Economic Modelling 29 (2012) 2734–2743

Contents lists available at SciVerse ScienceDirect

Economic Modelling

journal homepage: www.elsevier.com/locate/ecmod

The impacts of PTA formation on small economies' tax competition for FDI inflows ☆

Sang-Kee Kim, Minseong Kim, Young-Han Kim *

Department of Economics, Sungkyunkwan University, Myoungnyun-dong 53, Jongno-gu, Seoul, South Korea

ARTICLE INFO

Article history:
Accepted 4 August 2012

JEL classification:
F15
F21
F23

Keywords:
Preferential trade agreement
Tax competition
Foreign direct investment
Strategic impacts of PTA on FDI location
Welfare effects of PTA

ABSTRACT

This paper examines why small economies are so eager to form or join preferential trade agreements (PTAs), as observed in the East Asia and the Central Europe, taking consideration of the strategic impacts of PTA formation on tax competition for foreign direct investment (FDI) inflows. Based on a simple model where three asymmetric countries compete for FDI inflows, we demonstrate that PTA formation provides a strategic advantage to a small member country of PTA in competing for FDI inflows not only with respect to a non-member country but with a large member country when the integrated market size is large enough. In addition, it is shown that it might be an out-of-equilibrium path strategy for a non-member small economy to exert efforts to induce FDI inflows, because the excessive subsidies to induce FDI inflows might outweigh the gains from the FDI inflows due to strategic disadvantage in tax competition after PTA formation. These findings explain why small economies are mainly driven by the expected economic benefits including FDI inflows from joining PTA.

1. Introduction

In the initial stage of preferential trade agreement (PTA) formation, large economies played major roles as in the case of the EU and NAFTA. However, a new feature observed in the formation of PTAs especially in the Asia and Europe lately is that small economies are very eager to form new PTAs or to join existing PTAs with large economies. One of the very important driving forces behind the increased efforts to form PTAs is the high expectation for FDI inflows as a result of PTA formation. Recent data support these optimistic expectations.

For an example, a significant increase in the FDI inflows into 15 small economies is observed after the formation of PTA with the United States as shown in Fig. 1 and Table 1. Fig. 1 shows that the FDI inflows into the small economies increased by 50.5% in the first year of the FTA formation with the United States. In addition, the trend of increased FDI inflows is continued for the following 3 years.[1]

Motivated by these recent features, this paper examines the rationale of a small country to join a PTA for the FDI inflows and focuses on the strategic interactions between host countries' FDI policies and the location strategies of multinational firms. In many cases, a country's attempts to establish a preferential trade agreement are driven by concerns that they might be alienated from preferential market access when a competitor or a neighboring country arranges an agreement with another country. For instance, political and economic interest groups in Taiwan were worried that they might be excluded from preferential market access chances and experience a decrease in FDI inflows, i.e., investment diversion, immediately after the agreement on FTA formation was reached between South Korea and the United States in 2007.[2] These groups believed that the alienation from the market access chances would eventually lead to the deterioration of the welfare of the country that was excluded from the trade agreement. Motivated by these developments, we analyze the impact that a PTA might have on the FDI flows and possible asymmetric impacts on welfare of member and non-member countries of PTA.

Moreover, we frequently observe tax competition for FDI inflows within the trends of increasing PTA formation. There are a lot of examples supporting the argument for the tax competition taking the form of a "race to the bottom." Especially, an intense tax competition for FDI inflows can be observed among Central and Eastern European economies before they are admitted to the formal EU membership. For examples, Hungary had reduced corporation tax rates from 40% to 18% in 2000, and Poland had reduced from 40% to 32%, Slovakia reduced from 45% to 29% in 2000. However, an already admitted EU

☆ Many valuable and insightful comments by two anonymous referees are deeply appreciated. This work was supported by the National Research Foundation of Korea Grant funded by the Korean Government (NRF-2012- S1A5A2A-01015910).

* Corresponding author.
E-mail addresses: abe502@skku.edu (S.-K. Kim), minseong@skku.edu (M. Kim), kimyh@skku.edu (Y.-H. Kim).

[1] The data on FDI inflows of 15 economies that signed free trade agreements with United States are from UNCTAD data, World Investment Directory from 1982 to 2010. Dollar figures are converted from nominal values using GDP deflator. The description of the data focusing on the change of the data before and after the event, i.e., the formation of FTA with the United States, as in Table 1 is termed as an 'event study' after Rosen (2004).

[2] See details at www.taipeitimes.com or in the Taipei Times (03/05/2008).

0264-9993/$ – see front matter © 2012 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.econmod.2012.08.003

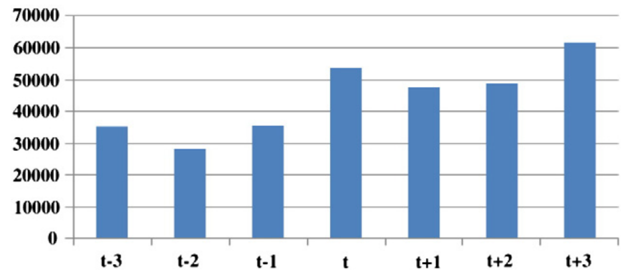

Fig. 1. FDI inflows into small economies that formed FTA with the United States.

member country such as Austria, which joined EU in 1995, had increased her tax rates from 30% to 34% in 2000 as shown in Table 2.

Motivated by this intense tax competition for FDI inflows, and the complicated strategies before and after the entry to PTA, this paper examines the optimal FDI policies for asymmetric countries considering the strategic implication of the PTA membership and the multinational firm's location strategies. More specifically, we consider the strategic interaction between the prospective host countries' FDI policies and a multinational firm's location strategies. In addition we analyze the strategic implication of obtaining a PTA membership in terms of increasing the market size by removing trade barriers between the PTA member countries. We demonstrate that a small economy can increase her bargaining power by joining PTA with a large economy since a multinational firm has a larger incentive to invest in the country. Therefore, a small economy can host FDI even with a lower tax incentive after joining PTA while a non-member small economy comes to give up the efforts to induce the FDI since the required incentives to induce the FDI are too expensive for the economy.

While there are many literatures that examined the welfare impact of PTAs and FDIs separately, there are only a limited number of literatures examining the link between PTAs and FDIs. According to Markusen and Horstmann (1992), high tariff barriers induce a firm to choose FDI as a market entry mode. This claim is in agreement with the fact that there was a sharp increase in FDI inflows into EU after the adoption of EU as a common market in 1992, which increased trade barriers against non-member countries in relative terms. Therefore, the recent sharp decrease in international transaction costs is likely to encourage exports rather than foreign direct investment. However, foreign direct investment has dramatically risen over the last couple of decades, contradicting the claims made by Markusen and Horstmann (1992). It is widely believed that the formation of PTAs usually stimulates FDI, although there is not a generalized theory as to why this is true.

A country may induce FDI from a foreign firm by offering the firm a favorable policy, such as the reduction in profit tax rate. Haufler and Wooton (1999) examined how profit tax and tariff policies affect the location of international firms given the choice between countries with asymmetric market sizes. Motta and Norman (1996) also studied how the economic integration of three countries affects the location of multinational firms' plants. Economic integration can encourage foreign investors to locate in the integrated market without considering the government policy intervention. Riezman and Kose (2002) analyzed the impact that preferential trade agreements have on aggregate welfare using a calibration method within a general equilibrium framework. The results of their study indicate that the welfare of a non-member country is negatively affected by not participating in a preferential trade agreement. The welfare of an external country deteriorates in this situation due to member countries imposing optimal tariffs on the external country and the external country facing a "race to the bottom" in profit tax rates by international tax competition for the FDI.

Bjorvatn and Eckel (2006) employed a tax competition model in the presence of a local firm which affects the choice of location and investment policy of a foreign investor, focusing on the job creation effect of FDI. They found that the gap between wages and the shadow price of labor may influence a foreign firm's choice of location. In a re-

Table 1
FDI inflows into small economies that formed FTA with the United States (unit: U.S. million dollars).

Country (year FTA is formed with the United States)	$t-3$	$t-2$	$t-1$	t	$t+1$	$t+2$	$t+3$
Bahrain (2008)	930	2502	1464	1464	208	125	N/A
Chile (2004)	4107	2454	4057	6570	6190	6265	10452
Costa Rica (2007)	727	763	1261	1581	1696	1089	1132
Dominican Republic (2007)	833	995	931	1390	2342	1751	1302
El Salvador (2007)	333	453	207	1293	737	296	62
Guatemala (2007)	271	450	508	621	615	485	550
Honduras (2007)	501	532	574	774	821	423	639
Israel (1985)	62	119	131	162	202	307	353
Jordan (2001)	321	160	913	268	229	515	858
Mexico (1994)	5656	5111	4997	12243	10388	9842	13486
Morocco (2006)	2180	820	1466	2103	2339	2030	1578
Nicaragua (2007)	229	214	246	318	511	351	407
Oman (2009)	1363	2862	2064	1190	1638	N/A	N/A
Peru (2009)	2976	4579	5651	4509	5870	N/A	N/A
Singapore(2004)	14752	6160	11248	19258	13703	25194	30883
Aggregate	35240	28172	35717	53744	47490	48672	61703
Average	2349	1878	2381	3582	3166	3744	5141

Table 2
Corporation tax rates in 1993, 2000 and target rates.

Tax rates	1993	2000	Target rates
Czech Republic	45	31	25
Poland	40	32	22
Slovakia	45	29	25
Hungary	40	18	18
Austria	30	34	34
Germany	45	40	25