it more likely for an FTA to welfare dominate a CU in our model. This is true since the critical value $\tilde{\gamma}^m_{FTA,CU}(n_F)$ needed to ensure that an FTA raises welfare relative to a CU decreases with the number of firms in the rest of the world. We

---

[26]Remember that in this case $\hat{\gamma}_A = 2\gamma_m$.

[27]To prove Proposition 8, we calculate the fraction of profits received by the median voter that sets $v\left(\mathbf{t}^{CU}, \overline{\gamma}_A\right)$ equal to $v\left(\mathbf{t}^{FTA}, \overline{\gamma}_A\right)$. The solution of this process yields the critical level $\tilde{\gamma}^m_{FTA,CU}(n_F)$. Three solutions emerge from this process but only one provides an answer compatible with $0 < \gamma^m < 1$.
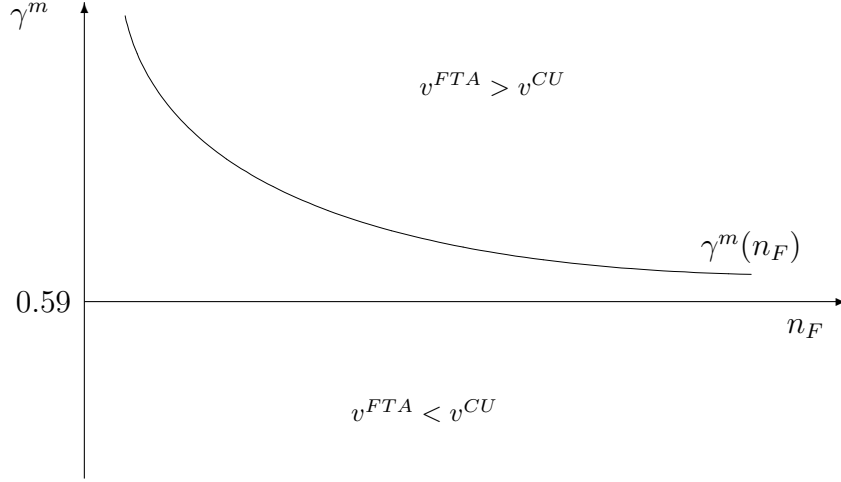
Figure 3: Increasing the number of firms in the rest of the world

have illustrated the relationship between $\tilde{\gamma}^m_{FTA,CU}$ and n_F in Figure 3.[28] This result can be understood remembering that the higher the number of firms in country F, the greater the degree of trade diversion brought about by the preferential agreement. Note that common external tariffs under a CU are higher than the external tariffs under an FTA as shown by expressions (27) and (28). Therefore, the greater the number of firms in country F, the greater the degree of trade diversion induced by a CU relative to an FTA.[29]

It is also important to understand how average welfare changes when we compare the MFN regime with one in which a preferential trade agreement is in place between A and B. This is done in

Proposition 9 *The following holds:*

i) *The creation of a free trade area raises member countries' welfare relative to the MFN regime, regardless of the fraction of profits received by the median voter.*

ii) *If the share of profits received by the median voter exceeds the critical level $\tilde{\gamma}^m_{CU,MFN}(n_F) \in (\tilde{\gamma}^m_{FTA,CU}(n_F), 1)$, then a customs union decreases member countries' welfare relative to the MFN regime. This threshold decreases with n_F.*

---

[28]The graph shows that as the number of firms in country F becomes larger, values of $\gamma^m > 0.59$ imply that an FTA raises welfare relative to a CU. Using Propositions 3 and 8, we can show that the critical value $\tilde{\gamma}^m_{FTA,CU}(n_F)$ needed to ensure that an FTA raises welfare relative to a CU satisfies $0.59 < \tilde{\gamma}^m_{FTA,CU} < 0.76$.

[29]Note that this effect is most obvious when inequality is sufficiently small ($0.75 < \gamma^m < 1$) since an increase in n_F leads to an increase in common external tariffs under a CU while it leads to a decrease of external tariffs under an FTA. Moreover, Proposition 1 highlights the presence of a tariff complementarity effect under an FTA, which is clearly trade creating.

iii) *If* $\gamma^m \in (\tilde{\gamma}^m_{FTA,CU}(n_F), \tilde{\gamma}^m_{CU,MFN}(n_F))$ *then a customs union welfare dominates the MFN regime but it is dominated by an FTA.*

The proof of Proposition 9 follows the same steps as the proof for Proposition 4[30] and the intuition behind this result is also similar. Let us start from part *i)*. The change in welfare between the MFN and FTA regimes depends on the tariffs applied on the good not produced in the member countries (i.e., the tariff on good 2 in country A and the tariff on good 1 in country B). Equations (26) and (27) show that these tariffs do not depend on the distribution of income, and, therefore, the change in welfare between the MFN and FTA regimes does not depend on the degree of income inequality.

As for the second part,[31] one can conclude from equations (26) and (28) that the common external tariffs under a CU are higher than under the MFN regime if the degree of income inequality is not large. In particular, for sufficiently low levels of inequality, the common external tariffs under a CU are high enough so as to significantly decrease the tariff revenues relative to the MFN regime. This explains the result relating the welfare effects of the MFN and CU regimes. Moreover, this result is reinforced the greater the number of firms in country F because this tends to increase the trade diversion effect related to the formation of a CU. This explains why $\tilde{\gamma}^m_{CU,MFN}$ declines with n_F. In general, Propositions 8 and 9 indicate that as the number of firms in country F grows, so does the size of the parameter space guaranteeing that the FTA and the MFN regimes are preferred on welfare grounds to the formation of a CU.

Learning about the welfare effects of the formation of preferential agreements is desirable, but the implementation of preferential agreements depends on their political viability, and thus on their effect on the median voter's welfare. Focusing on country A (the analysis for B is similar), using external tariffs described by expressions (26), (27), and (28), and applying the equilibrium price and quantity obtained in expressions (25), we can establish

Proposition 10 *The following holds:*

i) *The formation of a free trade area will be preferred over the MFN regime if the share of profits received by the median voter exceeds a critical value* $\breve{\gamma}^m_{FTA,MFN}(n_F)$*. This threshold increases with* n_F*.*

---

[30]We can show that the difference between $v\left(\mathbf{t}^{FTA}, \overline{\gamma}_A\right)$ and $v\left(\mathbf{t}^{MFN}, \overline{\gamma}_A\right)$ is positive for $0 < \gamma^m \leqslant 1$ and it is not dependent on the distribution of income.

[31]The difference between $v\left(\mathbf{t}^{CU}, \overline{\gamma}_A\right)$ and $v\left(\mathbf{t}^{MFN}, \overline{\gamma}_A\right)$ yields a complex expression but simulations indicate that as we increase the number of firms in country F, the lower is the critical value $\tilde{\gamma}^m_{CU,MFN}(n_F)$ so that $v\left(\mathbf{t}^{CU}, \overline{\gamma}_A\right)$ equals $v\left(\mathbf{t}^{MFN}, \overline{\gamma}_A\right)$ decreases. This exercise also indicates that as n_F grows bigger, the minimum cutoff for γ^m converges to 0.59 (and the picture would look very similar to Figure 1)

ii) A customs union will never be chosen over the MFN regime.

iii) A customs union will never be preferred over a free trade area.

The proof of Proposition 10 follows the same steps as the proof of Propositions 5, 6 and 7. Let us first consider part *i*). Proposition 10 implies that even though an FTA is always welfare enhancing compared to the MFN regime (as shown by Proposition 9), it might not be politically viable.[32] This occurs because, as shown in equation (24), an increase in profits relative to the MFN regime is not as important on political grounds as it is on welfare grounds, since the median voter's profit share is lower than the average of the population. Moreover, the critical value $\breve{\gamma}^m_{FTA,MFN}(n_F)$ increases with the number of firms in country F. This happens because the higher n_F, the greater the strategic gains in profits for firms based in member countries brought about by preferential access. Consequently, the strategic gains in profits due to preferential access need to be more important for the median voter for an FTA to remain politically viable (and thus the threshold increases with n_F).

Part *ii*)[33] and part *iii*) can be understood following the same arguments of Propositions 6 and 7. Summing up, Propositions 8-10 extend our previous results highlighting once again the welfare desirability and political viability of FTA formation when the level of inequality is low.

5.2 Differences in income distribution

In this section, we consider the effect of asymmetries in the income distribution between prospective member countries ($\gamma^m_A \neq \gamma^m_B$) on the formation of preferential trading arrangements. All other assumptions in the model are retained, and in particular we assume the number of firms in country F to be equal to one. This extension of the original model allows us to compare the welfare effects of the different trade policy regimes, as well as to investigate whether or not a CU would be politically viable, under the presence of asymmetries in income distribution. For each member country, the analysis is carried out in three steps. First, we consider the equilibrium in the market for good 1, then the equilibrium in the

---

[32]The difference between $v\left(\mathbf{t}^{FTA}, \gamma^m_A\right)$ and $v\left(\mathbf{t}^{MFN}, \gamma^m_A\right)$ yields the expression $-24 - 17n_F - 3n_F^2 + \gamma^m_A(80 + 48n_F + 7n_F)$. We can then set $v\left(\mathbf{t}^{FTA}, \gamma^m_A\right)$ equal to $v\left(\mathbf{t}^{MFN}, \gamma^m_A\right)$ to find $\breve{\gamma}^m_{FTA,MFN}(n_F) = \frac{(24+17n_F+3n_F^2)}{(80+48n_F+7n_F^2)}$. The latter expression can be used to show that as the number of firms in country F increases, the higher is the critical value $\breve{\gamma}^m_{FTA,MFN}$ so that a free trade area will emerge as an equilibrium.

[33]Comparing the expressions for $v\left(\mathbf{t}^{CU}, \gamma^m_A\right)$ and $v\left(\mathbf{t}^{MFN}, \gamma^m_A\right)$, simulations indicate that there is no $\gamma^m \epsilon (0,1]$ such that $v\left(\mathbf{t}^{CU}, \gamma^m_A\right) > v\left(\mathbf{t}^{MFN}, \gamma^m_A\right)$. The simulation exercise focuses on varying n_F to calculate γ^m such that $v\left(\mathbf{t}^{CU}, \gamma^m_A\right) = v\left(\mathbf{t}^{MFN}, \gamma^m_A\right)$. In this case, we could not find $\gamma^m \epsilon \{0,1\}$ that satisfies that equality.

market for good 2, and finally exports to the partner country. Our starting point is the investigation of whether Propositions 3-4 continue to hold if $\gamma_A^m \neq \gamma_B^m$. We will continue to take the point of view of country A.

The equilibrium prices and quantities are described by expressions (5) since the number of firms in country F equals one.[34] As seen before, country A's representative corresponds to the median voter in both the MFN and FTA regime ($\widehat{\gamma}_A = \gamma_A^m$) since member countries do not coordinate tariffs in these two scenarios and markets are segmented. Moreover, if a customs unions is formed, strategic delegation occurs and $\widehat{\gamma}_A = 2\gamma_A^m$. Thus, the level of strategic delegation in country A does not change and it is not affected by the shape of income distribution in country B.

In the case of a CU, we find that the decision of the median voter in country A does not depend on the income inequality in country B because he only owns a share of the oligopolistic firm based in country A producing good 1. Thus, in the setting of common external tariffs, the median voter in country A is interested only in profits generated in the market for good 1 while the median voter in country B is interested only in profits generated in the market for good 2. As a result, the identity of country A's representative depends only on the identity of country A's median voter, and the same argument as in proposition 2 applies.

To summarize, the equilibrium in the market for good 1 in country A depends only on γ_A^m, whatever trade regime is in place as indicated by expressions (10), (13), and (19). This implies that in comparing trade regimes, the fact that $\gamma_A^m \neq \gamma_B^m$ plays no role as far as the equilibrium in the market for good 1 in country A is concerned. Similarly, exports of good 1 from country A to country B do not depend on γ_B^m as described by expressions (10), (13), and (19). Therefore, the differences in income inequality between the two countries play no role in this case as well. The same is not true for the determination of the equilibrium in the market for good 2 in country A. In fact, from equation (19) we can see that, whenever a CU is in place, the equilibrium price in that market depends on the distribution of income in country B. This has implications for the welfare comparison between a CU and an FTA and between a CU and the MFN regime, which are summarized in

Proposition 11 *The following holds:*

i) Free trade areas raise member countries' welfare relative to the MFN regime, regardless of the member countries' income distribution.

---

[34]Clearly, the equilibrium tariffs may be different as they depend on income distribution and on the degree of strategic delegation.

ii) For high inequality levels, the lower the share of profits received by the partner country's median voter, the lower the critical value $\tilde{\gamma}^m_{A,\,FTA,CU}$ ($\tilde{\gamma}^m_{A,\,CU,MFN}$) needed for a CU to raise welfare relative to the FTA (MFN) situation. For sufficiently low inequality levels, at least one of the member countries will be worse-off after the customs union formation.

The results shown in Proposition 11 extend the results of Proposition 3-4 to a context where income distribution differs across member countries. To understand the intuition behind this result, let us begin by considering part i). As we explained above, the differences in the external tariffs applied by country A when moving from the MFN regime to an FTA do not depend on income distribution. Moreover, the preferential access granted by country B to country A's firm does not depend on income distribution. The welfare change in country A between an FTA and the MFN regime does not depend on the difference in income distributions and, therefore, it is the same as in the proof of Proposition 2.

We can follow the same steps of the proof of Propositions 3 and 4 to explain part ii) of Proposition 11.[35] Comparing the value of the indirect utility of the median voter under an FTA and under a CU, we can conclude that if $\gamma^m_B \leqslant 0.76$, there exists a minimum value of $\gamma^m_A \in (0, \tilde{\gamma}^m_{A,FTA,CU}) \leqslant 0.76$ such that both countries can gain from the formation of a customs union. If one of the member countries is characterized by a sufficiently low income inequality levels ($\gamma^m > 0.76$), then the partner country will always be worse-off after the formation of a customs union. The requirement related to the minimum level of inequality needed to form welfare-enhancing CUs ($\gamma^m < 0.76$) relates to the results from Propositions 3 and 4. As we have argued before, if the degree of inequality is very low then the external tariffs are high enough to generate significant losses of tariff revenue. This is key to explaining the result. A similar rationale applies to the comparison between a CU and the MFN regime.[36]

Turning to the political viability of preferential agreements, we need once again to focus on the median voter's indirect utility function, $v(\mathbf{t}, \gamma^m)$. Following the same argument and calculations developed to establish Propositions 5, 6 and 7, it is easy to show that the formation of an FTA is politically viable if inequality is not extremely high, and in particular if $\gamma^m \in (\breve{\gamma}^m_{A,FTA,MFN} = 0.3259, 1)$. Thus, FTAs continue to be politically viable, even in the presence of asymmetries in the income distribution between countries. Similarly, we can determine the outcome of a vote between the MFN and the CU regimes. The resulting expressions indicate that for a given γ^m_B it is necessary to have $\gamma^m_B \leq \gamma^m_A \in (\breve{\gamma}^m_{A,\,CU,MFN}, 1)$

---

[35]The differences between $v\left(\mathbf{t}^{CU}, \overline{\gamma}_A\right)$ and $v\left(\mathbf{t}^{FTA}, \overline{\gamma}_A\right)$, and between $v\left(\mathbf{t}^{CU}, \overline{\gamma}_A\right)$ and $v\left(\mathbf{t}^{MFN}, \overline{\gamma}_A\right)$ are complex expressions so we rely on simulations to obtain the other results described in part ii) of Proposition 11.

[36]In this case, a customs union can be welfare-enhancing for both members if the degrees of inequality are not sufficiently low, $\gamma^m < 0.88$.

for the CU to be politically viable in country A. However, the same argument applies also to country B, and as a result the CU cannot emerge as an equilibrium.

Summing up, the introduction of asymmetries in the income distribution across countries does not alter the qualitative results of our analysis.

6   Conclusions

In this paper, we have developed a representative democracy model of the formation of a preferential trading arrangement to provide a rationale for the greater popularity of free trade areas over customs unions. Most of the existing literature finds that, due to the presence of tariff coordination, customs unions tend to raise welfare relative to free trade areas in member countries. In this paper, we have shown that this is not necessarily true. In particular we have found that if inequality is small, an FTA raises welfare relative to a customs union for the member countries, because voters elect very protectionist representatives when a customs union is in place. The resulting high common external tariffs may then be deleterious to welfare in member countries relative to a free trade area. Our analysis thus highlights the importance of taking into account the ex-ante income distribution in perspective member countries while investigating the welfare consequences of the formation of preferential trade arrangements.

We have also used our framework to study the political viability of free trade areas and customs unions. First of all, we have shown that FTAs are likely to emerge as a political equilibrium, whenever income inequality is not too pronounced. Moreover, only welfare enhancing free trade agreements can be sustained in a political equilibrium, a finding which reinforces an earlier result obtained by Ornelas (2005a) in a model with pressure groups. Secondly, we have shown that, in a context where the production of final goods is strongly geographically specialized, CUs are very unlikely to be chosen by a representative democracy. This is an important result, as it provides a new rationale for why the very small number of existing CU involve relatively similar countries (like in the case of the EU), and for why no North–South customs union exists, even if a large number of FTAs have recently entered into force.

7 Appendix

7.1 Appendix A

In this appendix we establish proposition 3. Let $\Delta v(\mathbf{t}^{CU}, \mathbf{t}^{FTA}, \gamma_A^m) = v(\mathbf{t}^{CU}, \overline{\gamma}_A) - v(\mathbf{t}^{FTA}, \overline{\gamma}_A)$. Since our preferences are additive and quasi-linear, this difference can be rewritten as

$$\Delta v(\mathbf{t}^{CU}, \mathbf{t}^{FTA}, \gamma_A^m) = \Delta CS_A + \Delta \pi_A^1 + \Delta TR_A \tag{29}$$

where ΔCS_A represents the change in consumer surplus, $\Delta \pi_A^1$ is the change in profits and ΔTR_A stands for the change in tariff revenues. Using external tariffs described by expressions (14) and (23), and applying equilibrium prices and quantities described in expressions (5), we can compare the welfare levels between the two trade regimes. The sum of the changes in consumer surplus and producer surplus when member countries move from an FTA to a CU can be represented by the following expression:

$$\Delta CS_A + \Delta \left(\pi_{A,A}^1 + \pi_{A,B}^1 \right) = \frac{8\gamma^m (3993 + 7502\gamma^m - 2640\gamma^{m^2} + 160\gamma^{m^3}) (c - H)^2}{121(121 - 66\gamma^m + 8\gamma^{m^2})^2} \tag{30}$$

The right hand side of equation (30) is equal to zero if $\gamma^m = \{-0.45, 4.32, 12.62\}$. Since $\gamma^m \in (0, 1]$ then $\Delta CS + \Delta \left(\pi_{A,A}^1 + \pi_{A,B}^1 \right)$ is greater than zero in the parameter space under investigation. The change in tariff revenue when member countries move from an FTA to a CU is described by the following expression:

$$\Delta TR_A = \frac{8\gamma^m (-27951 + 59290\gamma^m - 16368\gamma^{m^2} + 992\gamma^{m^3})(c - H)^2}{121(121 - 66\gamma^m + 8\gamma^{m^2})^2} \tag{31}$$

The right hand side of equation (31) is equal to zero if $\gamma^m \in \{0.55, 4.41, 11.52\}$. Thus, we can show that if $\gamma^m > (<)0.55$ then tariff revenues in an FTA are greater (less) than in a CU. Furthermore, if $\gamma^m \in (0.76, 1]$ then ΔTR_A is sufficiently negative as to establish our result.

7.2 Appendix B

In this appendix we prove proposition 4. Once again, using external tariffs described by expressions (12) in proposition 1 and applying equilibrium prices and quantities described in expressions (5) we can determine welfare levels under the different trade regimes.

To establish part i) of the proposition, notice that there are no welfare differences related to the consumption of good 1 in country A. The increase in the profits of the firm that

produces good 1 in country A due the formation of the FTA equals to $\frac{135(c-H)^2}{1936}$. In the case of good 2, the sum of the gains in consumer surplus and of the losses in tariff revenue with the FTA formation equals $-\frac{(c-H)^2}{44}$. The summation of changes in profits, consumer surplus and tariff revenue equals to $\frac{91(c-H)^2}{1936} > 0$ and we have thus established the result.

Turning to part $ii)$, the sum of the changes in consumer surplus and producer surplus between the MFN and the CU regime are represented by the following expression:

$$\Delta CS_A + \Delta \left(\pi^1_{A,A} + \pi^1_{A,B} \right) = \frac{\left(34485 - 33396\gamma^m + 22756\gamma^{m^2} - 5280\gamma^{m^3} + 320\gamma^{m^4} \right) (c-H)^2}{16(121 - 66\gamma^m + 8\gamma^{m^2})^2} \quad (32)$$

Two real values of γ^m insure that the right hand side of equation (32) equals zero, i.e $\gamma^m \in \{4.34, 10.65\}$. Since $\gamma^m \in (0,1]$ then $\Delta CS + \Delta \left(\pi^1_{A,A} + \pi^1_{A,B} \right)$ is greater than zero in the parameter space under investigation.

The corresponding change in tariff revenue is given by:

$$\Delta TR_A = - \frac{\left(11737 - 27588\gamma^m + 36404\gamma^{m^2} - 9504\gamma^{m^3} + 576\gamma^{m^4} \right) (c-H)^2}{8(121 - 66\gamma^m + 8\gamma^{m^2})^2} \quad (33)$$

There are no values of $\gamma^m \in (0,1]$ such that the right hand side of equation (33) equals zero. This finding differs from the discussion on Appendix A about the effects of CU formation on tariff revenues, since tariffs in the MFN regime are non-discriminatory. Thus, moving from the MFN to a CU regime is more costly in terms of tariff revenue than moving from an FTA to a CU. We can then add expressions (32) and (33) to show that if $\gamma^m > 0.8874$ the MFN regime welfare dominates a CU.

7.3 Appendix C

In this section we establish proposition 5 and 6. Using external tariffs described by expressions (12), (14), and (23), and applying the equilibrium price and quantity described in expressions (5), we obtain the following measures for the decisive median voter:

$$
\begin{aligned}
v\left(\mathbf{t}^{CU}, \gamma^m_A \right) &= \frac{(H-c)^2 \left(55 - 8\gamma^m - 16\gamma^{m^2} \right)}{(11 - 4\gamma^m)^2} + \gamma^m \pi^1_{A,F} \\
v\left(\mathbf{t}^{FTA}, \gamma^m_A \right) &= \frac{(H-c)^2 \left(605 + 242\gamma^m - 32\gamma^{m^2} \right)}{121 (11 - 2\gamma^m)} + \gamma^m \pi^1_{A,F} \\
v\left(\mathbf{t}^{MFN}, \gamma^m_A \right) &= \frac{(H-c)^2 \left(84 + 19\gamma^m - 2\gamma^{m^2} \right)}{176 - 32\gamma^m} + \gamma^m \pi^1_{A,F}
\end{aligned}
\quad (34)
$$

To establish proposition 5 notice that

$$v\left(\mathbf{t}^{FTA}, \gamma_A^m\right) - v\left(\mathbf{t}^{MFN}, \gamma_A^m\right) = \frac{(H-c)^2\left(135\gamma^m - 44\right)}{1936}$$

This implies that $v\left(\mathbf{t}^{FTA}, \gamma_A^m\right) > v\left(\mathbf{t}^{MFN}, \gamma_A^m\right)$ if $0.3259 = \breve{\gamma}_{FTA,MFN}^m < \gamma^m < 1$.

To prove proposition 6, consider

$$v\left(\mathbf{t}^{CU}, \gamma_A^m\right) - v\left(\mathbf{t}^{MFN}, \gamma_A^m\right) = -\frac{(H-c)^2\left(-484 + 1925\gamma^m - 1990\gamma^{m^2} + 32\gamma^{m^3} + 32\gamma^{m^4}\right)}{16\left(121 - 66\gamma^m + 8\gamma^{m^2}\right)^2} \tag{35}$$

There are no values of $\gamma^m \in (0,1)$ such that the right hand side of equation (35) equals to zero, and this establishes the result.

References

[1] Alesina, Alberto and Dani Rodrik (1994) "Distributive Politics and Economic Growth", *Quarterly Journal of Economics*, vol. 109, pp. 465-90.

[2] Besley, Timothy and Stephen Coate (1997) "An Economic Model of Representative Democracy", *Quarterly Journal of Economics*, vol. 112, pp. 85-114.

[3] Dutt, Pushan and Devashish Mitra (2002) "Endogenous Trade Policy Through Majority Voting: An Empirical Investigation," *Journal of International Economics*, vol. 58, pp. 107-134.

[4] Estevadeordal, Antoni, Caroline Freund and Emanuel Ornelas (2008) "Does regionalism affect trade liberalization towards non–members?" *Quarterly Journal of Economics*, vol. 123, pp. 1531-1575.

[5] Facchini, Giovanni, Oliver Lorz and Gerald Willmann (2006) "Asylum seekers in Europe: The warm glow of a hot potato" *Journal of Population Economics*, vol.19, pp. 411–430

[6] Facchini, Giovanni, Peri Silva and Gerald Willmann (2009) "What drives the formation of a preferential trading arrangement? Theory and evidence" mimeo

[7] Freund, Caroline (2000) "Multilateralism and the endogenous formation of preferential trade agreements", *Journal of International Economics*, vol. 52, pp. 359-376

[8] Gatsios, Konstantine and Larry Karp (1991) "Delegation games in customs unions" *Review of Economic Studies* vol. 58, pp. 391-397

[9] Goyal, Sanjeev and S. Joshi (2006) "Bilateralism and free trade", *International Economic Review* vol. 47, pp. 749-778

[10] Grossman, Gene and Elhanan Helpman (1994) "Protection for sale", *American Economic Review*, vol. 84, pp. 833–850.

[11] Grossman, Gene and Elhanan Helpman (1995) "The Politics of Free-Trade Agreements", *American Economic Review*, vol. 85, pp. 667-690.

[12] Grossman, Gene and Elhanan Helpman (2005) "A Protectionist Bias in Majoritarian Politics", *Quarterly Journal of Economics*, vol. 120, pp. 1239-1282.

[13] Helpman, Elhanan (1997) "Politics and Trade Policy", *Advances in Economics and Econometrics: Theory and Applications*, edited by David Kreps and Kenneth Wallis.

[14] Jones, Stephen R. G. (1989) "Have your lawyer call my lawyer: Bilateral delegation in bargaining situations" *Journal of Economic Behavior and Organization*, vol. 11, pp. 159-174

[15] Krishna, Pravin (1998) "Regionalism and Multilateralism: A Political Economy Approach", *Quarterly Journal of Economics*, vol. 113, pp. 227-250.

[16] Lahiri, Sajal (1998) "Controversy: Regionalism versus Multilateralism" *Economic Journal*, vol. 108, pp. 1126–1127

[17] Laussel, Didier and Raymond Riezman (2005) "The sources of protectionist drift in representative democracies", *European Economic Review*, vol. 49, pp. 1855-1876.

[18] Ornelas, Emanuel (2005a) "Rent Destruction and the Political Viability of Free Trade Agreements", *Quarterly Journal of Economics*, vol. 120, pp. 1475-1506.

[19] Ornelas, Emanuel (2005b) "Trade Creating Free Trade Areas and the Undermining of Multilateralism", *European Economic Review*, vol. 49, pp. 1717-1735.

[20] Ornelas, Emanuel (2007) "Exchanging Market Access at the Outsiders' Expense - the Case of Customs Unions", *Canadian Journal of Economics,* vol. 40, pp. 207-224.

[21] Richardson, Martin (1994) "Why a free trade area? The tariff also raises" *Economics and Politics* 6, pp. 79–96.

[22] Saggi, Kamal (2006) "Preferential Trade Agreements and Multilateral Tariff Cooperation," *International Economic Review*, vol. 47, pp. 29-57.

[23] Schelling, Thomas C. (1956) "An Essay on Bargaining" *American Economic Review*, vol. 46, pp. 281-306

[24] Segendorff, Berthold (1998) "Delegation and Threat in Bargaining" *Games and Economic Behavior*, vol. 23, pp. 266-283

[25] Willmann, Gerald (2006) "Why Legislators are Protectionists: The Role of Majoritarian Voting in Setting Tariffs", Kiel Working Paper 2003-10, University of Kiel.

[26] Woodland, Alan D. (1982) *International Trade and Resource Allocation* North Holland, Amsterdam