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Regional economic integration and geographic concentration of multinational firms

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ABSTRACT

A number of theoretical studies have predicted that preferential trade agreements (PTAs) raise outside multinationals' incentive to invest in the participating countries, especially in those that are integrated with larger markets and have lower production costs. The hypothesis has, however, not been tested empirically. This paper addresses the issue by estimating the impact of PTAs on countries' ability to attract multinationals. The evidence is broadly consistent with expectations. The formation of PTAs leads to an increase in FDI by outside multinationals, but the effect varies sharply with the size of integrated markets and countries' comparative advantage. Countries integrated with larger markets experience a greater increase in total and export-platform FDI. Those with a higher labor endowment also attract more FDI especially in labor-intensive industries, but at the expense of their labor-scarce PTA partners.

1. Introduction

The proliferation of regional economic integration is reshaping the flows of foreign direct investment (FDI). An increasing number of multinational corporations (MNCs) move their production across borders, especially to countries that have lower production costs and better access to large markets. General motors (GM), for example, recently undertook aggressive job cuts in its German-based subsidiary, Opel, and shut down its plant near Lisbon, Portugal. At the same time as these contractions, it built a new production facility in Poland, a recent member of the European Union (EU).[1] Similarly, the Dutch-based electronics group Philips closed the operations of its Novalux subsidiary in Spain in 2004 and transferred the research and development (R&D) section to France and the manufacturing section to Poland.[2] In fact, the World Investment Report (2005) indicates that these two companies' location adjustment reflects an aggregate trend in FDI. The statistics show that while the total inflow of FDI to the EU rose in 2004, the majority of the EU-15 countries experienced a decrease in new investment. Countries such as Ireland and Spain, which used to be able to attract a large volume of FDI prior to 2004 because of their relative advantage in labor cost and corporate tax in the EU-15, now see investment flow to some of the more competitive new EU members.

Economic theories suggest that when a preferential trade agreement (PTA) is formed, firms from outside the region are motivated to move their production to the integrated bloc because the benefit of preferential market access is exclusive to

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[1] European Industrial Relations Observatory, October 30, 2006.
[2] European Industrial Relations Observatory, March 3, 2004.

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inside firms.[3] The effect is, however, not uniform across integrated countries. Countries that are integrated with a larger number of countries or countries with a larger market size are more likely to experience an increase in FDI. Furthermore, as trade costs fall within the region, firms have a greater incentive to concentrate their production in the country with lower production costs and achieve greater economies of scale. As a result, low-cost countries will receive a greater amount of FDI at the expense of their high-cost PTA partners and become the platforms from which multinationals export to other countries.

This paper seeks to examine the above hypotheses. In particular, it asks: Does regional economic integration increase outside multinationals' investments in the participating countries? Which countries gain multinational firms at the expense of others? And do multinationals indeed adopt some integrated countries as export platforms? While the theoretical literature yields clear predictions on the above questions, little has been done to test them. In fact, very few empirical studies, with the exceptions of Barrel and Pain (1999), Feinberg and Keane (2001), and Ekholm et al. (2007), have examined the relationship between regional economic integration and FDI. Barrel and Pain (1999) were one of the first to explore the FDI effect of the Single Market Programme implemented in the EU. They find that the removal of trade barriers within the EU has changed the permeability of national borders and raised FDI in four major European economies. Feinberg and Keane (2001) analyze the effect of trade liberalization between the U.S. and Canada and find that a lower U.S. tariff raises the exports of U.S. multinational affiliates in Canada back to the U.S. A more recent study by Ekholm et al. (2007) focuses on multinational affiliates' exports to third countries and shows that multinationals located in a free trade area tend to engage in export-platform FDI.

This paper contributes to the above literature in two ways. First, instead of estimating the effect of a single PTA, it examines how the effect of PTAs depends on the size of the integrated region. As shown in Fig. 1, which is constructed based on U.S. multinational affiliate sales data in 2002, multinational firms are unevenly distributed across regions. The paper seeks to explain this pattern by introducing the role of regional economic integration. The paper posits that because integrated regions vary in the size of participating countries (e.g., the EU versus the MERCOSUR) the extent to which PTAs can raise member countries' ability to attract foreign investments is different. A member of a larger integrated bloc has preferential access to a larger region and thus offers a stronger incentive for outside firms to invest in the country. The paper also takes into account the fact that countries often belong to more than one PTA. In these cases, countries with two or more PTA memberships (e.g., Mexico) become a hub and can export to all the spoke countries at low or zero tariff (e.g., Canada and Japan, both of which have a Free Trade Agreement with Mexico), whereas the same benefit does not necessarily apply between spokes. Firms that seek to minimize trade costs are therefore more likely to locate their production in the hub countries. These hypotheses have been largely ignored in the empirical literature and will be formally tested in this study.

This paper also examines how regional economic integration may lead to an asymmetric FDI effect within an integrated bloc. While integration may raise the total volume of FDI in the region, multinationals' investment incentive can be weakened in some participating countries. This is because the improvement in market access between integrated countries offers firms a greater incentive to concentrate their production geographically and realize economies of scale. As it becomes less costly to export within the integrated region, multinationals' production in less attractive locations, for example, countries with relatively high production costs, can be replaced by exports from the other production locations in the region. The former countries may therefore experience a decline in inward FDI while their more attractive, low-cost PTA partners witness an increase. This is especially likely when countries in the integrated region are highly heterogeneous. This hypothesis has been established in theoretical studies but largely overlooked in the empirical literature.

The paper is also built on the broader literature that examines the causes of FDI. Two main motives have been established in previous studies. First, firms may choose to invest in a foreign market to avoid trade costs. This will happen when the benefit of proximity to consumers outweighs the benefit of scale economy, in which case firms are better off engaging in horizontal FDI and duplicating their production in countries with similar factor endowment. This strategy has been referred to as the market access or tariff-jumping motive and is formally established in studies such as Markusen (1984) and Markusen and Venables (2000). Firms may also choose to invest abroad because of foreign countries' comparative advantage. When the production process consists of separable stages that require different factor intensities, firms may prefer to locate each stage in a country where the factor used intensively in that stage is abundant. This strategy leads to a vertical type of FDI and is referred to as the comparative advantage motive. It has been examined in influential studies such as Helpman (1984). The above two motives have also been tested in a number of important empirical papers, including Brainard (1997), Markusen and Maskus (1999), Carr et al. (2001), Markusen and Maskus (2001), and Yeaple (2003). While papers such as Brainard (1997) find mainly evidence of horizontal FDI, Carr et al. (2001) and Yeaple (2003) lend support to both horizontal and vertical FDI.

This study is closely related to the above strand of literature but focuses on how a decline in trade costs within a bloc may lead multinational firms to adjust their location choices. The paper suggests that while firms from outside the bloc are motivated to move their production to the integrated region because the benefit of preferential market access is exclusive to insiders, they no longer have the incentive to have multiple plants within the region. Not only would they become more

[3] Examples of classic theoretical work in this area include Motta and Norman (1996), Krugman and Venables (1996), Puga and Venables (1997), and Ekholm et al. (2007). See Section 2 for a detailed discussion of these studies.