

REGIONAL INTEGRATION AND FOREIGN DIRECT INVESTMENT

Just as there has been a proliferation in the number and depth of regional integration agreements worldwide over the past two decades, there has also been a dramatic surge in flows of foreign direct investment (FDI). While world trade has increased over the period by a factor of two, flows of FDI have increased by a factor of ten. The increased FDI has flowed toward both developed and developing countries, and in fact has become the main source of foreign financing by a large margin for emerging markets, and particularly for Latin America and the Caribbean.

In light of these developments, the role of regional integration agreements (RIAs) as a determinant of the location of FDI has become a key issue for emerging economies. For Latin America, the concern regarding the impact of RIAs on FDI is related to a wide range of initiatives, including subregional agreements, South-South arrangements, and agreements with the European Union (EU). The most wide-ranging agreement, of course, will be the Free Trade Area of the Americas (FTAA), which raises a number of important questions. What effect will the FTAA have on FDI from the United States and Canada to Latin American countries? How will it affect FDI from the rest of the world? What are the implications for a country such as Mexico, whose preferential access to the United States may be diluted? Should we expect to see winners and losers? What determines whether a particular country will win or lose?

RECENT FDI TRENDS IN LATIN AMERICA AND THE WORLD¹

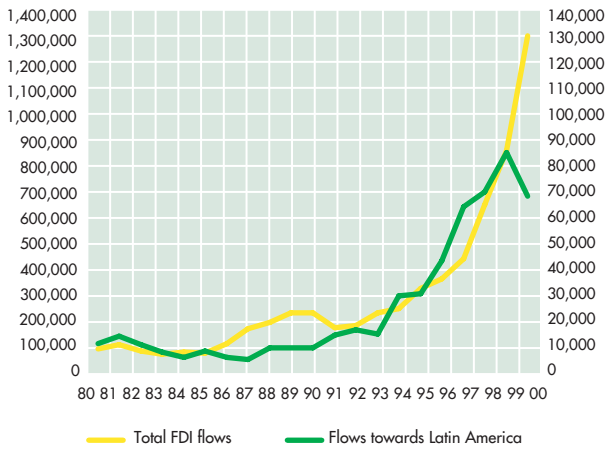
While FDI has been increasing rapidly for the last 20 years, the surge in multinational activity around the world was most dramatic during the second half of the 1990s, when FDI flows increased by more than 30 percent per year. FDI flows to Latin America followed a similar trend through 1999, but fell by nearly 20 percent during 2000 following seven years of steady growth (Figure 10.1).²

The spectacular rise in FDI in Latin America has resulted in a substantial increase in its importance, as measured by the stock of FDI as a share of GDP (Figure 10.2). While FDI stock represented less than 10 percent of GDP as recently as 1990, today it stands at around 23 percent. This is a far cry from the 60 percent share it represents for East Asia, but it is quite a bit larger than the corresponding figure for the industrial countries, which is on the order of 14 percent. Latin America has not been alone in terms of the significant increase in multinational activity: Figure 10.2 shows all regions in the world have experienced the same phenomenon.

¹ For a more detailed analysis of recent FDI trends, see ECLAC (2000) and UNCTAD (2001).

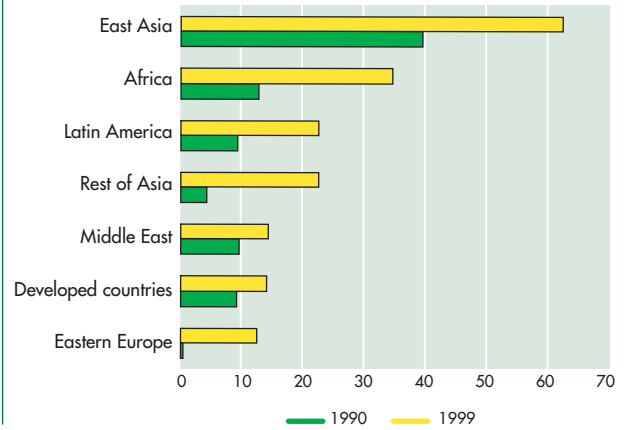
² It is not clear yet whether this fall marks a change in the trend, or whether it is just associated with the lumpy character of FDI. Some \$15 billion of the \$80 billion of FDI flows into Latin America in 1999 corresponded to a single operation: the purchase of Argentina's oil company by Spain's Repsol. Yet the downturn could also be explained by the fact that there is little left to privatize.

Figure 10.1 Foreign Direct Investment Flows, 1980-2000
(In millions of US\$, 1996 constant prices)



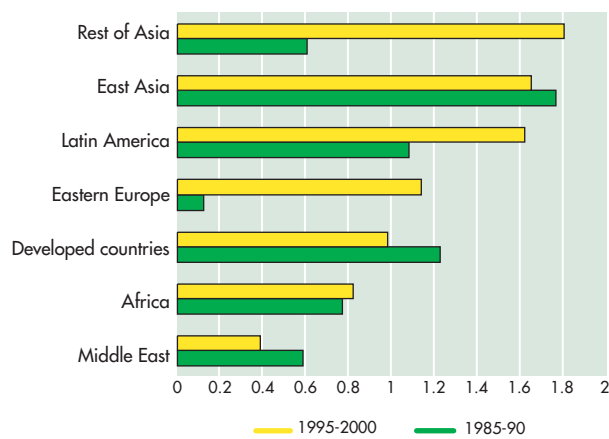
Source: IMF, *International Financial Statistics*.

Figure 10.2 Stock of FDI, 1990, 1999
(Percent of GDP)



Source: IDB calculations based on IMF, *International Financial Statistics* and World Bank, *World Development Indicators*.

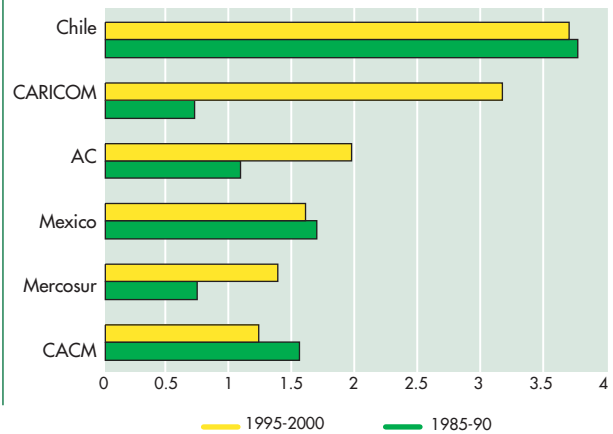
Figure 10.3 Index of FDI Flows by Region



Note: $Index\ region_i = \left[\frac{FDI\ region_i / FDI\ world}{GDP\ region_i / GDP\ world} \right]$

Source: IDB calculations based on IMF, *International Financial Statistics* and World Bank, *World Development Indicators*.

Figure 10.4 Index of FDI Flows for Selected Countries and RIAs



Note: $Index\ region_i = \left[\frac{FDI\ region_i / FDI\ world}{GDP\ region_i / GDP\ world} \right]$

Source: IDB calculations based on IMF, *International Financial Statistics* and World Bank, *World Development Indicators*.

A different way to compare the evolution of FDI in Latin America with that of other regions is by using an index of inward FDI developed by UNCTAD, in which a region's share in world FDI flows is divided by its share in world GDP (Figure 10.3). A value of 1 in this index indicates that the country attracts FDI in exact proportion to its GDP. The value of the index for Latin America increased substantially, from 1.08 dur-

ing the second half of the 1980s to 1.62 in the late 1990s. In other words, Latin America now receives 60 percent more FDI than what would be warranted by its share in world GDP. In fact, the region is now near the top of the rankings according to this index, closely following East Asia and the rest of Asia, which is dominated by China.

Figure 10.4 shows the same index for inward FDI for a number of RIAs, and for some countries in Latin America. Chile was included by itself in the figure because its integration strategy has not followed a sub-regional pattern. Mexico, apart from NAFTA, has a similar integration strategy and, had it been included within NAFTA, its index would have reflected mainly the evolution of FDI in the United States, by far the largest member of the group. Table 10.1 presents the evolution of the index for each of the individual countries as well. The results shows that the index increased for each of the RIAs considered, except for the Central American Common Market (CACM), which shows a small decline. Particularly noteworthy is the Caribbean Community (CARICOM), where the index increased dramatically. This group's share in FDI inflows is now three times larger than its share of GDP. The Andean Community (AC) and Mercosur are the other two groups with large increases in the index. Mexico, and especially Chile, while showing small declines in the index, are still among the countries that receive the most FDI in relation to GDP.

Figure 10.5 shows the evolution of the composition of FDI by sector. For the world as a whole, there has been a shift in FDI from natural resources to services, which now account for half of total FDI stocks, while the share of manufacturing has remained fairly constant at about 40 percent. Not surprisingly, FDI in developed countries follows a similar pattern, since those nations represent a very large share of the total stocks.

In Latin America, however, the pattern has been very different. First, the share of FDI in natural resources has increased from 9.6 to 12 percent. This can be explained by deregulation and privatization in mining, oil and gas, coupled with the discovery of new reserves. Second, the share of manufacturing has been cut in half. A likely explanation for this is the end of import-substitution industrialization. As we will see later in this chapter, one of the reasons for multinational activity is that it allows firms to "jump" trade barriers, and serve through domestic production a market that is too costly to serve through trade. As tariff barriers decline, this motivation for firms to engage in multinational activity becomes weaker. Third, the increase in the share of services in Latin America has been particularly large compared with other regions. While around the world the increase in services has been

Table 10.1 FDI Inflows to Latin America

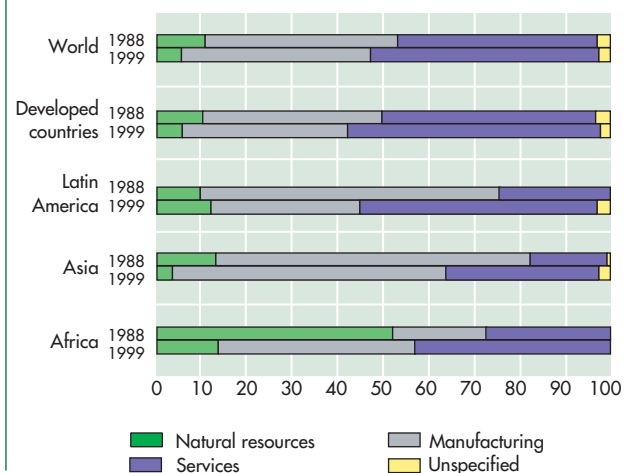
(Percent of GDP)

	1985-90	1995-2000
Mercosur	0.73	1.37
Argentina	1.18	1.77
Brazil	0.59	1.25
Paraguay	0.40	1.06
Uruguay	0.45	0.45
CACM	1.55	1.22
Costa Rica	2.27	1.77
El Salvador	0.58	1.00
Guatemala	2.03	0.57
Honduras	1.47	1.38
Nicaragua	0.00	4.01
AC	1.08	1.96
Bolivia	0.71	4.57
Colombia	2.70	1.61
Ecuador	1.31	1.79
Peru	0.17	2.21
Venezuela	0.28	2.00
CARICOM	0.71	3.16
Antigua & Barbuda	15.12	2.65
Bahamas	-0.35	na
Barbados	0.79	0.37
Belize	4.36	1.69
Dominica	9.77	6.05
Grenada	7.50	5.09
Guyana	0.22	1.66
Jamaica	0.99	2.38
St. Lucia	11.35	4.21
St. Kitts & Nevis	22.80	7.28
St. Vincent	5.85	10.43
Suriname	-13.55	na
Trinidad & Tobago	0.97	4.28
Chile	3.76	3.69
Mexico	1.68	1.59

Source: IDB calculations based on IMF, *International Financial Statistics* and World Bank, *World Development Indicators*.

Figure 10.5 Sectoral Composition of FDI Stock, by Region

(Percent of GDP)



Source: UNCTAD (2001).

linked mostly to the financial sector (see Chapter 6), in Latin America the privatization of telecommunications and other public utilities has also played a very substantial role.³

Having discussed the evolution and composition of FDI in Latin America, we can now return to the main focus of the chapter: the link between regional integration and FDI. For the most part, from here on we will be concentrating on FDI in the tradable sector. The impact of integration on FDI in non-tradables, such as the privatization of public utilities, is less clear, although there may be some potential links worthy of mention. First, some forms of integration may bring about an increase in institutional quality (less corruption, strengthened rule of law, etc.), which in turn may affect foreign participation in the privatization process. Second, the increasingly competitive environment that is brought about by integration may increase pressure from the private sector for competitive and reliable services, such as in electricity. This in turn may increase demand for privatization, which may bring about FDI. Finally, to the extent that integration in physical infrastructure becomes deeper (see Chapter 6), some activities that are usually thought of as non-tradables (such as electricity) may become tradables.

VARIETIES OF FDI

One difficulty in assessing the impact of regional integration agreements on FDI is that there are many channels through which RIAs can potentially affect the location of investment. Moreover, the impact may run in opposite directions through the different channels. For instance, a firm may invest abroad in order to serve, through sales of a foreign affiliate, a protected market that it could otherwise serve only at a high cost through trade. Integration makes the market less protected and thus weakens the firm's motive for FDI. Alternatively, the firm may invest abroad in order to exploit different countries' comparative advantages for the various stages of production of a good. Following certain stages, the good will cross national boundaries and incur tariff costs; integration reduces such costs and so strengthens the firm's motive to invest.

Depending on the motive for foreign investment, therefore, the relaxation of trade barriers implic-

it in an RIA may have completely different implications for the location of FDI. But there is more to consider than the motive alone.

The impact of RIAs on bilateral FDI will also depend on whether or not the source country is a member of the RIA. NAFTA, for example, has affected flows of FDI to Mexico from U.S. sources differently than it has affected flows to Mexico from German sources. The same is true of whether or not the host country is a member of the RIA. NAFTA has affected FDI flows from the U.S. to Mexican hosts differently than it has affected flows from the U.S. to Caribbean hosts. Finally, the impact of RIAs will also depend on other characteristics of the host countries that make them relatively more or less attractive than their RIA partners as a potential location of foreign investment.

From the outset it must be noted that the determinants of FDI may be viewed through different lenses, many of which overlap. One views FDI as either asset-seeking, that is, directed towards acquisition of new assets to make the firm more competitive in its present market; market-seeking, towards the firm's entry into growing markets; resource-seeking, towards finding less costly inputs; or efficiency-seeking, towards using presently employed inputs in a less costly manner.⁴ Different categories may be affected differently by integration. An RIA could generate more resource-seeking FDI, for example, by facilitating cross-border trade in inputs; but it could diminish market-seeking FDI if, after integration, the market in question no longer justifies domestic production of certain goods. But the effect of RIAs on other categories may be less clear-cut. For example, FDI seeking strategic assets may be affected differently depending on whether the asset in question is used to exploit the domestic market (for example, a distribution network) or the world market.

Another view of FDI brings into focus that the above categories tend to apply to multinational economic activity in general, not just foreign investment. FDI is commonly defined as the acquisition of a 10 per-

³ FDI in water, gas and electricity amounts to more than 11 percent of total FDI in Latin America but only represents 2.5 percent of the total worldwide.

⁴ See Dunning (1993).

cent or greater share of ownership of an asset by a single investor located in a different country.⁵ However, behavior characterized as asset-seeking, market-seeking, resource-seeking, or efficiency-seeking need not entail one firm's acquiring ownership of another. A firm could seek resources by contracting with a foreign firm to supply the resources; or it could seek markets by licensing the use of its patented production technique to foreigners. In neither case would the activities be registered as FDI, because they do not entail acquisition of an ownership stake. To understand the determinants of FDI, then, it is necessary to consider why some transactions are better undertaken within the firm rather than at arm's length, between firms and through markets.

The explanation is commonly framed in terms of the importance, where FDI is commonplace, of "proprietary assets" like brand names or innovative production techniques.⁶ Often firms that own these proprietary assets will prefer to keep transactions within the firm, particularly when licensing contracts are not easily enforceable, or when imitation and diffusion of the innovative technique is a concern.⁷ The impact of RIAs on FDI therefore may depend on whether integration facilitates the utilization of proprietary assets within the firm, or instead does more to facilitate transactions involving such assets between firms.

While acknowledging the usefulness of these overlapping and complementary views of FDI, this chapter will employ yet another one. Much of the literature on the topic refers to two broad categories of foreign direct investment: vertical and horizontal.⁸ For the purposes of this chapter, the vertical and horizontal categories represent a preferable way of "slicing" the myriad motives for FDI. While integration affects the strategic-asset seeking motive ambiguously, it affects the vertical and horizontal motives much less so.

Vertical and Horizontal FDI

Vertical FDI corresponds roughly to the resource-seeking, efficiency-seeking and, in some instances, the asset-seeking categories of FDI. Models of vertical FDI typically feature a firm with a corporate facility (which may produce management services and research and development) and a production facility. The two are presumed to be geographically separable.⁹ As the

respective corporate and production facilities require a different mix of factors of production, firms localize each "stage" of production to take advantage of international differences in factor prices. The production facility produces for the markets in both the host country and the source country. An implication of the model is that no FDI would be observed between countries with similar factor endowments: such countries would have similar factor prices, eliminating the advantage of separating firms' corporate and production facilities.¹⁰

Horizontal FDI corresponds to the market-seeking and, in some instances, the asset-seeking categories of FDI. Models of horizontal FDI typically feature firms with multiple production facilities producing a homogeneous good, with one of those facilities located at the company's headquarters.¹¹ Each production facility supplies its domestic market. A key assumption in the horizontal model is the presence of firm-level fixed costs, arising from the necessity of only one corporate facility per firm. Firm-level fixed costs imply economies of scale that give multinational firms an advantage over domestic firms.

The volume of horizontal FDI depends on the interplay between firm-level fixed costs, plant-level fixed costs, and trade costs.¹² In the absence of trade costs, there would be no reason for multinational production: firms would concentrate their production in a single facility at a single location, incurring plant-level fixed costs only there and serving other markets through trade. As trade costs increase, so does multi-

⁵ Graham and Krugman (1995, p. 9) discuss the 10 percent criterion. The OECD (1996, 2000) uses the same criterion.

⁶ Caves (1996, pp. 3-5).

⁷ These concerns may also help determine whether the foreign firm enters through a joint venture, or as majority owner.

⁸ The discussion of these two categories is based on Markusen and Maskus (2001).

⁹ Helpman (1984) and Helpman and Krugman (1985) are early and seminal models of vertical FDI.

¹⁰ For this reason, Brainard (1993) characterizes vertical FDI as the factor-proportions approach to FDI.

¹¹ For models of the horizontal variety, see Markusen (1984), and Markusen and Venables (1998).

¹² Trade costs include both trade barriers and other transaction costs, such as transportation costs. Due to this interplay between scale economies and trade costs, Brainard (1993) has labeled this type of model the "proximity-concentration" approach.

national production. An extreme case is illustrative: with trade blocked, each market must be served entirely by local production. The presence of firm-level fixed costs implies that the least costly way to serve local markets is to operate local facilities as branches of a multinational firm. In this sense one can think of horizontal multinational activity as a “tariff-jumping” strategy.

As expected, the empirical implications of the horizontal model of multinational activity differ from those of the vertical model. Unlike vertical FDI, horizontal FDI is less likely to be found among countries with very different factor proportions. Dissimilar factor proportions imply dissimilar factor prices that induce firms to produce only in the location where the factor used intensively has the lowest price. In addition, horizontal FDI is discouraged by differences in country sizes. With a big country and a small country as potential plant locations, a firm is likely to produce only in the country with the large home market and serve the other country through trade, incurring trade costs on a small trade volume, but foregoing the cost of establishing a second plant.

The implications of the horizontal and vertical FDI models seem to suggest that direct investment flows from North to South—between countries whose sizes and factor proportions differ substantially—are more likely to be vertical, while North-North and South-South flows are more likely to be horizontal. But the matter is not so clear-cut. First, countries in the North tend to have much lower trade barriers, at least in the manufacturing sector. As discussed above, both natural and policy-related trade barriers are a key ingredient of horizontal FDI. The general absence of high trade barriers among developed countries weakens the likelihood that North-North FDI will be horizontal. If the tariffs to be jumped are small, there is little point in tariff jumping.¹³

Second, horizontal FDI can arise between Northern and Southern countries, even when their factor endowments are very different, as long as trade barriers are high enough. The automobile industry in Latin American countries during the period of import substitution (or even today, within the protected environment of Mercosur) is an example of horizontal FDI.

Finally, it may be that much of FDI does not fall neatly into either of the above categories. FDI may represent the acquisition or installation by firms of over-

seas plants, as in the horizontal model, but the plants may produce different varieties of a final good that are consumed in the local market and exported as well.¹⁴ FDI of this kind (we will call it “differentiated goods” FDI) may be likely where there are substantial firm-level fixed costs (otherwise there would be no advantage for multinational enterprises relative to separate firms in separate locations); when there are also substantial plant-level fixed costs (otherwise the multinational might set up a separate plant for each variety in each location and not export); and when the proprietary assets of brand or knowledge are particularly important. Such conditions may be accompanied by a difference of preferences among countries.¹⁵ A key difference between horizontal FDI and differentiated goods FDI is that, in the latter, production in each plant is not just for the domestic market, but for exports as well. In contrast to horizontal FDI, direct investment for differentiated products does not substitute for trade.

WHY DO REGIONAL INTEGRATION AGREEMENTS MATTER FOR FDI?

Most data collected for FDI do not classify it as vertical or horizontal.¹⁶ It is not so easy to identify the motives for investment with any precision. To a certain extent, however, the nature of FDI flows between a pair of countries may be inferred from some characteristics of the source and host countries involved: whether the host country’s economy is open or closed; whether the source and host countries are geographically proximate or apart; or whether they are big or small, rich or

¹³ The importance of tariff jumping as a motive for FDI is contested. Caves (1996, p. 55) writes that “historical evidence strongly confirms the effect of a tariff to lure the MNE’s production behind the barrier.” Yet, Markusen (1997, p. 2) argues that “stylized facts suggest that...direct investment is not caused primarily by trade-barrier-avoidance.”

¹⁴ Helpman (1985) has modeled multinationals that produce different varieties of a final good in different locations. He called this FDI horizontal, a label criticized by Markusen and Maskus (2001).

¹⁵ Honda, for instance, produces its minivans in North America, a market that seems to love this brand of automobile, and not in Japan. Daimler-Chrysler produces minivans in the United States and the Mercedes Benz in Germany and exports in both directions.

¹⁶ Or, for that matter, as seeking markets, assets, efficiency or resources.

poor, or similar or dissimilar in resources. Most studies of the impact of RIAs on FDI focus on the last two variables—the countries' levels of development and the similarity of their resource endowments. There is theoretical reason to believe that these variables are important, the data are easy to gather, and they are correlated, so they boil down essentially to a single variable. The relation of regional integration to FDI is thus examined most often by segregating the data into cases of North-North integration (between highly developed countries with resource endowments abundant in capital and skills), South-South integration (between less developed countries with endowments abundant in labor), and North-South integration (between countries of dissimilar levels of development and dissimilar endowments). In each of these cases, studies typically stress the difference between the impact on FDI between RIA partners, and that on FDI inflows from outside sources.

One way to learn about the different cases is to study each of them separately. Among recent studies of North-North agreements, Dunning (2000) finds that since Europe's 1985 launch of its Internal Market Program, both intra-EC and outside-EC FDI have been stimulated, particularly the latter; FDI has grown the most in knowledge-intensive activities; and the growth of FDI has been complementary to the growth of trade. Of South-South agreements, Chudnovsky and López (2001) find that FDI in Mercosur has been largely from nonregional sources; has taken the form primarily of mergers and acquisitions; has displaced domestic investment; and has been directed towards supplying the internal market (see Box 10.1). Of North-South agreements, Waldkirch (2001) finds that NAFTA has substantially increased FDI in Mexico, mostly from intra-regional partners Canada and the United States (see Box 10.2). He infers that the agreement's impetus to vertical integration is the likely explanation.

Blomström and Kokko (1997) take a similar approach, although they group three case studies together to work towards a more comprehensive analysis. The Canada-U.S. Free Trade Agreement, their example of a North-North RIA, reduced the relative importance of intra-regional FDI to both countries but increased extra-regional FDI to Canada. In neither case was the effect dramatic, though, a fact attributed to the lack of major changes in economic policy result-

ing from the agreement.¹⁷ The South-South RIA, Mercosur, witnessed a substantial expansion of extra-regional FDI, though macroeconomic stability is found to be a more important determinant of the inflows than the RIA. The North-South RIA, NAFTA, is found to have evidenced a dramatic increase in FDI inflows, particularly extra-regional FDI to Mexico, due to a combination of broader policy reforms undertaken contemporaneously in Mexico as well as Mexico's proximity to the U.S. market and its abundance of labor.¹⁸ In the end, there are few sweeping conclusions regarding FDI and RIAs that the authors are willing to draw from their case studies. Perhaps the most comprehensive is that the overall "environmental change" that is brought about, either because of or independent of the RIA, is what matters most.

The case study methodology has the advantage that one can take into account the institutional detail of the countries under study when reaching conclusions about the impact of integration on FDI. At the same time, however, they demonstrate the difficulty of drawing conclusions about the importance of RIAs for FDI when so many other variables complicate the particular cases. In Mercosur, for example, it is difficult to disentangle the effect of the RIA from that of macroeconomic stabilization, which occurred approximately at the same time. In Mexico, the effect of NAFTA is hard to distinguish from that of other changes in policies toward FDI that took place contemporaneously. Moreover, the particular circumstances of each of the cases studied make it difficult to extrapolate the findings to other potential RIAs, particularly when these do not share the same circumstances. The boom of FDI in Mexico following NAFTA might have been unimaginable had this country not shared a border with the United States. To what degree was it the unique circumstances of each set of countries that mattered for FDI, and to what degree was it their RIA? Case stud-

¹⁷ Tariffs between the United States and Canada were already low prior to the agreement.

¹⁸ Blomström and Kokko's study emphasizes the increase of extra-regional FDI flows to Mexico, while Waldkirch emphasizes intra-regional flows to Mexico, because of changes in the data found in the time between their studies (1997 and 2001). According to the OECD bilateral FDI data we use later in this chapter, Mexico's FDI increased both from NAFTA and extra-regional sources.

Box 10.1 FDI in Mercosur in the 1990s¹

Mercosur as a whole received more than \$200 billion of foreign direct investment inflows between 1990 and 2000, of which 98 percent went to Argentina and Brazil. FDI came mostly from extra-regional sources, especially in the larger countries, where intra-regional FDI amounted to just around 1 percent of the total. In contrast, intra-regional FDI accounted for 20 to 25 percent of FDI inflows to Uruguay and 40 percent to Paraguay.

What has been the role of Mercosur in attracting extra-regional FDI inflows? At first glance, it would seem that Mercosur did contribute in this regard. While Mercosur partners received 1.4 percent of world FDI inflows between 1984-89, this figure increased to 2.1, 3.7 and 6 percent in 1990-93, 1994-96 and 1997-99, respectively. However, it is difficult to disentangle the role of Mercosur from the other changes that took place simultaneously, such as the adoption of structural reform programs and a more favorable macroeconomic climate than in the 1980s. An examination of the sectoral pattern of FDI inflows and of the objectives and strategies of multinational corporations (MNCs) that invested in the region in the 1990s may shed light on this issue.

Services were the main destination sector for FDI, accounting for 80 percent of FDI inflows to Brazil, and around half of total inflows in the other three countries. Mercosur probably had little to do with attracting this purely market-seeking FDI, which was concentrated in public utilities (linked to privatization in Argentina and Brazil), banking, and retail and wholesale trade. For the most part, these investments led to stand-alone affiliates that replicate, at smaller scales, most of the functions of the respective headquarters, without closely integrating with the rest of the corporation units.

FDI aimed at exporting labor-intensive goods has been marginal in all Mercosur countries, especially Brazil and Argentina. Instead, export-oriented, resource-seeking investments, although marginal in Brazil, have been the main form of vertical FDI in the region, accounting for 35 percent of flows to Argentina (in the mining and oil sectors), and 20 to 25 percent of sales of MNCs in Paraguay and Uruguay.² With the possible exception of FDI in agriculture in Paraguay, Mercosur has probably had little impact on the location of these resource-seeking MNCs, since their exports are mainly directed to countries outside the regional integration agreement.

The manufacturing sector has attracted mostly horizontal market-seeking investments. In Argentina and Brazil, as a general rule, these investments have been directed toward the domestic rather than the extended market. Although a substantial share of exports from manufacturing MNCs has gone to Mercosur—60 percent for Argentina, 30 percent for Brazil—these exports represent

a very small portion of these firms' sales.³ In contrast, in Uruguay and Paraguay, exports to Mercosur comprise a much larger share of manufacturing MNC sales. Thus, intra-regional exports are more relevant in MNC strategies in the case of the smaller member countries. This would suggest that membership in Mercosur has been more important as a locational advantage for FDI in Paraguay and Uruguay than in Argentina and Brazil. However, especially in Uruguay, there is also evidence of MNCs divesting in the country in order to supply the market from Argentina or Brazil, a possibility favored by the dismantling of trade barriers among Mercosur member countries. There is also some evidence of investment diversion from Argentina to Brazil, especially after the 1999 devaluation of the real, in a context where significant incentives were offered by national and subnational governments in Brazil, mainly in the automotive sector.

Mercosur has perhaps been most relevant in sectors where efficiency-seeking strategies have been used. This is notably the case of the automotive sector, where U.S. and European MNCs, on the basis of their own global and regional strategies, and fostered by specific policies in Mercosur, have tended to specialize their affiliates, creating a horizontal regional division of labor in which Argentine affiliates produce low-volume vehicles while Brazil specializes in high-volume models.

What has been the impact of Mercosur on intra-regional FDI? While both Argentina and Brazil have become more significant as source countries (approximately tripling their annual outflows of FDI between the first and the second half of the 1990s), the bulk of these outflows went to extra-regional host countries.⁴ Available estimates covering 1990-96 indicate that Mercosur accounted for only 17 percent and 10 percent of outward FDI in Argentina and Brazil, respectively (see Chudnovsky, Kosacoff and López, 1999). However, these figures correspond to a period when Mercosur was not yet in full force, and there is some evidence that the intra-regional share may have increased considerably in the late 1990s.

¹ This box was written by Daniel Chudnovsky and Andrés López.

² For Argentina, the figure excludes FDI in agriculture, which has been significant, but for which data are not available.

³ Even in sectors where MNC exports are relatively high (higher than the host country's average), exports to Mercosur by MNCs in manufacturing in Argentina and Brazil are only 10 percent and 4 percent of total sales, respectively (Chudnovsky and López, 2001).

⁴ FDI outflows from Argentina jumped from an annual average of \$500 million to \$1.9 billion between 1989-94 and 1995-2000, while in Brazil the respective figures were \$600 million and \$1.7 billion.

Box 10.2 Has NAFTA Increased FDI in Mexico?¹

Since the formation of the North American Free Trade Agreement (NAFTA) in 1994, Mexico has had an impressive increase in FDI inflows. From an annual average of \$4.6 billion over 1989-93, FDI increased to \$9.9 billion in 1996, \$14.2 billion in 2000, and \$24.7 billion in 2001 (Dussel Peters, 2002). Only China and Brazil outshine Mexico as targets of FDI among the emerging markets (UNCTAD, 2000). Whether the bulk of FDI inflows following NAFTA have come from Mexico's NAFTA partners, the United States and Canada, or from the rest of the world, is a subject of contention. Different databases suggest different stories. According to Dussel Peters, for example, the United States and Canada appear to be the main engines behind the increase in these inflows, with their share rising from 50 percent in 1994 to 79 percent in 2000 (the maquiladora sector excluded). However, a comparison of data on total inflows from the Banco de México, and data on U.S. outflows to Mexico from the U.S. Bureau of Economic Analysis, suggests that the share of FDI inflows corresponding to the United States remained fairly stable throughout the period.

The bulk of FDI in Mexico has flowed to the manufacturing sector—particularly the automotive, electronics and electrical equipment industries—which captured more than 60 percent of the total over 1994-2000. However, the importance of FDI in financial services has become more pronounced with foreign acquisitions of Mexican banks and insurance companies. In 2000-2001, FDI in financial services reached \$18 billion, or 48.2 percent of total FDI flows to Mexico.²

Does NAFTA explain foreign investors' growing interest in Mexico? There are at least four reasons to believe so: (1) Mexico's preferential access to the North American market may have attracted both extra- and intra-regional FDI to exploit the country's comparative advantage in labor-intensive processes; (2) NAFTA's rules of origin may have induced input suppliers to move to Mexico from outside the NAFTA region; (3) NAFTA's investment provisions and dispute settlement mechanism likely enhanced Mexico's credibility as a favorable investment location; and (4) NAFTA in general has fostered Mexico's economic prospects by locking in and extending the country's unilateral economic reforms launched in the 1980s.

However, NAFTA's impact on the upswing of FDI in Mexico is difficult to separate out from other competing explanations, such as the country's liberal foreign investment law of 1993 that opened nearly all economic sectors to foreign capital. Furthermore, the growth of FDI in Mexico is part of a global trend of increased FDI

to emerging markets. Indeed, while FDI to Mexico increased significantly in the 1990s, the country's share of total FDI flows to developing countries, or even to all of Latin America and the Caribbean, actually declined, as did its share in FDI outflows from the United States, from 3.8 percent in 1990-93 to 2.9 percent in 1994-2000. In the case of manufacturing, on the other hand, Mexico did increase its share in U.S. outflows (Dussel Peters 2002).

These factors notwithstanding, NAFTA can be considered key to solidifying Mexico's economic reforms, as well as to ensuring continuous FDI inflows, even in the wake of the 1995 peso crisis. Indeed, had NAFTA not been formed, it is estimated that FDI flows from Canada and the United States to Mexico would have been 42 percent lower between 1994 and the end of 1999 (Waldkirch, 2001). NAFTA's impact can also be discerned from qualitative changes in firm behavior: it has made North America a single spatial unit, resulting in locational reshuffling and integration of the three countries' industries into regional production networks, particularly in the automotive sector (Eden, 2002).

What of extra-regional FDI? The impact of NAFTA on extra-regional investment remains contested. While some argue that NAFTA served mainly to boost intra-regional FDI (Waldkirch, 2001), others maintain that the agreement was instrumental in inducing extra-regional investors to move to Mexico in order to enjoy preferential access to the North American market (Blomström and Kokko, 1997). Still others speculate that extra-regional investors may have redirected part of their FDI from the United States and Canada to Mexico following the start-up of NAFTA (World Bank, 2000).

In sum, notwithstanding the fact that NAFTA coincided with other factors accounting for the growth of FDI in Mexico, it can be regarded as important in shaping firms' regional strategies as well as in fostering Mexico's investment climate and thus helping sustain FDI inflows. Furthermore, plausible causal variables inherently related to NAFTA—such as sector-specific rules of origin—may be too subtle to be captured by an analysis of aggregate FDI inflows, and await a more careful examination of firm- and industry-level data.

¹ This box was written by Kati Suominen.

² Unless otherwise noted, these figures are taken from Dussel Peters, Paliza and Loria Diaz (2002).

ies, however well informed, cannot provide definitive answers.¹⁹

Another way to proceed, which provides a nice complement to the case studies, is to try to control for some of those circumstances within a large set of countries, all of which are sources or hosts of FDI, and most of which are parties to RIAs. There are enough RIAs in existence, and enough bilateral FDI data, to try to sort out quantitatively the effects of an RIA from the effects of other circumstances. What follows are the results of our own study (Levy Yeyati, Stein and Daude, 2002). As far as we know, this is the first systematic empirical evaluation of the effects of regional integration on FDI for a large sample of countries.

EMPIRICAL EVALUATION

Before turning to the evidence, it may be useful to discuss briefly the different channels through which RIAs may affect FDI. To organize the discussion consistent with the case study evidence focusing on the different effects of FDI from insiders and outsiders, we consider what could be expected to happen when both the source and host are party to a particular RIA, and then compare that to what would happen were only one or the other party to the agreement.

Channels of Influence

Effects on FDI from insiders. If the source and host countries become members of the same RIA, the data may evidence a tariff-jumping effect or an international vertical integration effect, depending on the kind of FDI that predominates. If FDI is horizontal, with tariff jumping as its motive, the reduction in trade barriers implicit in the RIA will probably lead to a reduction in FDI, as trade and foreign investment are alternative ways to serve the domestic market. If FDI is vertical, with integration of stages of production as its motive, the effect of the RIA will probably be to increase FDI, as transaction costs to engage in vertical integration across international borders are reduced. The net effect should depend, among other things, on how high the trade barriers were in the first place. Regardless of its impact on total FDI, an RIA can have the effect of changing the composition of FDI from horizontal to vertical. As sug-

gested previously, FDI among developed countries is in part associated with the production of differentiated varieties, and so fits neither the horizontal nor the vertical models. To the extent that this third type of FDI depends on the possibility of trading differentiated goods, an RIA should facilitate multinational activity of this type.

Whatever the motive for FDI, if an RIA includes investment provisions to liberalize capital flows, harmonize legal norms, and set up institutions to handle cross-border disputes, it should be expected through this channel to increase FDI flows between its members.²⁰

Effects on FDI from outsiders. The entrance of a country into an RIA may make it a more enticing host of FDI from an extra-regional source through an *extended market effect*, particularly if the FDI is horizontal. When Brazil entered Mercosur, for example, it may have been perceived as a more attractive host for FDI from outside sources. Foreign investors may find it more worthwhile to “jump” the common external tariff and set up plants in Brazil to supply the entire Mercosur region, whereas before they supplied each of the countries individually through exports. On the other hand, the extended market may encourage vertical FDI just as well as horizontal: an RIA reduces the costs incurred by extra-regional sources of FDI in locating different stages of production in several of the countries within the region. In fact, this effect can also be present for the case of FDI from source countries within the same RIA. Thus, whatever the motive for FDI, the extended market effect of a host country’s entry into an RIA should result in more FDI for the RIA as a whole.^{21, 22}

¹⁹ The problem is one of too many variables that may matter, and too few observations from which to make inferences.

²⁰ See Slemrod (1990) for an empirical study of the effects of investment provisions to FDI for the United States.

²¹ This effect may be particularly large in the case of Southern countries forming North-South RIAs. These countries may become particularly attractive to outside sources, since they combine some “southern” locational advantages (for example, low wages) with access to a developed market. Production of some Volkswagen automobiles in Mexico is a case in point.

²² In the case of free trade areas, rules of origin provide an additional reason for RIAs to foster extra-regional FDI, as firms in the region may shift from extra-regional suppliers to intra-regional suppliers of intermediate inputs in order to comply with the origin rules, providing incentives for the foreign suppliers to establish production within the region (see Chapter 3).

Yet within the RIA there may be winners and losers. Notwithstanding the increased FDI brought to the region as a whole, there may be a redistributive effect of FDI within the region. Before the RIA is launched, for instance, a multinational corporation might have horizontal FDI in each of the countries in the region. When barriers to trade within the region are eliminated, the firm may choose to concentrate production in a single plant in a single country and supply the rest of the countries through trade.

The size of the individual economies may be an important variable in determining whether they are winners or losers from the redistributive effect. In the preceding example, Brazil was chosen deliberately. Plant-level fixed costs may induce the firm to locate its plant in the larger market, or perhaps the most centrally located market, in order to minimize the cost of supplying the whole region. The biggest losers, meanwhile, could be medium-sized countries: large countries are more likely to be FDI winners, and small countries are more likely to be supplied by trade rather than FDI with or without the RIA.²³ Beyond market size and location, countries that offer a more attractive overall package for foreign investors due to the quality of their institutions, the quality of their labor force, the development of their infrastructure, or their tax treatment of multinationals will be more likely to be winners in this redistributive game.

Effects of RIA by source country. When a source country enters into an RIA, the data may evidence a diversion or dilution effect. If membership in a regional integration agreement makes each member a more attractive host for FDI—as it does in the vertical model—then the RIA will make non-members appear relatively less attractive. We call this effect FDI diversion, an analogy to Viner's (1950) classic trade diversion concept: FDI from a source to non-partners may decline as the source enters an RIA.^{24, 25}

Members of an RIA may experience a similar effect when the agreement is enlarged. Take, for instance, the potential effects of the FTAA on FDI flows from the U.S. to Mexico. To the extent that U.S. investment in Mexico is intended to exploit some locational advantages of Mexico, then as the preferential access of Mexico to the U.S. becomes *diluted* by the FTAA, part of the FDI may be relocated to members of the larger agreement that have similar advantages.²⁶

Empirical Evidence

In order to look at the impact of RIAs on FDI, we use data on bilateral FDI stocks from the OECD's *International Direct Investment Statistics*. The dataset covers FDI from 20 source countries, all of them from the OECD, to 60 host countries, from 1982 through 1998. One shortcoming of these data is that they do not cover FDI between developing countries. Yet, it is the most complete source available for bilateral FDI, which is a key ingredient to study the effects of integration on foreign investment.

As in several chapters of this volume, the empirical approach is based on the gravity model (see Box 3.1, Chapter 3), which has been used widely in the literature to examine the determinants of bilateral trade, and has more recently been used to study the determinants of FDI.²⁷ In its simplest formulation, the model presumes that bilateral trade flows (in our case, bilateral FDI stocks) are related positively to the product of the GDPs of both economies and negatively to the distance between them.

In studying the impact of RIAs on FDI, one approach would be to work with cross-section regressions, thus exploiting the variation across countries to see whether RIAs matter for FDI. The question, in this case, would be whether countries that share RIAs with the source country receive more FDI than countries that

²³ As an example, the auto industry in Uruguay was virtually undeveloped even during the years of import-substitution industrialization.

²⁴ As in Viner's trade diversion, the formation of an RIA may divert FDI from the most efficient location to a partner. For example, following NAFTA, a U.S. firm may locate in Mexico the production of an intermediate input it might have otherwise located in Costa Rica, in the absence of the preferential access enjoyed by Mexico. In Mexico, this "trade diversion" effect will be combined with all other effects of common membership with the source country. What we call trade diversion is the loss suffered by Costa Rica, as well as other countries, as a result of the creation of NAFTA.

²⁵ Another example of investment diversion is found in the European Union. See Baldwin, Forslid and Haaland (1999).

²⁶ Dilution is in a way different from diversion. Going back to the example of NAFTA and U.S. FDI in Mexico and Costa Rica, dilution is more the result of leveling the playing field, at least for a certain group of countries. In this case, with the FTAA, Costa Rica and Mexico will now be playing under the same rules, and FDI will go to the most efficient location within the region.

²⁷ See Eaton and Tamura (1994), Frankel and Wei (1997), Wei (1997, 2000), Blonigen and Davis (2000), Stein and Daude (2001), and Levy Yeyati, Panizza and Stein (2001).

do not. There are a number of problems with this approach. First, it is possible that FDI is affected by other characteristics of the countries, which are difficult to account for. Second, countries may form RIAs because they already have large stocks of FDI, in which case there will be problems of endogeneity. In other words, trade agreements would not be causing FDI; rather, FDI would be causing RIAs. Finally, while the cross-section evidence may provide useful information, it does not answer directly the policy question that one would want to address: what is the impact of changes in RIAs on the countries that form them?

Our empirical evaluation deals with these issues by using data that combine the cross-section and time series dimensions (i.e., panel data), and by concentrating on the effects of changes in RIAs on the bilateral FDI of each country pair.²⁸ The fact that we are following each country pair over time helps us control for all the characteristics of the country pairs that are invariant over time, such as distance, whether the two countries share a common border or a common language, the similarity of their factor proportions, etc. It also helps account for other variables that may be relevant for FDI location but which may be difficult to observe. In addition, the data allow us to focus on the right policy question, that is, on the effects of changes in the RIA status of country pairs, leaving out the cross-sectional dimension.²⁹ We also include source and host nominal GDP to control for size, and year dummies to control for the spectacular increase in FDI over time. Finally, we include a number of variables associated with the effects of regional integration.

The first of our regional integration variables is *Same FTA*, a dummy variable that indicates whether the source and the host countries belong to the same free trade area.³⁰ This variable captures a combination of channels: tariff-jumping, international vertical integration, and the potential effect of investment provisions on FDI. A second integration variable we use is *Extended market host*, which captures the size of the extended market of the host country.³¹ For example, for the case of Brazil in the years before Mercosur, *Extended market host* takes the value of Brazil's GDP at the time; for the years after Mercosur, it takes the value of the four Mercosur countries combined. Following the previous discussion, as well as the existing empirical evidence, we expect an increase in the size of the

extended market to have positive effects on FDI for the RIA as a whole. Finally, a third integration variable is *Extended market source*, which captures the FDI diversion/dilution effects. We expect its coefficient to have a negative sign, suggesting that FDI to a host country diminishes when firms in the source country have other free trade agreement partners in which to locate their investments.

Appendix Table 10.1 presents the results of our regressions.³² The main results are shown in Figure 10.6, which corresponds to column 1 in Appendix Table 10.1. The first bar in the figure shows the impact of the same free trade agreement variable. The impact is very large: forming an agreement with a source country increases the stock of FDI from that country by 116 percent.³³ The positive effect reveals that the possible FDI loss due to the tariff-jumping argument is more than offset by other effects that operate in the opposite direction.

The second bar captures the impact of the host extended market effect. Doubling the size of the extended market increases FDI from all sources by nearly 6 percent. Thus, by enlarging its home market through a free trade agreement, the host increases its attractiveness as a location for FDI. While this effect appears to be small, it is important to keep in mind that sometimes the increase in the size of the extended mar-

²⁸ We do this by including in the regressions country-pair fixed-effects, that is, dummy variables corresponding to each of the country pairs.

²⁹ To a certain extent, the inclusion of the country pair dummies addresses potential endogeneity problems, which would arise if countries select their RIA partners on the basis of the multinational activity between them.

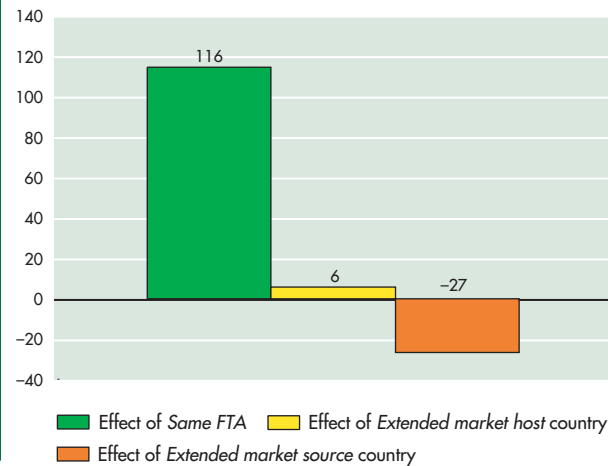
³⁰ The dummy is also 1 if countries are in the same customs unions or single market. However, we did not include as free trade agreements country pairs that have preferential trade agreements in which trade barriers among members are reduced but not eliminated. The source for this variable is Frankel, Stein and Wei (1997).

³¹ It is defined as the log of the joint GDP of all the countries to which the host has tariff-free access due to common membership in a free trade agreement (we include the host's own GDP as well).

³² The dependent variable is the log (1 + FDI). The log specification is the one typically used in the gravity model literature. The reason we add 1 to FDI is to avoid throwing away all the observations with no FDI, which provide useful information. For a discussion of the methodological issues associated with the treatment of the observations with 0 FDI, see Levy Yeyati, Stein and Daude (2002).

³³ The coefficient for the same free trade agreement in Appendix Table 10.1 is 0.7682. Since FDI is in logs, it is necessary to transform this coefficient, by computing $\exp(0.7682) - 1 = 1.155$.

Figure 10.6 Impact of Regional Integration on FDI
(In percent)



Note: All the coefficients are significant at the 1% level.
Source: Levy Yeyati, Stein and Daude (2002).

ket is very large: for instance, when Mexico entered NAFTA its extended market increased by a factor of 18. Finally, the doubling of the extended market of the source leads to an expected decline in the FDI stock originating from that country of nearly 27 percent. Columns 2 and 3 in Appendix Table 10.1 show that these results do not change much when we account for other variables that may explain FDI location, such as the stock of privatization to date (in order to control for the fact that most FDI linked to privatization is in non-tradables) or the rate of inflation (in order to control for macroeconomic conditions).

An interesting exercise that gives us a notion of the magnitude of these effects is to compare the impact that the creation of the FTAA would have for FDI from the United States to Mexico and Argentina, according to the results presented above.³⁴ Since it does not have a free trade agreement with the United States, Argentina would benefit from the direct effect of sharing an agreement with the source, increasing U.S.-originated FDI stock by 116 percent. In addition, the Argentine economy would become more attractive to FDI because of the extension of its market from Mercosur to the FTAA.³⁵ The 900 percent increase of its market would lead to an increase of U.S.-originated FDI stock of 53 percent.³⁶ On the other hand, the source extended market effect would partially offset these

increases. The FTAA would represent an increase of around 16 percent in the extended market of the United States, with an associated decline of U.S.-originated FDI of 4.3 percent due to the dilution effect.³⁷ In sum, the overall effect of the creation of the FTAA would be a significant increase of nearly 165 percent in the United States' direct investment position in Argentina.

The result for Mexico would be quite different. Since Mexico and the United States are already members of NAFTA, the FTAA would have no direct effect on U.S.-originated FDI. There would be an indirect effect, however, due to the extension of Mexico's market. The extension of Mexico's market from its existing free trade agreements to the FTAA would be a scant 13 percent, corresponding to an increase of U.S.-originated FDI of only 0.75 percent.³⁸ Netting the source extended market effect (-4.3 percent), we arrive at an overall decline of U.S. FDI stocks in Mexico of 3.5 percent. While this small loss may be partially compensated by additional FDI from other sources (which also would increase by three-quarters of a percent), the fact that the United States is by far the biggest FDI player in Mexico may still mean that this country could lose FDI as a result of the FTAA.

The numbers in this simple exercise can illustrate potential asymmetries in the impact of the FTAA for different countries, but they must be taken with a great deal of caution. The estimates that we use represent the average impact of our regional integration variables over the whole sample. However, the impact may differ according to the characteristics of the countries in question. For example, FDI in countries that are highly protected may be mostly horizontal, a type of FDI that substitutes for trade, in which case the impact

³⁴ The exercise is meant as an illustration of potential effects, and does not pretend to measure the specific effects of the FTAA on Argentina and Mexico with a high degree of precision.

³⁵ Note that given our methodology, the results would also be similar for any of the Mercosur countries, since the extended market variables change in the same way for all of them.

³⁶ $0.058 \times 921 = 53.418$.

³⁷ $-0.267 \times 16.06 = -4.3$.

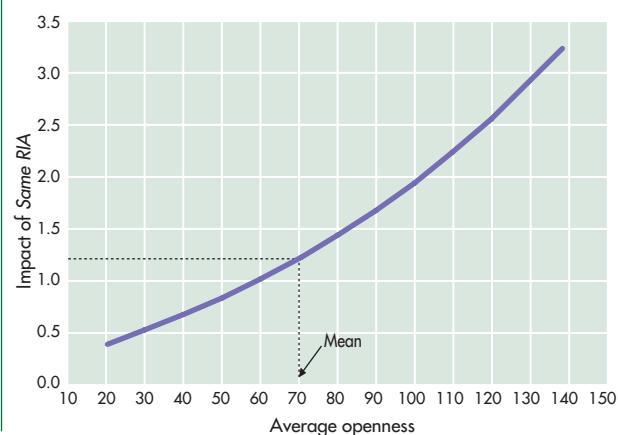
³⁸ The extension of the market for Mexico is smaller than that for the United States, since Mexico has a host of other free trade agreement partners in the region.

of *Same FTA* may be higher in more open economies. Similarly, the impact of extending the size of the host market may depend on the initial size of the market, or on the relative attractiveness of the economies that make up the extended host market. In what follows, we will perform some additional exercises in order to look, in a preliminary way, at potential asymmetries of the effect of regional integration on FDI.

Two factors that may affect the impact of common membership in a regional integration agreement on FDI are the openness of the host country, and the similarity of factor proportions between the host and the source. These variables may matter because they help determine whether the bilateral stock of FDI is mostly vertical or horizontal. All else being equal, closed economies are expected to have a larger share of horizontal FDI, which according to the theory should decrease with regional integration. Economies that are similar in their factor endowments are not expected to have vertical FDI. This would suggest that FDI between similar countries should not benefit as much from integration. However, if a large part of FDI among developed countries is, as suggested above, of the differentiated good type, then the effects of similarity of factor endowments may be ambiguous.

So the question is not just whether belonging to the same free trade agreement has an impact on bilateral FDI between the source and the host country. We want to know whether the impact of the same agreement changes with the degree of openness of the host country, and with the similarity in factor endowments between the source and the host. The results are reported in columns 4 and 5 of Appendix Table 10.1.³⁹ The simplest way to present these results here is by means of Figure 10.7a, which shows that the impact of *Same FTA* increases with openness.⁴⁰ In Figure 10.7b, we can see that its impact decreases as factor endowments (we used the absolute difference in capital per worker) become more dissimilar.⁴¹ In this last case, our results suggest that a host country that is very different from the source country with which it integrates may actually experience a fall in FDI from this source. These results have to be taken with caution, however, since they are drawn from the countries that have RIA links with source countries. In our sample, then, these results are drawn only from the experience of developed countries and Mexico.

Figure 10.7a Openness and the Impact of Common Membership in an RIA on FDI Stock
(In percent)



Note: The extension of the line corresponds to the range of the sample regarding the degree of openness of the countries included.

Figure 10.7b Difference in Factor Proportions and Impact of Common Membership in an RIA on FDI Stock
(In percent)



Note: The extension of the line corresponds to the range of the sample regarding the difference in capital per worker of the countries included.

Source: Levi Yeyati, Stein and Daude (2002).

³⁹ Our regressions looked at these issues by adding to our baseline regression an interaction term multiplying *Same FTA* by openness, or by similarity of factor endowments. This allows us to look at the impact of common membership in the agreement at different values of these variables.

⁴⁰ We used average openness for the host country during the sample period (see Appendix 10.1 for details). The impact of openness is weaker if, instead of interacting openness with *Same FTA*, we use a dummy variable for openness, which classifies as open those countries for which trade over GDP is above the sample mean.

⁴¹ Differences in land per capita, or the level of skill of the labor force, yield qualitatively similar results, although results are weaker when land per capita is used.

As with our *Same FTA* variable, the effect of RIAs through the extension of the size of the market may depend on country characteristics as well. Extending the size of the market will bring more FDI for the RIA as a whole, but the effects may be unevenly distributed. A firm that had production facilities in each of the countries in an RIA may want to concentrate production in a single facility once internal trade barriers are eliminated, and serve the whole extended market from that location. The choice for that location may depend on country size (particularly if trade costs are not completely eliminated) and, more generally, on the overall attractiveness of the host country. Preliminary results (not shown in the appendix) suggest that most of the benefits from the extension of the market are concentrated either on the largest country in the RIA, or on the one that seems to offer the most attractive overall package. This last finding suggests that market enlargement has a stronger positive effect on FDI in an FDI-friendly environment.⁴²

FDI POLICY IN INTEGRATING COUNTRIES

The evidence discussed in this chapter suggests that RIAs can have important effects on foreign direct investment to members and non-members alike, although those FDI gains are unlikely to be distributed evenly. The results indicate that the gains may be smaller for countries that are less developed, closed to international trade, and altogether unattractive to foreign investors.

The discussion throughout this chapter has equated gains in FDI with gains in general welfare. The national “winners” from RIAs are presented as those whose FDI inflows increase, and the national “losers” are those whose FDI inflows might decline. However, the question of whether FDI generates positive welfare effects for the host countries has been a subject of great debate. While most authors believe that FDI tends to be beneficial, there are some who believe that foreign investment is at best a mixed blessing, bringing with it a measure of harm that may outweigh the good.

Our presumption that FDI is good is based on the idea that it may generate positive spillovers for the rest of the economy through a variety of channels. If the foreign firm is technologically more advanced than most domestic companies, the interaction of its techni-

cians, engineers and managers with domestic firms may result in knowledge spillovers. Positive spillovers may also arise if the foreign firm trains workers who may eventually be hired by domestic firms. A related source of positive spillovers, studied by Rodríguez-Clare (1996), is the potential for the development of new inputs, encouraged by the demand created by the foreign firm, which may then become available to domestic producers. Aitken, Hanson and Harrison (1997) point out that multinationals that export their goods to foreign markets may induce domestic firms to follow suit, thus acting as catalysts for domestic firms to become exporters. Borensztein, De Gregorio and Lee (1998) find evidence that FDI has a positive effect on growth, provided the level of human capital in the host country is sufficiently high. Thus, in order to benefit from the advanced technology introduced by foreign firms, the host country has to have the capacity to absorb it.⁴³

However, FDI may also generate negative spillovers. Domestic firms may be displaced by the foreign firm, or may find that the cost of factors of production increases as a result of the foreign investment. While most of the earlier empirical literature on the subject supported the presence of positive externalities, recent work based on firm-level data has found some evidence of negative externalities. Aitken and Harrison (1999) find that growth of total factor productivity in Venezuela was lower for domestic firms in sectors where FDI was greater. The authors focus on within-industry spillovers, however. Kugler (2000) and Chapter 11 in this volume find evidence of important positive inter-industry spillovers for Colombia and Mexico.⁴⁴

⁴² To examine this last issue, we constructed an index of attractiveness for host countries by looking at the extent to which they receive FDI, after controlling for size, for the formation of RIAs, and for geographical characteristics. Once we control for these characteristics, whether a country receives little or much FDI may depend on factors such as the quality of institutions, the education of the labor force, the quality of their infrastructure, their tax treatment of multinationals, and their factor proportions—in other words, on their overall attractiveness as a destination for foreign investment.

⁴³ For a more complete discussion of FDI spillovers, see Blomström and Kokko (1998) and Hanson (2000).

⁴⁴ Kugler (2000) argues that the lack of intra-industry spillovers may be due to the fact that foreign affiliates will appropriate as many of the benefits as possible of their imported technology, thus preventing spillovers from leaking to their competitors. On the other hand, they may want to upgrade the technological capabilities of a supplier, which explains the existence of inter-industry spillovers.

Beyond the possibility of negative spillovers, other authors have identified other potential sources of welfare losses for host countries as a result of FDI. Some have focused on national security concerns, when FDI occurs in sectors related to the defense industry, particularly if it involves a technology that the government would prefer to keep secret.⁴⁵ Others have noted that, if ownership of capital in a country is mostly in foreign hands, policies that increase domestic production but at the same time redistribute income from labor to capital will mostly benefit foreigners, while most domestic citizens will lose.⁴⁶ But both sets of circumstances are relatively uncommon. The few instances in which national security is an issue can be addressed by simply limiting FDI in those particular cases; and a policy tilted towards capital at the workers' expense, combined with an overwhelming concentration of foreign ownership, is unlikely in a democracy where most voters are workers and none are foreigners.

A different problem may be related to the fact that compared to domestic firms, affiliates of multinational companies tend to import more of their inputs, and thus contribute to generating balance of payments deficits.⁴⁷ Yet even this problem may be uncommon. Just as foreign affiliates tend to import more of their inputs, they also export more of their outputs, and as discussed above, this may even induce domestic firms to mimic their behavior and export more as well.⁴⁸

This discussion of the potential benefits and costs of FDI suggests that not all FDI carries similar benefits. In particular, FDI may be more beneficial if it targets more advanced industries (so that potential technological spillovers are larger); if it establishes strong forward and backward linkages with domestic firms (which may thereby absorb the spillovers); if it exports part of the production (relaxing balance of payments concerns, and inducing domestic firms to follow suit); and if domestic firms have the capacity to absorb those spillovers. The key question is, what kind of policies can countries adopt to ensure that the resulting FDI inflows are beneficial? In addition, how does regional integration affect the desirability and effectiveness of those policies? And what does all this suggest regarding the type of provisions that should be included in an RIA investment chapter?

Some of the policies that countries have used to try to get the most out of FDI involve technology

transfer and performance requirements. Domestic affiliates of foreign-owned firms may be required to train domestic workers to certain standards, locate R&D activities in the country, use a minimum content of local inputs, export a certain proportion of their output, or employ certain technologies. Such policies clearly aim to relieve balance of payments pressures and promote spillovers, and there are reasons why they may be effective. If FDI is horizontal, the purpose of the investment is to serve the domestic market. If the multinational firm has not served the market according to the stipulated requirements, it would not be able to serve it at all—a powerful inducement to accept the requirements, provided they are not too onerous. For that reason, although RIAs commonly include investment chapters that bind members to the principle of national treatment (as did the Canada-U.S. free trade agreement), the members may negotiate exceptions to the principle to allow some performance requirements (as they did subsequently in NAFTA).⁴⁹ Yet the evidence suggests that performance requirements have been ineffective. Blomström, Kokko and Zejan (2000, Chapter 13) offer strong evidence that the requirements actually reduce multinational employment of technology, and weaker evidence that they increase capital imports as well. In addition, some of these requirements, such as local content or trade balancing requirements, are either prohibited or being phased out under current WTO rules.

Whether or not performance requirements are beneficial under some circumstances, they are least likely to be so in circumstances of regional integration. RIAs tend to promote vertical over horizontal FDI; they

⁴⁵ Graham and Krugman (1995, Chapter 6) offer several examples. An illustrative one is the prevention of the attempted takeover in the early 1990s of a U.S. aerospace industry supplier, Mamco Manufacturing Company, by the China National Aerotechnology Import and Export Corporation.

⁴⁶ The commonly cited reference for this possibility is Bhagwati and Brecher (1980).

⁴⁷ See Graham and Krugman (1995, p. 70).

⁴⁸ Horizontal FDI, which may rely on imported capital and intermediate inputs but produces for the domestic market, may contribute to balance of payments deficits, depending on whether it substitutes imports or crowds out domestic production. Export-oriented vertical FDI, on the other hand, probably does not.

⁴⁹ See Graham and Krugman (1995, p. 136).

also tend to extend the market for horizontal FDI from individual countries to that of the RIA, thus making FDI more footloose within the region. While a horizontal multinational firm may accept performance requirements if it is necessary to serve a particular country's output market, enlargement of the market with an RIA allows the firm to choose as its host whichever member country has the fewest requirements. A vertical multinational, even more, may simply choose a country outside the region for a particular stage of production.⁵⁰ Performance requirements, in other words, may be best suited for a state of the world that RIAs are designed deliberately to dismantle. The implication for regional integration policy is that, where it comes to an RIA's investment chapter, unadulterated national treatment may work better than any alternative to help a country avoid becoming an FDI loser.⁵¹

If performance requirements are not helpful in attracting FDI to integrating countries, two other polar strategies may attract it. The first, which has been compared to a "beauty contest" (by Oman, 2000), involves improving the quality of institutions, educating the labor force and developing the country's infrastructure. The second entails aggressive use of fiscal and financial incentives to attract foreign investors. This is obviously a false dichotomy, as countries tend to do a little of both. Yet it provides a useful way of organizing the discussion.

Beauty Contest

One important advantage of what has been called the "beauty contest" strategy is that, beyond its effects on FDI, it can generate more obvious benefits for the whole society. Improvements in infrastructure, education or the quality of the institutional environment will certainly benefit domestic citizens and firms, regardless of their impact on FDI. Beyond these general benefits, there is evidence suggesting that improving the quality of institutions can have a large impact on FDI.⁵²

The evidence regarding the impact of education and infrastructure on the location of FDI is weaker.⁵³ This, however, does not mean that countries should not pursue these policies. While they may not contribute to the total amount of FDI a country receives, such policies can affect the benefits host countries derive from FDI. Education, for example, can affect

these benefits through two different channels. First, an educated labor force may influence the type of FDI a country receives, shifting it toward more advanced industries, which may generate larger spillovers. Second, for a given type of investment, better education increases the capacity of the labor force and of domestic firms to absorb spillovers. In addition, foreign firms that are attracted by an educated labor force become a strong constituency in favor of further improvements in education. This is clearly the case of Intel in Costa Rica, where enrollment in engineering schools has doubled in a matter of only a couple of years. In contrast, foreign firms that are attracted by cheap labor will probably lobby for the government to ensure its continuous availability—a scenario far less appealing as a development strategy.

Competition in Incentives

To the extent that FDI produces positive spillovers, it makes sense for governments to offer incentives to potential investors to lure them into their territory.⁵⁴ Provided there are economies of scale, eliminating trade barriers will induce firms to produce in just one location within a bloc and serve the extended market from this location. Competition between countries for FDI may become intense. Yet the competition in incentives leads to allocative efficiency: the efficient number of investments end up being made, and they are

⁵⁰ Coordinated adoption of performance requirements may solve the problem of location within the extended market, but it does not stop vertical FDI from seeking more convenient locations.

⁵¹ The FTAA draft as of the Spring of 2002 includes in its investment chapter an article on performance requirements that would proscribe them. But the text is thoroughly bracketed and includes several bracketed exceptions. The question is under negotiation. See http://www.ftaa-alca.org/ftaadraft/eng/draft_e.asp

⁵² Stein and Daude (2001) show that a 1 standard deviation improvement in an index of institutional quality developed by Kaufmann, Kraay and Zoido-Lobaton. (1999) results in an increase in bilateral FDI of 130 percent. According to their study, reducing excessive regulation, enforcing property rights, improving the quality of the bureaucracy and reducing corruption seem to be some of the most promising policies in terms of attracting foreign investors.

⁵³ See Stein and Daude (2001).

⁵⁴ That is, it makes sense as long as the government is considered a social planner seeking to maximize the country's welfare. A potential problem with incentive-based competition, however, is that negotiations with potential entrants are rarely transparent and open to public scrutiny, so they could lead to arbitrariness and corruption.

directed toward the location where the social rates of return are highest. If there is a problem in the competition, it is instead distributional in nature: if social rates of return for an investment in different locations do not differ too much, foreign firms will be able to extract most of the benefits associated with the investment. As a result, we may see among countries of the region the same type of subsidy wars previously seen between states in such countries as Brazil (see Box 7.3 in Chapter 7)

Improving the distribution of the benefits of FDI in favor of host countries may require some form of coordination of incentive schemes among the region's host countries.⁵⁵ As difficult as this coordination may be for South-South RIAs, it may be an even greater challenge for a North-South RIA such as the FTAA, where the interests of source and host countries are more likely to come into conflict.

⁵⁵ See Fernández-Arias, Hausmann and Stein (2001), who show that elimination of incentive-based competition is not the optimal solution for host countries and, under some circumstances, may leave them worse off than they were when incentive-based competition was occurring.

Appendix Table 10.1 Panel Estimation with Country Pair and Time Fixed Effects: Regression Results

Independent variables	Dependent Variable: FDI stock (log)				
	Reg 1	Reg 2	Reg 3	Reg 4	Reg 5
GDP host (log)	0.8432 (14.60)***	0.8587 (0.06)***	0.9111 (0.07)***	0.8357 (14.44)***	0.4666 (8.74)***
GDP source (log)	-0.1282 (1.25)	-0.1266 (0.10)	-0.2085 (0.11)*	-0.1277 (1.24)	-0.3632 (2.73)***
Same RIA	0.7682 (9.54)***	0.8131 (0.08)***	0.7896 (0.08)***	0.1243 (0.57)	1.1521 (9.02)***
Extended market source	-0.2670 (11.84)***	-0.2693 (0.02)***	-0.2650 (0.02)***	-0.2688 (11.90)***	-0.2739 (9.21)***
Extended market host	0.0576 (2.58)***	0.0482 (0.02)**	0.0461 (0.02)**	0.0632 (2.82)***	-0.0205 (0.68)
Privatization		0.0196 (0.01)***			
Inflation			0.0641 (0.05)		
Same RIA * average openness				0.0095 (3.16)***	
Same RIA * difference in capital per worker					-0.7800 (4.19)***
No. of observations	18,608	18,608	17,234	18,528	12,343
R ²	0.1234	0.1231	0.0945	0.1245	0.0389

Notes: Country pair and time fixed effects included in all regressions not reported. Absolute value of z-statistics in parentheses.

* Significant at 10% level.

** Significant at 5% level.

*** Significant at 1% level.

Source: Levy Yeyati, Stein and Daude (2002).

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