Working paper
N° 04-06

Regional integration and foreign direct investment: the potential impact of the FTAA and the EU-MERCOSUR agreement on FDI flows into MERCOSUR countries: SECTORAL ANALYSIS[1]

HIRATUKA, Célio and SABBATINI, Rodrigo – IE-UNICAMP

January 2006

[1] **This paper is part of the study entitled "The External Agenda of Mercosur: the Impact of Three Simultaneous Negotiations", promoted by the Mercosur Economic Research Network, and financially supported by Tinker Foundation.**

Regional integration and foreign direct investment: the potential impact of the FTAA and the EU-MERCOSUR agreement on FDI flows into MERCOSUR countries: SECTORAL ANALYSIS

Célio Hiratuka and Rodrigo Sabbatini[*]

Summary

[*] Researchers at NEIT-IE-UNICAMP and professors of Economics at FACAMP.

1 INTRODUCTION

This chapter aims at complementing the analysis of the impacts of Eropean Union (EU)-Mercosur and the Free Trade Area of Americas (FTAA) on investment flows directed to Mercosur countries, carried out in chapter X-1, emphasizing the sectoral dimension of such flows.

Previous papers produced by Red Mercosur have pointed to a sectoral distribution of investment among the countries in the region, characterized by the prevalence of market-seeking strategies. As in the sectoral pattern, it is probable that, also regionally, there are significant differences in the types of investment made by EU countries and countries that should form the FTAA, specially the United States. These differences may involve important aspects concerning the consequences of the agreements under negotiation.

Thus, extending the analysis made in previous chapters is fundamental to both detailing the possible impacts of current negotiations by sector and supporting recommendations of policies that could amplify their positive effects.

To achieve this aim, it was necessary to seek information about the main countries involved in the negotiations of FDI flows and stock, and also data on the activity of TNCs headquartered in these countries, disaggregated by sector.

The information found was limited and very heterogeneous. Concerning countries, the broadest set of information was related to the United States. Data from the American *Bureau of Economic Analysis* allowed us to characterized sectoral information in a relatively comprehensive way. They also allowed us to work with a statistical model similar to the one used in the previous chapter, but with information disaggregated by sector. Concerning the European Union, we found information related to three Germany, United Kingdom, and Spain. For these three members, the information could not be made consistent to measure statistically the impacts of the EU-Mercosur agreement, given the diversity of available data (FDI stocks for Germany and United Kingdom; FDI flows for Spain), and the different classifications and periods covered. Moreover, mainly in the case of the United Kingdom, lack of information, due to statistical secret, prevented us from crossing sectoral data by region, hindering a more accurate analysis. Finally, in most cases, there was not information available on investment in Uruguay and Paraguay, limiting the analysis to the largest countries of the block.

The structure of this chapter is as follows. In item 2, we profile American investments and American TNCs activity by sector in Mercosur countries, compared with other regions. We sought to find sectoral and regional patterns, which could advance hypotheses to be tested by gravity models. In item 3, we carried out econometric tests, aiming at assessing the impacts of the FTAA, based on the sectoral and regional analysis derived of the gravity models. In item 4, we analyzed sectoral profiles of investments made by Spain, Germany, and the United Kingdom to assess the possible impacts of the EU-Mercosur agreement. Finally, we outlined some final remarks in item 5.

2 SECTORAL AND REGIONAL PROFILE OF AMERICAN FDI AND AMERICAN TNCs ACTIVITY

This item aims at analyzing the profile of American FDI and American TNCs activity abroad, emphasizing the sectoral dimension of such investments.

Basically, we employed information from the American Bureau of Economic Analysis (BEA). The first set of information concerns investment flows and stocks by sector. The second deals with information about the activity of majority-owned American affiliates. We highlight this second set of information, because the first set, specially the FDI flows, will be dealt with more systematically in the gravity model introduced in item 3. The information obtained in the second item advances important hypotheses to be tested by the results from the gravity model. Lastly, it is worth emphasizing that, concerning great part of data, information was available only for Brazil and Argentina. As for Uruguay and Paraguay, data were analyzed only when it was possible to find information for these two countries.

2.1. General description

FDI flows from the United States, following a worldwide tendency, increased substantially in the 1990s, reaching about US$ 209 billions in 1999. Then they slowed down until 2002, reaching about US$ 115 billions. In 2003, they increased again, reaching US$ 151 billions. From 1994 to 2003, FDI flows amounted to US$ 1.2 trillions. With regard to stocks, the total recorded in the beginning of the 1990s was of US$ 430 billions, and it increased steadily during the period under analysis, amounting to about US$ 1.8 trillions in 2003. Concerning both flows and stock, American investments represented about ¼ of the world total in the period.

On disaggregating information by regions and countries, it is possible to see the concentration of investment flows in developed countries. Considering the period 1994-2003, more than half of American investments were directed to Europe. Adding to them the flows directed to Canada and Japan, the total amounts to 68.5%. As for stock, these three regions represented 68.7% of the total (Table 1).

Table 1 – USA – FDI position abroad and outflow by country and region – 1994-2003 – In US$ million and %

Country/Region	Outflow 1994-2003		Stock 2003	
	Value	%	Value	%
All Countries	1.220.641	100	1.788.911	100
Canada	119.228	9,8	192.409	10,8
Japan	33.855	2,8	73.435	4,1
Europe	683.146	56	963.087	53,8
Latin America and Caribbean*	147.661	12,1	164.907	9,2
Mexico	57.465	4,7	61.526	3,4
South America	69.102	5,7	69.942	3,9
Mercosur	n.a.	n.a.	41.957	2,3
Argentina	9.114	0,7	11.026	0,6
Brazil	35.179	2,9	29.915	1,7
Paraguay	154	n.a.	222	0
Uruguay	n.a.	n.a.	794	0
Asia excluding Japan	149.902	12,3	220.055	12,3

** Excluding tax havens*

Source NEIT-IE-UNICAMP from BEA primary data

Regarding developing regions, in the period 1994-2003, flows directed to Asia (excluding Japan) represented 12.3%, against 12.1% directed to Latin America and the Caribbean, excluding investments made in some tax havens. Within Latin America, Mexico stands out, receiving 4.7% of the total, followed by Brazil, with 2.9%. Argentina had a share of 0.7% of the total. It is interesting to observe that flows to Latin America, especially to Brazil and Argentina, decreased considerably, mainly from the end of the 1990s on, due to both the exhaustion of privatization processes and the economic crisis, particularly in Argentina. In Mercosur as a whole, the stock accumulated in 2003 represented 2.3% of the total invested by the United States, of which 1.7% in Brazil and 0.6% in Argentina. Mexico performed better, increasing its share, and reaching a stock equivalent to 3.5% of the total in 2004.

The good performance of Asian developing countries attracts the attention as well. Whereas investment stock in Asia represented 8.9% of the total in 1989, in 2003 it reached 12.3%, surpassing Latin America.

Data related to flows and stocks can be compared with information regarding the activity of majority-owned American affiliates established abroad. Considering table 2, we notice that, taking the operations of these companies as a whole, the relative importance of affiliates established in developing countries showed an increasing tendency between 1989 and 2002, in both Latin America and Asia.

However, the evolution of Asian developing countries was more visible. Concerning their share in sales, Latin American affiliates represented 8.5% of the sales of all affiliates in 1989, whereas affiliates located in Asian developing countries corresponded to 6.1%. In 2002, Asia's share reached 12.3%, a little higher level than that of Latin America (12.1%), corresponding to a sales volume of US$ 313 billions in Asia and US$ 308 billions in Latin America.

If, within these two regions, we carry out an analysis by country, it becomes evident that, despite the increasing relative importance of the two groups, in Asia this movement was more homogeneous, reaching nearly all countries, whereas in Latin America it was a consequence of the increasing importance of Mexican affiliates.

Mexican affiliates had a sales volume of US$ 16.4 billions, equivalent to 1.6% of the world total. This volume increased steadily during the period under study, reaching US$ 112.4 billions in 2002, what corresponds to 4.4% of the world total and about 1/3 of the sales of all Latin American affiliates.

Concerning Mercosur countries, Argentina shows an increase from 1989 to 1999, reaching 1% in 1999, but in 2002 its share decreased again to 0.7%. On the other hand, Brazilian share decreased between 1989 and 2002, reaching 2.3% of the sales in 2002. It is worth mentioning that, in the beginning of the period under analysis, operations in Brazil were the most important within Latin America, and that, as early as 1994, this country lost its position to Mexico. In the following years, the relative gap between these two countries became even wider.

Table 2 – USA TNC affiliates sales in Selected Countries – Asia and Latin America – 1989, 1994, 1999 e 2002. US$ million and e %

	1989		1994		1999		2002	
	Value	Share.	Value	Share.	Value	Share.	Value	Share.
Latin Am.	87.014	8,5%	134.808	9,4%	251.575	11,3%	308.180	12,1%
Mercosur	35.597	3,5%	45.661	3,2%	82.218	3,7%	77.503	3,0%
Argentina	4.057	0,4%	11.545	0,8%	23.123	1,0%	17.116	0,7%
Brazil	30.588	3,0%	33.232	2,3%	56.066	2,5%	58.787	2,3%
Paraguay	90	0,0%	166	0,%	413	0,0%	549	0,0%
Uruguay	862	0,1%	718	0,1%	2.616	0,1%	1.051	0,1%
Mexico	16.437	1,6%	39.421	2,7%	81.473	3,7%	112.443	4,4%
Tax Heavens	11.488	1,1%	12.472	0,9%	29.753	1,3%	50.960	2,0%
Asia	62.322	6,1%	136.237	9,50%	237.988	10,70%	313.529	12,3%
China	257	0,0%	3225	0,2%	20381	0,9%	42.530	1,7%
Hong Kong	16.408	1,6%	29.729	2,1%	47.255	2,1%	51.770	2,0%
India	323	0,0%	983	0,1%	4554	0,2%	8.347	0,3%
Indonesia	6.120	0,6%	8.229	0,6%	9.080	0,4%	11.035	0,4%
Korea	2.463	0,2%	5.554	0,4%	11.262	0,5%	18.509	0,7%
Malaysia	5.419	0,5%	11.579	0,8%	21.848	1,0%	29.376	1,2%
Philippines	2.905	0,3%	5.211	0,4%	8.563	0,4%	10.596	0,4%
Singapore	15.102	1,5%	46.871	3,3%	78.564	3,5%	93.763	3,7%
Taiwan	6.773	0,7%	13.690	1,0%	18.757	0,8%	23.482	0,9%
Thailand	5.456	0,5%	9.627	0,7%	14.566	0,7%	19.548	0,8%

Source NEIT-IE-UNICAMP from BEA primary data

Concerning Asian countries, despite the already mentioned generalized growing importance of Asian affiliates, it is worth emphasizing the growth observed in Singapore, China, and Malaysia.

2.2 – Sectoral and regional analysis

It is interesting to observe that, analyzing data by sector, considering both FDI stocks and flows in the period 1989-2003, the manufacturing industry clearly loses its importance to other sectors. As shown in table 3, between 1989 and 1994, industry loses its importance mainly due to the growth of the financial sector. Between 1994 and 2003, however, it is difficult to have a precise idea of the evolution of sectoral composition of FDI stocks, because of the growth of the group called Other Sectors. In 2003, this group alone represented almost 40% of the total stock, against only 5.7% in 1994. Within this group, the main segment corresponds to holdings, which, in spite of being included in services, can indirectly represent activities in any sector.

Table 3 – USA FDI position abroad by industry – 1989, 1994 e 2003 – US$ millions and %

	1989		1994		2003	
	Value	%	Value	%	Value	%
All Industries	355.903	100,0	612.893	100,0	1.788.911	100,0
Manufacturing.	146.865	41,3	200.996	32,8	378.033	21,1
Food	11.812	3,3	24.885	4,1	22.717	1,3
Chemicals	32.872	9,2	47.897	7,8	90.341	5,1
Metals	8.111	2,3	9.831	1,6	22.970	1,3
Machinery	26.272	7,4	25.037	4,1	21.380	1,2
Electronic Products	13.752	3,9	19.597	3,2	67.253	3,8
Transportation Equipment	21.518	6,0	28.019	4,6	45.372	2,5
Other	32.528	9,1	45.731	7,5	108.000	6,0
Wholesale Trade	38.694	10,9	59.030	9,6	140.579	7,9
Finance	94.515	26,6	223.323	36,4	363.460	20,3
Other Services	11.538	3,2	26.993	4,4	88.124	4,9
Other Industries	14.532	4,1	34.960	5,7	693.138	38,7

Source NEIT-IE-UNICAMP from BEA primary data

Even considering this limitation, a first analysis shows that, although industry has lost importance in all regions, this loss was much more marked in some regions than in the others. In Europe, investments in the manufacturing sector have always been less important than in other sectors, with services receiving a much larger share. As for Japan, the loss of importance of the industry is evident, whereas in Canada the growth of investment stock in services was much less marked than in the other regions. It explains the fact that, in 2003, Canada was the region with the largest share of investments in industry among those shown in table 4.

Regarding Asia, in spite of the reduction observed the industry share is greater than that seen in the total of countries in 2003. It is also worth mentioning that in some Asian countries, specially China, Korea, and Malaysia, investments in the industry still represent more than 50% of the total.

Table 4 – USA - Share of Manufacturing FDI in the total investment abroad – 1989, 1994 and 2003 – In %

	1989	1994	2003
All Countries	41,3	32,8	21,1
Canada	47,9	45,8	38,9
Japan	50,8	41,9	19,6
Europe	40,2	33,4	18,5
Latin America and Caribbean*	63,5	35,3	26,7
Mexico	79,5	59,3	32,7
South America	70,5	46,3	26,0
Argentina	58,1	39,2	14,4
Brazil	85,9	67,0	34,5
Asia excluding Japan	42,0	30,8	26,4

** Excluding tax havens*

Source NEIT-IE-UNICAMP from BEA primary data

Concerning LAC, the fact that in 1989 most part of the stock was concentrated in the industry makes the subsequent decrease even more evident. In that year, in the region as a whole, the FDI stock in the manufacturing sector represented 63.5% of the total; in Mexico, the industry share amounted to 79.5% of total, and in Brazil, 85.9%. In 1994, in spite of the decrease in the whole LAC, Mexico still had an industry share of 59.3%, and Brazil of 67%, whereas Argentina had a share of 39.2%. The concentration of subsequent investment flows in services causes, in 2003, in the whole LAC, a manufacturing share decrease to 26.7%. Despite the notable decrease in relation to 1994, Brazil and Mexico still have a relative specialization in the manufacturing sector, with shares of 34.5% and 32.7%, respectively.

Considering the operations of affiliates regarding sales, sectoral data show a wealth of information, besides minimizing the problem associated to the distortion caused by Other Sectors, since they reflect the destination of investments more accurately. As shown in table 5, in the world total, in spite of representing only 21.1% of the investment stock, manufacturing sales represented almost half of the total sales of affiliates in 2002. The data in the table also confirm that there are considerable differences in the relative importance of each sector in the each region.

In Europe, industry represents a little lower share than that observed for the total of countries. The sectors where the affiliates' sales are relatively concentrated are wholesale/retail trade and telecommunications and information technology services. As for Japan, the financial sector stands out, whereas the manufacturing sector shows a much smaller relative share than the average. Among developed countries, Canada outstands as a region

where industry sales are much heavier than in trade and services. Another sector that stands out in Canada is the extractive industry.

Table 5 – USA TNC affiliates sales in Selected Countries /Region by industry – 2002 – in %

Country/Region	Total	Mining	Utilities	Manufacturing	Wholesale Trade	Information.	Finance	Professional, Scientific and Technical Services	Other Industries
Total	100,0	3,7	1,6	47,4	25,4	3,1	7,8	3,1	7,9
Canada	100,0	5,9	3,2	56,2	15,1	1,2	4,8	1,4	12,2
Japan	100,0	0,0	0,0	36,4	26,7	4,4	20,2	8,8	3,5
Europe	100,0	2,2	1,1	47,2	27,8	3,8	6,9	3,5	7,5
Latin Am.*	100,0	4,1	2,8	48,6	20,7	3,4	10,4	1,2	8,8
Mexico	100,0	n.a.	n.a.	71,4	8,7	1,3	5,0	0,6	12,0
South Am.	100,0	7,7	5,4	49,3	17,9	6,8	5,2	1,9	5,7
Argentina	100,0	10,1	3,6	51,9	13,9	7,0	6,0	2,2	5,3
Brazil	100,0	1,1	6,5	59,3	16,3	7,0	5,2	1,2	3,4
Asia	100,0	4,3	1,6	46,2	30,2	1,8	7,3	2,6	6,0
China	100,0	1,5	0,5	73,8	15,3	1,5	n.a.	1,4	n.a.
Hong Kong	100,0	0,0	n.a.	17,5	59,6	1,5	11,0	2,0	n.a.
India	100,0	0,2	4,4	54,4	25,0	2,9	4,7	6,3	2,2
Indonesia	100,0	64,3	1,8	15,5	11,6	0,1	3,4	1,5	1,8
Korea	100,0	0,0	0,0	51,1	23,2	2,6	8,2	6,2	8,7
Malaysia	100,0	n.a.	n.a.	78,2	8,5	0,3	n.a.	1,7	3,1
Philippines	100,0	n.a.	n.a.	59,1	13,2	0,5	5,2	2,1	13,1
Singapore	100,0	0,3	n.a.	45,9	44,9	1,4	3,2	1,0	n.a.
Taiwan	100,0	n.a.	0,0	35,0	20,6	0,8	36,2	1,1	6,3
Thailand	100,0	6,8	0,0	58,1	11,0	0,1	9,9	1,8	12,3

** Excluding tax havens*

Source: NEIT-IE-UNICAMP from BEA primary data

Concerning developing countries, manufacturing still has a substantial relative importance in total sales in several countries. As for the Mercosur countries shown in table 5, both Brazil and Argentina have more than half of affiliates' sales coming from industrial sectors. In Argentina, this share reaches 51.9%, and in Brazil, it gets to 59.3% of the total. It is interesting to notice that, in these two countries, water, electric energy, and gas distribution, as well as telecommunication and information technology services, also have a greater relative share than the average. As for Argentina, it is also worth mentioning the extractive sector, where American affiliates' sales represent 10% of the total. Regarding Mexico, industry share is much larger, reaching 71.4% of the total.

In Asia, we can observe a regional specialization. Some countries show a clear specialization in manufacturing, such as China, Malaysia, Philippines, and Thailand, whereas

in others wholesale/retail trade and services are more important, such as in Hong-Kong and Singapore.

Considering only the manufacturing sector, and carrying out the analysis by region, we see that within industry there is a certain specialization as well. Table 6 shows the relative share of each sector within manufacturing in each country. Table 7 shows an indicator of relative specialization, similar to that used to measure comparative advantages in wholesale/retail trade. This indicator was calculated as $E_{sji} = \frac{S_{ji} / S_{j}}{S_{usai} / S_{usa}}$ Where ***Esji*** is the specialization of country ***j*** in sector ***i.*** ***Sji*** are the American affiliates' sales in country ***j*** in sector ***i, Sj*** are the total sales of industry affiliates in country ***j, Susai*** are the total sales of all American affiliates in sector ***i***, and ***Susa*** are the total sales of affiliates in all industry sectors. Therefore, an index higher than 1 reveals a relative specialization of the country in sector ***i***.

Observing developed countries before anything else, we see that in Canada relative specialization is clearly in Transportation Equipment, with 41.5% of total sales of the manufacturing of that country, and also in Metals. In Europe, affiliates' sales show a concentration in Chemicals and Transportation Equipment, but with a relative specialization in Chemicals, Metals, Machinery, and Electric Equipment. As for Japan, only Chemicals shows a relative specialization; the segment of Information Technology Equipment and Electronics has the same share observed for the total of affiliates.

Considering Latin American countries, there is a relative concentration in Transportation Equipment, as well as in Food. The importance of the Food sector is influenced by Mercosur countries, mainly Argentina, where Food sales represent 37% of the total of sales of manufacturing affiliates. In other sectors, Argentina does not demonstrate specialization. In Brazil, specialization appears in Food, and also in other sectors, such as Machinery, Chemicals, and Metals. Concerning Mexico, specialization is clearly in Transportation Equipment, which represents 42% of the total sales of American manufacturing sector affiliates in that country.

Table 6 – USA TNC affiliates sales – Share of sectors in the manufacturing sales by Country and Region. 2002 – in %

	Manufacturing Total	Food	Chemicals	Metals	Machinery	Electronic Products	Electric Equipment	Transportation Equipment
Total	100,0	7,5	18,6	3,3	5,0	17,1	2,2	22,5
Canada	100,0	7,7	9,3	3,8	3,0	4,4	1,4	41,5
Japan	100,0	1,0	23,2	0,8	3,7	17,9	0,7	3,3
Europe	100,0	7,1	22,1	3,9	5,9	12,6	2,5	21,2
Latin Am.	100,0	13,5	18,4	2,4	4,9	12,5	1,8	29,6
South Am.	100,0	22,3	25,4	3,2	8,0	4,7	1,8	17,8
Argentina	100,0	37,0	26,3	1,0	1,6	0,6	0,4	13,4
Brazil	100,0	17,2	23,9	4,0	11,7	7,4	2,4	18,8
Mexico	100,0	8,3	15,0	1,6	n.a.	13,6	2,0	42,5
Asia	100,0	5,2	14,7	2,3	3,9	49,6	2,4	7,5
China	100,0	2,3	13,9	2,2	4,7	59,8	7,0	2,9
Hong Kong	100,0	0,4	9,7	3,8	3,1	53,2	3,7	0,2
India	100,0	2,7	26,3	n.a.	16,8	15,4	3,1	11,7
Indonesia	100,0	9,9	41,1	2,3	4,6	0,8	4,3	3,8
Korea	100,0	6,2	17,5	1,3	11,2	26,7	n.a.	17,4
Malaysia	100,0	1,8	5,1	0,1	0,4	83,2	0,3	n.a.
Philippines	100,0	10,6	19,4	0,0	1,3	53,6	1,3	n.a.
Singapore	100,0	0,3	14,4	0,1	2,3	67,3	1,2	2,3
Taiwan	100,0	4,2	26,2	n.a.	4,4	39,9	0,8	n.a.
Thailand	100,0	4,7	9,0	1,9	3,8	46,4	0,3	6,7

** Excluding tax havens*

Source: NEIT-IE-UNICAMP from BEA primary data

Table 7 – Relative specialization index of USA TNC affiliates sales by Country and Region – 2002 – in %

	Food	Chemicals	Metals	Machinery	Electronic Products	Electric Equipment	Transportation Equipment
Canada	1,0	0,5	1,2	0,6	0,3	0,7	1,8
Japan	0,1	1,2	0,2	0,7	1,0	0,3	0,1
Europe	1,0	1,2	1,2	1,2	0,7	1,2	0,9
Latin Am.	1,8	1,0	0,7	1,0	0,7	0,9	1,3
Mexico	1,1	0,8	0,5	n.a.	0,8	0,9	1,9
South Am.	3,0	1,4	1,0	1,6	0,3	0,8	0,8
Argentina	5,0	1,4	0,3	0,3	0,0	0,2	0,6
Brazil	2,3	1,3	1,2	2,4	0,4	1,1	0,8
Asia	0,7	0,8	0,7	0,8	2,9	1,1	0,3
China	0,3	0,8	0,7	0,9	3,5	3,2	0,1
Hong Kong	0,1	0,5	1,2	0,6	3,1	1,7	0,0
India	0,4	1,4	n.a.	3,4	0,9	1,4	0,5
Indonesia	1,3	2,2	0,7	0,9	0,0	2,0	0,2
Korea	0,8	0,9	0,4	2,3	1,6	n.a.	0,8
Malaysia	0,2	0,3	0,0	0,1	4,9	0,1	n.a.
Philippines	1,4	1,0	0,0	0,3	3,1	0,6	n.a.
Singapore	0,0	0,8	0,0	0,5	3,9	0,6	0,1
Taiwan	0,6	1,4	n.a.	0,9	2,3	0,4	n.a.
Thailand	0,6	0,5	0,6	0,8	2,7	0,1	0,3

** Excluding tax havens*

Source: NEIT-IE-UNICAMP from BEA primary data

In Asian developing countries, specialization in Information Technology and Electronics is quite evident. Except for India and Indonesia, all other countries show specialization in this sector.

Balancing data, it becomes clear the increasing relative importance of Asian countries in the operations of American TNCs. However, it is clear that this increasing importance is concentrated in Electronics, precisely one of the sectors where the fragmentation of production stages and the integration of such stages in the so-called International Production Systems (UNCTAD 2002) gained more ground. The logic of investment in this sector is not only associated to the search for countries with lower labor costs, it can also be interpreted as an efficiency-seeking strategy, in the sense proposed by Dunning, since there is an intense specialization among the several countries in the region. In fact, while countries as China, Thailand, and Malaysia are responsible for assembling stages, other countries manage to attract industrial productive stages and corporate functions of higher value, as in the case of Singapore and Korea. In any case, within this sector, competition for new investments becomes more difficult, because economies of scale in Asia as a whole attract most part of flows, as it is evident in the displacement of Mexican plants toward Asia.

In Transportation Equipment, where transportation costs are higher, making it difficult to transfer operations to more distant regions, as occurred in Electronics, the relative importance of NAFTA countries is evident. Mexico and Canada affiliates represent about 40% of sales in the sector, behind Europe only. Mercosur countries' relative share is decreasing, what means that most investments in this sector depend on regional domestic markets restoring their growth.

The sectors where Mercosur countries show an important relative share are the extractive sector, mainly in Argentina, and the Food sector, where both Argentina and Brazil have an important specialization. To a lesser degree, they also show specialization in the Chemicals. In Metals and Machinery, only Brazil has an important share.

Given these differences, it is reasonable to ask what factors are associated to American TNCs investments in each region. It is true that, in each sector, relevant location factors are different. For instance, in Electronics, the cost of production factors, especially labor, weighs more than in Food, where investments have a clearer market-seeking motivation. For this reason, market size plays a much more important role in Food than in Electronics. It is also likely that, within the same sector, the logic of location is different depending on the region. For instance, in Transportation Equipment, the movement of productive integration fostered

by NAFTA played a relevant role in investments directed to both Canada and Mexico. However, in Mercosur, it is probable that domestic market size was a more important factor, as pointed out in previous studies carried out by Red Mercosur.

A similar analysis of the heterogeneity and rigidity in American affiliates' spatial distribution can be obtained studying how they are inserted in each country, according to their export coefficients. Still based on primary data from BEA about the performance of American TNCs, we can obtain some patterns, which have changed little since 1990. Grouping affiliates by country, according to the external sales share in the total of affiliate's sales, we can identify how each affiliate was dynamically inserted in these international production systems. Five patterns are proposed here (table 8).

Table 8 – Patterns of insertion of TNC affiliates according to the external sales share in the total sales - 1990-2002.

	Number of Countries	% Total Sales	
Pattern	2002	1990	2002
Traditional Platforms	12	19.2	23.2
Emerging Platform	4	3.2	7.0
Export-Oriented Market Seeking	11	58.7	49.5
Marketing Seeking	12	13.6	13.9
Disarticulated Platform	3	0.7	0.6
Total	42	95.4	94.2

Source: NEIT/IE/UNICAMP NEIT-IE-UNICAMP from BEA primary data

The first group, named **Traditional Platforms**, includes those countries whose American TNCs affiliates were strong exporters both in 1990 and in 2002. To be included in this group, affiliates must sell in the foreign market more than 33% of the total, which corresponds to the average for all American affiliates in 1990. Following the tendency of expanding the international production system, this limit raised to 36.1% in 2002. In a sample of 42 countries, 12 were part of this group, responsible for more than 23% of the sales of all American affiliates in the world. This group's share in total sales raised 4 percentage points between 1990 and 2002, making explicit its dynamic behavior. Countries such as Ireland, Malaysia, and Singapore, already seen as preferential *loci* for the American industry of electronics and components, stand out in the group. In 2002, they were responsible for more

than 8% of total sales of American TNCs affiliates and showed an export coefficient higher than 50% in the period[1].

The second group is composed of countries whose affiliates were not typical platforms in 1990, but came to be in 2002. The group was called **Emerging Platforms**. It means that it includes the countries whose affiliates sold less than 33% of the total in the foreign market in 1990, but overcame the limit of 36.1% in 2002. This group is composed of only four countries (Mexico, Philippines, Thailand, and Sweden); however, its importance in total sales increased from 3.2% in 1990 to 7% in 2002. Undoubtedly, Mexico was the great responsible for this change, a paradigmatic example of the spatially concentrated expansion of the international production network led by American TNCs.

The third group, called **Export-Oriented Market Seeking**, is composed of countries whose importance of external sales in the total of affiliates' sales was higher than 20%, but lower than the limit of 36.1% in 2002. Another characteristic of this group is the small variation of this export coefficient in the period. It is, beyond question, the most relevant group, representing almost 50% of total sales of American TNCs affiliates. Notwithstanding, we could observe a loss of importance in the segment, since the sales share was 59% in 1990. In this group are old *loci* of American FDI, such as the largest European countries, Australia, and Canada, which, besides, have large domestic markets. Taiwan is another country that has been receiving American FDI for many years, and, as other countries, maintains an export coefficient of about 28% in the period. However, it is China the great dynamic highlight in the group. Indeed, we can see that, in 1990, affiliates in China sold only 8% of the total in the foreign market. In 2002, this variable reached almost 29%, a level similar to that of the other countries in the group.

The fourth group, **Market Seeking**, is composed of countries whose affiliates had an export coefficient lower than 20% in 2002, that is, countries where the domestic market played a fundamental role in the affiliates' business strategies. In addition, a small variation in the export coefficient was observed between 1990 and 2002, with some exceptions. Among them, the Brazilian case stands out, for its ratio external sales/total sales increased from 10.4% in 1990 to 16.5% in 2002.

[1] For complete data by country, see Table 41 in the Appendi

Finally, the fifth group, called **Disarticulated Platforms**, is composed of only three countries, with less than 1% of the world sales of all American affiliates in 2002. They are countries whose affiliates were considered export platforms, with coefficients higher than the limit of 33% in 1990, but that, in 2002, left this strong export group. It is composed of two Latin American countries (Ecuador and Dominican Republic) and one Asian country, Indonesia, the most damaged by the 1997-98 financial crisis, the most unstable politically speaking, and the one that shows, by a considerable margin, the largest consumer market. Even so, the export coefficient of affiliates in Indonesia remained around 30% in 2002, a high level, but quite distant from the 72.8% of 1990.

We conclude that the insertion of American affiliates spatially distributed shows certain rigidity. In this period, few countries became evident export platforms – Mexico stands out, even considering the Chinese dynamism. Likewise, few countries stopped serving as export platforms for companies of American capital. Regarding sales, the most relevant group is composed of affiliates that adopt diversified strategies, in which the domestic market is the most important destination, but external sales are not negligible. However, except for China and to some extent Argentina, there is very little variation in the export coefficients in this predominant group. It means that, as we could perceive the relative stability of the spatial distribution of American TNCs affiliates when analyzing affiliates FDI stock and flow and affiliates sales, the same can be inferred when analyzing how these same affiliates are inserted. Analyzing the network of American affiliates defining a typology for strategic insertion, we perceive again that there is a relatively stable structure in which changes occur, but in a limited way and only in some countries.

In the period under study, the international production system led by American TNCs changed little, even after successive financial crises, even after the United States signed an FTA with a developing country, and even after the Chinese dynamism changed the global structures of supply and demand. Once structured, a production network shows a certain rigidity, whose spatial distribution of affiliates will not necessarily be altered by exogenous changes, such as the adoption of liberalizing process as the FTAA.

In the next item, these themes will be treated by gravity equations by sector, just to encourage such discussion.

3 FTAA IMPACTS ON SECTORAL FDI FLOWS: AN EMPIRICAL ANALYSIS

To complement the analysis made in item 2.2 above, we will carry out in this section an econometric study of FDI flows, disaggregated by country and economic sectors.

Our main objective is to test the hypothesis that FDI determinants change according to the sector and the region under study. We expect that investment behavior in services responds to motivations different from those in industrial sectors. Moreover, we intend to check to what extent geographical factors – such as the distance between the home country and the host country – and affiliation to systems of economic integration influence sectoral flows. Again, we will test the hypothesis that the regional destination influences differently the sectoral investments.

With estimates in hand, we will carry out a simulation for Brazil and Argentina to understand the effects of their possible adherence to FTAA on FDI flows. With this sectoral disaggregation, we expect to obtain results to complement those estimated in the general model discussed in section X-1 above.

To achieve these objectives, we will conduct empirical analyses, resorting to gravity models. The data to be analyzed will be those related to FDI made by the United States between 1990 and 2002, disaggregated by sector and host country. The source of information is the same for the data discussed in item 2 above, the BEA. There are 61 host countries and 10 subsectors, including the total of Manufacturing and Services.

3.1 Theoretical reference

Gravity models have been used with relative success to explain trade flows between countries[2]. More recently, they are also being used to observe the determinants of FDI flows between investors and host countries. The general principle is to identify attraction forces – such as market size – and repulsion forces – such as distance - drawing an analogy with models of gravitational physics. Concerning the use of gravity models in FDI flows, several studies have demonstrated a complementarity between FDI and bilateral trade, confirming empirically the main assertive of new theories of international trade (such as the prevalence of

[2] For a review, see Frenkel *et al*. (1995).

intra-industrial trade) and models of production internationalization, emphasizing Markusen's[3], making evident the existence of vertical and/or horizontal investments.

More recently, the same tools have been used in sectoral studies, stressing the possibility of changes in FDI flows based on, for instance, the expansion of Regional Integration Agreements (RIA). Studies as Resmini's (2000) and Mold's (2003), for example, investigated if the expansion of the Union to Eastern Europe countries would possibly cause a deviation of investments to the disadvantage of regions that had been receiving significant European FDI flows, specially Ireland and the Iberian Peninsula.

Studies as Di Mauro's (2001), for example, identified that FDI flows from Germany to the European Union as a whole and to the three largest Eastern Europe countries had different characteristics, according to the sector in question. In Hungary, Czech Republic, and Poland, German investments were much more concentrated in manufacturing as opposed to services, where other German investments in other European Union countries were concentrated. Needless to say that the identification of this heterogeneity is fundamental to understand better the effects of the expansion of an RIA, and to support decisions of policy makers in the countries involved. In this sense, we will carry out an analysis similar to Di Mauro's (2001), using data on American FDI disaggregated by sector and by country to understand the differences among sectoral investments and the influence of RIA on the reception of investments coming from the United States.

We opted here for estimates in pooled cross-section and models of fixed effects, such as panel analysis. The most interesting results were obtained in pooled cross-section regressions, especially because of the characteristics of the sample and the need to capture directly influences such as distance and regional characteristics through dummies. First of all, the relation between time (13 years) and number of observations by sector (between 200 and 700 approximately) makes the use of panel models difficult. Besides, panel models disregard bilateral variables that are unalterable over time, such as distance and regional dummies.

On the other hand, for estimates in pooled cross-section, the sample size was more than enough to generate reliable results. Moreover, our option for running 10 different models, one for each sector, made possible an easily understood and applicable comparison, avoiding the excessive use of sectoral dummies in complete model.

---

[3] See Markusen (1998) or Markusen and Venables (1998), for example. For a critical review and application, see Brainard (1993) and Brainard (1997).

In any case, we also did tests using models of fixed effects in panel, whose results differed very little from those in pooled cross-section.

3.2 Model specification

For estimates in pooled cross-section and fixed effects, we will use 10 models, one for each sector under study, which will take the following notation:

$$FLOW_j = \beta_1 \ln GDP_j + \beta_2 \ln dist_j + \beta_3 labindex_j + \beta_k region + \varepsilon_j \quad (1)$$

Where:

FLOW$_j$ is the flow of sectoral investment from the United States to country j, year by year, between 1990 and 2002. There are 61 host countries j[4]. Ideally, each sectoral sample would have 793 observations (61x13). In practice, observations are lost, due to the nonexistence of flows in a sector or to the nonavailability of data (conforming to statistical secret).

lnGDP$_j$ is the logarithm of the gross domestic product of country j in each one of the years in question. This independent variable was built on data from the *World Development Indicators*, measured as the purchasing power parity in constant dollars of 1995. It would measure the attraction force represented by the market size of the host country – measured as effective purchasing capacity. It is expected that the estimate of parameter β_1 has a positive sign. In the comparison among sectors, the coefficient could indicate in which sectors the market size factor is more important, therefore determining market seeking strategies.

lndist$_j$ is the logarithm of the distance between the United States and the host country j. It would measure the repulsion force between the two economies in question. It was obtained from CEPII database, calculated in kilometers between the capitals of the countries in question, as the crow flies. The literature observes the expected ambiguity of the sign of parameter β_2. On the one hand, FDI can be stimulated by an increase in distance, because the transportation cost associated to foreign trade would be higher (in this case, FDI and trade would substitute each other). On the other hand, greater distances would make higher the costs associated to the operation management, enhancing risk and reducing the FDI. Besides, most of the recent studies have demonstrated a complementarity between trade and FDI,

[4] See table 42 in the Appendix for the countries in the sample.

therefore rejecting the idea of substitution between the two flows. Moreover, the organization of the production of TNCs operating in networks has been fostering the displacement of production to the "near periphery" (see Oman, 1994). Thus, it is expected that the greater the distance from the host country, the lower the FDI from the home country. As in the case of the GDP, for this variable, the comparison between sectors should point to which sectors the proximity to the home country is more important.

labindex$_j$ is a relative index to capture differences of labor cost between country j and the United States. It was obtained from data on the "compensation costs" of American TNCs and TNCs operating in the United States, also from the BEA. It relates the average salary paid by American TNCs operating in country j and the average salary paid by TNCs operating in the United States, year by year. If the index is higher than 1, it is expected that labor cost in country j is higher than in the United States. It is expected that the estimate of parameter β_3 has negative sign when American investment is vertical, focused on exploring differences in the cost of factors, in this case the labor cost; and that it has a positive sign when the FDI has market seeking characteristics or horizontal investment characteristics, in which the average income level in the host country is an important variable.

region is a set of dummies that assumes value 1 when the host country belongs to one of the four regions, defined as UE for European Union; Msul for Mercosur; Nafta for NAFTA; and Asia for developing Asian countries. If the host country does not belong to one of these regions, the value is zero. It is expected that the values are positive or negative, according to specific sectors and regions. In general, it is expected that coefficients for NAFTA are higher, especially because of the establishment of a free trade area between the United States, Canada, and Mexico, which, in addition, are neighboring countries. In any case, what interests this study specifically is to compare regional coefficients to understand the relevance of each region in the attraction of sectoral American FDI.

ε_j is the random error.

3.3 Results

The ten estimates of model 1 resulted in acceptance tests F, except for those in the model for Machinery, with a worse performance, as can be seen in tables 22 to 29 in the Appendi In general, coefficients had the expected signs and a high level of significance, even at 1%.

The proxy variable for labor cost has systematically assumed positive and significant values. Although coefficients were low in more labor-intensive sectors (such as Food and Other Manufacturing), the positive and highly significant result causes a certain surprise. Probable explanations for this phenomenon are:

a) the still extreme sectoral aggregation, which can disguise the relevance of labor cost as a determinant of FDI (the most notable cases would be Electronics and Other Manufacturing, which includes textile and clothing industries);

b) the prevalence of FDI motivated by market seeking strategies and/or characterized as horizontal, made by the United States in partners with similar income levels. This is particularly true for the European Union, a region still receiving more than half of the total American FDI stock (see table 2 above).

As for the main attraction variable, the gross domestic product in terms of the purchasing power parity, behaved as expected, that is, the estimate of the parameter was usually positive and highly significant – again, the exception is Machinery. In sectors usually market seeking, as Food and Transportation Equipment, the estimate assumed the highest values, as expected. In Electronics, sector in which the American FDI profile is quite vertical, forming export platforms to supply the American market, and in which the importance of the host country is relatively smaller, the coefficient of GDP was lower, but still positive and highly significant.

The variable distance had satisfactory estimates in all regressions as well, with negative and significant values. It means that, everything else being constant, the American FDI would more probably be directed to host countries located closer to parent companies. Again, such result agrees with recent studies on FDI determination and with the profile of recent American investments, as it was observed in section 2.2 above. Indeed, according to table 2, Mexico's share as the locus for American FDI stock increased almost 55.5% between 1989 and 2003, reaching 3.4% of the total at the end of this period. In Manufacturing, this country's share in the total stock increased 146% between 1990 and 2002, reaching more than 5% of the total at the end of the period.

The variable distance was not significant only in Services, Machinery, and Electronics, which can be attributed to the following reasons:

a) in Services, distance is slightly significant, since in the 1990s the strongest motivation for FDI in this subsector were the several privatization processes spread all over the

world, that is, investment flows were directed to where there were exogenously created opportunities, independent of distance;

b) in Machinery, the irrelevance of this variable estimate can be a consequence of the bad performance of the model as a whole to explain FDI determinants in this sector;

c) in Electronics, transportation cost is relatively low, given the value per unit and the weight of goods. Moreover, in the 1990s, American FDI in this sector followed the pattern of displacement to Southeast Asia, in search for inexpensive and qualified labor for assembling electronic components, turning those countries into export platforms for the United States. In fact, according to data on outward position from BEA, the share of only Malaysia and Singapore in the FDI stock in Electronics increased from 10% in 1990 to almost 25% in 2002. Therefore, this massive concentration in a region relatively distant from the United States lessens the importance of the variable distance in the American sectoral investment[5].

To discuss the importance of geographical regions and understand better sectoral specificities, see the table below.

Table 9 – Model 1 - Main results

	Coefficients						
Sectors	GDP	Distance	Labor Cost	European Union	Mercosur	Nafta	Asia
Services	0.440***	-0.208	1.768***	0.425**	1.325***	2.001***	1.136***
Manufacturing	0.554***	-0.587***	0.779***	0.630***	1.421***	1.841***	1.334***
Food	0.737***	-1.043***	0.693**	0.384*	1.144***	0.569	-0.073
Chemicals	0.604***	-0.812***	0.782***	1.054***	1.669***	1.244***	0.926***
Metals	0.595***	-0.656***	0.518**	0.596***	1.413***	1.388**	0.093
Machinery	-0.002	0.161	-0.622+	-0.042	-1.493***	1.427**	0.300
Electronics	0.466***	0.118	0.871***	1.080***	-0.480*	2.385***	2.632***
Transportation Equipment	0.752***	-1.269***	0.277	0.637**	0.950**	1.062+	0.625*
Other Manufacturing	0.495***	-0.456**	0.347	0.455**	1.251***	1.976***	0.408
Transportation Equipment-	0.692***	-	0.021	0.834***	1.090**	3.215***	0.051

+ significant at 11%; * significant at 10%; ** significant at 5%; *** significant at 1%. For standard errors, t tests and other estimation information, refer to tables 27 to 34 in the Appendix

Source: NEIT-IE-UNICAMP from BEA primary data

In **Services**, as already seen, only the variable distance does not have statistical relevance. Compared to Manufacturing, this segment attaches less importance to the domestic

[5] It is also worth mentioning that the distance between California, port of entry of electronics imports, and the Southeast Asia is considerably shorter than the distance between them and Washington, the reference for the variable. It means that, taking the distance California-Singapore as a reference, it would be possible to observe some significance in this variable.

market as a determining variable and more importance to the relative labor cost. In general, American FDI in services would tend to concentrate in countries with similar income, but privatization processes (in process of exhaustion at developing countries) and a stronger presence of offshore markets in Asia (especially Hong Kong and Taiwan) turned Mercosur, NAFTA, and Asia into important *loci* for FDI in Services, with higher coefficients than European Union itself. According to table 8 above, in 2002, finances represented 7% of American TNCs sales in Europe, 11% in Hong Kong, and 36.2% in Taiwan.

In the total of **Manufacturing**, all estimates showed a relevance higher than 1%. Regarding regional dummies, as expected, NAFTA had a significant importance, with the highest coefficient among all; that is, everything else being constant, a host country belonging to NAFTA will more probably receive larger Manufacturing FDI flows from the United States than any other region. On the contrary, it is clear the loss of relevance of EU as an FDI host, despite the fact that it still holds an important position. The regression succeeds in capturing the movement of displacement of American FDI in Manufacturing from more central countries, such as those in the EU, to peripheral ones, notably Mexico. Indeed, and still according to table 5, 71.4% of American TNCs sales in Mexico were from affiliates in Manufacturing, against 47% in Europe.

In **Food**, market size in the host country is a fundamental determinant when compared to other industrial sectors. From the statistical point of view, the estimated coefficient was highly significant, with the highest test t among all regressions. It means that the market-seeking characteristic of investments in this sector was properly captured by the model. Only Mercosur had a high and significant coefficient, what agrees totally with reality, as can be seen in table 7 above, in which the index of sectoral specialization in TNCs sales in South America reaches 3.0, showing a high regional specialization in this sector.

The same behavior can be observed in **Chemicals**. The results are all very significant, stressing the marked influence of GDP and distance. Both coefficients are among the highest in the set of tests. In addition, it was one of the few estimates in which the EU dummy showed a high positive and significant value. According to table 6 above, in 2002, almost ¼ of the sales of American TNCs affiliates in Europe were in Chemicals. The high coefficient in Mercosur also stands out, what confirms the data compiled in table 6, since Chemicals represented, in 2002, 26% and 24% of industrial sales of American TNCs in Argentina and Brazil, respectively.

In **Metals**, all variables were significant and had the expected sign, except for the Asia dummy, which, due to sectoral specialization, was nonsignificant. Indeed, in Asia, American TNCs affiliates were responsible for only 2.3% of the total sales in the manufacturing industry. In Mercosur, the coefficient was high and significant, on a par with the importance of this segment in TNCs sales. For example, in Brazil, affiliates in this sector represented 4% of the total of industrial sales, against only 1.6% in Mexico.

In **Machinery**, we obtained the worst estimate, with an R^2 lower than 0.06 and an unreliable f test. Moreover, estimates of few parameters found statistical relevance, with an emphasis on the negative and significant estimate for Mercosur. This segment, maybe presented here in an extremely aggregate form, represented only 5% of total sales of American TNCs in 2002, or only 1.2% of the total stock of American TNCs abroad in 2003 (it represented more than 7% of the total in 1989)[6]. Therefore, this decline in the internationalization of the American machinery sector can have influenced the rather poor performance of the model.

In **Electronics**, the highlight is the high coefficient and significance of Asia, NAFTA and EU regional dummies. In that which maybe is the most internationalized segment of the American industry, we observe quite evident specialization patterns. Components made in Southeast Asia, computers assembled in Ireland, and some consumer electronics in Mexico set up an international production network that excludes other regions, such as Mercosur, whose estimated coefficient is negative. In fact, whereas this segment represented half of the American TNCs sales in Asia in 2002, it answered for only 4.7% of the total sold by affiliates in South America.

In **Transportation Equipment**, there is a predominance of *market seeking* determinants, with low significance for the variable that captures relative labor costs and high significance and high coefficient for GDP. Moreover, the well-known specialization pattern of the American car industry is captured by the econometric test, with higher coefficients in NAFTA, MERCOSUR, and European Union. Carrying out a new test, in which the variable distance is suppressed, the relevance of NAFTA becomes evident, triplicating the coefficient and changing its significance from 11% to less than 1%. According to table 6 above, both in

[6] See table 3 above.

Mexico and Canada, this segment share in the sales of American TNCs industrial affiliates was higher than 40% of the total in 2002.

Finally, in **Other Manufacturing**, we observe again the high incidence of the statistical relevance of the test, with all variables with significance levels below 1%. The marked influence of NAFTA stands out, with the highest coefficient by a large margin. The variable Mercosur also showed a high and significant coefficient, as expected, given the low added value of the industries in this segment. Not by chance, this segment showed a low coefficient for the proxy variable for labor cost.

Very similar results were obtained in tests of fixed models, following the methodology of panel analysis. In this case, however, explicit estimates of variable $\boldsymbol{lndist_j}$, and of regional dummies, invariable over time, are lost. Even so, it is necessary to emphasize that such variables are captured by the fixed effects. For all sectors, the attraction variable, represented by the GDP of host countries, is positive and significant, as expected. The estimates of the proxy variable for relative labor cost were significant only in Food, Electronics, and Transport Equipment. In Food and Transport Equipment, the estimated coefficients had a positive result, what was expected for sectors in which the market seeking strategy of affiliates tends to prevail. Thus, it is expected that countries with a GNP that indicates a structure of income and consumption closer to that of the United States should receive more investments in these sectors. In the same sense, it has to be stressed that the coefficient in Food is much higher than in Transport Equipment, because, in the latter case, affiliates tend to have higher export coefficients.

As for Electronics, besides the estimate significance, there are negative results, that is, everything else being constant, it is expected that American companies direct more investments to countries where labor cost is lower. Such result agrees with the expected, since in this segment prevail investments in export platforms, usually in Asia, in countries where labor cost is lower, such as Malaysia and China, among others[7]. In fact, for all American TNCs affiliates in electronics, the export coefficient was higher than 55% in 2002, far above the average of all affiliates (36.1%)[8].

[7] In 2002, in Malaysia, the index of relative labor cost was 0.21 and, in China, 0.15, in a scale where the United States is 1,0. See Graph 1 in the Appendix for a more complete sample.

[8] See Table 40 in the Appendi

Table 10 – Model 1 – Main results of fixed effects model

	Coefficients	
Sectors	GDP	Labor Cost
Services	2,363***	-0,143
Manufacturing	2,762***	0,067
Food	1,351***	2,032***
Chemicals	2,159***	-0,321
Metals	1,431***	-0,290
Machinery	2,074***	0,257
Electronics	4,109***	-2,227***
Transportation Equipment	3,182***	1,441**
Other Manufacturing	3,699***	-0,006

** significant at 5%; *** significant at 1%. For standard errors, t tests and other estimation information, refer to tables .35 to 42 in the Appendix

Source: NEIT-IE-UNICAMP from BEA primary data

3.4 Simulation and conclusions

Next, we conducted a simulation to understand how the adherence of Brazil and Argentina – both representing Mercosur – to the FTAA could impact FDI flows. We have to say that the simulation would capture only the variation of FDI flows from the United States and bound for Brazil and Argentina, without necessarily revealing if this would deviate investments bound for other regions/countries.

The analysts who support the adherence of Latin American countries to the FTAA, as Krueger (2000), argue that one of the main positive effects of the integration would be an increase in the FDI bound for the southern countries. Simulations performed by Yeyati, Stein and Daude (2003) and even the one in item X-X above do show that countries such as Brazil and Argentina would benefit from increasing FDI flows, as opposed to Mexico, which would lose ground. This chapter supports the hypothesis that, when flows are disaggregated by sector, new estimates are obtained, capturing the heterogeneity of the regional specialization of American investments. If extrapolated to other important FDI outflows to Mercosur, the same result could be obtained. It means that sector and geographical region are relevant in FDI flows, what could justify some caution in the analysis of the estimates obtained by Yeyati, Stein and Daude (2003).

The simulation employed here consisted of comparing the flows obtained by the model estimate for Brazil and Argentina in 2002 with a new estimate, considering that both countries had already joined FTAA in that year. Therefore, we decided that, for both countries, the dummy variable NAFTA would equal 1. This is justified by the perception that the adherence

to FTAA, as it was proposed initially, would have similar effects to an adherence to NAFTA, since the clauses concerning investments would resemble in both agreements. It means that, from the point of view of the rights of foreign investment, FTAA represents a NAFTA-plus.

Table 11 below shows the results of this simulation.

Table 11 - Potential FTAA impact on American FDI flows to Brazil and Argentina, by selected sectors, predicted increase in FDI inflows in year 2002, percentages

	Argentina	Brazil
Manufacturing	16.5	15.6
Services	16.9	16.3
Food	4.9	4.6
Chemicals	11.6	10.9
Metals	12.0	11.4
Electronics	17.9	17.3
Transportation Equipment	11.0	10.1
Other Manufacturing	18.9	17.9

Source: NEIT-IE-UNICAMP from BEA primary data and simulation using model (1) above

As it can be seen, potential impacts on American sectoral FDI are much more limited than those predicted by aggregate models. For example, notice that, for Brazil, the slightest positive impacts would be felt in sectors in which this country already has a certain degree of sectoral specialization in the attraction of American FDI, namely, Food, Chemicals, and Transportation Equipment. The same is valid for Food in Argentina.

On the other hand, sectors in which NAFTA receives investments from the United States, stressing Electronics and Other Manufacturing, and whose adherence to NAFTA-plus would increase investments significantly, showed the highest rates of growth, but, even so, at far lower levels than those estimated by models that disregard sectoral disaggregation. There are two possible explanations for this limited impact, specifically:

a) variables such as distance also influence – in this case, negatively – FDI determinants. The greater relative distance from the Southern Cone to the United States would lessen, in almost all sectors, the possible positive impact of the North-South integration;

b) the sectoral/regional specialization of American TNCs activity would not change in the short run to include Brazil and Argentina in those sectors in which Mercosur countries do not play a relevant role in corporate networks yet – especially Electronics.

Even Transportation Equipment, which would benefit the most from the agreement, given the density of investments in Mercosur and the solid presence of American TNCs, must be regarded with reserve. The reason is that the experience of integration in Mercosur proves that TNCs operating in more than one country member reorganize and rationalize regional production. As Mexico and Canada would be added to Brazil and Argentina, it could be expected that the latter would lose their relative importance in the corporate network. This relative importance would be distributed among several affiliates. Moreover, given the production profile of the car industry in Mercosur and the consumption pattern of the American market, it is very unlikely that, as post-NAFTA Mexico, Brazil and Argentina become export platforms for the North. Besides, companies have just come to the end of a cycle of expansion (associated only to the potential growth of the domestic market) in the region and new investments are not expected in the short run, with or without integration. There is no integration or econometric model capable to reverse scenarios of real economy, when observed microscopically at the level of sectors.

It means that adherence to the FTAA would hardly alter the current specialization pattern of sectoral operations of American TNCs, such as described in item X above. The process of displacement toward Asia – especially in Electronics and without the need for a free-trade agreement – and Mexico – regarding NAFTA and the short distance in relation to parent companies – seems to have exhausted the possibilities of a new round of transference or expansion of industrial plants for other regions. Although current investments enjoy great flexibility and low exit barriers, it is unlikely that the adherence of countries such as Brazil and Argentina to the FTAA can reverse this scenario of specialization and deviate to them, by means of the integration *per se*, American investments in sectors with a still weak presence in the South of Americas.

4 SECTORAL AND REGIONAL PROFILE OF EUROPEAN FDI AND EUROPEAN TNCs ACTIVITY

In this item, we will discuss, in a less comprehensive way than in the previous one, the sectoral and regional characteristics of select European countries. In view of the difficult access to primary and secondary data, we have gathered information about Germany, Spain, and the United Kingdom only. The heterogeneity of available data on time and sector did not allow an empirical analysis as the one carried out for the American case, examined in section 3 above. Thus, we made a brief descriptive analysis of the recent behavior and the regional/sectoral distribution of FDI from these three countries.

4.1 Germany

Direct investments made by Germany followed a global tendency of accelerated growth from the mid-1990s to 1999, when they reached 10% of the world total. Afterward, German investments abroad deteriorated drastically and faster than the world total, falling in 2002 and 2003 far below the levels obtained in the beginning of the decade.

However, in terms of stock, Germany share in the world total remained steady, about 8% of total. In 2003, German stock of foreign investment reached US$ 622 billions, according to UNCTAD.

Regarding regional distribution, most of the German foreign investment stock goes to the European Union and the United States. In 2001, according to data from Bundesbank, shown in table 12, the United States represented 41.1% of the total of foreign investment stock, whereas European Union countries represented 38.9%.

Among developing countries, Latin America stands out, representing 4.5% of the total in 2001. Concerning the Mercosur countries for which there were available data, Brazil had a share of 1.2% and Argentina, of 0.4%. As for Mexico, it had a share of 1%.

As regard to Central and Eastern Europe, the three main countries shown in the table amounted to 3.6%; Poland reached 1.3%, Czech Republic 1.2%, and Hungary 1.1%. In Asia, representing 3.9% of the total, the highlights are China and Singapore.

Table 12 – Germany – Stock of FDI abroad by Country – 2001 – In € millions and %

Country/Region	Value	%
Total	**699.035**	**100,0**
European Union	271.793	38,9
USA	286.963	41,1
Japan	9.069	1,3
Developing Countries	96.596	13,8
Poland	9.310	1,3
Czech Republic	8.173	1,2
Hungary	7.908	1,1
Latin America	31.290	4,5
Argentina	2.456	0,4
Brazil	8.249	1,2
Mexico	6.728	1,0
Asia	27.424	3,9
China	6.855	1,0
Korea	3.356	0,5
Malaysia	1.834	0,3
Singapore	4.903	0,7

Source: NEIT/IE/UNICAMP from Bundesbank primary data

On analyzing data by sector in each region, it is interesting to observe that, in Europe and in the United States, investment in the financial sector prevails clearly, whereas in developing countries it is industry that prevails.

In Latin American countries, mainly in Brazil and Mexico, specialization in manufacturing is even clearer, comparable only to China among other developing countries. Analyzing table 13, we notice that in the world total Latin American share in the investment stock is 4.5%, whereas in investments made in industry its share increases to 8%, of which 3.6% are Brazilian and 31% Mexican.

In Central and Eastern Europe countries, investments in the manufacturing sector also prevail, but are slightly lower than in Latin America. The three countries of this region shown in the table represent together 7.6% when investment in industry is considered, and only 3.6%, when total investment is taken into account.

Regarding Asia, of the 8.3% of stock in manufacturing, China alone represents 3.3% of the total, whereas Singapore represents 1.2% and South Korea, 1%.

Table 13 – Germany: Share of countries in the FDI stock by industry – 2001 – In%

Country/Region	Total	Manufacturing	Wholesale Trade	Finance	Holdings
Total	100,0	100,0	100,0	100,0	100,0
European Union	38,9	32,3	52,3	38,3	72,7
USA	41,1	31,7	18,2	55,1	22,3
Japan	1,3	2,7	3,7	0,4	n.a.
Developing Countries	8,0	14,5	7,4	5,7	4,2
Poland	1,3	2,4	3,0	0,7	n.a.
Czech Republic	1,2	2,7	1,6	0,2	0,1
Hungary	1,1	2,3	1,1	0,3	0,1
Latin America	4,5	8,4	2,2	3,7	3,9
Argentina	0,4	0,9	0,5	n.a.	0,1
Brazil	1,2	3,6	0,4	0,4	0,3
Mexico	1,0	3,1	0,4	n.a.	0,4
Asia	3,9	8,3	5		
China	1,0	3,3	0,4	n.a.	n.a.
Korea	0,5	1,0	0,5	n.a.	n.a.
Malaysia	0,3	0,7	0,2	n.a.	0,1
Singapore	0,7	1,2	1,2	0,6	0,0

Source: NEIT/IE/UNICAMP from Bundesbank primary data

Within manufacturing (table 14), the sector in which developing countries represent the largest share of German investments stock is Chemicals (27.3%), followed by Transportation Equipment (35.63%).

Within Chemicals, great part of the investments is channeled into the United States. However, developing countries have an important share. Latin America's amounts to 10%; in Mexico, this share is of 3.6%, in Brazil, of 3.1%, whereas in Argentina it reaches 1.4%. In both Brazil and Mexico, the relative share is far larger than that seen in other developing countries.

As for Transportation Equipment, German investments in developing countries are more widely spread, with Central and Eastern Europe countries showing an important share, mainly Hungary (5.3% of total) and Czech Republic (4%). In Latin America, Mexico represents 6.6% and Brazil, 6.1%. Another important country for this sector is China, which attracts 6.4% of all investments.

In Electric Equipment, the share of developing countries is 22.3%, and Brazil answers for 5.1% of the total invested abroad, a much higher percentage than that observed in Mexico and Argentina. In Central and Eastern Europe, Czech Republic stands out, whereas in Asia, China does it again.

Concerning Machinery and Equipment, developing countries represent 18.4% of total; again, in this case Brazil is the main country in the group, followed by China and Korea.

Table 14 – Germany – Country Shares in the manufacturing sectors FDI stock – 2001 – In %

Country/Region	Total	Chemicals	Machinery	Electric Equipment	Transportation Equipment
Total	100,0	100,0	100,0	100,0	100,0
European Union	32,3	26,1	34,9	57,2	21,4
USA	31,7	44,7	35,1	12,2	36,5
Japan	2,7	3,7	1,9	0,7	4,4
Developing Countries	27,3	21,3	18,4	22,3	35,6
Poland	2,4	0,7	1,0	1,9	1,6
Czech Republic	2,7	0,4	1,0	2,7	4,0
Hungary	2,3	0,8	1,0	1,4	5,3
Latin America	8,4	9,8	6,1	9,3	13,3
Argentina	0,9	1,4	0,1	1,9	0,7
Brazil	3,6	3,1	5,4	5,1	6,1
Mexico	3,1	3,6	0,5	1,9	6,6
Asia	8,3	2,4	6,9	4,9	7,6
China	3,3	1,8	2,8	2,1	6,4
Korea	1,0	1,4	1,4	0,9	0,3
Malaysia	0,7	0,7	0,4	0,2	n.a.
Singapore	1,2	1,8	0,3	0,1	n.a.

Source: NEIT/IE/UNICAMP from Bundesbank primary data

Analyzing the data as a whole, we can see that Latin America still has an important share in the global activities of German TNCs, especially in manufacturing. However, we can also notice that Latin American countries now compete with other regions, which have been consolidating as important locations in manufacturing, specially the transition countries in Central and Eastern Europe and China.

The prospect of an agreement EU-Mercosur should be analyzed within this scope. On the one hand, German investments in services are still concentrated in Europe, which shows that, in this sector, new German investments in Mercosur countries should be marginal and depend mainly on domestic market growth.

Regarding the industrial sector, it can be argued that the integration of Eastern Europe countries and China represents a threat to Mercosur countries, for it can potentially deviate investments bound for the region. However, the strongest possibility is a regional specialization arising among affiliates established in each region.

It means that new investment flows may not be made mostly by new investors, but rather by companies already set up in the region, aiming at adjusting their production lines and their products to increase specialization and benefit from the economies of scale. This adjustment is already taking place in the automotive sector, and it could be accelerated by the agreement between the two regions. Volkswagen affiliate in Brazil, for instance, already has the project of the model Fox specially developed for the European market.

It is also important to stress that the largest countries in Mercosur are naturally privileged locations to serve the other South American countries, an aspect that could be reinforced if FTAA is established at the same time.

4.2 Spain

During the 1990s, Spain joined the select group of the greatest FDI home countries, ranking eighth among them, with a total of more than US$ 23 billions in 2003. In 1990, this Iberian country the 13th, with little more than US$ 3 billions invested abroad. From 2001 to 2003, Spanish flows followed the world retraction, but still keeping a meaningful share of 5.3% of the world total outflow, before a share of 1.5% in 1990. Such performance is confirmed by the growth of the Spanish share in the global FDI stock, which increased from 0.9% in 1990 to 2.5% in 2003.

Another measure of the internationalization of the Spanish capital can be observed when we compare the FDI stock with the gross domestic product. The amount of more than US$ 225 billions invested in 2002 represents almost 35% of the Spanish GDP; in 1990, the same variable reached only 3%.

From the point of view of the geographical distribution of Spanish FDI, it is evident that there is a specialization in two main regions, namely the European Union itself and Latin America (excluding Mexico). These two regions answered for more than 80% of Spanish FDI outflows accumulated in the period 1996-2003. Latin America was the region to receive more Spanish investments, which increased 25 times between 1990-95 and 1996-2003. Brazil and Argentina were the greatest hosts of Spanish FDI in the region, amounting to more than ¼ of the total in the last 8 years for which data are available (table 15 below). As it will be seen from the sectoral disaggregation, great part of the FDI bound for Latin America benefited from the privatization of public services in the region, reaffirming the sectoral and regional specialization of Spain.

Table 15 – Spain: Regional distribution of FDI outflows, 1990-2003

	1990-1995 Euro Million	1996-2003 Euro Million	1990-1995 %	1996-2003 %
European Union	**5,978**	**117,361**	**39.7**	**46.3**
NAFTA	**2,653**	**25,509**	**17.6**	**10.1**
CANADA	57	765	0.4	0.3
USA	2,206	14,567	14.6	5.8
MEXICO	391	10,176	2.6	4.0
Latin America (exc Mex)	**3,467**	**86,886**	**23.0**	**34.3**
ARGENTINA	995	32,684	6.6	12.9
BRAZIL	129	33,725	0.9	13.3
PARAGUAY	na	20	0.0	0.0
URUGUAY	na	1,837	0.0	0.7
CHILE	112	8,327	0.7	3.3
ASIA	**191**	**3,590**	**1.3**	**1.4**
World	**15,062**	**253,334**	**100.0**	**100.0**

Source: NEIT-IE-UNICAMP from UNCTAD and OECD

Disaggregating primary data on Spain by sector, we see again a clear specialization of this country regarding FDI flows. About 2/3 of the flows accumulated between 1996 and 2003 were destined to services. Within services, telecommunications, banking, energy generation/distribution, and wholesale/retail trade stand out, with almost ¾ of the total invested globally in services. The remaining third was destined to manufacturing, emphasizing chemicals, oil and natural gas extraction, nonmetals, and cars and autoparts, responsible for almost 2/3 of the total in manufacturing (see table 16 below).

Table 16 – Spain: distribution of FDI outflows by sector, 1996-2003 (accumulated)

Sector	Euro Million	%
Agriculture	**705**	**0.3**
Manufacturing	**83,463**	**32.9**
Chemicals	17,868	7.1
Oil industry	17,723	7.0
Minerals (non metallic)	12,474	4.9
Auto Industry	8,058	3.2
Services	**169,166**	**66.8**
Banking	47,180	18.6
Telecommunications	42,787	16.9
Wholesale/Retail trade	20,694	8.2
Energy generation/distribution	15,089	6.0
Total	**253,334**	**100.0**

Source: NEIT-IE-UNICAMP from Banco Central de España

Table 17 – Spain: Regional distribution of FDI outflows by sector, 1996-2003 (accumulated) – In %

	Total	Agriculture	Manufacturing	Services
European Union	100.0	0.1	37.2	62.7
NAFTA	100.0	0.2	16.8	83.0
CANADA	100.0	0.0	37.7	62.3
USA	100.0	0.3	18.2	81.5
MEXICO	100.0	0.0	13.2	86.8
Latin America (exc Mex)	100.0	0.6	29.1	70.3
ARGENTINA	100.0	1.0	59.8	39.2
BRAZIL	100.0	0.1	7.7	92.1
PARAGUAY	100.0	0.3	3.0	96.6
URUGUAY	100.0	2.8	64.3	32.9
CHILE	100.0	0.6	1.5	97.9
ASIA	100.0	0.0	56.7	43.3
World	100.0	0.3	32.9	66.8

Source: NEIT-IE-UNICAMP from Banco Central de España

Table 18 – Spain: FDI outflows in selected countries and sectors, 1996-2003 (accumulated) - In%

	European Union	MEXICO	ARGENTINA	BRAZIL	URUGUAY
Manufacturing	**37.2**	**13.2**	**59.8**	**7.7**	**64.3**
Chemicals	13.5	3.8	1.7	2.2	0.0
Food and Beverages	2.4	2.2	0.5	0.2	59.9
Oil	0.4	0.0	48.3	0.0	0.0
Services	**62.7**	**86.8**	**39.2**	**92.1**	**32.9**
Wholesale/Retail trade	15.5	2.4	0.7	2.3	0.9
Telecommunications	11.0	16.6	12.2	49.9	16.6
Banking	10.9	37.6	9.4	26.7	11.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NEIT-IE-UNICAMP from Banco Central de España

In some countries, especially in Latin America, services share is still larger. In this case, it is particularly worth mentioning the 92% share of services in the total Spanish investments in Brazil (more than half in privatized services in telecommunications). The same is valid for Chile, with 98% of all Spanish investments directed to services, specially energy generation/distribution, telecommunications, and banking, almost always through the purchase of privatized companies. Uruguay and Argentina are the host countries that deviate from this pattern. In the former, almost all Spanish FDI is concentrated in food and beverages. In the latter, Spanish investments in oil extraction, through the acquisition of the formerly publicly-owned YPF, were responsible for almost half of all outflows accumulated in the country between 1996 and 2003 (tables 17 and 18). That is, concerning Spain, there is a clear regional and sectoral specialization, markedly concentrated in services and recently bound for

Latin America. The same process usually determines both movements: privatization of public utilities, specially energy, sanitation, and telecommunications. We can state that privatizations are in process of exhaustion, what tends to contribute to the stagnation of Spanish FDI flows into the region. It means that we can expect that Spanish FDI bound for Mercosur be slightly influenced by the possible adherence of Latin American countries to economic integration agreements, especially FTAA and EU-Mercosur.

4.3 United Kingdom

Exactly as in the main developed countries, United Kingdom investment flows followed an increasing tendency until 2000 and fell abruptly afterward. In 2003, the United Kingdom investment flow reached US$ 55 billions, what represented about 9% of the world total. Concerning investments stock, the United Kingdom registered US$ 1.1 trillion, what amounts to about 13% of the world total, according to UNCTAD.

As for its regional distribution, the stock already showed a relative concentration in the European Union in 1994 and became even more concentrated there, because of a slighter decrease in the investments bound for the region after 2000. Compared with the other regions analyzed, the United Kingdom shows a much greater concentration in the EU.

On the other hand, practically all other regions showed a decrease in their shares. The United States lost share, falling from 31.2% of total in 1994 to 21.1% in 2003. Regarding Latin America, a marked fall can be observed as well. However, among the countries for which there were available data, Brazil was the one that lost most share, falling from 1.2% to 0.3% of total. Whereas Colombia showed a small reduction and Mexico remained steady, Chile had a slight rise in its share, which increased from 0.2% to 0.3 of total (table 19).

In Asian countries, this share decreased from 7.2% to 4.2% in 2003.

Table 19 – United Kingdom: Regional distribution of FDI outward position, 1994 and 2003

	1994		2003	
	US$ million	%	US$ million	%
Total	177,116	100.0	692,496	100.0
Europe	66,705	37.7	446,354	64.5
European Union	61,674	34.8	388,904	56.2
Central and Eastern Europe	460	0.3	6,682	1.0
USA	55,174	31.2	146,457	21.1
Japan	2,613	1.5	2,323	0.3
Latin America	15,297	8.6	22,892	3.3
Brazil	2,059	1.2	2,130	0.3
Chile	439	0.2	1,803	0.3
Colombia	1,071	0.6	2,444	0.4
Mexico	334	0.2	1,187	0.2
Asia excluding Japan	12,728	7.2	29,382	4.2
China	118	0.1	2,090	0.3
Hong Kong	3,373	1.9	6,928	1.0
Singapore	4,445	2.5	9,971	1.4

Source: NEIT/IE/UNICAMP from U.K.Office for National Statistic primary data

Concerning sectors, foreign investments are concentrated mainly in services of transportation and telecommunication, and also in the financial sector. It is also worth mentioning that the share of the extraction industry, specially oil and gas, is quite important in the United Kingdom foreign investment stock.

In manufactuirng, the most important sectors belong to the group formed by textiles, wood and publishing, chemicals, and food.

Although the unfolding of data by sector and by country lacks much information, due to statistical secret, we can see that as regard to investments made in the European Union, Transportation and Telecommunications prevail, whereas Wholesale/retail Trade is more important in Central and Eastern Europe countries. Concerning the United States, the most important are the financial services.

Table 20– United Kingdom: FDI outward position by regions and selected services, 2003. In %.

	Mining	Utilities	Construction	Wholesale/ Retail trade	Hotels	Telecom.	Finance.	Professional Services.	Other Services	TOTAL
European Union	4,2	n.a.	0,1	5,7	4,1	40,4	12,5	5,6	1,1	100,0
Central and Eastern Europe	6,4	n.a.	0,0	53,2	n.a.	1,8	7,5	1,8	0,5	100,0
USA	n.a.	7,9	1,2	7,3	2,9	6,3	21,4	10,4	(0,7)	100,0
Brazil	19,1	n.a.	-	2,4	n.a.	3,0	19,4	1,0	n.a.	100,0
Mexico	n.a.	-	n.a.	0,7	n.a.	0,2	n.a.	1,6	n.a.	100,0
Asia	n.a.	n.a.	0,6	7,2	n.a.	6,5	16,5	11,2	0,3	100,0
World	**10,4**	**2,1**	**0,8**	**7,0**	**3,3**	**25,4**	**14,9**	**7,2**	**1,1**	**100,0**

Source: NEIT-IE-UNICAMP from Bank of England

Table 21– United Kingdom: FDI outward position by regions and selected manufacturing sectors, 2003. In %.

	Food	Textile and Wood	Chemicals and Plastics	Metal products	Electronics.	Transportation Equipment.	Other	Total
European Union	3,5	11,3	6,5	2,5	0,1	1,5	1,2	100,0
Central and Eastern Europe	7,6	1,7	6,9	2,5	n.a	n.a	1,9	100,0
USA	10,9	3,3	0,8	1,6	1,0	3,8	5,9	100,0
Brazil	16,3	n.a	6,0	19,0	n.a	5,1	5,5	100,0
Mexico	16,9	1,4	22,3	3,9	n.a	3,7	2,9	100,0
Asia	3,8	1,3	n.a	2,0	n.a	n.a	2,3	100,0
World	**5,7**	**8,5**	**6,8**	**2,4**	**0,4**	**1,8**	**2,3**	**100,0**

Source: NEIT-IE-UNICAMP from Bank of England

Because of the importance of oil and gas extraction in the total, we see that these investments are made mostly outside Europe. In Brazil, the only country in table 20 for which data were available, this activity answers for 19.1% of total, in a slightly lower level than that of financial services.

As the data employed do not show the importance of the total of manufacturing, the several industrial segments were analyzed in table 21, in which we can see that the European Union concentrates investments in Textiles, Wood, and Publishing and Printing. As for the United States, Brazil, and Mexico, these countries show a much greater importance in Food. It is also worth mentioning that, although small, the Transportation Equipment share is above that seen in the world total. Finally, we must emphasize the importance of Metals and Machinery in Brazil.

5 FINAL REMARKS

This chapter tried to complement the analysis of possible impacts of the FTAA and EU-Mercosur on FDI flows to Mercosur countries. This complementation, based on FDI flows and stocks, as well as on TNCs activity, sought to disaggregate information by manufacturing sector. The central hypothesis is that, besides the origin of capital, sectoral characteristics also influence flows heterogeneously. It means that, to understand better the expected impacts of an economic integration agreement, it is necessary to refine the comprehensive investigation conducted previously to observe what happens at the microeconomic level.

Thus, this chapter described the characteristics of sectoral FDI from some of the main home countries, emphasizing the United States. The analysis that followed resorted to traditional descriptive methodology and econometric models. In the first case, the description of FDI flows from the United States, Germany, Spain, and United Kingdom showed that they have a spatial and sectoral heterogeneity.

Concerning the European Union, there is a clear difference not only among the sectoral destination of flows from the three regions analyzed, but also, for each of them, different concentrations of FDI in Mercosur host countries. Regarding Germany, despite the fact that industrial investments point to an important insertion in Mercosur countries, especially in Transportation Equipment, and to a lesser extent in Chemicals, it is possible to see the competition of less developed European countries, as Hungary and Czech Republic. Even so, in the case of an agreement simultaneous to the FTAA, it is possible that a concentration of activities occurs in Mercosur countries, which would be able to supply the other South American countries.

Regarding United Kingdom investments, although the information available allow only a few conclusions, it is possible that the same effect appears in Machinery and Food, as a consequence of the concentration of these segments in Brazil.

As for Spain, whereas FDI in Argentina and Uruguay is concentrated in manufacturing, in Brazil, it is almost entirely directed to services. Notwithstanding, the fact that great part of Spanish investments have been made in privatization processes allows us to conclude that the prospects are for a marked reduction in flows. A regional integration agreement would have a slight influence on future FDI flows.

In any case, the data analyzed for European Union countries show that it is difficult to generalize the possible impacts of the agreement, given the heterogeneity of sectoral interests of different countries of the European bloc in Mercosur countries.

Regarding the United States, both the descriptive analysis of American TNCs strategies and the empirical investigation through econometric methods revealed not only heterogeneity, but also relatively rigid patterns of strategic insertion and spatial distribution adopted by American TNCs affiliates. A relative rigidity, which would be little altered by exogenous events as processes of economic integration *de jure*, such as the FTAA.

Therefore, the expected impacts of a possible economic integration on American FDI flows would be more limited than those obtained by the aggregate analysis of FDI flows. Table 11, for example, shows that the impacts of an adherence of Brazil or Argentina to FTAA would provoke a less dramatic increase in sectoral FDI flows than the estimates obtained for aggregate flows, such as those found in Yeyati, Stein and Daude (2003). Elements as domestic market size and growth, labor cost, and distance, as well as the already settled spatial distribution of affiliates, tend to be more relevant than the adherence to free-trade agreements.

Therefore, this chapter sought to show that aggregate analyses must be complemented and refined by microeconomic studies to shed more light on the debate on the effects of economic integration and on economic policy formulation in countries such as the ones in Mercosur, which, besides facing an agenda of regional, multiregional, and multilateral integration, are also going through a fragile financial situation and have the urgent need to resume their industrial development.

APPENDIX

Table 22- American FDI: econometric results for the Services sector estimation, 1990-2002

Services	Coef.	Std. Err.	t	P>|t|
lngdp	0.4399	0.0619	7.1000	0.0000
lndist	-0.2083	0.1953	-1.0700	0.2870
labindex	1.7676	0.2321	7.6100	0.0000
ue	0.4252	0.2047	2.0800	0.0380
msul	1.3252	0.4003	3.3100	0.0010
nafta	2.0008	0.5532	3.6200	0.0000
asia	1.1356	0.2667	4.2600	0.0000
_cons	-6.1307	1.7342	-3.5400	0.0000
n	518			
F(7, 510)	39.9200			
Prob > F	0.0000			
R^2	0.3540			
R^2 adjusted	0.3451			
Root MSE	1.7038			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 23 - American FDI: econometric results for the Manufacturing sector estimation, 1990-2002

Manufacturing	Coef.	Std. Err.	t	P>|t|
lngdp	0.5538	0.0535	10.3400	0.0000
lndist	-0.5875	0.1610	-3.6500	0.0000
labindex	0.7794	0.1978	3.9400	0.0000
ue	0.6297	0.1745	3.6100	0.0000
msul	1.4206	0.3633	3.9100	0.0000
nafta	1.8409	0.4548	4.0500	0.0000
asia	1.3336	0.2266	5.8800	0.0000
_cons	-5.0977	1.4834	-3.4400	0.0010
n	548			
F(7, 540)	47.8700			
Prob > F	0.0000			
R^2	0.3829			
R^2 adjusted	0.3749			
Root MSE	1.4845			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 24 - American FDI: econometric results for the Food sector estimation, 1990-2002

Food	Coef.	Std. Err.	t	P>|t|
lngdp	0.7365	0.0628	11.7400	0.0000
lndist	-1.0430	0.1858	-5.6100	0.0000
labindex	0.6928	0.2836	2.4400	0.0150
ue	0.3843	0.2225	1.7300	0.0850
msul	1.1443	0.3651	3.1300	0.0020
nafta	0.5693	0.4675	1.2200	0.2240
asia	-0.0734	0.2666	-0.2800	0.7830
_cons	-7.3135	1.819824	-4.0200	0.0000
n	346			
F(7, 338)	44.6600			
Prob > F	0.0000			
R^2	0.4805			
R^2 adjusted	0.4698			
Root MSE	1.3305			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 25 - American FDI: econometric results for the Chemical sector estimation, 1990-2002

Chemicals	Coef.	Std. Err.	t	P>|t|
lngdp	0.6040	0.0597	10.1200	0.0000
lndist	-0.8123	0.1724	-4.7100	0.0000
labindex	0.7816	0.2026	3.8600	0.0000
ue	1.0544	0.1796	5.8700	0.0000
msul	1.6690	0.3454	4.8300	0.0000
nafta	1.2440	0.4651	2.6700	0.0080
asia	0.9255	0.2345	3.9500	0.0000
_cons	-5.8739	1.745852	-3.36	0.0010
n	455			
F(7, 447)	45.4300			
Prob > F	0.0000			
R^2	0.4157			
R^2 adjusted	0.4065			
Root MSE	1.4340			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 26 - American FDI: econometric results for the Metals sector estimation, 1990-2002

Metals	Coef.	Std. Err.	t	P>|t|
lngdp	0.5946	0.0728	8.1600	0.0000
lndist	-0.6564	0.2456	-2.6700	0.0080
labindex	0.5185	0.2425	2.1400	0.0330
ue	0.5956	0.2280	2.6100	0.0090
msul	1.4131	0.4126	3.4300	0.0010
nafta	1.3884	0.6038	2.3000	0.0220
asia	0.0929	0.3089	0.3000	0.7640
_cons	-7.8156	2.3675	-3.3000	0.0010
n	286			
F(7, 278)	25.0400			
Prob > F	0.0000			
R^2	0.3867			
R^2 adjusted	0.3713			
Root MSE	1.4493			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 27 - American FDI: econometric results for the Machinery sector estimation, 1990-2002

Machinery	Coef.	Std. Err.	t	P>|t|
lngdp	-0.0021	0.0887	-0.0200	0.9810
lndist	0.1608	0.2753	0.5800	0.5600
labindex	-0.6219	0.3875	-1.6100	0.1090
ue	-0.0420	0.3464	-0.1200	0.9030
msul	-1.4932	0.5594	-2.6700	0.0080
nafta	1.4266	0.8234	1.7300	0.0840
asia	0.3003	0.3862	0.7800	0.4370
_cons	3.4268	2.209679	1.5500	0.1220
n	351			
F(7, 343)	2.9300			
Prob > F	0.0055			
R^2	0.0564			
R^2 adjusted	0.0371			
Root MSE	1.9257			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 28 - American FDI: econometric results for the Electronics sector estimation, 1990-2002

Electronics	Coef.	Std. Err.	t	P>|t|
lngdp	0.4658	0.0888	5.2400	0.0000
lndist	0.1177	0.3549	0.3300	0.7400
labindex	0.8711	0.3143	2.7700	0.0060
ue	1.0798	0.2826	3.8200	0.0000
msul	-0.4804	0.6228	-0.7700	0.4410
nafta	2.3849	0.8321	2.8700	0.0050
asia	2.6320	0.3707	7.1000	0.0000
_cons	-11.1934	3.301818	-3.3900	0.0010
n	263			
F(7, 255)	20.4200			
Prob > F	0.0000			
R^2	0.3592			
R^2 adjusted	0.3416			
Root MSE	1.7597			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 29 - American FDI: econometric results for the Transportation Equipment sector estimation, 1990-2002

Transportation	Coef.	Std. Err.	t	P>|t|
lngdp	0.7515	0.1093	6.8800	0.0000
lndist	-1.2688	0.2761	-4.6000	0.0000
labindex	0.2770	0.3323	0.8300	0.4060
ue	0.6373	0.2966	2.1500	0.0330
msul	0.9500	0.4381	2.1700	0.0310
nafta	1.0623	0.6602	1.6100	0.1090
asia	0.6255	0.3480	1.8000	0.0740
_cons	-5.4276	3.568964	-1.5200	0.1300
n	225			
F(7, 217)	22.4900			
Prob > F	0.0000			
R^2	0.4205			
R^2 adjusted	0.4018			
Root MSE	1.5790			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 30 - American FDI: econometric results for the Transportatio Equipment sector estimation, without distance variable, 1990-2002

Transportation-	Coef.	Std. Err.	t	P>|t|
lngdp	0.6923	0.1134	6.1000	0.0000
labindex	0.0213	0.3424	0.0600	0.9500
ue	0.8341	0.3067	2.7200	0.0070
msul	1.0897	0.4568	2.3900	0.0180
nafta	3.2153	0.4862	6.6100	0.0000
asia	0.0512	0.3394	0.1500	0.8800
_cons	-15.2004	2.9956	-5.0700	0.0000
n	225			
F(6, 218)	20.8000			
Prob > F	0.0000			
R^2	0.3641			
R^2 adjusted	0.3466			
Root MSE	1.6502			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 31 - American FDI: econometric results for the Other Manufacturing sector estimation, 1990-2002

Other	Coef.	Std. Err.	t	P>|t|
lngdp	0.4946	0.0688	7.1900	0.0000
lndist	-0.4557	0.2043	-2.2300	0.0260
labindex	0.3467	0.2701	1.2800	0.2000
ue	0.4552	0.2234	2.0400	0.0420
msul	1.2515	0.4132	3.0300	0.0030
nafta	1.9760	0.5179	3.8200	0.0000
asia	0.4083	0.2772	1.4700	0.1420
_cons	-5.3878	2.0157	-2.6700	0.0080
n	346			
F(7, 338)	22.8100			
Prob > F	0.0000			
R^2	0.3209			
R^2 adjusted	0.3068			
Root MSE	1.4757			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 32- American FDI: fixed-effects (within) estimations for the Services sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|
lngdp	2,3634	0,3678	6,4300	0,0000
labindex	-0,1431	0,3655	-0,3900	0,6960
_cons	-56,3452	9,6058	-5,8700	0,0000
n	518			
F(2, 459)	21,86			
Prob > F	0,00			
R^2				
within	0,0870			
between	0,2700			
overall	0,2185			
sigma_u	3,1311			
sigma_e	1,0867			
rho	0,8925			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 33 - American FDI: fixed-effects (within) estimations for the Manufacturing sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|
lngdp	2,7619	0,3353	8,2400	0,0000
labindex	0,0671	0,3695	0,1800	0,8560
_cons	66,8354	-8,7636	7,6300	0,0000
n	548			
F(2, 489)	34,61			
Prob > F	0,00			
R^2				
within	0,1240			
between	0,4314			
overall	0,2727			
sigma_u	0,4968			
sigma_e	0,0979			
rho	0,9103			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 34 - American FDI: fixed-effects estimations for the Food sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|
lngdp	1,3511	0,3669	3,6800	0,0000
labindex	2,0321	0,5142	3,9500	0,0000
_cons	-33,2299	9,6882	-3,4300	0,0010
n				
F(2, 459)				
Prob > F				
R^2				
within	0,0753			
between	0,3567			
overall	0,3230			
sigma_u	1,8786			
sigma_e	0,9575			
rho	0,7938			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 35 - American FDI: fixed-effects (within) estimations for the Chemical sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|
lngdp	2,1588	0,3443	6,2700	0,0000
labindex	-0,3206	0,3840	-0,8300	0,4040
_cons	-52,6096	9,0706	-5,8000	0,0000
n	455			
F(2, 399)	22,03			
Prob > F	0,00			
R^2				
within	0,0994			
between	0,4088			
overall	0,2461			
sigma_u	2,3905			
sigma_e	0,9912			
rho	0,8533			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 36 - American FDI: fixed-effects (within) estimations for the Metals sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|
lngdp	1,4308	0,4798	2,9800	0,0030
labindex	-0,2901	0,5494	-0,5300	-0,5980
_cons	-34,9519	12,7505	-2,7400	0,0070
n	286			
F(2, 235)	5,20			
Prob > F	0,01			
R^2				
within	0,0424			
between	0,3614			
overall	0,2296			
sigma_u	1,6008			
sigma_e	1,0426			
rho	0,7022			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 37 - American FDI: fixed-effects estimations for the Machinery sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|
lngdp	2,0744	0,4570	4,5400	0,0000
labindex	0,2565	0,5097	0,5000	0,6150
_cons	-49,3054	11,8733	-4,1500	0,0000
n	351			
F(2, 299)	10,43			
Prob > F	0,00			
R^2				
within	0,0652			
between	0,0019			
overall	0,0003			
sigma_u	3,8955			
sigma_e	1,1406			
rho	0,9210			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 38 - American FDI: fixed-effects (within) estimations for the electronics sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|

lngdp	4,1086	0,5053	8,1300	0,0000
labindex	-2,2268	0,5338	-4,1700	0,0000
_cons	-102,9632	13,3970	-7,6900	0,0000
n	263			
F(2, 213)	49,52			
Prob > F	0,00			
R^2				
within	0,3174			
between	0,1817			
overall	0,1247			
sigma_u	4,8042			
sigma_e	1,0743			
rho	0,9524			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 39 - American FDI: fixed-effects (within) estimations for the Transportation Equipment sector, 1990-2002

	Coef.	Std. Err.	t	P>|t|
lngdp	3,1819	0,6832	4,6600	0,0000
labindex	1,4415	0,7210	2,0000	0,0470
_cons	-82,2673	18,4022	-4,4700	0,0000
n	225			
F(2, 187)	11,35			
Prob > F	0,00			
R^2				
within	0,1083			
between	0,3388			
overall	0,2175			
sigma_u	3,0772			
sigma_e	1,1358			
rho	0,8801			

Source: NEIT-IE-UNICAMP from BEA primary data

Table 40 - American TNC: sales, export and intra-firm coefficients by selected sectors, 2002

Sector	Total sales (a)	Sales to Affiliated persons (b)	External sales (c)	(c) / (a)	(b) / (a)
	US$ millions	*US$ millions*	*US$ millions*	*%*	*%*
All industries	**2.548.625**	**697.967**	**918.979**	**36,1**	**27,4**
Mining	**94.171**	**31.697**	**43.324**	**46,0**	**33,7**
Manufacturing	**1.208.610**	**421.882**	**523.024**	**43,3**	**34,9**
Food	90.281	20.392	26.870	29,8	22,6
Beverages and tobacco products	45.119	8.230	8.910	19,7	18,2
Textiles, apparel, and leather products	11.205	2.873	4.101	36,6	25,6
Chemicals	224.473	77.963	93.800	41,8	34,7
Primary and fabricated metals	40.063	9.098	19.826	49,5	22,7
Machinery	59.925	16.818	31.541	52,6	28,1
Computers and electronic products	206.909	83.269	113.932	55,1	40,2
Electrical equip., appliances, compon.	26.041	9.399	12.492	48,0	36,1
Transportation equipment	272.093	130.948	148.544	54,6	48,1
Other	232.502	62.891	44.836	19,3	27,0
Services	**1.202.654**	**242.190**	**325.895**	**27,1**	**20,1**

Source: NEIT-IE-UNICAMP from BEA primary data

Table 41 – American TNC affiliates: export coefficients by country and strategic pattern, 1990-2002

41a – Traditional Platform

Country	Total Sales *US$ millions*		Export Coefficient *External sales/Total Sales (%)*	
	1990	2002	1990	2002
Barbados	898	3.790	69,3	65,0
Belgium	36.513	51.645	58,5	52,6
Bermuda	16.684	34.285	82,8	89,3
Costa Rica	572	2.663	40,6	52,5
Hong Kong	17.960	51.770	55,4	36,4
Ireland	13.384	85.805	70,7	73,1
Malaysia	6.753	29.376	52,7	56,2
Netherlands	57.235	113.151	58,2	59,8
Panama	1.711	3.850	54,5	37,3
Singapore	27.066	93.763	55,7	56,3
Switzerland	52.187	103.845	74,6	80,6
U. Kingdom Islands, Caribbean	936	16.675	88,5	50,3
Total Traditional Platforms	**231.899**	**590.618**	**63,5***	**59,1***
World Total	*1.208.349*	*2.548.625*	*33,0*	*36,1*

(continues)

41b – Emerging Platforms

Country	Total Sales *US$ millions*		Export Coefficient *External sales/Total Sales (%)*	
	1990	2002	1990	2002
Mexico	19.307	112.443	30,4	36,2
Philippines	3.292	10.596	24,7	40,7
Sweden	9.316	35.021	21,2	49,4
Thailand	6.690	19.548	31,6	37,9
Total Emerging Platforms	**38.605**	**177.608**	**27,0***	**41,0***
World Total	*1.208.349*	*2.548.625*	*33,0*	*36,1*

41c – Export Oriented Market seeking

Country	Total Sales *US$ millions*		Export Coefficient *External sales/Total Sales (%)*	
	1990	2002	1990	2002
Argentina	4.595	17.116	18,7	32,6
Austria	7.012	10.267	22,2	27,0
Canada	178.690	336.830	26,3	28,7
China	775	42.530	8,1	28,9
France	89.855	125.929	27,6	24,9
Germany	132.613	205.713	31,6	35,7
Italy	54.105	71.935	17,7	21,7
Portugal	4.140	6.977	20,5	24,3
Spain	28.349	48.989	25,3	29,2
Taiwan	7.648	23.482	31,3	28,0
United Kingdom	201.966	371.645	25,4	27,6
Total Export Oriented Market seeking	**709.748**	**1.261.413**	**23,2***	**28,1***
World Total	*1.208.349*	*2.548.625*	*33,0*	*36,1*

41d – Market seeking

Country	Total Sales *US$ millions*		Export Coefficient *External sales/Total Sales (%)*	
	1990	2002	1990	2002
Australia	40.696	61.028	15,6	17,9
Brazil	36.643	58.787	10,4	16,5
Chile	2.209	8.045	23,2	18,8
Colombia	4.195	8.960	19,3	15,5
Greece	2.404	3.922	7,9	10,8
India	330	8.347	8,2	13,2
Japan	61.914	150.181	11,4	7,1
Korea	3.048	18.509	22,3	17,4
New Zealand	3.113	7.622	5,3	6,2
South Africa	3.047	10.237	7,9	13,4
Turkey	2.603	5.941	8,2	13,7
Venezuela	2.669	12.021	7,5	11,9
Total Market Seeking	**162.871**	**353.600**	**12,3***	**13,5***
World Total	*1.208.349*	*2.548.625*	*33,0*	*36,1*

(continues)

41e – Desarticulated Platforms

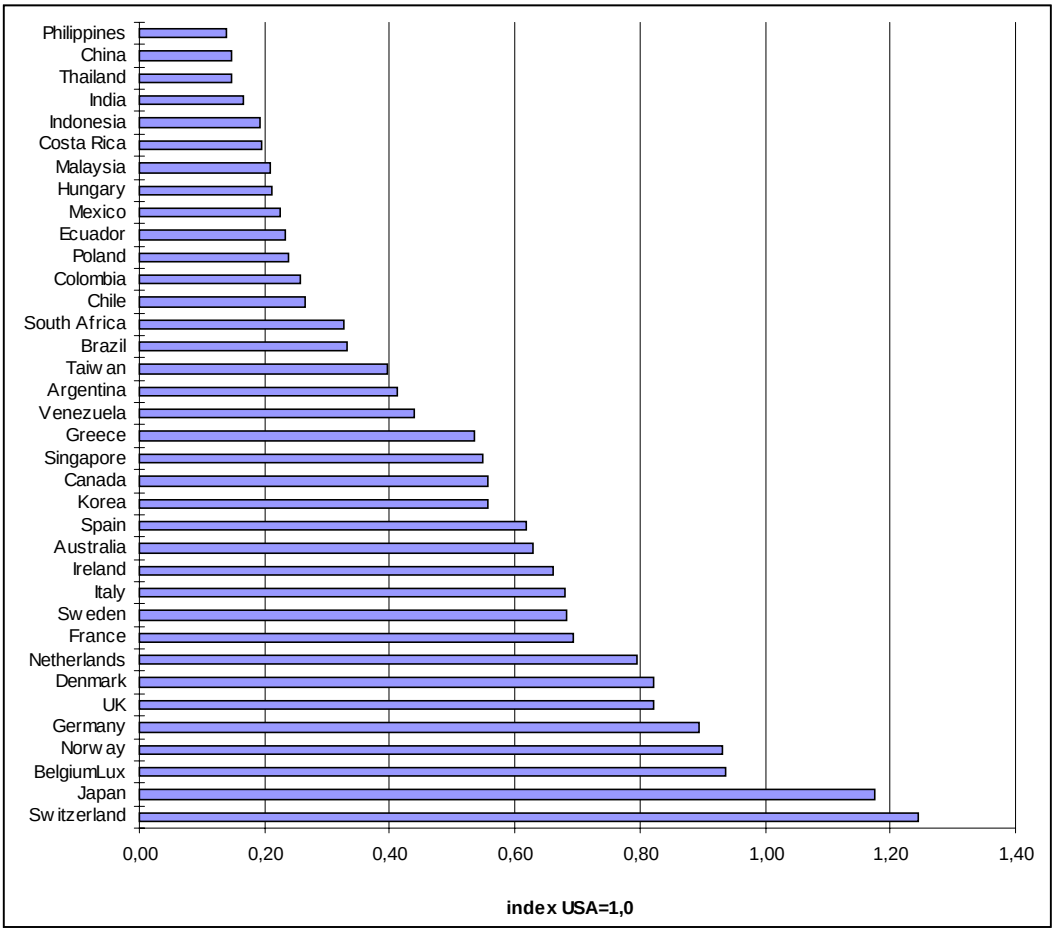
Country	Total Sales *US$ millions*		Export Coefficient *External sales/Total Sales (%)*	
	1990	2002	1990	2002
Dominican Republic	742	2.753	39,5	13,9
Ecuador	752	2.579	50,7	22,3
Indonesia	7.459	11.035	72,8	29,6
Total Desarticulated Plataorms	**8.953**	**16.367**	**54,3**	**21,9**
World Total	*1.208.349*	*2.548.625*	*33,0*	*36,1*

**** simple average***

Source: NEIT/IE/UNICAMP from data of Bureau of Economic Analysis (refer to text for strategic pattern methodology)

Graph 1 - American TNC: labor cost index by selected host countries, 2002

Index: USA=1,0



Source: NEIT-IE-UNICAMP from BEA primary data

Table 42 – Country Sample for econometric analysis by regional or Rest of World groups

European Union	Mercosur	Asia	Nafta	ROW
Austria, Finland, France, Germany, Norway, Spain,	Argentina, Brazil	China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand	Canada, Mexico	Australia, Bahamas, Bermuda, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Hungary, etherlands Antilles, New Zealand, Panama, Russia, Trinidad and Tobago, Turkey, United Arab Emirates, United Kingdom Islands, Venezuela

REFERENCES

BLOMSTROM, M., KOKKO, A. Regional integration and FDI. **NBER Working Paper** No. 6019, April 1997.

BLUM, U. Borders Matter! Regional Integration in Europe and North America. **Jahrbücher für Nationalökonomie und Statistik.** Stuttgart: Sep 1, 2003. Vol. 223,Iss.5.

BRAINARD, S. L. A simple theory of multinational corporations and trade with trade-off between proximity and concentration. **NBER Working Paper** 4269, February 1993.

BRAINARD. S.L.. An empirical assessment of the proximity-concentration trade-off between multinational sales and trade. **The American Economic Review.** Nashville: Sep 1997. Vol. 87, Iss. 4; p. 520 (25 pages).

BRENTON, P., DI MAURO, F. and LÜCKE, M.. Economic Integration and FDI: An Empirical Analysis of Foreign Investment in the EU and in Central and Eastern Europe. **Kiel Working Paper** No. 890, November 1998.

CHUDNOVSKY D. and A. LÓPEZ Integración regional e inversión extranjera directa El caso del MERCOSUR, Serie REDINT, INTAL, IADB, Buenos Aires.

Di MAURO, F. Economic Integration between th EU and the CEECs: a sectoral study. **LICOS discussion Paper**, 105, 2001. LICOS center for transition Economics.

FRANKEL, J., STEIN, E., WEI, S. Trading blocs and the Americas: The natural, the unnatural, and the super-natural. **Journal of Development Economics.** Amsterdam: Jun 1995. Vol. 47, Iss. 1; p. 61 (35 pages).

HANSON, G., MATALONI, JR., R., SLAUGHTER, M..Vertical production networks in multinational firms. **NBER Working Paper** 9723, May 2003.

KRUEGER, A. . NAFTA's effects: A preliminary assessment. **The World Economy.** Oxford: Jun 2000. Vol. 23, Iss. 6; p. 761.

LAPLANE, M. F., SARTI, F., HIRATUKA, C. and SABBATINI, R. O caso Brazileiro. **in** CHUDNOVSKY. D. (orgs) **El boom de las inversiones extranjeras directas en el MERCOSUR.** Buenos Aires: Siglo XXI, 2001.

MARKUSEN, J. and VENABLES, A.. Multinational firms and the new trade theory. **Journal of International Economics**. Amsterdam: Dec 1998. Vol. 46, Iss. 2; p. 183.

MARKUSEN, J.. Multinational firms, location and trade. **The World Economy.** Oxford: Aug 1998. Vol. 21, Iss. 6; p. 733.

MATYAS, L.. Proper econometric specification of the gravity model. **The World Economy.** Oxford: May 1997. Vol. 20, Iss. 3; p. 363 (6 pages).

MEDEIROS, C.A. A economia política da crise e da mudança estrutural na Asia. **Economia e Sociedade**, Campinas, nº17, 2001.

MOLD, A. The impact of the single market programme on the locational determinants of US Indústria affiliates: An econometric analysis. **Journal of Common Market Studies.** Oxford: Mar 2003. Vol. 41, Iss. 1; p. 37.

OMAN, C. Globalisation et Régionalisation: quels enjeux pour les pays en développement? OCDE-Centre de Développement: Paris, 1994.

RESMINI. L.. The determinants of foreign direct investment in the CEEC's: new evidence from sectoral patterns. Economic of Transition, Vol 8 (3), 2000, 665-689.

STONE, S. JEON, B. Gravity-model specification for foreign direct investment: A case of the Asia-Pacific economies. **The Journal of Business and Economic Studies.** Oakdale: Spring 1999. Vol. 5, Iss. 1; p. 33 (10 pages).

UNCTAD. **World Investment Report 2002**: Transnational Corporations and Export Competitiveness. United Nations, New York, 2002.

WALKENHORST, P.. Economic Transition and the Sectoral Patterns of Foreign Direct Investment. **Emerging-Markets-Finance-and-Trade**. March-April 2004; 40(2): 5-26.

WHEELER, DAVID, MODY, ASHOKA. International Investment Location Decisions: The Case of U.S. Firms. **Journal of International Economics.** Amsterdam: Aug 1992. Vol. 33, Iss. 1,2; p. 57 (20 pages).

YEYATI L.E., STEIN, E. AND DAUDE, C. Regional Integration and the Location of FDI. **Inter-American Development Bank, Research Department Working Paper** 492, Washington D.C, 2003.

YEYATI L.E., STEIN, E. AND DAUDE, C. The ALCA and the Location of FDI. Paper prepared for the IDB-Harvard Conference on the ALCA in Punta del Este, Uruguay, 2002.