



# On the optimal external tariff of a free trade area with internal market integration

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## Abstract

Previous analyses of free trade areas suggest that member countries reduce external tariffs to the level that improves welfare of non-member countries. Using an oligopoly model with product differentiation, this paper shows that when a free trade area entails endogenous change from segmented to integrated markets for internally produced goods, external tariffs become strategic complements and their equilibrium level is higher than in the market segmentation case. In this case, the non-member may lose from the formation of free trade area whereas each member gains more. © 2003 Elsevier B.V. All rights reserved.

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## 1. Introduction

Recently, there has been a resurgence of preferential trade agreements (PTAs) such as NAFTA, MERCOSUR, deeper integration in the EU, and growing interests in East Asia.<sup>1</sup> Although the formation of PTAs promotes free trade among member countries, its discriminatory nature is a matter of concern for countries outside the bloc.

Article XXIV of the GATT attempts to secure non-member countries from welfare loss by forbidding external tariff to exceed the pre-PTA level. However, the constraint is generally insufficient to eliminate non-member losses. Even if tariffs are held constant, preferential tariff elimination decreases imports from non-members as long as products are substitutes. As a result, non-members experience welfare loss due to the decline in firm's

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<sup>1</sup>I will use the expressions “preferential trade agreement (PTA)” and “trading bloc” (or simply “bloc”) interchangeably.

profits or deterioration of terms of trade.<sup>2</sup> In order to guarantee outside country's welfare, sufficient reduction in external tariffs is required as is indicated by [Ohyama \(1972\)](#) and [Kemp and Wan \(1976\)](#).

The natural question, then, is how the level of external tariff is determined when it is set to maximize members' own welfare. Many studies have challenged the question (e.g., [Kennan and Riezman, 1990](#); [Yi, 1996, 2000](#); [Bagwell and Staiger, 1999](#); [Kose and Riezman, 2000](#); [Bond et al., 2002](#)). They suggest whether non-member countries experience welfare loss or not depends on the form of PTA, that is, free trade area (FTA) or customs union (CU). Members are able to set their external tariffs independently in FTA and CU members need to set common external tariff. Though their focuses and theoretical models are different, these works derive the common outcome: insofar as member countries are symmetric and policymakers maximize social welfare, the formation of CU makes non-members worse off while they become better off by the formation of FTA. In other words, members of FTA always reduce their external tariff sufficiently and welfare of non-members improves. Since most PTAs in the real world take the form of FTA, these results indicate the recent proliferation of regionalism is favorable.<sup>3</sup>

It is noteworthy, however, that almost all studies have neglected to consider the strategic interaction between members in external-tariff settings, whereas strategic interaction between members and non-members has been discussed in several papers.<sup>4</sup> The notable exception is [Richardson \(1995\)](#). By using the partial equilibrium model under perfect competition, he shows price arbitrages within member countries and the resulting 'deflection' of internal sales cause tariff-reducing competition between members.

The present paper provides new insights on the debate using a simple three-country oligopoly model with product differentiation. Although there are several analyses using the similar framework (e.g., [Yi, 1996, 2000](#); [Freund, 2000](#)), we depart from them by considering the possibility of a move from segmented markets to integrated markets accompanied with the establishment of PTA.<sup>5</sup> With segmented markets, firms are able to make independent decisions in each country's market so that they can price-discriminate. Under integrated markets, such price discrimination is no longer possible, and international price difference is

<sup>2</sup>For instance, [Krishna \(1998\)](#) and [Goto and Hamada \(1999\)](#) show by different frameworks that even if external tariffs are held constant, the non-member country(ies) loses from the formation of PTA.

<sup>3</sup>However, it should be noted that from a dynamic viewpoint FTA may reduce each member's support to multilateral trade agreement and undermine global free trade. Besides that, as [Bagwell and Staiger \(1999\)](#) suggest, if countries are sustaining cooperative tariff, lowering non-cooperative external tariffs means trade war with PTA member is less severe to non-members, so that the non-members may fail to sustain lower tariffs.

<sup>4</sup>[Kennan and Riezman \(1990\)](#) show that the non-member increases tariff in FTA and decreases tariff in CU. [Gatsios and Karp \(1991\)](#) examine the tariff-setting game between members of customs union and non-member countries. They suggest the members can be better off by delegating the tariff-setting to the more 'aggressive' member. [Bond et al. \(2002\)](#) show that FTA members may experience welfare loss since the non-member country behaves more aggressively in its tariff determination.

<sup>5</sup>Some works consider market integration and trade liberalization simultaneously as the effects of economic integration in the framework of imperfect competition. [Smith and Venables \(1988\)](#) examine by numerical example how the reduction in trade barriers and the change from market segmentation to full market integration affect welfare. [Venables \(1990\)](#) and [Haaland and Wooton \(1992\)](#) also examine the effect of market integration in different settings. [Ishikawa \(2003\)](#) suggests in a monopoly model that trade liberalization endogenously brings market integration by facilitating price arbitrage. These analyses are in contrast to my paper in that they assume two countries or exogenous (external) tariffs.

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