

KEYWORDS

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Foreign direct investment and development: the MERCOSUR experience

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This article analyses the impact of foreign direct investment (FDI) on the MERCOSUR countries in the light of key variables such as productivity, foreign trade, innovation and growth. The macroeconomic impact is not found to have been significant, whereas the microeconomic effects seem to have been more noticeable, though varied. Generally speaking, the subsidiaries of transnational corporations operate at higher levels of productivity, engage in more international trade and are more innovative than local companies. The indirect effects of FDI, on the other hand, are less clear. The sign (positive or negative) and magnitude of productivity spillovers to domestic competitors vary, apparently depending on the characteristics of the local businesses and on the markets in which they operate. Finally, only in Brazil is there evidence of spillover effects —although those effects have been both positive and negative— on the export activities and innovation of local companies, as well as productivity spillovers from foreign subsidiaries to their national suppliers.

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I

Introduction

Since its creation, MERCOSUR has been one of the top attractors of foreign direct investment (FDI) among the developing countries. Between 1990 and 2004, the MERCOSUR countries received almost US\$ 300 billion in FDI.

Indeed, even during their agricultural export period, Argentina and Brazil had adopted development styles in which FDI played a very important role. This role was reinforced during the final phase of import substitution industrialization—from the mid-1950s to 1970—when foreign companies, together with State-owned companies, led the transition to capital- and technology-intensive industries in both countries.

Although FDI flows declined considerably in the 1980s as a consequence of the severe macroeconomic difficulties that beset the region, in the 1990s, with the improvement in the macroeconomic climate, investment flows rebounded and the region became an active participant in the global FDI boom. However, this renewed interest by transnational companies in investing in Argentina and Brazil occurred in a very different context from the one that had prevailed during the import substitute industrialization period.

In the first place, globalization escalated in the 1990s, bringing with it growing interdependence of countries as a result of the strong growth in international trade, investment and technology flows; consolidation of the trend towards the emergence of international disciplines in various areas—particularly within the World Trade Organization (WTO), but not only there—and the proliferation of a variety of binational and multinational trade arrangements, ranging from regional integration processes to investment treaties.

The FDI boom of the 1990s was inextricably linked to globalization. In 2000, FDI reached a record figure of US\$ 1.4 trillion globally, and although investment flows subsequently dropped sharply, today they still significantly exceed the averages of recent decades. At the same time, the number of multinational corporations grew. Whereas in the early 1990s it was estimated that there were around 37,000, with at least 170,000 foreign subsidiaries, by 2004 the number of such companies had increased to nearly 70,000 and the number of foreign subsidiaries had risen to 690,000. Almost half of those subsidiaries were located in developing countries (UNCTAD, 2005).

In this context, transnational companies began to change their strategies, moving towards the creation of integrated international production systems.

In the second place, a fundamental change also occurred in the recipient countries of MERCOSUR, which moved from semi-closed economies with strong government presence—a characteristic of import substitution industrialization—to the adoption of structural reforms prompted largely by the Washington consensus. These reforms sought to open up the economy and reduce the weight of the State, a process that had its clearest expression, in terms of the depth and speed of reform, in Argentina.

The change in the local and international scenarios, coupled with the new trends in the strategies of transnational companies, should have given rise to major changes in the dynamics of FDI within MERCOSUR. In theory, it would have been reasonable to expect not only a change in the objectives of the transnational companies investing in the region, but also a change in the organization of the activities of their subsidiaries. Whereas during the era of import substitution industrialization, FDI was aimed primarily at enhancing access to protected domestic markets by investing in subsidiaries that were not very closely linked with the rest of the company's activities, in the 1990s FDI should have been much more oriented towards international trade, with local subsidiaries incorporating more of the logic of the production chains of each transnational company.

Moreover, the effects of FDI should have been different. During import substitution industrialization,

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transnational companies exhibited higher levels of productivity than local companies, but they were generally still far below international standards. At the same time, in the face of strong import protections, the subsidiaries of transnational companies (which, in the interest of brevity, will be referred to in the remainder of this article simply as “subsidiaries”) tended to operate with a high-level of national integration.

In the scenario of the 1990s, these subsidiaries could have been expected to raise their productivity to international levels and to move forward in trade integration along with the rest of the world, tending to specialize in a smaller number of business segments in order to make themselves more competitive. They should also have exhibited a lower degree of national integration than in the past because they were operating in a more open economic environment and because of the tendency of transnationals to use “global suppliers”.

But the new scenario of the 1990s did not affect only the strategies of transnational companies. Domestic companies in all of the MERCOSUR countries also had to contend with new rules of the game, including increased competition in their respective markets as a result both of the larger influx of foreign products and of the considerable growth in FDI inflows.

In this general context, the greater presence of transnational companies alone could have generated both positive and negative impacts on local companies. One of the basic mechanisms for transmission of such impacts is “spillovers”. In the specialized international literature on the subject, these mechanisms were

originally assumed to yield benefits for local companies —for example, through new knowledge acquired from subsidiaries that would allow them to improve their productivity or through easier access to export markets opened up by transnational companies. However, later on, empirical studies in various countries have shown that spillovers can also produce harmful effects (i.e., spillovers can be negative). Those studies also suggest that the sign (positive or negative) and magnitude of spillovers may vary depending on the capacity of local companies and their responses to the presence of transnational companies.

Against the above context, this article seeks to examine the direct and indirect impacts of the massive presence of transnational companies in the MERCOSUR countries. This examination will yield not only lessons about the factors that determine the magnitude of these impacts and whether they are positive or negative, but also valuable policy suggestions for improving the cost-benefit balance of FDI in the recipient economies, including not just those of MERCOSUR but those of developing countries in general.

The article is organized as follows. After this introductory section, section II describes the main features of and the decisive factors in FDI in the countries of MERCOSUR. Section III analyses the impact of FDI on the MERCOSUR countries in the light of key variables such as productivity, foreign trade, technological change and growth. Lastly, section IV presents the main conclusions of the analysis and offers some policy suggestions.

II

Foreign direct investment trends in MERCOSUR

Investment flows to MERCOSUR in the second half of the 1990s were, in constant values (1982 dollars), more than tenfold greater than in the 1970s. Virtually all of this investment went to Argentina and Brazil. During the 1990s, both countries, but especially Argentina, saw an increase in their already large share of the total FDI flows to the MERCOSUR countries. Figures 1 and 2 illustrate the trend of FDI in MERCOSUR between 1991 and 2004.

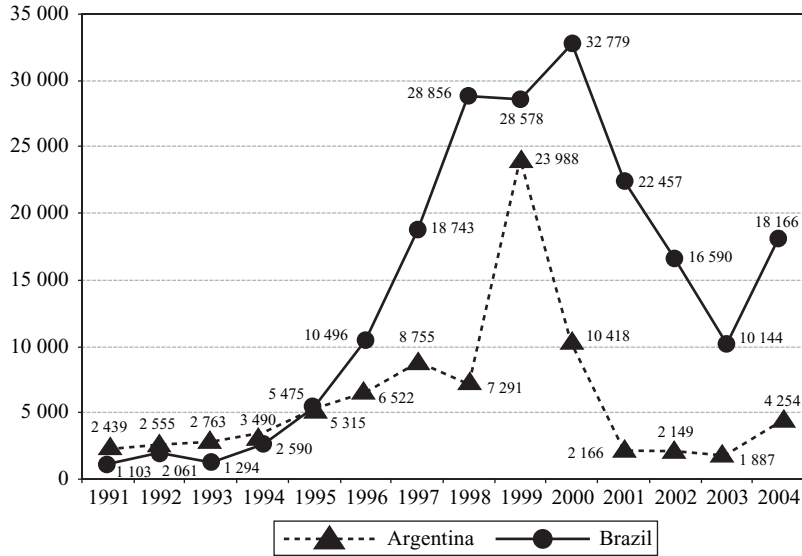
At the same time, the relative weight of FDI in the MERCOSUR economies increased markedly in the 1990s. In 2004, in both Argentina and Brazil, FDI as a

proportion of gross domestic product (GDP) was clearly higher than the global average (table 1). Naturally, the large inflow of FDI brought with it huge growth in the transnational companies operating in the region in the 1990s (figure 3). In Argentina and Brazil, the market share of such companies reached levels that were among the highest in the world (Chudnovsky and López, 2001).

During the 1990s, the bulk of the FDI flowing into MERCOSUR went to the services sector, a phenomenon which was largely linked to the wave of privatizations and deregulation taking place in the region at the time.

FIGURE 1

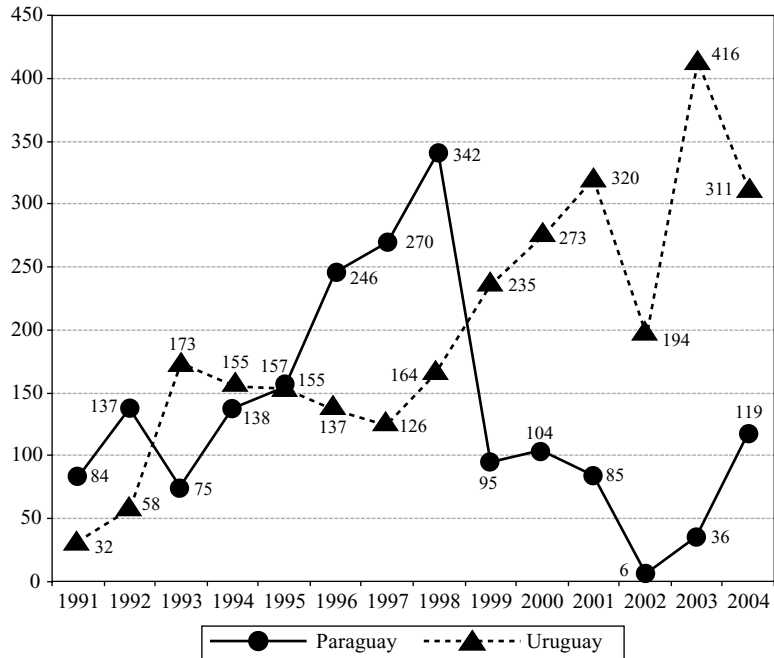
MERCOSUR: trend of foreign direct investment flows to Argentina and Brazil, 1991- 2004
(Millions of current United States dollars)



Source: Prepared by the authors using data from the United Nations Conference on Trade and Development (UNCTAD).

FIGURE 2

MERCOSUR: trend of foreign direct investment flows to Paraguay and Uruguay, 1991- 2004
(Millions of current United States dollars)



Source: Prepared by the authors using data from UNCTAD.

TABLE 1

**MERCOSUR countries and other countries:
foreign direct investment, 1980-2004**
(Percentage of GDP)

| | 1980 | 1990 | 2000 | 2004 |
|----------------------|------|------|------|------|
| Argentina | 2.6 | 6.2 | 23.8 | 35.3 |
| Brazil | 7.1 | 8.0 | 17.1 | 25.2 |
| Paraguay | 4.8 | 7.6 | 17.2 | 14.6 |
| Uruguay | 4.4 | 7.2 | 10.4 | 17.5 |
| Developing countries | 4.9 | 9.8 | 26.2 | 26.4 |
| Developed countries | 5.0 | 8.2 | 16.3 | 20.5 |
| World | 4.9 | 8.4 | 18.3 | 21.7 |

Source: Prepared by the authors using data from UNCTAD.

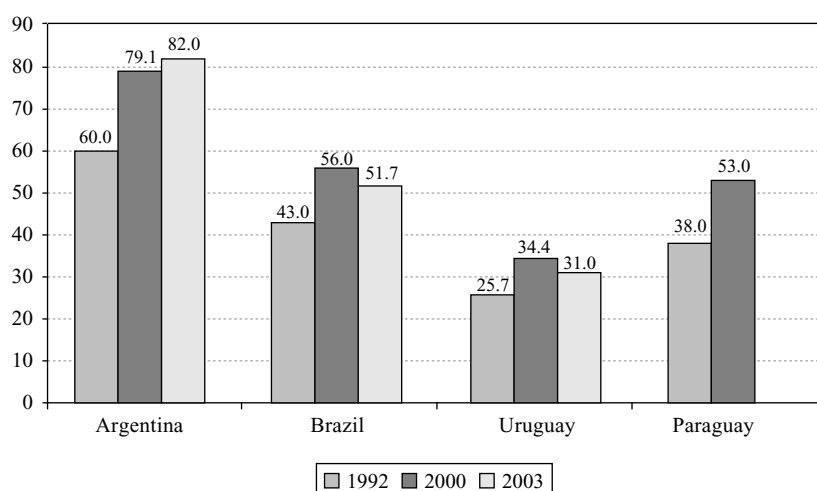
Industry received only slightly over 20% in Argentina and Brazil —far below the level observed during the import substitution industrialization period. In the smaller countries, on the other hand, most FDI went to agriculture and related activities, although natural resources also attracted investment in Argentina, where the petroleum and mining sector absorbed more than a third of all FDI.

It is interesting to contrast the pattern of FDI in MERCOSUR with the pattern prevailing in other parts of the Americas. Within MERCOSUR, availability of raw materials and access to markets (national or regional) were the main factors in the attraction of resource- and market-seeking FDI. In Mexico and Central America, on the other hand, investment was driven mainly by a quest for efficiency and was directed towards the industrial sector (including the automobile, textile and garment, and electronics industries). This investment was strongly export-oriented, motivated by low labour costs and had little linkage to the recipient economies (CEPAL, 2000).

The FDI boom in MERCOSUR during the 1990s was largely a reflection of a similar global trend. However, it was also related to internal factors, as a result of which the region received more FDI than other parts of the world. The findings of Chudnovsky and López (2002) suggest that the size and growth of the domestic markets of the MERCOSUR countries, coupled with export dynamics, macroeconomic stability and the availability of natural resources, especially in Argentina, Paraguay and Uruguay, were among the main factors attracting FDI.

FIGURE 3

**MERCOSUR: share of transnational corporations in sales of leading firms
in member countries, 1992, 2000 and 2003**
(Percentages)^{a b}



Source: Prepared by the authors using data from the Encuesta Nacional a Grandes Empresas (National Survey of Large Corporations), Instituto Nacional de Estadística y Censos (INDEC) (Argentina); *Exame* magazine (Brazil) and MC Consultores (Uruguay).

^a For Argentina, data for 1993 were used because no data for 1992 were available. This information also applies to figures 4 and 5.

^b Data on the share of multinational firms is calculated on the basis of a universe of 500 companies in Argentina and Brazil and 300 in Uruguay. This information also applies to figures 4 and 5.

Some policy instruments, together with privatization, deregulation and trade liberalization, as well as debt-swapping mechanisms (used extensively in the late 1980s), had a positive effect on FDI inflows into MERCOSUR. Nevertheless, MERCOSUR's impact in attracting FDI does not appear to have been particularly significant, except in the automobile sector, where specific policies were applied in Argentina and Brazil (Chudnovsky and López, 2002).

Figures 1 and 2 show the sharp drop in FDI flows to MERCOSUR after 2000, especially in Argentina.

III

Impact of foreign direct investment on the MERCOSUR countries

1. General considerations

FDI's contribution to the economic development of recipient countries depends essentially on the impact that the presence of transnational companies—which receive the lion's share of foreign investment—has on domestic economies.

Subsidiaries of transnational companies (called simply "subsidiaries" here for the sake of brevity) enjoy "ownership advantages" thanks to their access to product and process technologies and to the organizational, production, business and environmental practices of their parent companies. Such subsidiaries—especially when they operate in developing countries—thus generally have advantages over their local competitors in terms of higher productivity and greater capacity for launching new products and productive processes on the market.

FDI can be expected to influence trade flows in recipient countries because subsidiaries are part of corporate networks which, theoretically, facilitate the exchange of goods and services with other subsidiaries, with the parent company and even with third parties (suppliers and others). With their higher levels of productivity and easier access to foreign markets, it is reasonable to assume that subsidiaries will have a greater propensity to export than local companies. And because it is easier for them to purchase from foreign suppliers, including both inputs and finished goods and capital goods, they will also, presumably, be more likely to import than local companies.

However, the flows remain high in comparison with previous periods and the relative weight of FDI continues to increase in the economies of all the countries of the region, except Paraguay (table 1). In other words, even after the crises suffered by the countries of the bloc, the presence of transnational companies continues to be of crucial importance for the economic advancement of MERCOSUR. This makes it all the more important to assess the impact of FDI, which will be examined in the next section.

In addition to its direct effects, FDI also has significant indirect effects (also called spillover effects or spillovers) on domestic companies. In the area of productivity, for example, there may be positive spillovers for companies in the recipient countries, which may take various forms. For example:

(i) Human capital may be improved when local companies and institutions gain access to operators, technicians and engineers trained by subsidiaries of transnational companies in production, marketing and/or innovation activities.

(ii) The level of competition on the domestic market may increase when new transnational companies enter the market or existing subsidiaries become more competitive, prompting local companies that compete with the foreign firms to boost their productivity and/or enhance the quality of their products, either by making investments or by taking advantage of knowledge that trickles down from subsidiaries—i.e., through horizontal or intrasectoral spillovers.

(iii) Local companies may benefit from the technologies and organizational practices of transnational companies, both as a result of the more stringent demands for quality, price and/or delivery time that subsidiaries generally place on their suppliers and as a result of the technical assistance that they may provide in order to ensure that those demands are met—i.e., vertical or intersectoral spillovers.

While subsidiaries would have incentives for avoiding horizontal spillovers, they might be inclined to promote vertical or intersectoral spillovers. This

type of spillover will probably not have any adverse effect on the subsidiaries and indeed might well benefit them by making their customers and/or suppliers more productive and more efficient (Kugler, 2001).

Subsidiaries can also generate positive spillovers in terms of access to external markets if their export activities reduce the cost of acquiring information on such markets or make it easier for local companies to learn to export, either through demonstration effects or through generation of greater competition.

However, spillovers will not always be positive. For example, productivity can be negatively impacted when local companies are forced to cut their production—thus lowering productivity in their establishments—in the face of a growing foreign presence in the market (Aitken and Harrison, 1999). Negative vertical spillovers can occur when, for example, local suppliers are displaced from the market as a result of subsidiaries' preference for foreign suppliers.

Empirical studies in recent years have attempted to assess the existence and magnitude of direct and indirect effects of FDI in recipient countries and determine whether those effects have been positive or negative. The methodology used in such studies has changed over time, with case studies of countries or industries in which transnational companies play a significant role increasingly giving way to econometric studies, as it is essential to employ procedures that make it possible to analyse both observable and non-observable characteristics of companies in order to isolate the importance of the foreign ownership variable in performance differences. This means analysing the problem of endogeneity (Barba Navaretti and Venables, 2004).

The same is true of spillovers. In the case of productivity spillovers, which were the first to attract the attention of the specialized literature, most of the pioneer studies found evidence of positive indirect effects, but they were based on cross-section data, which did not capture heterogeneity at the company level. Moreover, these studies did not take into account the effect of the sectoral composition of FDI, so even in the absence of spillovers there could be a positive correlation between presence of transnational companies and productivity of local companies, simply because transnationals tend to invest in high-productivity sectors.

The most recent studies, most of which have employed panel data techniques, have tended to show a more heterogeneous reality. With panel data models using fixed effects at the company level, non-observable factors that may affect the investment decisions of transnational companies can be taken into account, as

can changes that may affect the productivity of such companies over time—for example, changes in the institutional or macroeconomic context or possible slowness on the part of local companies in absorbing knowledge spillovers from subsidiaries.

Up to this point, we have been discussing mainly the microeconomic effects of FDI. Analogously, the aforementioned empirical studies have generally been based on firm-level data. However, those studies have also examined the relationship between FDI and growth, a topic which, obviously, must be treated at country level.

In such cases, the analysis generally explores not just the impact of FDI on gross domestic product (GDP) growth in recipient countries, but also inverse causality—in other words, whether it is growth that attracts FDI (a plausible hypothesis in the light of the aforementioned prevalence of horizontal, or market-seeking, FDI in recent decades). As we will see later on, in this area, too, the empiric evidence shows a positive-to-negative shift—from general optimism to general scepticism—as increasingly advanced econometric techniques have been used.

2. Productivity

Although many empirical studies have indicated that subsidiaries exhibit higher levels of productivity than local companies, when the analysis is controlled for other observable and non-observable characteristics of companies, the size of the gap shrinks considerably: from between 30% and 70% to between 1% and 7% (Barba Navaretti and Venables, 2004). In addition, when it is taken into account that transnational companies may acquire the local companies that already have the highest productivity, in some cases the “nationality effect” vanishes, although in no case are negative effects observed.

With regard to horizontal spillovers, the most recent studies, employing advanced econometric procedures, have not found much evidence of positive effects, especially in developing countries. Some of these studies have highlighted the fact that the magnitude of such spillovers, and whether their impact is positive or negative, may depend mainly on the capacity of domestic companies and/or the size of the technology gap between local firms and foreign subsidiaries.¹

In contrast, with regard to vertical spillovers—which have been much less studied than horizontal

¹ See reviews and critical assessments on the topic in Görg and Greenaway (2004) and Lipsey and Sjöholm (2005).

spillovers— Javorcik (2004) and Blalock and Gertler (2005) suggest that subsidiaries of transnational companies may have positive effects on their local suppliers, confirming the intuitive assumption alluded to earlier that such spillovers could, unlike their horizontal counterparts, be beneficial for the subsidiaries.

In the case of MERCOSUR, studies on the indirect effects of transnational companies in Argentina, Brazil and Uruguay—the findings of which have been published in Laplane (2006)— apply mainly an econometric methodology for the analysis of spillovers, but they also take into account the local context in explaining the results obtained.

In Argentina, panel data on manufacturing companies for the period 1992-2001 reveal that subsidiaries exhibit higher levels of productivity than local companies. There is no evidence of any spillovers to local companies—positive or negative, horizontal or vertical—resulting from the presence of transnational companies. However, local companies that have high absorptive capacity—as measured by an indicator that combines variables related to human capital, innovation activities and use of modern management techniques—are better positioned to receive positive spillovers from the presence of transnationals than those with low absorptive capacity (Chudnovsky, López and Rossi, 2006).

In the case of Brazil, panel data from industrial firms for the period 1997-2000 show that domestic enterprises received neither positive nor negative spillovers from the presence of transnational companies. As in Argentina, it was found that the response capacity of domestic companies determined the results of their interaction with subsidiaries: those that had smaller differences in productivity vis-à-vis the foreign firms experienced negative spillovers from the presence of transnational companies, while the presence of such companies tended to enhance the productivity of domestic firms that exhibited a larger productivity gap (Laplane, Padovani Gonçalves and Dias de Araújo, 2006).

In interpreting this finding, it should be borne in mind that, during the period under study, most of the subsidiaries were oriented towards the Brazilian domestic market. Hence, their presence would have had the effect mainly of downscaling the activities of the most efficient local companies, with a consequent loss of productivity. This hypothesis is reinforced by the finding that the presence of market-seeking subsidiaries has a negative effect on the productivity of domestic companies. As for vertical effects, the Brazilian study found evidence of positive spillovers for domestic companies.

In Uruguay, as in Brazil, negative horizontal effects were found (although not in all the exercises carried out in the course of the study). These effects were attributed to competition for the domestic market between local companies and subsidiaries. At the same time, it was found that the domestic companies with the greatest learning capacity—as measured by number of personnel engaged in research and development (R&D) activities—were able to benefit from the foreign presence, although the companies that were spending the most on R&D saw their productivity decline as a result of this presence (Bittencourt and Domingo, 2006). Transnational companies were found to be more productive than local firms when sector-level fixed effects were included in the analysis, but not when firm-level fixed effects were considered.

Although transnational companies in Argentina also employed mainly market-seeking strategies, unlike in Brazil and Uruguay, there was no evidence of negative horizontal spillovers. However, Chudnovsky, López and Rossi (2006) found that in sectors with high effective protection rates the presence of transnational companies had negative effects on the productivity of domestic companies. This finding also serves to underscore the negative impact of FDI when its purpose is mainly to gain access to markets in recipient countries.

3. Foreign trade

There have been relatively few studies of the impact of FDI on the foreign trade behaviour of recipient countries.² Some studies have found that subsidiaries export more than domestic companies.³ We have found no evidence from empirical studies using econometric techniques that transnational companies import more than domestic firms (although very few studies appear to have dealt with this topic), except for those conducted in Argentina, Brazil and Uruguay (see below).

With regard to spillovers, some studies point to positive effects, while others find no evidence of such effects.⁴

² See Görg and Greenaway (2004) for a review of the literature.

³ See Roper and Love (2001) for a study using data on the Republic of Ireland and on Northern Ireland; Aitken, Hanson and Harrison (1997) for a study using data on Mexico; and Kneller and Pisu (2004) for a study using data on Great Britain.

⁴ The first group includes Aitken, Hanson and Harrison (1997), with data on Mexico; Greenaway, Sousa and Wakelin (2004), on Great Britain; and Alvarez (2005), on Chile. The second group includes a study by Barrios, Görg and Strobl (2003) using panel data on Spanish companies.

The issue is of great importance for MERCOSUR, considering the major role that multinational companies play in the foreign trade of the countries of the region. Their role is largest and is clearly growing in Argentina, particularly with regard to exports; Brazil and Uruguay are second and third in terms of the participation of multinationals in international trade (figures 4 and 5).

What does the empirical evidence say about the international trade propensity of subsidiaries and possible spillovers to domestic companies in the MERCOSUR countries? In a study on a panel of manufacturing companies in Argentina, using data from the period 1992-2001, Chudnovsky, López and Orlicki (2006) find that companies that were acquired by foreign investors, showed, after the change of ownership, a tendency both to export and to import more than domestic companies (both in absolute values and in terms of turnover) when various observable and non-observables characteristics of the companies analysed are taken into account. This effect occurs gradually and is robust to various specifications of the

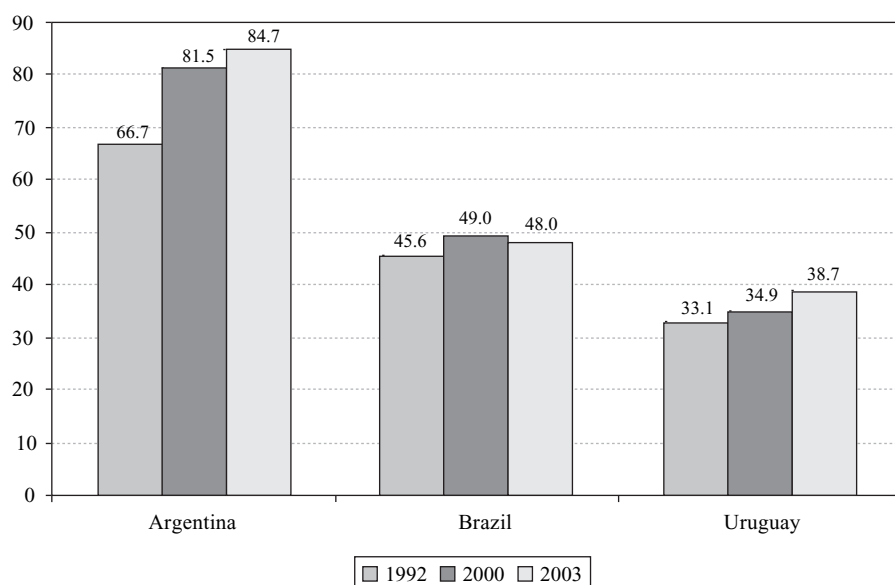
model. That study found no evidence of vertical or horizontal spillovers to domestic companies.

In contrast, there have been several studies on the trade performance of transnational corporations in Brazil, employing different databases and methodologies. Using data from 1997, Pinheiro and Moreira (2000) found that foreign companies were more likely to export and that the expected value of their exports was 32% higher than that of domestic firms. De Negri (2003), meanwhile, analyses a panel of almost 54,000 companies during the period 1996-2000 and finds that foreign firms exported 70% and imported 290% more than domestic companies.

As for spillover effects, a recent study shows that they exist but that they are generally very small in magnitude and they may be either positive or negative (Hiratuka and Dias de Araújo, 2006). On the one hand, the foreign presence seems to make it more likely that domestic firms in the same sector will export their products; however, when the authors disaggregate the analysis, classifying domestic companies according to their levels of productivity vis-à-vis transnational

FIGURE 4

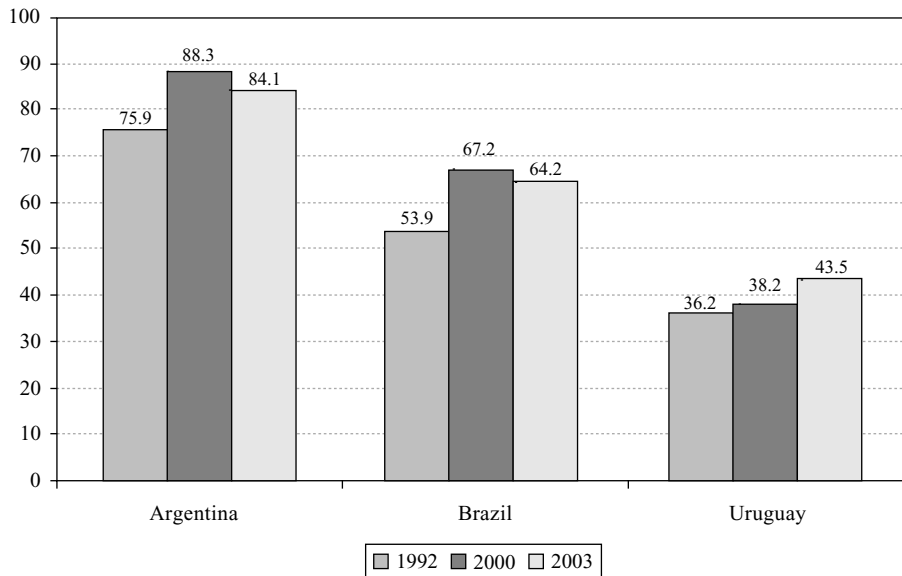
MERCOSUR: share of transnational corporations in exports of leading firms in member countries, 1992, 2000 and 2003
(Percentages)



Source: Prepared by the authors using data from the Encuesta Nacional a Grandes Empresas (National Survey of Large Corporations), Instituto Nacional de Estadística y Censos (INDEC) (Argentina); *Exame* magazine (Brazil) and MC Consultores (Uruguay).

FIGURE 5

MERCOSUR: share of transnational corporations in imports of leading firms in member countries, 1992, 2000 and 2003
(Percentages)



Source: Prepared by the authors using data from the Encuesta Nacional a Grandes Empresas (National Survey of Large Corporations), Instituto Nacional de Estadística y Censos (INDEC) (Argentina); *Exame* magazine (Brazil) and MC Consultores (Uruguay).

companies, the effects turn negative. On the other hand, when the effects of the foreign presence on the amounts exported by local companies are examined, positive spillovers are observed in those with high levels of productivity and negative spillovers in the rest.

In the case of Uruguay, a cross-sectional study finds that the presence of transnationals increases the probability that local companies will export, although this effect only occurs for exports to the global market, not for those to Argentina and Brazil. Interestingly, only subsidiaries established after 1973 have a positive effect on the likelihood of local companies' exporting, whereas this does not occur with those that came to Uruguay during the import substitution industrialization period (Kokko, Zejan and Tansini, 2001).

More recently, Bittencourt, Domingo and Reig (2006a), based on data from two panels of Uruguayan companies for different periods in the 1990s, show that transnational companies have a greater propensity to export than local ones, but they do not find any resulting spillovers to the export behaviour of local companies. As for the propensity to import, looking only at purchase of inputs, the study finds that

transnational firms imported more than local firms in only one of the two periods examined. In addition, in one of the two periods, the foreign presence in one sector of the economy may have increased the import propensity of local companies.

Studies have also been conducted with a view to analysing not only the general trade performance of transnational companies but also the characteristics of their foreign trade. Chudnovsky and López (2001) found, through a descriptive statistics analysis, that subsidiaries operating in MERCOSUR countries had an essentially asymmetrical trade pattern, the technology content of their exports being clearly inferior to that of their imports. At the same time, the weight of the developed countries—and in particular of the respective regions of origin of the subsidiaries—in the import patterns it was greater than in the case of exports, particularly with respect to manufactured goods.

A recent study by Hiratuka and De Negri (2004) examined this topic in Brazil, applying econometric techniques. The authors show that subsidiaries with parent companies in the United States, Canada and Europe import more products from their regions of

origin than other companies, but they do not exhibit any significant differences with respect to the destination regions for their exports. However, the technology content of the transnationals' imports from their regions of origin is higher than that of their overall imports. Hence, the higher volume of imports from their regions of origin may be due to subsidiaries' technological dependence on their parent companies.

According to Hiratuka and De Negri, one of the main factors in understanding these findings is the high proportion of intra-firm trade by subsidiaries, which, according to official figures, accounts for as much as 63% of their exports and 57% of their imports. In 2000, intra-firm trade represented almost 38% of total exports and 33% of total imports in Brazil.

These data reflect the positioning of Brazilian subsidiaries within the production and trade networks of transnational companies. However, it should be noted that Brazil enjoys a relatively privileged situation in that regard compared to the other MERCOSUR members. In fact, the share of manufacturing exports in the trade of transnationals is larger in Brazil, the weight of FDI in high-technology sectors is greater and, as will be seen later on, most of the innovative effort by subsidiaries in the region is concentrated in Brazil. In addition, many of transnational corporations have their regional headquarters in Brazil (Chudnovsky and López, 2001). Hence, the impacts of FDI in this country may differ from those in the other MERCOSUR countries.

Hiratuka and Sabatini (2006) also examine the extent to which transnational companies are more likely than domestic companies to trade with MERCOSUR. A previous study (Chudnovsky and López, 2002), using trade data for the year 2000, had not found any statistically significant differences in that respect. The more recent study, however, which used data from 2003, found that in Argentina transnational companies are more likely both to import from and export to MERCOSUR. In Brazil, on the other hand, the differences are statistically significant only in the case of imports. This greater intra-regional trade orientation on the part of transnationals in MERCOSUR might reflect the consistent application and even the intensification of efficiency-seeking strategies within the bloc, as well as possible effects of the financial crisis in Argentina.

4. Research, development and innovation

Although the R&D activities of transnational companies have traditionally been concentrated in their parent companies, and in some cases in their subsidiaries in

industrialized countries, in recent years there has been a trend towards decentralizing these activities to some developing countries in Asia and, to a lesser extent, in Latin America, especially Brazil (UNCTAD, 2005).

This is noteworthy because enhancing productivity and competitiveness in developing countries depends not only on their adopting imported modern technologies, but also on their engaging systematically in R&D at the local level.

It is worth asking, in this context, what contribution FDI has made to R&D activities in the MERCOSUR countries, and, as in the preceding sections, examining whether there have been spillovers to local companies.

Generally speaking, there have not been many studies focusing on developing countries that have looked at whether transnational companies conduct more or less R&D in the recipient country than local companies, and there are even fewer that have examined the possible spillovers of such activities to national firms. And we are not speaking here of productivity spillovers, but of whether or not the fact that subsidiaries carry out R&D activities increases the probability that domestic companies will do likewise.

A study using data from Turkey (Erdilek, 2005) shows that subsidiaries in that country are more likely to undertake R&D activities than local companies. However, the same study also offers evidence, at least from some of the exercises conducted in connection therewith, that the foreign presence stimulates R&D activities by local companies operating in the same sector.

In contrast, in a study using data on India, Kumar and Aggarwal (2000) find that subsidiaries spend less on R&D than their local counterparts. Similarly, Srholec (2005), working with data from the Czech Republic, finds that multinational companies are less likely than local ones to engage in R&D activities. A similar finding appears in Jefferson, Huamao et al. (2002) for a panel of data from Chinese companies.

What does the evidence say about MERCOSUR? Using quantitative data from a Brazilian survey of innovation for the year 2000, Laplane, Padovani Gonçalves and Dias de Araújo (2006) conducted various cross-sectional econometric exercises on the topic, and found that subsidiaries spend proportionally less on R&D than domestic firms, taking into account factors such as size, personnel training and propensity to export. Dias de Araújo (2005) also finds that transnational companies are less likely to invest in R&D than their local counterparts. However, as the authors point out, this does not mean that subsidiaries are less innovative than their national counterparts (the aforementioned

survey reveals that 68% of foreign subsidiaries are innovative,⁵ versus 30% of domestic firms), but rather that they innovate mainly by using knowledge supplied by their respective parent companies.

At the same time, Laplane, Padovani Gonçalves and Dias de Araújo (2006) found that both the foreign presence and the average intensity of spending on R&D by transnational companies operating in a particular sector stimulate R&D by local companies. However, the spillover effects are relatively minor. Dias de Araújo (2005) finds mainly positive spillovers (although, because he differentiates local and foreign companies by sector and levels of productivity, he also finds a few cases of negative spillovers).

In the case of Argentina, a study on inputs into and results of the innovation process in the manufacturing industry in 1992-2001, using data from two recent surveys of innovation, found that whether the company was foreign or domestic was not an explanatory variable in either the level of R&D spending as a proportion of sales or the likelihood of introducing innovations into the market (Chudnovsky, López and Pupato, 2006).

Another study showed that companies acquired by foreign investors were more likely than local companies to put new products or processes on the market, but that acquisition of local companies by transnational companies did not influence the level of expenditure on R&D, nor did it result in horizontal or vertical spillovers to domestic firms (Chudnovsky, López and Orlicki, 2006). These findings are consistent with what was found in Brazil: subsidiaries of a transnational company may be more innovative because of knowledge they receive from their parent company.

Within MERCOSUR, subsidiaries in Brazil are clearly the leaders in the area of R&D, at both the regional and the international levels.⁶ This could be because the application of efficiency-seeking strategies in the region has led to the discontinuation of certain innovative activities of an adaptive nature that were being carried out in Argentine subsidiaries and to the transfer of those activities to their Brazilian counterparts. It should also be remembered, however, that Brazil has attracted more FDI in high-tech sectors —where R&D expenditures tend to be higher than average— than

the other members of MERCOSUR. In addition, under current regulations in Brazil, multinational corporations that invest in sectors such as electronics and computers are required to invest a certain proportion of their sales revenues in R&D.

5. Growth

The relationships between FDI and growth have been widely discussed in recent years. Some studies have shown that FDI is a causal factor in growth in developing countries, particularly when certain minimum thresholds for human capital and/or trade openness are met in the recipient countries (Borenzstein, de Gregorio and Lee, 1998; Blonigen and Wang, 2005; Zhan, 2001).

In contrast, Carkovic and Levine (2005), using new econometric techniques, find no evidence of a positive impact of FDI on growth, while Calderón, Loayza and Servén (2004)⁷ find that the causal relationship goes in the other direction: growth leads to FDI. Mencinger (2003), who studied the transition economies of Eastern Europe, concludes that FDI had a negative impact on growth, attributing this finding to the prevalence of merger-and-acquisition FDI in that region.

Other studies show more varied evidence. For example, Chowdhury and Mavrotas (2005) find a bidirectional causal relationship between FDI and growth in the cases of Thailand and Malaysia, but conclude that in Chile the direction of causality is from growth to FDI. Working with data from several Latin American countries, Cuadros, Orts and Alguacil (2004) find that FDI has had a positive effect on growth only in Mexico. Basu, Chakraborty and Reagle (2003) conclude that in more open economies the relationship between FDI and growth is bidirectional, but that in more closed economies it is unidirectional: from growth to FDI. Choe (2003) also finds evidence of a bidirectional correlation between FDI and growth, but points out that the strongest effects run from growth to FDI.

What does the available information say about the relationship between growth and FDI in MERCOSUR? A study by Bittencourt, Domingo and Reig (2006b) explores this question by means of two methodologies: analysis of co-integration and causality between FDI, investment and GDP series for the MERCOSUR countries and growth modelling using panels of countries (the same methodologies applied in the above-mentioned

⁵ An “innovative” firm is defined as one that launched new products or processes on the market during the period under study.

⁶ A recent UNCTAD survey of a group of large multinational firms found that Brazil ranked 12th among foreign locations for conducting R&D activities, whereas Argentina was mentioned only once and Paraguay and Uruguay were not mentioned at all.

⁷ The studies by Calderón and Levine (2005) and by Calderón, Loayza and Servén (2004) cover both developed and developing countries.

studies). In neither case do they find evidence that FDI generates growth.

Exploring the dynamics of the relationships between the aforementioned series for the period 1950-2004, the authors of that study conclude that FDI has not contributed to GDP growth in any of the MERCOSUR countries, although the inverse relationship is found for Uruguay and, weakly, for Argentina. Only in Uruguay does there appear to be a positive bidirectional correlation between FDI and domestic investment.

On the other hand, using a panel of data from four MERCOSUR member countries for the period 1970-2004, the same study finds that variables representative of physical and human capital accumulation had positive effects on growth, as did the growth rate in the preceding period, but that FDI is not a significant explanatory variable. In short, FDI does not appear to have had a positive impact (although it has not had a negative impact, either) on growth in the MERCOSUR countries in recent decades.

IV

Conclusions and policy recommendations

The preceding analysis suggests that the macroeconomic impacts of FDI in the MERCOSUR countries have not been significant, since its effect on growth in the countries of the region was neither positive nor negative. This is not surprising, as many of the most recent studies on the topic in other regions have yielded similar findings. The microeconomic impacts of FDI, on the other hand, appear to have been much stronger, although they have not been uniformly positive or negative.

In the three countries examined in this study, there is evidence that subsidiaries are more involved in international trade than domestic companies, in terms both of imports and of exports. As previous studies have not found evidence that subsidiaries have a greater propensity to export, the change could be due to a learning process and to improvements in efficiency stemming from efforts to adapt to the new conditions in the domestic and international environments, which enabled subsidiaries gradually to increase their export capacity.

At the same time, the participation of subsidiaries in the intra-firm trade of transnational companies shows some asymmetrical patterns. In Brazil, in particular, it has been shown that subsidiaries of transnational companies headquartered in developed countries tend to import mainly from their countries of origin—but they do not show the same tendency with regard to exports—and that such imports had a higher technology content than their imports from other regions.

Considering that most trade by subsidiaries of multinationals is intra-firma trade, and in the light of

the findings of previous studies on the topic,⁸ it can be concluded that there is a sort of intra-firm international “division of labour” in a substantial proportion of the foreign companies with operations in the region.

The technology content of subsidiaries’ exports is lower than that of their imports, and most such exports go to developing countries, mainly in Latin America. This means that advantage is not being taken of the possibilities that might be available to subsidiaries in the markets of origin of their respective parent companies. On the other hand, subsidiaries tend to purchase mainly from suppliers in their countries of origin, particularly in the case of goods with high technology content.

As for the spillover effects of FDI on domestic companies, the available evidence paints a varied picture. Only in the case of Brazil do there appear to be productivity spillovers from subsidiaries of transnational corporations to their domestic suppliers. The productivity of these Brazilian firms appears to have been enhanced by the foreign presence, which could be the result of conscious effort by the subsidiaries to help boost the efficiency of their suppliers.

In contrast, horizontal productivity spillovers—i.e., spillovers between companies competing in the same area of activity—seem to depend on certain characteristics of the local companies and of the markets in which they operate. Generally speaking, no evidence was found of either positive or negative horizontal

⁸ See Chudnovsky and López (2001 and 2002).

spillovers, although when various features of domestic companies were examined, some differential effects emerged. For example, in Argentina it was the domestic companies with the greatest absorptive capacity that most benefited from the presence of transnational firms, whereas in Brazil the biggest beneficiaries were the domestic firms that had the largest productivity gap vis-à-vis the transnationals. While the finding in Argentina is presumably explained by the fact that greater absorptive capacity facilitates the transfer of knowledge from subsidiaries of transnational companies to local firms, the situation in Brazil appears to have more to do with the massive influx of market-seeking FDI, which displaced the local companies competing directly with foreign subsidiaries in the same markets.

There is no evidence of spillovers on the export activity of national firms as a result of the presence of subsidiaries of transnational companies, except in Brazil, where spillovers do seem to have occurred, but they were very small in magnitude and were both positive and negative, generally benefiting the most productive local companies and hurting the least productive ones.

In Brazil, there is also evidence of positive spillovers from the foreign presence on the R&D expenditures of local companies. Curiously, this was true even though subsidiaries in Brazil spend less on R&D than domestic companies. This does not, however, mean that they are less innovative. Indeed, in both Brazil and Argentina, transnational companies are more likely to introduce innovations into the market than their domestic counterparts, a phenomenon explained by the fact that knowledge existing within transnational companies can be utilized at low cost by their subsidiaries.

How should these findings be interpreted? Clearly, they do not suggest that FDI automatically leads to growth or brings about widespread improvement in the performance of companies in recipient countries, as has been assumed, explicitly or implicitly, to be the case by advocates of the so-called Washington consensus, which spawned the wave of reforms of the 1990s. However, neither do these findings bear out the current mainly negative view of FDI that has become increasingly widespread in some countries of the region in recent years.

Moreover, the available evidence indicates that the effects of FDI in the MERCOSUR countries have not necessarily been uniform. Brazil seems to have been the biggest beneficiary, as evidenced by the following findings: (i) key functions for multinational enterprise

at the regional level, and, in a handful of cases, at the global level, tend to be concentrated in Brazil; (ii) Brazil accounts for the bulk of high-tech FDI in MERCOSUR; (iii) the technology content of the exports of multinational companies located in Brazil is higher. These trends result from a combination of structural factors (the greater size of the Brazilian economy and its higher degree of industrial development) and public policy factors (existence of regulatory frameworks that encourage multinationals to engage in R&D activities in Brazil and that attract investment to high-tech sectors).

Against this backdrop, what should the public policy agenda for the future be? First, it is worth noting that despite the financial crises in Argentina—where there have also been intense conflicts with foreign investors in connection with the privatization process—and in Brazil, and despite the global decline of FDI after 2001, investment flows into the region remain high in comparison with the past. Furthermore, although the process of “de-nationalization” of the leading firms seems to have slowed in recent years, subsidiaries of transnational companies continue to carry a lot of weight in the economies of the region. Hence, the public policy agenda must address not only what should be done about the FDI assets existing in the region, but also the strategies to be applied with respect to foreign investors who continue to be attracted by the opportunities that MERCOSUR has to offer.

It should also be noted that, unlike what happened in the 1990s—when policies aimed at promoting competitiveness and innovation faded into the background, or were assumed to be identified with the structural reforms of that decade—in recent years there has been a healthy return to discussion of whether such policies have a place on the agenda of developing countries.

The foregoing suggests several areas in which policy measures might be applied in order to enhance the direct and indirect impacts of FDI in the countries of MERCOSUR. For example, policies might be aimed at:

- (i) boosting the capacity and competence of local companies, in particular SMEs, to enable them to take better advantage of the spillover effects from the foreign presence by, among other measures, strengthening technology transfer mechanisms, stepping up capacity-building activities and promoting modern methods of production and business organization;
- (ii) strengthening incentives for R&D activities, for both transnational and domestic companies;
- (iii) initiating negotiations aimed at persuading transnational companies to locate more of their

corporate strategic activities in their MERCOSUR subsidiaries and to entrust those subsidiaries with greater responsibility, for example, with regard to the development of “global products” for worldwide export;

- (iv) encouraging schemes for developing or improving suppliers, which could lead to significant vertical spillovers to local companies; and
- (v) promoting various ways of integrating local companies into the value chains led by multinational corporations, including outsourcing, partnerships and other modalities that have become commonplace in the rest of the world level but whose development remains limited in the MERCOSUR countries.

From the list above it is quite clear that much of the policy action needed to ensure a greater spillover effect from FDI flows to MERCOSUR is related to the level of business development in the countries of the region. Certainly, this is a crucial issue that encompasses problems ranging from lack of access to financing—which basically affect capital and technology investment by local companies—to human capital deficiencies, limited absorptive capacity and generation of knowledge, and lags in adopting modern methods of business management.

“Active” policies on FDI are likely to yield better results if the transnational companies operating in MERCOSUR are seeking efficiencies (but without becoming cheap labour enclaves), rather than seeking only to exploit natural resources or domestic markets, as was largely the case in the 1990s. Accordingly, some thought needs to be given to how to create

conditions that will attract a larger proportion of “quality” FDI—i.e., efficiency- and strategic-asset-seeking FDI—to MERCOSUR. Such conditions include access to skilled human resources, availability of adequate physical and logistic infrastructure, existence of a good science and technology base, and, of crucial importance, a stable regulatory framework and solid institutions (CEPAL, 2006).

Policy development in these areas cannot take place only in the national sphere, however. At the very least, it is essential for the countries involved to coordinate their actions in order to avoid the sort of zero-sum game that can result when the existence of certain policies or incentives in one country causes activities or investments simply to be relocated to another country, as a result of which some countries “win” at the expense of others.

In conclusion, we want to stress that, according to the empirical evidence, FDI is not, in and of itself, a positive or a negative phenomenon; its impact depends basically on prevailing conditions and policies in the recipient countries. Hence, policy-making in this area should not be founded on a position that is unconditionally (and ideologically) friendly or hostile to FDI, but rather on the need to build on the results of past experience in order to design instruments and strategies that will maximize the contribution that FDI can make to economic development in the countries of MERCOSUR while avoiding its possible adverse consequences.

(Original: Spanish)

Bibliography

- Aitken, B. and A. Harrison (1999): Do domestic firms benefit from direct foreign investment? Evidence from Venezuela, *American Economic Review*, vol. 89, No. 3, Nashville, Tennessee, American Economic Association, June.
- Aitken, B., G. Hanson and A. Harrison (1997): Spillovers, foreign investment, and export behavior, *Journal of International Economics*, vol. 43, No. 1-2, Amsterdam, Elsevier.
- Alvarez, R. (2005): *Explaining Export Success in a Developing Country: Firm Characteristics and Spillover Effects*, working paper, Los Angeles, California, UCLA Anderson School of Management.
- Barba Navaretti, G. and A.J. Venables (2004): *Multinational Firms in the World Economy*, Princeton, Princeton University Press.
- Barrios, S., H. Görg and E. Strobl (2003): Explaining firms’ export behaviour: R&D, spillovers and the destination market, *Oxford Bulletin of Economics and Statistics*, vol. 65, No. 4, Oxford, United Kingdom, Blackwell Publishing.
- Basu, P., C. Chakraborty and D. Reagle (2003): Liberalization, FDI, and growth in developing countries: a panel cointegration approach, *Economic Inquiry*, vol. 41, No. 3, Oxford, Oxford University Press.
- Bittencourt, G. and R. Domingo (2006): Efectos de los derrames de las empresas transnacionales en la industria manufacturera uruguaya (1990-2000), in M. Laplane (coord.), *El desarrollo industrial del MERCOSUR: ¿qué impacto han tenido las empresas extranjeras?*, Buenos Aires, Siglo Veintiuno Editora Iberoamericana.
- Bittencourt, G., R. Domingo and N. Reig (2006a): Efectos de derrame de las ET sobre el comercio exterior de la industria manufacturera uruguaya 1990-2000, Montevideo, Department of Economics/ Universidad de la República (UDELAR), unpublished.
- _____ (2006b): IED y crecimiento económico de largo plazo en el MERCOSUR, Montevideo, Department of Economics/ Universidad de la República (UDELAR), unpublished.

- Blalock, G. and P. Gertler (2005): Foreign direct investment and externalities: the case for public intervention, in T. Moran, E. Graham and M. Blomstrom (eds.), *Does Foreign Direct Investment Promote Development?*, Washington, D.C., Institute for International Economics.
- Blonigen, B. and M. Wang (2005): Inappropriate pooling of wealthy and poor countries in empirical FDI studies, in T. Moran, E. Graham and M. Blomstrom (eds.), *Does Foreign Direct Investment Promote Development?*, Washington, D.C., Institute for International Economics.
- Borenstein, E., J. de Gregorio and J.W. Lee (1998): How does foreign direct investment affect economic growth?, *Journal of International Economics*, vol. 45, No. 1, Amsterdam, Elsevier.
- Calderón, C., N. Loayza and L. Servén (2004): *Greenfield Foreign Direct Investment and Mergers and Acquisitions: Feedback and Macroeconomic Effects*, Policy Research Working Paper Series, No. 3192, Washington, D.C., World Bank.
- Carkovic, M. and R. Levine (2005): Does foreign direct investment accelerate economic growth?, in T. Moran, E. Graham and M. Blomstrom (eds.), *Does Foreign Direct Investment Promote Development?*, Washington, D.C., Institute for International Economics.
- Choe, J. (2003): Do foreign direct investment and gross domestic investment promote economic growth?, *Review of Development Economics*, vol. 7, No. 1, Oxford, United Kingdom, Blackwell Publishing.
- Chowdhury, A. and G. Mavrotas (2005): *FDI and Growth: A Causal Relationship*, Research Paper, No. 25, Geneva, World Institute for Development Economics Research/United Nations University.
- Chudnovsky, D. and A. López (2001): La inversión extranjera directa en el MERCOSUR. Un análisis comparativo, in D. Chudnovsky (coord.), *El boom de inversión extranjera directa en el MERCOSUR*, Madrid, Siglo Veintiuno.
- (coords.) (2002): *Integración regional e inversión extranjera directa: el caso del MERCOSUR*, Buenos Aires, Institute for the Integration of Latin America and the Caribbean (INTAL).
- Chudnovsky, D., A. López and E. Orlicki (2006): *Impact of Foreign Direct Investment on Employment, Productivity, Trade, Innovation, Wage Inequality and Poverty: A study of Argentina 1992-2001, Final Report*, Washington, D.C., Global Development Network.
- Chudnovsky, D., A. López and G. Pupato (2006): Innovation and productivity in developing countries: a study of Argentine manufacturing firms' behavior, *Research Policy*, vol. 35, No. 2, Amsterdam, Elsevier, March.
- Chudnovsky, D., A. López and G. Rossi (2006): Derrames de la inversión extranjera directa, políticas públicas y capacidades de absorción de las firmas nacionales del sector manufacturero argentino (1992-2001), in M. Laplane (coord.), *El desarrollo industrial del MERCOSUR: ¿qué impacto han tenido las empresas extranjeras?*, Buenos Aires, Siglo Veintiuno Editora Iberoamericana.
- Cuadros, A., V. Orts and M. Alguacil (2004): Openness and growth: re-examining foreign direct investment, trade and output linkages in Latin America, *Journal of Development Studies*, vol. 40, No. 4, London, Routledge, April.
- De Negri, F. (2003): *Desempenho comercial das empresas estrangeiras no Brasil na década de 90*, thesis, Campinas, Universidad Estadual de Campinas (UNICAMP).
- Dias de Araújo, R. (2005): Esforços tecnológicos das firmas transnacionais e domésticas, in J.A. de Negri and M. Salerno, *Inovações, padrões tecnológicos e desempenho das firmas industriais brasileiras*, Brasília, Institute of Applied Economic Research (IPEA).
- ECLAC (Economic Commission for Latin America and the Caribbean) (2000): *Foreign Investment in Latin America and the Caribbean. 1999 Report*, LC/G.2061-P, Santiago, Chile, January. United Nations publication, Sales No. E.00.II.G.4.
- (2006): *Foreign Investment in Latin America and the Caribbean, 2005*, LC/G.2309-P, Santiago, Chile. United Nations publication, Sales No. E.06.II.G.44.
- Erdilek, A. (2005): R&D activities of foreign and national establishments in Turkish manufacturing, in T. Moran, E. Graham and M. Blomstrom (eds.), *Does Foreign Direct Investment Promote Development?*, Washington, D.C., Institute for International Economics.
- Görg, H. and D. Greenaway (2004): Much ado about nothing? Do domestic firms really benefit from foreign direct investment?, *The World Bank Research Observer*, vol. 19, No. 2, Oxford, Oxford University Press.
- Greenaway, D., N. Sousa and K. Wakelin (2004): Do domestic firms learn to export from multinationals?, *European Journal of Political Economy*, vol. 20, No. 4, Amsterdam, Elsevier.
- Hiratuka, C. and F. de Negri (2004): The influence of capital origin on Brazilian foreign trade patterns, *CEPAL Review*, No. 82, LC/L.2220-P, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), April.
- Hiratuka, C. and R. Dias de Araújo (2006): Influencia da presença de firmas transnacionais sobre as exportações das firmas domésticas, Campinas, Núcleo de Economia da Indústria e da Tecnologia (NEIT)/Universidad Estadual de Campinas (UNICAMP), unpublished.
- Hiratuka, C. and R. Sabatini (2006): Avaliação das mudanças recentes na cúpula empresarial no MERCOSUR, Campinas, Núcleo de Economia da Indústria e da Tecnologia (NEIT)/Universidad Estadual de Campinas (UNICAMP), unpublished.
- Javorcik, B.S. (2004): Does foreign direct investment increase the productivity of foreign firms? In search of spillovers through backward linkages, *American Economic Review*, vol. 94, No. 3, Nashville, Tennessee, American Economic Association.
- Jefferson, G., B. Huamao and others (2002): R&D performance in Chinese industry, unpublished.
- Kneller, R. and M. Pisu (2004): Export oriented FDI in the UK, *Oxford Review of Economic Policy*, vol. 20, No. 3, Oxford, Oxford University Press.
- Kokko, A., M. Zejan and R. Tansini (2001): Trade regimes and spillover effects of FDI: evidence from Uruguay, *Weltwirtschaftliches Archiv*, vol. 137, Kiel, Kiel Institute.
- Kugler, M. (2001): *The Diffusion of Externalities from Foreign Direct Investment: Theory Ahead of Measurement*, Discussion Paper Series in Economics and Econometrics, No. 23, Southampton, United Kingdom, University of Southampton.
- Kumar, N. and A. Aggarwal (2000): Liberalization, outward orientation and in-house R&D activity of multinational

- and local firms: a quantitative exploration for Indian manufacturing, in S. Tendulkar, A. Mitra and others (eds.), *India: Industrialisation in a Reforming Economy*, New Delhi, Academic Foundation.
- Laplane, M. (coord.) (2006): *El desarrollo industrial del MERCOSUR: ¿qué impacto han tenido las empresas extranjeras?*, Buenos Aires, Siglo Veintiuno Editora Iberoamericana.
- Laplane, M., J. Padovani Gonçalves and R. Dias de Araújo (2006): Efeitos de transbordamento de empresas estrangeiras na indústria brasileira (1997-2000), in M. Laplane (coord.), *El desarrollo industrial del MERCOSUR: ¿qué impacto han tenido las empresas extranjeras?*, Buenos Aires, Siglo Veintiuno Editora Iberoamericana.
- Lipsey, R. and F. Sjöholm (2005): The impact of inward FDI on host countries: why such different answers?, in T. Moran, E. Graham and M. Blomstrom (eds.), *Does Foreign Direct Investment Promote Development?*, Washington, D.C., Institute for International Economics.
- Mencinger, J. (2003): Does foreign direct investment always enhance economic growth?, *Kyklos*, vol. 56, No. 4, Oxford, United Kingdom, Blackwell Publishing.
- Pinheiro, A. and M. Moreira (2000): *The Profile of Brazil's Manufacturing Exporters in the Nineties: What are the Main Policy Issues?*, Rio de Janeiro, National Bank for Economic and Social Development (BNDES).
- Roper, S. and J. Love (2001): *The Determinants of Export Performance: Panel Data Evidence for Irish Manufacturing Plants*, Working Paper, No. 69, Belfast, Northern Ireland Economic Research Centre (NIERC).
- Srholec, M. (2005): Innovation activities of foreign affiliates in the Czech Republic, document presented at the UNCTAD Expert Meeting on the Impact of FDI on Development (Geneva, 24-26 January).
- UNCTAD (United Nations Conference on Trade and Development) (2005): *World Investment Report, 2005: Transnational Corporations and the Internationalization of R&D*, UNCTAD/WIR/2005, Geneva, United Nations. United Nations publication, Sales No. E.05.II.D.10.
- Zhan, K. (2001): Does foreign direct investment promote economic growth? Evidence from East Asia and Latin America, *Contemporary Economic Policy*, vol. 19, No. 2, Oxford, Oxford University Press.