

Political economy of labor provisions in free trade agreements

著者	Sato Hitoshi
権利	Copyrights 2020 by author(s)
journal or publication title	IDE Discussion Paper
volume	780
year	2020-04
URL	http://hdl.handle.net/2344/00051689

IDE Discussion Papers are preliminary materials circulated to stimulate discussions and critical comments

IDE DISCUSSION PAPER No. 780

**Political Economy of Labor
Provisions in Free Trade Agreements**

Hitoshi SATO*

April 2020

Abstract

This paper examines the effects of the inclusion of labor provisions in free trade agreements (FTAs) on the external tariffs imposed on non-member countries and the political viability of FTAs within a political economy model in which oligopolistic industry may make political contributions on import tariffs against non-member countries. Labor provisions encourage external tariff reductions by party countries with low labor standards, while weakening the external tariff reduction effect for the party countries for which labor standards are sufficiently high so that the provisions are non-binding. Labor provisions also influence the political viability of FTAs. When an FTA has a labor provision, its political viability will increase in countries even with the highest labor standards.

Keywords: labor provisions, free trade agreements, political economy, oligopolistic trade.

JEL classification: F13, F53, F66

* Director-General, Development Studies Center, IDE (hitoshi_sato@ide.go.jp)

The Institute of Developing Economies (IDE) is a semigovernmental, nonpartisan, nonprofit research institute, founded in 1958. The Institute merged with the Japan External Trade Organization (JETRO) on July 1, 1998. The Institute conducts basic and comprehensive studies on economic and related affairs in all developing countries and regions, including Asia, the Middle East, Africa, Latin America, Oceania, and Eastern Europe.

The views expressed in this publication are those of the author(s). Publication does not imply endorsement by the Institute of Developing Economies of any of the views expressed within.

INSTITUTE OF DEVELOPING ECONOMIES (IDE), JETRO
3-2-2, WAKABA, MIHAMA-KU, CHIBA-SHI
CHIBA 261-8545, JAPAN

©2020 by author(s)

No part of this publication may be reproduced without the prior permission of the author(s).

Political Economy of Labor Provisions in Free Trade Agreements

Hitoshi Sato*
Institute of Developing Economies

This version: February, 2020

Abstract

This paper examines the effects of the inclusion of labor provisions in free trade agreements (FTAs) on the external tariffs imposed on non-member countries and the political viability of FTAs within a political economy model in which oligopolistic industry may make political contributions on import tariffs against non-member countries. Labor provisions encourage external tariff reductions by party countries with low labor standards, while weakening the external tariff reduction effect for the party countries for which labor standards are sufficiently high so that the provisions are non-binding. Labor provisions also influence the political viability of FTAs. When an FTA has a labor provision, its political viability will increase in countries even with the highest labor standards.

Keywords: labor provisions, free trade agreements, political economy, oligopolistic trade.

JEL Classification Number: F13, F53, F66.

*Institute of Developing Economies (IDE-JETRO), 3-2-2 Wakaba, Mihama-ku, Chiba 261-8545, Japan.
E-mail: hitoshi_sato@ide.go.jp

1 Introduction

The inclusion of non-trade objectives into trade agreements has long been one of the most controversial issues in trade negotiations. The Uruguay Round of the General Agreement on Tariffs and Trade (GATT)/World Trade Organization (WTO) negotiations succeeded in incorporating intellectual property rights into the agreements, also known as the agreements on Trade-Related Aspects of Intellectual Property Rights (TRIPS), but failed in terms of incorporating labor and environmental standards. The embedded concern was that international market competition, fueled by trade liberalization, would drive firms/governments to compete with each other in degrading labor and environmental standards in order to maintain their competitiveness (“race to the bottom” concern). However, developing countries strongly opposed including such issues in the GATT/WTO agreements, criticizing that such new rule-making would nullify previous market access concessions made by developed countries (disguised protectionism concern).

This episode of failure in incorporating labor/environmental standards into the GATT/WTO agreements suggests that governments/firms have a motive to optimize such standards and their implementation under their economic and political environments and, as a result, optimal levels may vary across countries, making the settling of international harmonization difficult. Nevertheless, non-trade objectives in trade agreements have become common in bi- and pluri-lateral trade agreements. In particular, it is increasingly common for new preferential trade agreements (PTAs) to include labor provisions. According to ILO (2016), as of 2015, 76 PTAs that cover 135 economies feature labor provisions. Trade liberalization fosters market competition and enhances the perception that cross-country differences in standards/rules, especially weak standards/rules in developing countries, tilt competitiveness “unfairly” toward them and may hurt workers in developed countries. Therefore, it may not be surprising that trade liberalization, which is especially promoted by developed countries, goes hand-in-hand with labor issues.

The recent proliferation of trade agreements featuring non-trade issues has already attracted enormous academic interest in terms of the effects and roles of the “linkage” between trade and non-trade issues in trade agreements and has resulted in voluminous studies on the issue.¹ However, the mainstream of the literature on the impact of internationally harmonizing standards and/or rules in non-trade issues through trade agreements on trade and welfare in party countries has reached a negative conclusion regarding the usefulness

¹See Maggi (2016) for a recent survey on the issue of linking non-trade objectives to trade liberalization. Bagwell and Staiger (2004, chap.7) discuss labor and environmental standards in the context of GATT/WTO.

of the linkage (e.g., Maskus, 1997; Martin and Maskus, 2001). Their grounds essentially rely on the optimal policy idea: even if negative international externalities are identified, trade policy (sanctions) is not the best measure for fixing such externality issues because trade restrictions are highly likely to generate new economic distortions. However, many questions still remain. If linkage is not an efficient policy, why do governments continue pursuing non-trade objectives in trade negotiations? What role do labor provisions play in trade agreements? To shed light on these questions, this paper focuses on the political economy aspects of the inclusion of labor provisions in FTAs and examines the following two questions: (i) Are FTAs with labor provisions more protective than those without labor provisions against member and non-member countries, respectively? and (ii) Does the inclusion of labor provisions make FTAs more politically viable?

The literature on political economy of preferential trade agreements (PTAs) has extensively explored (i) the impact of linking trade and non-trade issues in trade agreements on the enforceability of agreements (Limão, 2005) and (ii) the effect of PTAs with non-trade objectives on the incentives of countries to further pursue multilateral trade liberalization (Limão, 2007). The literature on the enforceability of trade agreements demonstrates nuanced evaluation on the “linkage” of trade and non-trade issues in the same agreement: whether or not such linkage strengthens cooperation between the party countries depends on the extent of the complementarity between the trade goal (free trade) and non-trade goal (more restrictive labor/environmental standards). If both goals complement each other, the trade agreement will be an effective device for achieving these two goals. But, otherwise, more cooperation in terms of one goal disrupts the achievement of the other goal. The literature, however, assumes that non-trade issues feature international (non-pecuniary) externalities, such as air pollution crossing national borders, and seem less relevant to labor standard issues.

The literature on the impact of PTAs on multilateralism highlights the role of the linkage functioning as a side payment in trade negotiations. In trade negotiations between developed and developing countries, the developed country may provide market access to the developing country in exchange for the developing country’s introduction of tighter regulations/rules on non-trade issues. In this sense, the developed country is less reluctant to pursue multilateral (global) trade liberalization because it reduces the value of preferential market access to its counterpart country. Hence, it is concluded that PTAs with non-trade objectives tend to be a stumbling block for the furtherance of global free trade. This literature deals with the likelihood of multilateral trade liberalization in the presence of FTAs that feature non-trade objectives. We asks if the inclusion of labor provisions into

FTAs helps with the implementation of FTAs.

The rest of this paper is organized as follows. Section 2 concisely describes labor provisions in trade agreements and explains exactly what they determine. Section 3 reviews the basic understandings regarding the effects of labor provisions by reviewing existing studies. Section 4 presents a theoretical framework with which to investigate the effects of FTA trade liberalization against non-member countries and the political viability of FTAs. Section 5 concludes.

2 Labor Provisions in Trade Agreements

About what do countries agree regarding labor-related issues in trade agreements? ILO (2016, 2013) overview of labor provisions in existing trade agreements and summarizes that in not all, but many, trade agreements, labor provisions have the following characteristics:

- Trade agreements oblige party countries to adopt international labor standards, in reference to the 1998 International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work in many cases. Furthermore, trade agreements may ask party countries to implement minimum working conditions and terms of employment, such as occupational safety and health, minimum wage, and work hours.
- Trade agreements require party countries to comply with the aforementioned standards/principles and to effectively implement national labor laws.
- Trade agreements include any framework for cooperative activities, dialogue and/or monitoring of labor issues (e.g. development cooperation, established bodies for facilitating consultation between the party countries or regular dialogue).

The 1998 ILO Declaration on Fundamental Principles and Rights at Work (Declaration) refers to the following four fundamental principles that ILO member states have to respect, promote, and realize. They are

- The freedom of association and the effective recognition of the right to collective bargaining
- The elimination of all forms of forced or compulsory labor
- The effective abolition of child labor, and

- The elimination of discrimination in respect of employment and occupation.

These four pillars are often referred to as “core” labor standards (CLS) and widely recognized as essential workers’ rights based on human rights. However, the implementation of CLS may vary among countries, as shown in the diversity of the ratification of related international conventions advocated by the ILO.

In addition to CLS, trade agreements may incorporate further work conditions and rules. They include a minimum wage, hours of work, and occupational safety and health (OSH). They are often recognized as “acceptable conditions of work” (ILO, 2016).

Reviewing more than 400 free trade agreements concluded during between 1990 and 2014, Carrère, Olarreaga, and Raess (2017) reveal that labor provisions prevail in the trade agreements between North-North (about 70%) and North-South (about 55%) countries and are much less scarce in those concluded between developing countries (about 15%).² This fact endorses the observation that the inclusion of labor provisions in trade agreements is mainly driven by developed countries.

3 The Effect of Labor Provisions

As shown in the previous section, labor provisions are multi-faceted. To examine questions as to how the labor provisions in trade agreements work, we may need to take an issue-by-issue approach, for example, asking if the existence of labor unions stimulates (or interferes with) trade creation caused by trade agreements. However, such an approach is way beyond the scope of a single paper. Rather, in this paper, we deal exclusively with the inclusion of labor provisions in trade agreements as a policy tool that may influence the production costs of the party countries. This is a natural interpretation of labor provisions, accounting for the fact that developed countries often require competition on equal footing when providing market access to developing countries. To solidify our treatment of labor provisions, we first (briefly) review the existing literature that examines the economic impact of labor provisions (item-by-item) and then show they tend to increase production costs (at least in terms of their immediate impact).

If enhancing labor provisions (labor standards) is a cost-push factor, arguable races to the bottom are likely to be found in data. We then (again briefly) review empirical literature on races to the bottom in labor standards (or labor protection). Early (and many) studies

²Furthermore, they report that labor provisions accompanied by some form of enforcement and/or cooperation for implementation account for about 20% of FTAs in North-North and North-South trade agreements, whereas the share is much lower (and almost negligible) in South-South trade agreements.

have posed doubt about the existence of raced to the bottom in labor standards. However, recently, recent studies find evidence that governments may be engaged in competition in degrading labor protection to attract foreign direct investment.

3.1 Labor provisions and production costs

The effects of enhanced core labor standards on economic competitive advantage and trade are complex and contextual (Maskus, 1997). This section focuses on the impact of enhanced CLS on wages to obtain a basis for an analysis of the inclusion of labor provisions into FTAs in the next section. The following discussion is largely based on Martin and Maskus (2001) and Maskus (1997).

Exploitation of child labor Children may be overused as labor because of gaps between private valuations of the working-age standard and social valuations. One possible source of such gaps is the labor market's failure to adequately capture people's psychic losses that result from the exploitation of child labor and reflection of such costs in wages. Another possible source is that households that cannot take into account the positive externalities from education evaluate the returns of education lower than the social evaluation. Given such market failures, there is room for policy intervention. However, as the standard theory of optimal policy choice indicates, the best policy is imposing a tax on the usage of child labor (or, equivalently subsidizing a reduction in the use of child labor). Trade policy, such as imposing a tariff on products produced using child labor, is an inefficient instrument because such measures introduce new economic distortions. Regardless of the choice of remedy, an important consequence is that the reduction of child labor increases wages, which results in higher production costs (at least in the short run).³

Discrimination Labor market discrimination means that the level of wages and/or the employment of a group of workers (e.g. female workers) is unreasonably lower than other groups of workers. From the point of view of perfect labor markets, the level of wages is below the value of marginal product (and, as a result, the employment level is also lower than the optimal level). Even well-functioning labor markets cannot remedy such inefficient consequences when discrimination has its root in the employers' utility function (e.g. the

³A simple ban on the usage of child labor is a direct measure. However, implementation may not be easy, especially in developing countries. Taxes on child labor may also not be easy to implement in developing economies because of their weak institutions. Product-labeling schemes are often proposed as an efficient measure. However, providing such information to consumers is more or less costly and will increase production costs to a certain degree (the standard theory on tax burden-sharing between producers and consumers can be applied).

view that females should not work outside the home). The elimination of such discrimination ultimately improves economic efficiency through the realization of more efficient labor allocation by increasing the labor market participation of discriminated workers. However, in the short run (i.e. while the total labor supply remains constant), wages will increase up to the level of their marginal product of labor, leading to higher production costs.

Freedom of association and collective bargaining It is common using imperfect labor market frameworks to examine the role of freedom of association and collective bargaining. The literature on labor unions has investigated various issues that unions possibly demand from employers, including aggregate or sectoral wage setting, employment guarantees, and working hours. Although deriving general results on the impact of labor unions on wages, given a monopsony power in a (sectoral) labor market, it is likely that the formation of labor unions increases wages by making wage negotiation with the monopsony employer possible. Thus, enhanced freedom of association and collective bargaining tends to increase production costs.

In summary, enhanced CLS may improve or worsen economic efficiency. For example, as seen in the case of freedom of association and collective bargaining, there is no guarantee that labor unions are able to contribute to more efficient labor market outcomes and resultant economic performance. However, a common feature of enhanced CLS is that they tend to increase wages at least in the short run.

3.2 Race to the bottom concerns

As shown in the previous section, labor standards, such as the right of collective bargaining, tend to result in higher labor costs. This result may justify the concern that governments in developing countries are motivated to reduce labor standards to maintain competitiveness in the world market and attract foreign direct investment (FDI) from developed countries. This concern further leads to the question of whether increasing global competition lowers labor standards in developing countries and prompts the abuses of workers, which has long been under debate, and often referred to as a “race to the bottom.” However, the “race to the bottom” argument needs to be carefully considered because both existing theoretical and empirical studies are largely negative regarding the existence of a “race to the bottom.”

First, it is not necessarily clear if a country that reduces the level of its labor standards enhances the competitiveness of its exporting sectors. Martin and Maskus (2001) and Maskus (1997) point out that when a single firm or a small set of firms exert monopsony power in a labor market that features weak union rights, wages are suppressed, but

employment, output, and competitiveness in the sector also decrease. Furthermore, it is also conceivable that the greater job security ensured by union rights and collective bargaining rights can increase productivity. For example, with greater job security, workers may have sufficient incentive to acquire firm-specific skills, which increases the firm's productivity. If these mechanisms are reasonable, firms should provide sufficient job security and the race to the bottom argument loses its rationality.

Second, the race to the bottom argument for attracting FDI is based on the premise that expecting cheaper labor costs, multinational enterprises (MNEs) prefer countries with lower labor standards. However, this premise is questionable because countries with lower labor standards may have low wages but simultaneously also have lower productivity. Few empirical studies have found supporting evidence of a race to the bottom both in the context of export competitiveness and FDI attraction. They include OECD (1996), Rodrik (1996), Kucera (2002), OECD (2004), and Brown, Deardorff, and Stern (2011). In particular, Rodrik (1996), Kucera (2002), and OECD (2004) find that FDI inflows are positively correlated with host countries' labor standards, which is opposite to the race to the bottom argument. These findings are not surprising, considering theoretical skepticism about the race to the bottom hypothesis provided by Martin and Maskus (2001) and Maskus (1997).

The aforementioned empirical studies have largely relied on cross-sectional analysis. In addition, they tend to examine the linkage between CLS and international trade and/or FDI flows. CLS contain (i) the elimination of forced or compulsory labor, (ii) the abolition of exploitative forms of child labor, (iii) the elimination of discrimination in employment and occupation, and (iv) freedom of association and collective bargaining over working conditions. Usually, researchers create indices to measure the extent to which countries comply with CLS, such as the degree of ILO convention ratification covering CLS (e.g., Rodrik, 1996). More recent studies use richer data that enable panel analysis (Davies and Vadlamannati, 2013; Mosley and Uno, 2007).

Mosley and Uno (2007) focus on collective labor rights and tested two hypotheses: (i) FDI inflows will improve labor standards in developing countries (because MNEs tend to bring the best practices for workers' rights to host countries, for example); (ii) By contrast, participation in global value chains (GVCs) will have a negative effect on labor standards because the cost efficiency tends to be a primary concern in subcontracting relationships. They compiled elaborated data on collective labor rights, covering 90 developing countries for the period 1986-2002. Regressing the index of collective labor rights on globalization indices, they find a positive correlation with respect to FDI inflows and a negative correlation with respect to international trade, as they hypothesized.

Using the same data set as used by Mosley and Uno (2007), Davies and Vadlamannati (2013) address a more focused empirical question regarding if a race to the bottom of labor standards exists by using the spatial lag term of the strength of collective labor rights. They find clear evidence that countries compete with each other in lowering the level of collective labor rights.

Some studies examine the effect of globalization on labor-market flexibility. Labor-market flexibility reflects various aspects of labor laws and standards.⁴ Using indices of labor market flexibility, such as the flexibility of individual and collective dismissal, Javorcik and Spatareanu (2005) investigate whether labor market flexibility influences FDI flows across Western and Eastern European countries, and find that host countries' greater labor market flexibility as compared to investors' home countries is positively correlated to FDI inflows. Olney (2013) uses the data of employment protection in Organization for Economic Cooperation and Development (OECD) countries and find that (i) a reduction in employment protection leads to an increase in FDI inflows, and (ii) OECD countries tend to competitively reduce each other's employment protection.

To summarize, empirical studies of race to the bottom theories with regard to labor standards have obtained mixed results. The scarcity of appropriate data on labor standards obviously makes addressing this question difficult. However, some recent studies have reported evidence on races to the bottom with some labor standards and protections, which suggests that high compliance with labor standards (especially protection) is likely to work adversely against production efficiency. In addition, the review of empirical literature on labor standards and trade/FDI suggests that the political economy aspect can be important in understanding why governments want to incorporate labor provisions into FTAs as well as how they would influence the performance of trade agreements.

4 Political Economy of Labor Provisions

4.1 The Model

Consider three countries, countries A , B , and C . Country B is a potential FTA partner of country A . Each country has two sectors: sector 0 is perfectly competitive and sector 1 is oligopolistic. In each country, there is a representative consumer who has quasi-linear utility of the form $U = q_0 + u(Q)$ where q_0 is consumption of good 0 that serves as a numeraire good and Q is consumption of good 1. Sub-utility $u(Q)$ takes a quadratic form such that

⁴As labor standards, the degree of labor market flexibility is endogenous and features pros and cons in terms of production costs (production efficiency). Economic efficiency would decline with labor markets too inflexible. However, it is also conceivable that greater job security would generate productivity gains.

$u(Q) = Q - aQ^2/2$, implying a linear demand $p = 1 - aQ$. As is standard, as long as good 0 is produced, this sector absorbs all income effects, and we assume that each country's population is sufficiently large that some workers will be employed in good 0.

All goods are produced with constant returns to scale technologies from labor only. The price of good 0 is normalized to 1. Thus, the competitive wage rate equals the marginal product of labor in sector 0 and units are chosen such that the wage in sector 0 equals unity.

We assume that good 1 is homogenous and produced by a single profit-maximizing firm in each country. The markets of good 1 are segmented, leading to trade in this good. Thus, the demand for good 1 in country A equals the sum of the supply from the oligopolistic firm in each country:

$$Q^A = \sum_{i=A,B,C} q_i^A,$$

where q_i^j represents the supply from country i to country j .

In what follows, without any loss of generality, I will describe the model from the point of view of country A , and the superscripts representing markets will be dropped unless it causes confusion. Country B is a potential FTA partner with country A and country C will be the external country. I will refer to τ_B and τ_C as country A 's tariff on imports from B (internal tariff) and from C (external tariff). Each firm earns profits $\pi_i = p(Q)q_i - (c_i + \tau_i)q_i$ from the country A market. Noting that $p = 1 - aQ$, the first order conditions are given by

$$\begin{aligned} \frac{\partial \pi_A}{\partial q_A} &= p - aq_A - c_A = 0, \\ \frac{\partial \pi_B}{\partial q_B} &= p - aq_B - c_B - \tau_B = 0, \\ \frac{\partial \pi_C}{\partial q_C} &= p - aq_C - c_C - \tau_C = 0. \end{aligned}$$

Summing these first-order conditions (FOCs) for all firms, we find

$$3p - \sum_{i=A,B,C} c_i - aQ - (\tau_B + \tau_C) = 0.$$

Applying $aQ = 1 - p$ to this equation, we obtain the market price p as follows:

$$p = \frac{1 + \sum_i c_i + \tau_B + \tau_C}{4}. \quad (1)$$

Using the FOCs again, each firm's equilibrium output is readily obtained:

$$q_A^* = \frac{1 + c_B + c_C - 3c_A + \tau_B + \tau_C}{4a}, \quad (2)$$

$$q_B^* = \frac{1 + c_A + c_C - 3c_B + \tau_C - 3\tau_B}{4a}, \quad (3)$$

$$q_C^* = \frac{1 + c_A + c_B - 3c_C + \tau_B - 3\tau_C}{4a}. \quad (4)$$

Each firm's profits are $\pi_i = [p - (c_i + \tau_i)]q_i$. The FOCs suggest that the inside of the squared brackets is identical to aq_i^* where $*$ represents the equilibrium value. Therefore, the equilibrium profits are given by $\pi_i^* = a(q_i^*)^2$. Note that this result implies that the profits that an oligopolistic firm earns from the foreign markets are affected by each foreign country's tariffs. Thus, when a government sets import tariffs, it cares about the home firm's profits from the home market rather than those from export markets.

The preferences of governments follow Grossman and Helpman (1994, 1995) with governments valuing both social welfare and political contributions (C) made by lobby groups.

$$G(p, s) = W + bC,$$

where W represents social welfare and $b > 0$ is a constant that defines the degree of the government's political bias: the higher b , the higher the government's predilection for contributions, relative to social welfare. Social welfare, W , is composed of consumer surplus, production profits (the domestic firm's profits from both domestic and foreign markets), and net government revenue.⁵ Using (1), (2), (3) and (4), social welfare is obtained as follows:

$$\begin{aligned} W(\tau^A, \tau^{j \neq A}) = & \frac{[3 - \sum_i c_i - (\tau_B + \tau_C)]^2}{32a} + \sum_{j=A,B,C} \frac{(1 + c_B + c_C - 3c_A + \sum_{i=B,C} \tau_i^j - 3\tau_A^j)^2}{16a} \\ & + \tau_B \left(\frac{1 + c_A + c_C - 3c_B + \tau_C - 3\tau_B}{4a} \right) + \tau_C \left(\frac{1 + c_A + c_B - 3c_C + \tau_B - 3\tau_C}{4a} \right), \end{aligned} \quad (5)$$

where τ^i represents a vector of tariffs set by country j such that $\tau^j = \{\tau_i^j\}$, and the first term is consumer surplus, the second term is producer surplus and the last two terms are tariff revenue.

The net payoff of the oligopolistic industry is equal to its total profits across all markets net to the political contributions given to the local government.

$$V(\tau^A, \tau^{j \neq A}) = \Pi(\tau^A, \tau^{j \neq A}) - C,$$

where Π is equivalent to the second term in (5). Note that markets are segmented. Hence, social welfare includes country- A firm's total profits across the all markets, but country- A 's government can manipulate only the profits earned from the domestic market.

⁵Aggregate labor income is constant at L and innocuous to analysis. Hence, we omit it from social welfare. Consumer surplus is simply $(1 - p^*)^2/2a$, Producer surplus is $a[(q_A^*)^2 + (q_A^{B*})^2 + (q_A^{C*})^2]$. Tariff revenue is $\tau_B q_B^* + \tau_C q_C^*$.

4.2 Equilibrium Tariff and Contribution

The oligopolistic sector uses the contribution as a device to affect the government's tariff choice. As Maggi and Rodríguez-Clare (1998) shows, modeling this lobbying process as a simple bargaining problem between industry and government can avoid complications without any loss of the issue's essence. The structure of bargaining is as follows. While increases in tariffs raise firm A 's local profit (see (2)), they unambiguously lower consumer surplus and gains from trade. Thus, firm A offers a contribution to the local government in order to compensate for the loss in social welfare. Finding the efficient bargaining solution is reduced to maximizing the joint benefit of firm A and the government: fixing firm A 's net payoff at \bar{V} , eliminating C from (4.1) follows $G(\tau, \bar{V}) = W(\tau) + b[\Pi - \bar{V}]$. Hence, this bargaining problem solves

$$\max_{\tau} W(\tau) + b\Pi(\tau),$$

where I drop superscript A for notational simplicity. The first-order conditions (FOCs) are given by

$$\frac{dCS(\tau)}{d\tau} + \frac{dTR(\tau)}{d\tau} + (1+b)\frac{d\Pi(\tau)}{d\tau} = 0. \quad (6)$$

By setting $b = 0$, (6) yields the optimal tariffs that maximize social welfare. They are given by

$$\tau_B^* = \frac{3 - c_A}{10} + \frac{3c_C - 7c_B}{20}, \quad (7)$$

$$\tau_C^* = \frac{3 - c_A}{10} + \frac{3c_B - 7c_C}{20}. \quad (8)$$

As is standard in the oligopolistic trade model, socially optimal tariffs are non-zero because of the motives of terms-of-trade manipulation and rent-shifting from foreign firms. Furthermore, the following comparative statics is immediate:

$$\frac{\partial \tau_j^*}{\partial c_A} < 0, \quad \frac{\partial \tau_j^*}{\partial c_j} < 0, \quad \frac{\partial \tau_j^*}{\partial c_i} > 0 \quad \text{for } i, j = B, C, \text{ and } i \neq j. \quad (9)$$

Intuitively, when the home firm is less competitive ($c_A \uparrow$), the home government will reduce the import tariffs because the foreign share increases in the home market, with increasing distortion caused by tariffs.

In addition, the government (of country A) sets a higher (lower) tariff against the more (less) competitive importer. For example, if c_B decreases, the government of country A will raise the tariff against B -firm and reduce against C -firm. This is because the more competitive importer has a less elastic import demand, compared to the less competitive importer.

Finally, because $d\Pi/d\tau > 0$, political bias $b > 0$ raises the optimal tariffs, compared to the case of the politically unbiased ($b = 0$) (for analytical solutions of the political tariffs, see the Appendix). However, the results of comparative statics qualitatively remain the same as the efficient tariffs τ^* presented in (9).

The political contribution simply re-distributes the bargaining surplus between the oligopolistic industry and government. The minimum contribution must just sufficiently compensate the government left with the same payoff at the level of social optimality. Thus,

$$C_{min} = [W(\tau^*) - W(\tau^p)]/b. \quad (10)$$

In the opposite extreme case, the government can take all surplus by introducing politically optimal tariffs through contributions and the industry is left with the same profits as it does not make any contributions:

$$C_{max} = \Pi(\tau^p) - \Pi(\tau^*). \quad (11)$$

Therefore, by defining the government's bargaining power as $\alpha \in [0, 1]$, the equilibrium contribution can be expressed by

$$C(\alpha) = \alpha [\Pi(\tau^p) - \Pi(\tau^*)] + (1 - \alpha)[W(\tau^*) - W(\tau^p)]/b.$$

Defining the oligopolistic profits from the home market as Π_L and those from the foreign markets as Π_R , we can decompose oligopolistic profits such that $\Pi = \Pi_L + \Pi_R$. Likewise, we define social welfare generated from the local sources such that $W_L = W - \Pi_R$. Note that both τ^p and τ^* affect the profits earned in the domestic market. Thus, the above political contribution is rewritten as:

$$C(\alpha) = \alpha [\Pi_L(\tau^p) - \Pi_L(\tau^*)] + (1 - \alpha)[W_L(\tau^*) - W_L(\tau^p)]/b. \quad (12)$$

4.3 FTAs

Suppose that countries A and B form an FTA and country C becomes a non-member of the FTA. Tariffs between countries A and B are fixed and each member country freely chooses its external tariff only. From the perspective of country A , the FOC for the external tariff τ_C^f is given by

$$\tau_C^f = \frac{1}{21 - 2b} \left[3 + 2b - (1 + 6b)c_A + (7 + 2b)c_B - (9 - 2b)c_C + (11 + 2b)\bar{\tau}_B^f \right], \quad (13)$$

where $\bar{\tau}_B^f$ denotes an FTA tariff set by the government of country A against B -firm (internal tariffs). Equation (13) clearly shows that as country A reduces its internal tariff $\bar{\tau}_B^f$, it also

reduces the external tariff τ_C^f . This effect, known as the tariff complementarity effect in free trade agreements, can be understood as follows.⁶ Given an external tariff, the FTA increases domestic competition and lowers the local price and country-*A* firm's profit margin. This reduces the effect of the external tariff, which shifts profits from country-*C* firm to *A*-firm. Consequently, country *A* sets a lower external tariff. As shown in (13), this tariff complementarity effect is enhanced by political bias b .

For our analytical purpose, we stress that the qualitative features of the external tariff with respect to the firms' competitiveness (i.e. production efficiency represented by c_i) is the same as with the optimal tariffs (unless the extent of political bias is too large):

$$\frac{\partial \tau_C^f}{\partial c_A} < 0, \quad \frac{\partial \tau_C^f}{\partial c_B} > 0, \quad \frac{\partial \tau_C^f}{\partial c_C} < 0. \quad (14)$$

These are important results for later analysis. Therefore, I record them in the following proposition.

Proposition 1.

Else equal, when it enters an FTA, a government will set a lower external tariff when the home firm is less competitive and the firm from the member country is more competitive. A more politically-biased government strengthens this tendency.

Does the outside country, country *C*, change its tariffs in response to the FTA formation between countries *A* and *B*? The answer is no because each country can determine tariffs independently due to the market segmentation.

As is known, this FTA yields "overall trade creation": world trade expands and no bilateral trade flow is reduced because

- (1) Trade flows between the FTA members strictly increase (countries *A* and *B*)
- (2) Trade flows between the FTA members and the non-member strictly increase (countries *A* and *C* or countries *B* and *C*)

Under what conditions would the government in country *A* want to form an FTA with country *B*? An FTA increases country *A*'s consumer surplus while its effect on the tariff revenue is likely to be negative: the tariff revenue from imports from country *B* disappears and the change in the tariff revenue from country-*C* good is unclear. In addition, country-*A* firm's profits are also ambiguous: while its profits from the domestic market decline, those from country *B*'s market increase because of the free access to the market.

⁶The tariff complementarity effect is first highlighted by Richardson (1993) and Bagwell and Staiger (1999). Our setting is the closest to Ornelas (2005b,a).

However, note that country A 's government implements an FTA with country B only if the FTA generates a higher payoff, as compared to the payoff that would occur in the absence of the FTA. The government's payoff in the absence of FTAs is $G(\tau^p, C^p) = W_L(\tau^p) + \Pi_R + bC^p$ where $W_L \equiv W - \Pi_R$ is social welfare from the local sources and Π_R is profits from exports. Analogously, its payoff under an FTA (with country B) is given by $G(\tau^f, C^f) = W_L(\tau^f) + \Pi_R^f + bC^f$. Country- A government implements the FTA with country B if and only if $G(\tau^f, C^f) - G(\tau^p, C^p) > 0$. This condition can be rewritten in terms of the differences between each component of the government payoff as follows:

$$\Delta G \equiv G(\tau^f, C^f) - G(\tau^p, C^p) = \Delta W_L + \Delta \Pi_R + b\Delta C > 0. \quad (15)$$

The FTA raises its social welfare if and only if $\Delta W > 0$:

$$\Delta W \equiv W(\tau^f) - W(\tau^p) = \Delta W_L + \Delta \Pi_R > 0. \quad (16)$$

The difference between (15) and (16) is the change in firm- A 's contribution ΔC . How does FTA formation change the contribution? From (12),

$$\Delta C = \alpha [\Delta \Pi_L(\tau^p) - \Delta \Pi_L(\tau^*)] + (1 - \alpha) [\Delta W_L(\tau^*) - \Delta W_L(\tau^p)]/b. \quad (17)$$

We know that a government with a higher b (more politically biased) cuts the external tariff more deeply than does a politically-unbiased government ($b = 0$). Thus, FTA formation reduces firm profit from the home market more with a politically-biased government, which reduces the source of contributions. For the same reason, the impact of FTA formation on social welfare is larger when the government is politically biased. Therefore, FTA formation saves the political contribution ($\Delta C < 0$).⁷ These observations lead to $\Delta C < 0$ in (17).

Hence, two conditions in (15) and (16) imply that the government implements an FTA only if the FTA improves social welfare. However, notice that all FTAs that improve social welfare are not necessarily implemented. Only when increases in social welfare can sufficiently compensate the decline in contributions associated with FTA formation:

$$\Delta W > b|\Delta C|. \quad (18)$$

In the current model setting, governments care about not only social welfare but also political contributions, which is the sole source of policy distortion. Compared to social welfare-maximizing government, the possibility of FTA formation is obviously restrictive.

⁷Under an FTA, the oligopolistic sector lobbies on the external tariff (τ_C^f). An FTA reduces the home profits by enhancing competition with Country B -firm. This rent destruction reduces the contribution base. A lower external tariff improves social welfare. Thus, the government can be more easily induced to provide protection for the local firm. This also helps to save the political contribution.

4.4 FTAs with Labor Provisions

This section considers the implications of the inclusion of labor provisions into FTAs. More specifically, the following questions are useful to consider regarding how FTAs with labor provisions differ from those without labor provisions: (i) Are FTAs with labor provisions more protective than those without labor provisions against non-member countries?; (ii) Are FTAs with labor provisions more protective than those without labor provisions against member countries?; and (iii) Does the inclusion of labor provisions into FTAs improve governments' payoff?

As discussed in the previous section, politically viable FTAs always enhance trade liberalization: the party countries not only eliminate internal tariffs but also reduce the external tariffs against non-member countries due to the rent destruction effect. As the governments are more politically biased, this effect becomes enhanced, resulting in lower external tariffs. The first two questions address the impact of labor provisions on this trade liberalization effect of FTAs. The last question addresses the motivation of labor provisions.

To simplify the analysis as much as possible, we assume that country A (a developed country) has higher labor standards than country B (a developing country) and that the inclusion of labor provisions into an FTA between countries A and B raises B -firm's marginal production cost while it does not change A -firm's marginal production cost. As we discussed in Section 2, labor provisions in FTAs require the party countries to guarantee the basic rights of workers and appropriate levels of the work environment, which is deemed reasonable to increase the marginal production cost (e.g. more rigid implementation of statutory minimum wages and safety measures in factories).

From (13), the following results are immediate:

Proposition 2.

Suppose that the inclusion of labor provisions in an FTA between a developed country (country A) and a developing country (country B) increases production costs in country B . Then, the tariff complementarity effect is weakened in country A while it is strengthened in country B . In addition, political bias exaggerates these effects.

Intuitively, labor provisions make country- A 's firm more competitive and country- B 's firm less competitive. The rent destruction effect caused by the formation of the FTA is weakened in country A and strengthened in country B . As a result, country- A 's government becomes less willing to reduce the external tariff, while country- B 's cuts the external tariff more deeply. Compared to FTAs without labor provisions, country A is more protective

and country B is less protective against the non-member countries.

One empirical implication from this result is the asymmetry of member countries' imports from the external country. The model suggests that if an FTA member country does not incur any additional costs for implementing the labor provisions enforced by the FTA, it may reduce imports from non-member countries. The opposite will hold if a member country pays costs for implementing the labor provisions as a form of increasing production costs. More concretely, consider country A 's imports from country C (the model's external country), q_C^A . An increase in country B 's production costs due to the labor provisions in the FTA has two opposite effects on q_C^A : a higher external tariff than the one without labor provisions reduces q_C^A (weakened rent destruction), whereas an increase in country B 's production costs enhances the competitiveness of C -firm in the country A market (weakened trade diversion). It can be shown that compared to an FTA without labor provisions, country A reduces imports from country C as long as country A is politically biased (see the Appendix). By contrast, country B increasing imports from country C is immediate because the FTA with labor provisions decreases country B -firm's competitiveness and country B sets a lower external tariff against country C : both increase imports from country C .

We record these results in the following proposition.

Proposition 3.

Compared to an FTA without labor provisions, an FTA with labor provisions reduces country A 's imports from the external country (country C) as long as country A 's government is politically biased. By contrast, it increases country B 's imports from country C regardless the degree of its government's political bias.

How about member countries' exports to non-member countries? In our model, country C does alter import tariffs when countries A and B enter an FTA with labor provisions, raising the import tariff against country A and lowering it against country B . This result makes a stark contrast with FTAs without labor provisions, where outside countries are not willing to change their tariffs in response to FTA formation. Again, as a result of the FTA, B -firm becomes less competitive in country C 's home market. Hence, whether or not the member countries increase exports to country C depends on the degree of political bias in country C . As shown in the Appendix, if the government of country C is sufficiently politically biased, the tariff effect dominates country B 's competitiveness disadvantage caused by the labor provisions. As a result, country B 's exports to country C increase and country A 's decrease. Thus, bilateral trade flows between countries A and C will decrease, while those between countries B and C will increase if country C is sufficiently politically biased.

To obtain this result, Country B does not have to be politically biased and country A needs to be politically biased at the margin (non-social welfare maximizer).

Proposition 4.

An FTA with labor provisions reduces country A 's exports and increases country B 's exports to the external country (country C) as long as country C 's government is sufficiently politically biased. For this result, country A needs to be politically biased at the margin and country B does not have to be politically biased.

In summary, it is fair to conclude that labor provisions weaken FTAs' trade creation between the member and non-member countries. Only country B 's (a developing country) imports from the external country increases without any restrictions over the degree of political bias. Other trade flows between the member- and non-member countries tend to decrease when importers are politically biased to some degree.

Finally, we examine trade flows between the member countries. As is expected, since the labor provisions reduce the competitiveness of country B , country A exports more to country B in comparison to FTAs without labor provisions. As a mirror image of this, Country B exports less to country A . However, the two countries' changes in their external tariffs generate complexity: Country A raises its external tariff, which encourages country B 's exports to country A , while country B lowers its external tariff, which hinders country A 's exports to country B . As Proposition 1 shows, when governments are more politically-biased, external-tariff changes driven by FTA formation are exaggerated. Thus, labor provisions can be a disguised tool for trade protection (for country A) if the member countries are not heavily politically-biased.

Proposition 5.

An FTA with labor provisions reduces country B 's exports to country A and vice versa for country A 's exports to country B as long as the two countries are not heavily politically biased. However, if both countries are politically-biased enough, labor provisions can enhance the trade creation effect by FTA formation.

4.5 Viability of FTAs

We next turn to the issue of the political viability of FTAs. With labor provisions, all (three) governments and firms face a higher c_B . However, the means of determining the external tariff is unchanged. All else being equal, country- A firm tends to earn higher profits from all markets and the opposite holds for country- B firm. Thus, with labor provisions,

the strategic and distributive motives for protection under the FTA is stronger in country *A*, compared to the case in the absence of labor provisions. Thus, the decline in political contributions becomes small, which relaxes the condition in (18). The opposite holds in developing countries.

Proposition 6.

*Suppose that the inclusion of labor provisions in an FTA between a developed country (country *A*) and a developing country (country *B*) increases the marginal production cost in country *B*. Then, labor provisions encourage the developed country to implement FTAs. The opposite holds for the developing country.*

5 Concluding Remarks

The inclusion of labor standard provisions in trade agreements has long been one of the most controversial issues in trade negotiations. The embedded concern is that while international market competition might drive firms/governments to degrade labor standards to maintain their competitiveness, such provisions would nullify market access concessions in trade agreements. This paper examines the effects of the inclusion of labor provisions in free trade agreements (FTAs) on trade flows and the political viability of FTAs with a political economy model in which the oligopolistic industry might make political contributions on import tariffs against non-member countries. Labor provisions encourage external-tariff reductions in party countries with low labor standards, while the opposite holds in party countries in which labor standards are sufficiently high and the provisions are non-binding. These effects on external-tariffs create complex impacts on trade flows among FTA-member countries and between FTA-member and non-member countries. Among others, we find that FTAs with labor provisions do not always limit imports from the member country with low labor standards to the member countries with high labor standards. Labor provisions also influence the political viability of FTAs. When an FTA features labor provisions, its political viability will increase in counties with higher labor standards.

There are issues that require further investigation. First, the present model is based on the standard oligopolistic trade model. Although the model featuring governments' motives for terms-of-trade manipulation and international rent-shifting is very simple, analytical solutions tend to be complex and may depend on the assumption of linear demand. Full solutions and comparisons of welfare changes are obviously one of the next tasks. Second, this paper finds that the inclusion of labor provisions improves the political viability of FTAs in countries with high labor standards (developed countries), while they lower it

in countries with lower labor standards (developing countries). In such an asymmetrical situation, it is natural that developed countries induce developing countries to sign an FTA by using compensation. This idea opens the door to endogenously determined non-zero FTA tariffs. In many existing studies on FTA formation, internal tariffs are exogenously set to zero among party countries. In reality, asymmetrical tariff cuts are often observed in FTAs between developed and developing countries. Thus, an extension of this direction deserves serious investigation. All these issues are left for future studies.

References

- BAGWELL, K., AND R. W. STAIGER (1999): “Regionalism and Multilateral Tariff Cooperation,” in *International Trade Policy and the Pacific Rim*, ed. by P. J., and W. A. Palgrave Macmillan, London.
- (2004): *The Economics of the World Trading System*. The MIT Press.
- BROWN, D. K., A. V. DEARDORFF, AND R. M. STERN (2011): “Labor Standards and Human Rights: Implications for International Trade and Investment,” *IPC Working Paper Series*, (119).
- CARRÈRE, C., M. OLARREAGA, AND D. RAESS (2017): “Labor Clauses in Trade Agreements: Worker Protection or Protectionism?,” Discussion Paper No. DP12251, CEPR.
- DAVIES, R. B., AND K. C. VADLAMANNATI (2013): “A Race to the Bottom in Labor Standards? An Empirical Investigation,” *Journal of Development Economics*, 103, 1–14.
- GROSSMAN, G. M., AND E. HELPMAN (1994): “Protection for Sale,” *The American Economic Review*, 84(4), 833–850.
- (1995): “The Politics of Free-Trade Agreements,” *The American Economic Review*, 85(4), 667–690.
- ILO (2013): *Social Dimensions of Free Trade Agreements*. International Labour Organization, Geneva: ILO.
- (2016): *Assessment of Labour Provisions in Trade and Investment Arrangements*. International Labour Organization, Geneva: ILO.
- JAVORCIK, B. S., AND M. SPATAREANU (2005): “Do Foreign Investors Care about Labor Market Regulations?,” *Review of World Economics*, 141(3), 375–403.
- KUCERA, D. (2002): “Core Labour Standards and Foreign Direct Investment,” *International Labour Review*, 141(1-2), 31–69.
- LIMÃO, N. (2005): “Trade Policy, Cross-border Externalities and Lobbies: Do Linked Agreements Enforce More Cooperative Outcomes?,” *Journal of International Economics*, 67(1), 175–199.

- (2007): “Are Preferential Trade Agreements with Non-Trade Objectives a Stumbling Block for Multilateral Liberalization?,” *The Review of Economic Studies*, 74(3), 821–855.
- MAGGI, G. (2016): “Chapter 9 - Issue Linkage,” vol. 1-B of *Handbook of Commercial Policy*, pp. 513–564. North-Holland.
- MAGGI, G., AND A. RODRÍGUEZ-CLARE (1998): “The Value of Trade Agreements in the Presence of Political Pressures,” *Journal of Political Economy*, 106(3), 574–601.
- MARTIN, W., AND K. E. MASKUS (2001): “Core Labor Standards and Competitiveness: Implications for Global Trade Policy,” *Review of International Economics*, 9(2), 317–328.
- MASKUS, K. E. (1997): *Should Core Labor Standards Be Imposed through International Trade Policy?*, no. 1817. The World Bank.
- MOSLEY, L., AND S. UNO (2007): “Racing to the Bottom or Climbing to the Top? Economic Globalization and Collective Labor Rights,” *Comparative Political Studies*, 40(8), 923–948.
- OECD (1996): *Trade, Employment and Labour Standards: A Study of Core Workers’ Rights and International Trade*. OECD.
- (2004): *International Trade and Core Labour Standards*. OECD, Paris.
- OLNEY, W. W. (2013): “A Race to The Bottom? Employment Protection and Foreign Direct Investment,” *Journal of International Economics*, 91(2), 191–203.
- ORNELAS, E. (2005a): “Endogenous free trade agreements and the multilateral trading system,” *Journal of International Economics*, 67(2), 471 – 497.
- (2005b): “Rent Destruction and the Political Viability of Free Trade Agreements,” *The Quarterly Journal of Economics*, 120(4), 1475–1506.
- RICHARDSON, M. (1993): “Endogenous protection and trade diversion,” *Journal of International Economics*, 34(3), 309–324.
- RODRIK, D. (1996): “Labor Standards in International Trade: Do They Matter and What Do We Do about Them?,” in *Emerging Agenda for Global Trade: High Stakes for Developing Countries*, ed. by R. Z. Laurence, D. Rodrik, and J. Whalley. Overseas Development Council.

A Appendix

A.1 Explicit Forms of Optimal Tariffs

This appendix derives analytical solutions of political tariffs τ^p . Solving (6) with respect to τ , we obtain

$$\tau_B^p = \frac{3 + 2b - (1 + 6b)c_A}{10 - 4b} + \frac{(3 + 2b)c_C - (7 - 6b)c_B}{2(10 - 4b)}, \quad (\text{A.1})$$

$$\tau_C^p = \frac{3 + 2b - (1 + 6b)c_A}{10 - 4b} + \frac{(3 + 2b)c_B - (7 - 6b)c_C}{2(10 - 4b)}. \quad (\text{A.2})$$

When $b = 0$ (as if there were no lobbying or the government did not have any interest in political contributions), the above tariffs are reduced to the efficient tariffs in (7) and (8).

A.2 Tariff Complementarity Effect

$$\tau_C^f = \frac{1}{21 - 2b} \left[3 + 2b - (1 + 6b)c_A + (7 + 2b)c_B - (9 - 2b)c_C + (11 + 2b)\bar{\tau}_B^f \right],$$

In a symmetric case such that $c = c_i$ for all $i = A, B, C$, the optimal external tariff is reduced to

$$\tau_C^f = \frac{1}{21 - 2b} \left[(3 + 2b)(1 - c) + (11 + 2b)\bar{\tau}_B^f \right].$$

Hence,

$$\frac{\partial \tau_C^f}{\partial b} > 0$$

is immediate. A more politically-biased government sets a higher external tariff for all $\bar{\tau}_B^f$.

A.3 Trade Flows with the External Country (Propositions 3 and 4)

Country A 's imports from country C is given by

$$q_C^A = \frac{1 + c_A + c_B - 3c_C + \tau_B^A - 3\tau_C^A}{4a}.$$

Likewise, country C 's imports from country A is given by

$$q_A^C = \frac{1 + c_B + c_C - 3c_A + \tau_B^C - 3\tau_A^C}{4a}.$$

Using τ_C^A in (13) and denoting country A 's political bias by b^A , we obtain

$$\frac{\partial q_C^A}{\partial c_B} = \frac{1}{4a} \left(1 - 3 \cdot \frac{7 + 2b^A}{21 - 2b^A} \right),$$

which is strictly negative as long as $b^A > 0$.

The optimal tariffs set by country C are

$$\begin{aligned}\tau_A^C &= \frac{3 + 2b^C - (1 + 6b^C)c_C}{10 - 4b^C} + \frac{(3 + 2b^C)c_B - (7 - 6b^C)c_A}{2(10 - 4b^C)}, \\ \tau_B^C &= \frac{3 + 2b^C - (1 + 6b^C)c_C}{10 - 4b^C} + \frac{(3 + 2b^C)c_A - (7 - 6b^C)c_B}{2(10 - 4b^C)}.\end{aligned}$$

We obtain

$$\frac{\partial q_A^C}{\partial c_B} = \frac{1}{4a} \left[1 - \frac{7 - 6b^C}{2(10 - 4b^C)} - 3 \cdot \frac{3 + 2b^C}{2(10 - 4b^C)} \right] = \frac{1}{4a} \left(1 - \frac{4}{5 - 2b^C} \right).$$

Hence, if $b^C \geq 1/2$, we have $\partial q_A^C / \partial c_B \leq 0$. Otherwise, $\partial q_A^C / \partial c_B > 0$.

Country B 's imports from country C is given by

$$q_C^B = \frac{1 + c_A + c_B - 3c_C + \tau_A^B - 3\tau_C^B}{4a}.$$

Likewise, country C 's imports from country B is given by

$$q_B^C = \frac{1 + c_A + c_C - 3c_B + \tau_A^C - 3\tau_B^C}{4a}.$$

The external tariff set by country B is given by

$$\tau_C^{Bf} = \frac{1}{21 - 2b^B} \left[3 + 2b^B - (1 + 6b^B)c_B + (7 + 2b^B)c_A - (9 - 2b^B)c_C + (11 + 2b^B)\bar{\tau}_A^{Bf} \right],$$

where b^B is the political bias of country B .

Hence, we obtain

$$\frac{\partial q_C^B}{\partial c_B} = \frac{1}{4a} \left(1 + 3 \cdot \frac{1 + 6b^B}{21 - 2b^B} \right) > 0 \quad \text{for all } b^B \geq 0,$$

and this trade creation effect is enhanced as b^B is getting larger.

By contrast,

$$\frac{\partial q_B^C}{\partial c_B} = \frac{1}{4a} \left[-3 + \frac{3 + 2b^C}{2(10 - 4b^C)} + 3 \cdot \frac{7 - 6b^C}{2(10 - 4b^C)} \right] = \frac{1}{4a} \left[-3 + \frac{6 - 4b^C}{5 - 2b^C} \right].$$

Thus, if $b^C \geq 9/2$, $\frac{\partial q_B^C}{\partial c_B} \geq 0$. Otherwise, $\frac{\partial q_B^C}{\partial c_B} < 0$.

A.4 Trade Flows between the Member Countries (Proposition 5)

$$\begin{aligned}q_B^A &= \frac{1 + c_A + c_C - 3c_B + \tau_C^A - 3\tau_B^A}{4a}, \\ q_A^B &= \frac{1 + c_B + c_C - 3c_A + \tau_C^B - 3\tau_A^B}{4a}.\end{aligned}$$

(under an FTA between A and B , suppose that $\tau_B^A = \tau_A^B = 0$)

$$\frac{\partial q_B^A}{\partial c_B} = \frac{1}{4a} \left[-3 + \frac{7 + 2b^A}{21 - 2b^A} \right].$$

Unless country A is politically-biased so much, namely $b^A < 7$, $\frac{\partial q_B^A}{\partial c_B} < 0$ holds. Compared to an FTA without LP, an FTA with LP is protective for country A .

Can country A increase exports to B ?

$$\frac{\partial q_A^B}{\partial c_B} = \frac{1}{4a} \left[1 - \frac{1 + 6b^B}{21 - 2b^B} \right].$$

Hence, if $b^B < 5/2$, $\frac{\partial q_A^B}{\partial c_B} > 0$ and country A increases exports to country B . Otherwise, A 's exports to B declines.

A.5 About $\Delta W > b|\Delta C|$

[Case $\alpha = 0$: the government has no bargaining power]

Consider a potential FTA member country. As shown in (10), the minimum political contribution without FTAs (n) is given by

$$C_{min}^n = [W(\tau^*) - W(\tau^p)] / b.$$

With an FTA (f), the minimum political contribution is

$$C_{min}^f = [W(\tau^*) - W(\tau^f)] / b,$$

where τ^f is a vector of tariffs with an FTA. Hence,

$$\begin{aligned} \Delta C_{min} &\equiv C_{min}^f - C_{min}^n \\ &= \frac{1}{b} [W(\tau^*) - W(\tau^f) - W(\tau^*) + W(\tau^p)] = \frac{1}{b} [W(\tau^p) - W(\tau^f)]. \end{aligned}$$

Hence, in this case, we obtain

$$\Delta W = b|\Delta C|,$$

which is a natural consequence from the characteristic of the minimum contribution that exactly maintain the government at the level of social optimal ($b = 0$). With the minimum contribution, the government (always) marginally promotes (at least not rejects) FTAs. thus, the inclusion of labor provisions into an FTA does not affect the political viability of this FTA at all.

[Case $\alpha = 1$: the government has full bargaining power]

As shown in (11), the maximum political contribution without FTAs (n) is as follows:

$$C_{max}^n = \Pi(\tau^p) - \Pi(\tau^*).$$

With an FTA (f), the minimum political contribution is

$$C_{max}^f = \Pi(\tau^f) - \Pi(\tau^*).$$

We have

$$\begin{aligned}\Delta C_{max} &\equiv C_{max}^f - C_{max}^n \\ &= \Pi(\tau^f) - \Pi(\tau^*) - \Pi(\tau^p) + \Pi(\tau^*) = \Pi(\tau^f) - \Pi(\tau^p).\end{aligned}$$