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Regional integration and export diversification in MERCOSUR:

the case of Argentina and Brazil

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This article analyses the effects of Argentina's trade with its MERCOSUR partners in two key periods: 1997/1998 and 2005/2006 —before and after the crises suffered by the economies of this trade zone. The impact of trade on the regionalization of exports and imports was measured by the Regional Orientation Index, which was used by Yeats in his study of these countries for an earlier time period. Our conclusions show that the results obtained by Yeats are inconsistent with the later reality in Argentina and Brazil, since MERCOSUR enabled them to develop learning processes and grow their trade with countries outside the bloc. This positive impact was mainly felt in Brazil, however, and less in the other partners, particularly Uruguay and Paraguay —owing to the underlying asymmetries between these economies. As a result, the largest MERCOSUR country has been the main beneficiary of integration thus far.

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I
Introduction

The question of how to evaluate the impact of regional integration processes on merchandise trade has been a source of keen debate. Some authors believe the impact can be positive if it does not cause trade diversion. Others see integration as beneficial when it generates dynamic comparative advantages, based on the possibilities offered by a broad market and collaboration in the technological and learning fields.

In the case of MERCOSUR, intraregional trade not only grew rapidly up to 1998, but was much more diversified than the exports of MERCOSUR members to developed countries. This led authors such as Yeats to infer the presence of trade diversion from the outset of the integration process. In his studies on the trade behaviour of MERCOSUR from its inception until the mid-1990s, this author identifies a regionalization process involving the expansion of exports from sectors in which the partner countries did not have comparative advantages relative to other markets —for example in chemical and plastic products, machinery and the automotive and autoparts industry. The resultant efficiency losses would have had a negative impact not only on countries outside the bloc, but also on member countries themselves, by forgoing the benefits of specialization based on their comparative advantages (Yeats, 1997).

The second section of this article compares the argument put forward by Yeats with that presented by other authors who stress the importance of generating dynamic comparative advantages within regional integration agreements. It will then analyse the recent trend of Argentina's trade with Brazil, Paraguay and Uruguay, in industrial products that were displaying high levels of regionalization (in terms of imports and/or exports) by 1998.[1] The aim will be to identify cases where regionalization increased or decreased, and whether or not dynamic comparative advantages were generated both within the trade bloc and in relation to external markets. This may help us to understand the subsequent trade behaviour of those sectors, which, at the time, Yeats and other authors classified as inefficient because it did not reflect the static comparative advantages of the two countries.

The third section of this article will make a comparative analysis of the different attitudes to South-South trade, regional integration and the case of MERCOSUR in particular. The fourth section will consider the trend of trade between Argentina and Brazil in industrial goods displaying high levels of regionalization between the two periods studied —the first, prior to the macroeconomic crises suffered by the two countries (1997-1998), and a second more recent period (2005-2006). This section deepens the analysis taking into account indices that help explain the trend of intra- and extraregional trade, highlighting sectors with regionalized industrial goods in at least one of the two periods under study. The fifth section will consider the same indicators for Argentina's trade with Uruguay and Paraguay; and the last section will provide a summary of the conclusions.

[1] The regionalization index used by Yeats (1997) will be employed for this purpose.

II

The impact of regional integration according to different theories

There is a wide-ranging literature on international trade and how it relates to integration processes. In this article, we will present two opposing points of view on South-South trade which directly affect the analysis of relations in MERCOSUR and particularly between Argentina and Brazil —countries that account for over 90% of the region's trade.

Firstly, some authors argue that the existence of South-South trade in capital-intensive manufactured products may represent inefficient trade diversion, if it does not extend to external markets. Trade of this type should therefore be restricted or eliminated in favour of an international division of labour in which each economy produces the goods in which it is most efficient in terms of static comparative advantages. One of the best-known model of trade development based on a given factor endowment is that of Heckscher and Ohlin (H-O), which makes the following assumptions: technology is fixed and available to everyone; factors of production are homogeneous and have constant returns to scale; there is full employment; and the goods produced by the different countries have different factor intensities, and as each good is always intensive in one factor, factor intensities are non-reversible.[2] These points lead to the fundamental assumption of perfectly competitive markets and the conclusion that each country's most efficient trade pattern will depend on its factor endowment —in other words the relative abundance of one of the factors of production (capital or labour). Applying this to trade between Argentina and Brazil, the international division of labour would suggest that MERCOSUR should produce and export goods that are relatively more labour-intensive, while importing more capital-intensive products.

These ideas were harnessed by Corden to analyse the consequences of trade blocs. For this author, any trade bloc is beneficial if it creates trade; but it will be negative if it causes trade diversion (towards countries belonging to the bloc) that would not have occurred in the absence of a preferential tariff situation (Corden, 1972).

Yeats (1997) analyses the case of MERCOSUR in terms of the trade creation and diversion generated by trade integration or preferential trading arrangements between a group of countries. The first question he poses is whether the growth of certain intraregional exports following the establishment of the trade bloc was consistent with the comparative advantages of the member countries involved. Following Corden, Yeats analysed the period 1988-1994, to see whether the product lines traded within the bloc were also exported by MERCOSUR members to other countries in the world. For that purpose, he used the Regional Orientation Index (ROI)[3] and an index of revealed comparative advantages that excludes intra-MERCOSUR trade, as a way of reflecting the capacity of member countries to compete in markets where they did not enjoy discriminatory trade benefits.

He finds that much of the growth of intraregional trade in certain selected goods is associated with a change in regional orientation towards MERCOSUR. In the products for which trade has grown most within the region, member countries are not competitive on external markets, and there is little evidence that they have (static) comparative advantages in relation to those markets. Accordingly, far from expanding or creating trade, MERCOSUR generated inefficient trade diversion by promoting trade in capital-intensive goods that were not exported in similar proportions to the rest of the world.

According to Yeats and other authors of this persuasion, as Argentina and Brazil do not specialize in exporting goods that make intensive use of the relatively abundant factor (commodities or labour-intensive agriculture-based manufactures), they will be generating trade losses not only for third countries but also for their own consumers.

The arguments propounded by Yeats have been attacked from various angles. One of these criticizes

[2] For a detailed presentation of the assumptions of the Hecksher-Olhin model, see Krugman and Obstfeld (2001).

[3] The methodology for calculating this index can be seen in annex 1.

the fact that this author only analyses the behaviour of intra-MERCOSUR exports. Although these grew until 1998, imports from third countries also grew vigorously in the same period. It is therefore impossible to infer widespread trade diversion that inflicted losses on countries outside the zone. (Laird, 1998; Nagarajan, 1998; Ríos, 2003).

A more head-on argument claims that the benefits of South-South trade in industrial products go beyond given factor endowments, by providing tools to develop scale economies and learning processes that will make it possible to generate dynamic comparative advantages both inside and outside the region.

Authors in this group include Amsden (1997), who strongly criticizes the assumption of just two factors of production (capital and labour) in the H-O model — in particular because this means considering labour as a homogeneous factor, while ignoring or minimizing the role of skilled labour used intensively in so-called "skilled industries". These sectors have greater potential for generating learning effects because their exports, although perhaps initially just South-South, could expand to the more central countries of the world in the future. This explanation draws heavily on the concept of dynamic comparative advantages, as opposed to the static comparative advantages proclaimed by the other group of authors. In a setting such as that described by Amsden, a sector may not be efficient in a country at a given moment in time; but if its sector productivity growth outpaces that of a second country, it might be efficient in the future.

This argument is echoed by Rodrik, among others, who identifies the various factors that would justify increased trade and the creation of trade blocs between developing countries. These include the existence of imperfect markets and returns to scale, in a context where trade occurs between increasingly asymmetric countries (in terms of size, degree of initial advantage or static comparative advantage). This means that the potential growth effects of such trade are also asymmetric, a danger that could be reduced if the integration process involved developing countries that are most mutually "similar" (Rodrik; 1995).

This author argues that developing countries need a strategy for producing and exporting manufactured goods, which could be strengthened from within a trade bloc. Targeting efforts on developing manufacturing sectors that could subsequently export to markets elsewhere in the world gives special significance to the expansion of South-South trade.[4]

In other words, secure access to new, mutually similar markets could serve as a platform for subsequently gaining access to markets outside the bloc. For Rodrik and Amsden this means acquiring dynamic comparative advantages while pursuing industrialization processes.

III

South-South trade: the MERCOSUR perspective

To achieve dynamic comparative advantages, countries implementing an integration process need regulations that harmonize both the structural and the regulatory asymmetries that may exist between them. Otherwise, the development of the bloc may serve to deepen existing asymmetries and generate tensions that undermine the performance of the integration process itself.

Several authors have noted the existence of major asymmetries within MERCOSUR —which, far from being corrected by the creation of the bloc, have been aggravated through time (Carrera, 2005; Bekerman et al, 1995). Moreover, Ríos (2003) sees the differences between the productive structures of member countries as the major barrier facing the integration process today, for which he recommends controlling the use of production and investment incentives, and designing and applying appropriate tools to reduce the differences in question.

Several authors extend these recommendations to sector policies, arguing that, for the common external tariff to be sustainable over time, industrial restructuring and foreign-trade regimes need to be co-ordinated to avoid causing abrupt shifts in the competitive conditions of each member country (Bekerman et al, 1995).

[4] Following this line of thought, Ffrench-Davis (2001) evokes Prebisch, who highly recommended stimulating exports of manufactured goods between Latin American countries, through preferential agreements —mainly those with greater technology absorption and higher income elasticity.

Nonetheless, MERCOSUR clearly does not have a joint or harmonized project for the development of its productive structure; and the lack of long-term shared projects has meant that the bloc's most dynamic country, Brazil, benefits most from the aforementioned learning processes. The existence in that country of certain regulations and incentives for key sectors has made it possible to maintain productivity and investment growth without the fluctuations experienced in Argentina. Moreover, the greater incentives for technological training and improvements in quality and productivity available Brazil have narrowed the human-resource skills gap which historically favoured Argentina. This is compounded by access to credit, where Brazilian exporters enjoy much more favourable conditions (Carrera, 2005; Bekerman et al, 1995).

With regard to the type of trade occurring in MERCOSUR, intraindustry trade in segments such as machinery, transport material and chemicals has become firmly established in the larger countries. This seems to be substantially linked to an inter-enterprise and/or managed form of trade. Transnational enterprises have tended to specialize in specific product lines, complementing this with production in other subsidiaries located mainly within MERCOSUR.[5] This is far removed from the reality of small or medium-sized enterprises (SMEs) which have hardly perceived any of the advantages of belonging to the trade bloc because the distribution of the benefits of integration thus far clearly depends on firm size.[6]

IV

The regionalization of exports and imports between Argentina and Brazil

Argentina's trade in industrial manufacturers with Brazil has been in deficit since the start of the integration process; and the deficit has widened for most the industrial chapters of the MERCOSUR Common Nomenclature (MCN) over the last 10 years. This could provide an initial insight into the trade consolidation being achieved by Brazil in industrial products.

This section considers whether similar results are obtained if the analysis is undertaken using regionalization indices (RIs), to determine whether the growth in Argentina's trade deficit with Brazil coincides with an increase or a decrease in the proportion of its trade that involves markets outside MERCOSUR. In other words, to what extent is Brazil gaining ground as a supplier of industrial goods to Argentina. It may also help us decide whether there are sectors in which Argentina could achieve new comparative advantages in relation to external markets, despite its widening trade deficit with Brazil; in other words whether MERCOSUR could serve as an initial platform for expanding trade or selling new products elsewhere in the world.

To measure this, we use the ROI[7] to compare trends in the ratio of Argentina's exports and imports to and from Brazil, with respect to its trade with the rest of the world. The analysis included industrial sectors that displayed high levels of regionalization in terms of imports, exports or intra-industry trade, in at least one of the two periods covered by the analysis, namely 1997-1998 and 2005-2006.[8]

[5] Chudnovsky and López (2007) highlight the greater productivity, larger trade volumes and greater innovation capacity of the subsidiaries of transnational firms, compared to those of local enterprises.

[6] This phenomenon is not confined to intra-MERCOSUR exports but reflects a general trend. A study by FUNCEX (2005) shows that 75% of the growth of Brazil's azexternal sales between 1998 and 2004 involved large firms that were already participating in foreign trade.

[7] The same index as used by Yeats (1997). See Annex I.

[8] A sample was chosen comprising total of 95 tariff headings: 87 at the 4-digit level and eight at the 6-six digit level. The expansion to six digits was made for products whose importance warranted more detailed identification. The intention of the article was to show the relevant 4-digit headings and to include a number of 6-digit headings that were specially important. The underlying aim was to show that some 4-digit headings are dominated by one or two 6-digit headings, but not all 6-digit headings obtained from the 4-digit level. Sample selection is described in annex II.

1. Trend of Argentine imports displaying high levels of regionalization

Firstly we consider imports which, in the period under study, have sharply increased their regionalization with Brazil; then we analyse those whose ROI has declined, despite maintaining a high level of regionalization.

(a) *Increase in regionalization*

The large number of tariff headings showing an increase in regionalization as a result of trade diversion and creation processes shows the extent to which regional trade liberalization has benefited Brazil (see table 1). In fact, Argentina's imports from that country have increased in all headings in this group (except one), and in most cases this coincides with a reduction in its imports from the rest of the world. This means not only that Brazil managed to consolidate its comparative advantages regionally in these industrial products, but also that MERCOSUR contributed to the fact that Argentina tends to buy from this country rather than from external markets.

This group includes headings in Chapter 84 "Boilers, machinery and mechanical appliances", and is followed in importance by Chapter 72 "Iron and steel smelting" and 76 "Aluminium and articles thereof".

Within Chapter 84, there has been a large market shift in favour of Brazil in headings encompassing refrigerators, washing machines, harvesting machines, centrifuges and bulldozers. Two broad groups can thus be identified: domestic electrical appliances, and agricultural and construction machinery.

Table 1 also shows tariff headings for which Argentina has grown its imports both from Brazil and from the rest of the world, the leading example being cellular telephone apparatus (item 8525, which grew by over 1,000% between 1997-1998 and 2005-2006). In a setting that can be described as a cellular phone boom, the growth of such imports from Brazil far outpaced those from the rest of the world. The strategies of multinational enterprises can be seen here, since they decided to set up production facilities in Brazil to take advantage of more favourable regulatory policies and different domestic market sizes. This created a favourable platform for exports and caused a substantial diversion of Argentine imports away from other areas (such as Southeast Asia, the United States or Mexico) in favour of Brazil. By 2005, 70% of all cellular phones imported by Argentina were being sourced from its main trading partner.

Nonetheless, the RI of cellular phone exports from Brazil to Argentina also decreased owing to the very rapid growth of such exports to the rest of the world. In that context, however, MERCOSUR made an undeniable contribution to the acquisition of dynamic comparative advantages in the sector. From an initial situation in which it sold cellular phones almost exclusively to Argentina, Brazil has consolidated its position as a competitive exporter to external markets: its sales to the rest of the world in this heading rose from US$ 54 million to US$ 2 billion F.O.B. between the two periods analysed.[9]

(b) *Reduction of regionalization*

The sample headings for which RI fell between 1997-1998 and 2005-2006 are shown in table 2. The larger number of cases is explained by a proportionately larger drop in imports from Brazil than from the rest of the world. These headings reveal import substitution processes involving increased domestic production of products such as bed linen, dishwashers and certain kinds of paper.

The table also shows headings for which, despite a falling RI, imports from Brazil and from the rest of the world both actually increased, but the latter in smaller proportion.

This group includes the case of medicines, an item in which the bulk of MERCOSUR imports are sourced from the rest of the world. In this case, a multinational enterprise strategy is not to produce the main pharmaceutical assets or raw materials in the region, in favour of a policy of intraenterprise imports (Bekerman and Sirlin, 1999).

2. Trend of Argentine exports displaying high levels of regionalization

This subsection firstly considers Argentine exports that have increased their regionalization with Brazil, and then analyses those for which ROI has fallen between the two periods studied, despite maintaining regionalization at a high level.

(a) *Increase in regionalization*

Table 3 shows tariff headings for which ROI increased between 1997-1998 and 2005-2006 —in other words the product groups for which the regionalization process with Brazil intensified.

[9] The trend of Brazilian exports to the rest of the world under these headings, and their RI with Argentina are shown in annex III.

TABLE 1

Argentine imports for which regionalization is increasing
(Millions of dollars)

MCN code	Description	From Brazil (a)		From the rest of the world (b)		World (c = a+b)		Proportion imported from Brazil d=(a/c)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006
8418	Refrigerators, freezers and other cooling equipment, except air-conditioners	46.8	114.1	135	54.7	181.8	168.8	25.7	67.6
8421	Centrifuges, centrifugal dryers; apparatus for filtering or purifying liquids or gases	18.2	29.2	141.1	101.4	159.3	130.6	11.4	22.4
8433	Harvesting and planting machinery and equipment	56.8	115.1	100.1	67.6	156.9	182.7	36.2	63.0
8450	Washing machines, including those with built-in driers	17	30.5	78.5	16.4	95.5	46.9	17.8	65.0
842920	Levellers//	16.9	30.3	19.3	11.9	36.2	42.2	46.7	71.8
847149	Other digital automatic data processing machines	0	16.5	36.7	9.2	36.7	25.7	0.0	64.2
7201	Pig iron and specular smelting, in primary forms	0.1	16.2	0.2	1.1	0.3	17.3	33.3	93.6
7207	Semi-finished products of iron or non-alloy steel	80.3	96	32.1	12.1	112.4	108.1	71.4	88.8
7210	Flat-rolled iron and steel products, non-alloy	13.5	24.5	19.2	5	32.7	29.5	41.3	83.1
7214	Bars of iron or non-alloy steel, wrought, flat-rolled or excluded	12.3	9.9	9.4	2.2	21.7	12.1	56.7	81.8
721934	Flat-rolled products of stainless steel	7.4	19.7	11	5.6	18.4	25.3	40.2	77.9
7606	Aluminium sheets and strip	11.3	19.9	40.8	8	52.1	27.9	21.7	71.3
7616	Other aluminium manufactures	0.8	12.6	14.7	10.7	15.5	23.3	5.2	54.1
4804	Kraft paper and paperboard, uncoated	64.1	70.3	35.4	19.5	99.5	89.8	64.4	78.3
2818	Artificial corundum; aluminium oxide and hydroxide	54.4	136.6	25.9	17.2	80.3	153.8	67.7	88.8
8525	Radiotelephony, radiotelegraphy, radio or television transmission apparatus	65.5	681	620	668.2	685.5	1349.2	9.6	50.5
520942	Denim fabrics	28.2	36.5	4.2	0.1	32.4	36.6	87.0	99.7
3305	Preparations for use on the hair	8	42.7	13.6	9	21.6	51.7	37.0	82.6
5501	Synthetic filament cables	0	8.9	7.4	10.8	7.4	19.7	0.0	45.2
2902	Cyclic hydrocarbons	22.6	68.2	10.2	2.7	32.8	70.9	68.9	96.2
7312	Stranded wire, ropes etc., not electrically insulated, of iron or steel	6.4	16	9	9.3	15.4	25.3	41.6	63.2
7502	Nickel, unwrought	0.5	10.8	3.1	6.8	3.6	17.6	13.9	61.4
380830	Herbicides, anti-sprouting products, plant-growth regulators	47	51.4	131.2	43.6	178.2	95	26.4	54.1
6402	Footwear, with outer sole and upper of rubber or plastic	34.3	69.9	35.5	39.9	69.8	109.8	49.1	63.7
9401	Seats and parts thereof	23.8	38.7	47.1	47.6	70.9	86.3	33.6	44.8
Total 25 products (a)		*636.2*	*1 765.5*	*1 580.7*	*1 180.6*	*2 216.9*	*2 946.1*	*28.7*	*59.9*
Total imports of manufactures of industrial origin (MIO) (b)		6 212.1	9 948.8	21472.2	17 894.7	27 684.2	27 843.5	22.4	35.7
Percentage of total (a/b)		10.2%	17.7%	7.4%	6.6%	8.0%	10.6%		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

MIO: Manufactures of industrial origin
MCN: Mercosur Common Nomenclature
(a) Total products analysed in the table.
(b) Total imports/exports.
(a/b) Total products analysed in the table / total imports (or exports, as the case may be).

TABLE 2

Argentine imports for which regionalization is declining
(Millions of dollars)

MCM4	Description	From Brazil (a)		From the rest of the world (b)		World (c=a+b)		Proportion of M to Brazil d=(a/c)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006
4818	Paper of the type used for toilet paper and similar	13.2	8.3	38.2	20.7	51.4	29	25.7	28.6
8422	Dishwashing machines; machinery for cleaning or drying bottles or other containers;	9.8	7.2	123.4	69	133.2	76.2	7.4	9.4
7209	Flat rolled products of iron or non-alloy steel	23.9	2.1	7.8	0.8	31.7	2.9	75.4	72.4
3004	Medicaments, mixed or not, prepared for therapeutic or prophylactic uses.	59.6	62.5	290.2	353.2	349.8	415.7	17.0	15.0
2910	Epoxides, epoxyalcohols, epoxyphenols and epoxethers	10.5	20.4	1.9	5.1	12.4	25.5	84.7	80.0
3703	Photographic paper, paperboard, textiles, unexposed, unprinted	15.7	11.6	10.8	10.4	26.5	22	59.2	52.7
6302	Bed linen, table linen, toilet linen & kitchen linen	44.4	41.7	7.2	4	51.6	45.7	86.0	91.2
8212	Razor blades and electric shavers and blades (including razor blade blanks in strips).	26.9	23.6	12.9	11.1	39.8	34.7	67.6	68.0
Total 8 products (a)		*204*	*177.4*	*492.4*	*474.3*	*696.4*	*651.7*	*29.3*	*27.2*
Total imports MIO (b)		6 212.1	9 948.8	21 472.2	17 894.7	27 684.2	27 843.5	22.4	35.7
Percentage of total (a/b)		3.3%	1.8%	2.3%	2.7%	2.5%	2.3%		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

MIO: Manufactures of industrial origin
MCN: Mercosur Common Nomenclature
(a) Total products analysed in the table.
(b) Total imports/exports.
(a/b) Total products analysed in the table / total imports (or exports, as the case may be).

TABLE 3

Argentine exports for which regionalization is increasing
(Millions of dollars)

MCN	Description	To Brazil (a)		To the rest of the world (b)		World (c=a+b)		Proportion X to Brazil d=(a/c)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006
3923	Articles for conveyance or packing, of plastic; closures,	15.8	55.2	31.1	64.3	46.9	119.5	33.7	46.2
8482	Ball bearings, needle roller bearings	18.9	21.6	17.7	11.3	36.6	32.9	51.6	65.7
8483	Transmission shafts and cranks; gears and flywheels; ball screws; speed reducers, accelerators and other speed changers	18.4	19.5	12.2	15.1	30.6	34.6	60.1	56.4
2833	Sulphates; alums; peroxosulphates (persulphates).	4.6	21.4	1.8	7.5	6.4	28.9	71.9	74.0
2903	Halogenated derivatives of hydrocarbons	14	18.7	2.9	2.3	16.9	21	82.8	89.0
3815	Reaction initiators and accelerators, and catalytic preparations	0	32.8	0.4	19.3	0.4	52.1	0.0	63.0
Total 6 products (a)		*71.7*	*169.2*	*66.1*	*119.8*	*137.8*	*289*	*52.0*	*58.5*
Total exports MIO (b)		4 402.2	4 129.1	4 076.7	9 202.2	8 478.9	13 331.3	51.9	31.0
Percentage of total (a/b)		1.6%	4.1%	1.6%	1.3%	1.6%	2.2%		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

MIO: Manufactures of industrial origin
MCN: Mercosur Common Nomenclature
(a) Total products analysed in the table.
(b) Total imports/exports.
(a/b) Total products analysed in the table / total imports (or exports, as the case may be).

There are very few tariff headings for which exports to Brazil have become more regionalized. In all cases (except for heading 8482), total exports increase; and, although these are product lines for which Brazil remains the key destination, in some cases Argentina also managed to increase its exports to the rest of the world.

The highest export values in this category are reported by the heading "Articles for conveyance or packing, of plastic". Nonetheless, the fastest growing category was chemical products grouped under "Initiators and accelerators of reaction, and catalytic preparations", which grew from under US$ 1 million F.O.B. exported to Brazil and the rest of the world, to nearly US$ 33 million and US$ 20 million F.O.B., respectively.

(b) *Reduction in regionalization*

Tariff headings in this export category whose regional orientation declined between 1997-1998 and 2005-2006 are shown in table 4. Here again, there are a few headings that display significant percentage growth, despite small export values.

The fall in ROI in all headings is this group mainly reflects a proportionately larger increase in Argentine exports to the rest of the world, since sales to Brazil did not decline in any heading. Leading cases include "Polyamides in primary forms" (a type of plastic manufacture), for which average exports to the rest of the world in 1997/98 were almost insignificant, but by 2005/06 exceeded US$ 23 million F.O.B.

This expansion of trade to the rest of the world could be evidence of the development of learning processes within Argentine exports.

3. Trend of trade in headings involving intra-industry trade with high levels of regionalization

Here we analyse headings with high regionalization indices that display patterns of bilateral intra-industry trade, in other words products categories in which Argentina both imports from Brazil and exports to that country in large amounts.

The four quadrants of table 5 summarize the different trends of the main products involved in intra-industry trade between Argentina and Brazil (the two upper quadrants show an increase in the regionalization of imports from Brazil, whereas the two lower quadrants show a reduction). Subsequently,

TABLE 4

Argentine exports for regionalization is decreasing
(Millions of dollars)

MCN	Description	To Brazil (a)		To the rest of the world (b)		World (c=a+b)		Proportion X to Brazil d=(a/c)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006
3908	Polyamides in primary forms	64.1	70.3	0.5	23.2	64.6	93.5	99.2	75.2
8419	Apparatus and equipment for the treatment of materials by temperature change	54.4	136.6	13.6	32	68	168.6	80.0	81.0
7612	Aluminium casks, drums, cans, boxes and similar containers	65.5	681	1.7	9.9	67.2	690.9	97.5	98.6
8536	Apparatus for circuit breaking, relay, protection, derivation, blending or connections of electrical circuits	28.2	36.5	9.7	15.4	37.9	51.9	74.4	70.3
8527	Reception apparatus for radiotelephony, radiotelegraphy or radio broadcasting	56.8	115.1	2.4	5.6	59.2	120.7	95.9	95.4
3919	Self-adhesive plates, sheets, film, foil, tape, strip of plastic	8	42.7	6.2	28.8	14.2	71.5	56.3	59.7
Total 6 products (a)		*277*	*1 082.2*	*34.1*	*114.9*	*311.1*	*1 197.1*	*89.0*	*90.4*
Total exports MIO (b)		4 402.2	4 129.1	4 076.7	9 202.2	8 478.9	13 331.3	51.9	31.0
Percentage of total (a/b)		6.3%	26.2%	0.8%	1.2%	3.7%	9.0%		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

MIO: Manufactures of industrial origin
MCN: Mercosur Common Nomenclature
(a) Total products analysed in the table.
(b) Total imports/exports.
(a/b) Total products analysed in the table / total imports (or exports, as the case may be).

TABLE 5

Trend of the regional orientation index for items displaying intraindustry trade

			RI of Exports	
	Increases		Decreases	
	Quadrant 1		Quadrant 2	
RI of Imports Increases	3901	Polymers of ethylene in primary forms	8703	Motor cars & vehicles for transporting persons (except those contained in item No. 87.02) including family type of vehicles ("break" o "station wagon") and racing vehicles
	4810	Paper and paperboard pasted on one or both sides with kaolin or other inorganic substances, with or without glue, excluding any other type of taste for covering, including colouring or decorations on the surface or prints, in rolls.	8704	Motor vehicles for the transport of goods
	401120	Pneumatic tyres of rubber, of a kind used on buses or lorries	8701	Tractors (other than works trucks) of heading 8709).
	3904	Polymers of vinyl chloride and other halogenated olefins, in primary forms	8702	Motor vehicles for the transport of 10 or more persons, including the driver.
	3902	Polymers of propylene and other olefins, in primary forms	3920	Other plates, sheets, film, foil, tape, strip of plastic (non-cellular), without strengthening, stratification or support or similar combination with other materials
	4002	Synthetic rubber & factice derived from oils, in primary forms or in sheets, foil or tape. Mixtures of products from heading No. 40.01 with those of this heading, in primary forms or in sheets, foil or tape	8544	Insulated wires, cables (including coaxial) and other electric conductors although lacquered, anodized or provided with connectors; optical fibre cables consisting of individually fused fibres
	3307	Pre-shave, shaving or aftershave preparations, personal audio currents, Bath preparations, depilatory, other perfumery, cosmetic or toilet preparations, not elsewhere specified;	8706	Chassis fitted with engines for the motor vehicles of headings 8701 to 8705
	8511	Electric ignition or starting equipment, for internal combustion or compression engines (examples: Magnetos, magneto dynamos, flywheels, sparking plugs, starting motors; generators	3903	Polystyrene, in primary forms
	7228	Other bars and shapes of non alloy steel; hollow drill bars of alloy or non alloy steel	6403	Footwear with outer soles of rubber, plastics, natural or composition leather, and uppers of natural leather
	380830	Herbicides, anti-sprouting products, plant-growth regulators//insecticides, rodenticides, fungicides, herbicides, anti-sprouting products, plant-growth regulators, disinfectants and similar products	6404	Footwear with outer soles of rubber, plastic, natural or composition leather, and uppers of textile material
	8512	Electrical lighting or visual signalling equipment (except items in heading No. 8539), electrical windscreen wipers, defrosters and demisters	8408	Compression-ignition internal combustion piston engines (diesel or semi-diesel)
			390120	Polyethylene having a specific gravity of 0.94 or more//polymers of ethylene in primary forms
			8708	Parts and accessories for motor vehicles of headings Nos. 8701 to 8705

(continues overleaf)

(continued)

	Quadrant 3		Quadrant 4	
Decreases	4011	Pneumatic tyres	8407	Spark-ignition reciprocating or rotary internal combustion piston engines
	3808	Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products, plant-growth regulators	8414	Air or vacuum pumps, compressors of air or other gases and fans; extraction or recycling hoods, with built in fan and filter
	8409	Parts identifiable as exclusively or principally used for engines	2814	Ammonia, anhydrous or in aqueous solution
	3907	Polyacetals, other polyethers, expoxide resins		
	7408	Copper wire		
	8413	Pumps for liquids		
	4802	Paper and paperboard, uncoated;		
	2803	Carbon		
	2918	Carboxylic acids with supplementary oxygen functions, their anhydrides, halides, peroxides and peroxyacids;		
	2929	Nitrogen function compounds		
	4010	Conveyor or transmission belts of vulcanized rubber		
	4005	Compounded rubber, unvulcanized, in primary form, or it in plates, sheets or strips.		
	2815	Sodium hydroxide		
	7901	Zinc, unwrought		
	8707	Bodies for motor vehicles		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

each quadrant will be considered separately and with a more detailed breakdown, to analyse the behaviour of the headings included in them.[10]

(a) *Quadrant 1: Increase in the RI of both imports and exports*

In this case, the rise in the regionalization indices reflects a general expansion of trade, since exports to and imports from Brazil grew in all headings. In the case of exports, the higher RI reflects a proportionately larger expansion of Argentine sales to Brazil than to the rest of the world. In the case of imports, the growth in purchases from Brazil coincided with a reduction in purchases from the rest of the world.

Export categories that are expanding include polymers of ethylene in primary forms (from US$ 15 million to US$ 270 million F.O.B. exported to Brazil and from US$ 18 million to US$ 92 million F.O.B. exported to the rest of the world). At the same time, imports from Brazil under this heading more than doubled (from US$ 116 million to US$ 263 million F.O.B.), while imports from the rest of the world retreated. The expansion of trade in this commodity reflects a rapid process of trade expansion, within MERCOSUR for Brazil and both inside and outside the bloc in the case of Argentina.

The sharp increase in exports of polymers also extends to vinyl chlorides and propylenes. These headings, although reporting smaller export volumes than polymers of ethylene, both to Brazil and to the rest of the world, display very substantial growth that outpaces imports from Brazil.

Shaving preparations are a product category for which growth was mainly focused on the export side, generating a virtual dominance for Argentina. This also reflects the strategies of multinational

[10] Given the small amounts traded, quadrant 4 will not be analysed further.

TABLE 6

Argentine trade for which regionalization increased for both imports and exports

(Millions of dollars)

MCN	Description	Exports to Brazil (a)		Exports to the rest of the world (b)		World (c=a+b)		Proportion X to Brazil d=(a/c)*100 *(Percentages)*		Imports from Brazil (d)		Imports from the rest of the world (e)		World (f=d+e)		Proportion of M from Brazil g=(d/f)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006
3901	Polymers of ethylene, in primary forms	14.9	269.3	18.2	92.1	33.1	361.4	45.0	74.5	116	263.5	110.6	63.6	226.6	327.1	51.2	80.6
3904	Polymers of vinyl chloride	14.8	58.9	7.2	34.7	22	93.6	67.3	62.9	19	24.9	32.7	17.4	51.7	42.3	36.8	58.9
3902	Polymers of propylene	7.7	35.2	36.2	66.8	43.9	102	17.5	34.5	11.9	47	19	20	30.9	67	38.5	70.1
390120	Polymers of ethylene in primary forms	13.5	52.2	3.2	10	16.7	62.2	80.8	83.9	43.1	99	39	13.5	82.1	112.5	52.5	88.0
401120	New pneumatic tyres of rubber, of a kind used on buses or lorries	7.2	6.3	3	51.1	10.2	57.4	70.6	11.0	56.4	78.1	48	33.6	104.4	111.7	54.0	69.9
4002	Synthetic rubber and factice obtained from oils	0.7	24.7	18.1	17.3	18.8	42	3.7	58.8	8.3	34.3	28.8	43.6	37.1	77.9	22.4	44.0
8511	Electrical ignition or starting equipment for internal combustion or compression engines	10.2	30.2	16.4	9.7	26.6	39.9	38.3	75.7	21.2	24.8	67.9	32.9	89.1	57.7	23.8	43.0
8512	Electrical lighting or visual signalling equipment windscreen wipers, defrosters and demisters	8	16.2	6.1	8.8	14.1	25	56.7	64.8	12.8	26	45.4	31.3	58.2	57.3	22.0	45.4
3307	Pre-shave, shaving or after-shave preparations, personal deodorants, bath preparations	7.7	48.9	15.2	84	22.9	132.9	33.6	36.8	2.6	9.6	18.2	7.6	20.8	17.2	12.5	55.8
4810	Paper and paperboard coated on one or both sides with kaolin or other inorganic substances	1.1	3.8	0.9	1.2	2	5	55.0	76.0	55.3	102.2	164.6	90.6	219.9	192.8	25.1	53.0
7228	Other bars and shapes of non alloy steel; hollow drill bars of alloy or non alloy steel	1.4	16	1.2	1.4	2.6	17.4	53.8	92.0	8.5	36.1	7.4	12.7	15.9	48.8	53.5	74.0
Total 11 products (a)		*87.2*	*561.7*	*125.7*	*377.1*	*212.9*	*938.8*	*41.0*	*59.8*	*355.1*	*745.5*	*581.6*	*366.8*	*936.7*	*1112.3*	*37.9*	*67.0*
Total export/imports MIO (b)		4 402.2	4 129.1	4 076.7	9 202.2	8478.9	13 331.3	51.9	31.0	6 212.1	9 948.8	21 472.2	17894.7	27684.2	27843.5	22.4	35.7
Percentage of total (a/b)		2.0%	13.6%	3.1%	4.1%	2.5%	7.0%			5.7%	7.5%	2.7%	2.0%	3.4%	4.0%		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (indec).

MIO: Manufactures of industrial origin
MCN: Mercosur Common Nomenclature
(a) Total products analysed in the table.
(b) Total imports/exports.
(a/b) Total products analysed in the table / total imports (or exports, as the case may be).

enterprises which, through a regional division-of-labour process, have prioritized Argentina for production in this subsegment.

This category also includes headings in the "Electrical machines, apparatus and material" chapter, for which trade with Brazil (both exports and imports) has increased, offsetting a decline in trade with the rest of the world.

What can be seen, therefore, on the export side, is a vigorous growth in sales to Brazil and the rest of the world, reflecting a robust trade creation process in these headings. In contrast, on the import side, the trend is towards an increase in imports from Brazil and production from the rest of the world; in other words, trade diversion in favour of our trading partner.

(b) *Quadrant 2: Increase in the RI of imports and a reduction in the RI of exports*

The salient feature in this quadrant on the export side is that most headings report a drop in sales to Brazil, together with a sharp increase in exports to the rest of the world. The opposite is happening on the import side, where all headings from Brazil increase while imports from the rest of the world decrease in all categories, except one. This behaviour pattern shows that, while Argentina is losing customers in Brazil but managing to find new ones elsewhere in the world, its main trading partner is becoming the leading supplier, especially in markets outside MERCOSUR. Possibly both cases provide clear examples of trade expansion but with a very different regional orientation, since Argentina is increasingly sourcing goods from Brazil, whereas the latter obtains its products on external markets.

This quadrant shows various headings in the automotive industry ("Transport of passengers and goods, tractors, and certain autoparts"). Although this phenomenon is largely explained the behaviour of multinational enterprises, Argentina has developed strategies enabling it to grow its exports to the rest of the world, which possibly would not have happened without the integration process. Moreover, the specialization developed by Brazil in family and low-range automobiles has boosted its sales to Argentina, since they account for a large proportion of sales to that country.

Within the other headings in this group, plastics ("Polystyrene plates, sheets, foil, and strips") and electricity conductor cables also display rapidly growing imports from Brazil together with a sharp increase in Argentine exports to the rest of the world.

In the case of sectors consisting mainly of SMEs, this table shows a number of headings within the footwear chapter where Brazil again ensures that its producers make the most of integration (Argentina's imports from Brazil increased, but from the rest of the world they decreased). In contrast, on the Argentine side, exports declined almost to the point of losing both the Brazilian and rest-of-the-world markets completely.

(c) *Quadrant 3: Increase in the RI of exports and a reduction in the RI of imports*

Nearly all headings in this quadrant show an increase in exports both to Brazil and to the rest of the world.

This situation contrasts with that described by Yeats (1997), because intra-MERCOSUR trade, for which, according to that author, Argentina did not have static comparative advantages, served expand its trade with external markets —as shown by the fact that the growth of exports to Brazil (intra-regional) is accompanied by an increase in exports to the rest of the world (extraregional).

The table shows no clear trend on the import side, since there are situations of falling and rising imports from Brazil combined with falls and increases in imports from the rest of the world.

At the chapter level, the chemical products mentioned above predominate with increased Argentine exports to all destinations, along with the plastics contained in that category (polyacetals and polyethylene). The chapter "Rubber and articles thereof" displays vigorous growth in exports to Brazil, from almost nothing to about US$ 10 million F.O.B.

The same trend can be seen in exports of autoparts (8707 and 8708) and for the headings of chapter 84 ("Boilers, machinery and mechanical appliances"). In addition, in terms of the value of imports in these two groups, reductions have occurred mainly in the automotive industry headings, involving an import substitution process, while new comparative advantages were developed to make it possible to expand export destinations.

TABLE 7

Argentine trade displaying increased regionalization of imports and a reduction in the regionalization of exports
(Millions of dollars)

MCN	Description	Exports to Brazil (a)		Exports to the rest of the world (b)		World (c=a+b)		Proportion X to Brazil d=(a/c)*100 *(Percentages)*		Imports from Brazil (d)		Imports from the rest of the world (e)		World (f=d+e)		Proportion M from Brazil g=(d/f)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997- 1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997- 1998	2005-2006	1997-1998	2005-2006
8701	Tractors (other than works trucks) of heading 8709).	7.2	6.3	3	51.1	10.2	57.4	70.6	11.0	139.6	330	59.9	43	199.5	373	70.0	88.5
8702	Motor vehicles for transporting 10 or more persons	91.7	48.9	2.3	67.7	94	116.6	97.6	41.9	21.1	95	41.3	4.1	62.4	99.1	33.8	95.9
8703	Motor cars and vehicles intended mainly for transporting persons	1493.3	608.4	85	509.9	1578.3	1118.3	94.6	54.4	636.8	1,363.40	908	417.4	1544.8	1780.8	41.2	76.6
8704	Motor vehicles for the transport of goods	641.1	503.1	51.4	730.7	692.5	1233.8	92.6	40.8	519.1	612.6	434.3	55.4	953.4	668	54.4	91.7
8706	Motor vehicle chassis fitted with engines	6.1	1.5	2.4	17.4	8.5	18.9	71.8	7.9	22.9	69.8	3.3	0.4	26.2	70.2	87.4	99.4
8708	Parts and accessories for motor vehicles	51.7	66.3	161.88	441.3	213.58	507.6	24.2	13.1	507.7	574.5	963.1	849.7	1470.8	1424.2	34.5	40.3
3903	Polystyrene, in primary forms	16.1	2.9	7.6	21.1	23.7	24	67.9	12.1	5.7	37	24.9	28.9	30.6	65.9	18.6	56.1
3920	Other plates, sheets, foils, strips of plastic (non-cellular), unstrengthened	26.7	28.9	24.7	88.1	51.4	117	51.9	24.7	27.5	58.3	101.6	82.4	129.1	140.7	21.3	41.4
6403	Footwear with outer soles of rubber, plastics, natural or regenerated leather, and uppers of natural leather	0.7	0	3.2	0	3.9	0	17.9	0.0	25	28.5	36.7	17.9	61.7	46.4	40.5	61.4
6404	Footwear with outer soles of rubber, plastic, natural or composition leather, and uppers of textile material	0.6	0.2	1.6	1.2	2.2	1.4	27.3	14.3	4.8	27.6	18.1	8.8	22.9	36.4	21.0	75.8
8408	Compression-ignition internal combustion piston engines (diesel or semi-diesel)	55.8	50.2	1.7	14.4	57.5	64.6	97.0	77.7	147.5	182.2	103.1	82	250.6	264.2	58.9	69.0
8544	Wires, cables (including coaxial cable) and other insulated conductors for electricity, although lacquered.	119.6	1.9	9.5	54.1	129.1	56	92.6	3.4	25.2	80.9	123.5	64.4	148.7	145.3	16.9	55.7
Total 12 products (a)		*2 510.6*	*1 318.6*	*354.28*	*1 997*	*2 864.88*	*3 315.6*	*87.6*	*39.8*	*2 082.9*	*3 459.8*	*2 817.8*	*1 654.4*	*4 900.7*	*5 114.2*	*42.5*	*67.7*
Total exports/imports MIO (b)		4 402.2	4 129.1	4 076.7	9 202.2	8 478.9	13 331.3	51.9	31.0	6 212.1	9 948.8	21 472.2	17 894.7	27 684.2	27 843.5	22.4	35.7
Percentage of total (a/b)		57.0%	31.9%	8.7%	21.7%	33.8%	24.9%			33.5%	34.8%	13.1%	9.2%	17.7%	18.4%		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

MIO: Manufactures of industrial origin
MCN: Mercosur Common Nomenclature
(a) Total products analysed in the table.
(b) Total imports/exports.
(a/b) Total products analysed in the table / total imports (or exports, as the case may be).

TABLE 8

Argentine trade displaying increased regionalization in exports and a reduction of regionalization in imports.
(Millions of dollars)

MCN	Description	Exports to Brazil (a)		Exports to the rest of the world (b)		World (c=a+b)		Proportion X to Brazil d=(a/c)*100 *(Percentages)*		Imports from Brazil (d)		Imports from the rest of the world (e)		World (f=d+e)		Proportion M from Brazil g=(d/f)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006
4005	Compounded rubber, unvulcanized, in primary form, or it in plates, sheets or strips.	1	0.1	1	2.4	2	2.5	50.0	4.0	4.3	4	8.9	7.4	13.2	11.4	32.6	35.1
4011	New pneumatic tyres of rubber	13.5	52.2	47.25	94.52	60.75	146.72	22.2	35.6	90.4	145.7	107.2	111	197.6	256.7	45.7	56.8
4010	Conveyor or transmission belts of vulcanized rubber	0.4	23.6	0.5	5.4	0.9	29	44.4	81.4	7.8	7.5	20.5	20.9	28.3	28.4	27.6	26.4
2803	Carbon (including carbon blacks and other forms of carbon not elsewhere included).	1	10	1	2.3	2	12.3	50.0	81.3	1.7	3.5	1	8.6	2.7	12.1	63.0	28.9
2815	Sodium hydroxide (soda or caustic soda); Potassium hydroxide (caustic potash); Sodium or potassium peroxides	2.2	11.6	5.5	6.6	7.7	18.2	28.6	63.7	8.5	14.8	3.2	4.6	11.7	19.4	72.6	76.3
2918	Carboxylic acids with supplementary oxygen functions, their anhydrides, halides, peroxides and peroxyacids;	0.7	9.2	22.6	25.3	23.3	34.5	3.0	26.7	12	11.9	38.5	32.5	50.5	44.4	23.8	26.8
2929	Nitrogen function compounds	0.9	14.5	15.2	13.9	16.1	28.4	5.6	51.1	4.2	0.3	11.9	10.9	16.1	11.2	26.1	2.7
8409	Parts identifiable as intended, exclusively or mainly, four engines of headings 8407 or 8408.	1.5	12.1	36.7	81.2	38.2	93.3	3.9	13.0	61	59.6	135.4	165.7	196.4	225.3	31.1	26.5
8413	Pumps for liquids, with a built in measuring device; liquid elevators.	4.2	14.6	20.9	51.2	25.1	65.8	16.7	22.2	45.3	34.2	143.2	133.9	188.5	168.1	24.0	20.3
3808	Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products, plant-growth regulators,	10.3	21.5	71.4	123.2	81.7	144.7	12.6	14.9	80.7	86.9	211.9	132.6	292.6	219.5	27.6	39.6

(continues overleaf)

(continued)

MCN	Description	Exports to Brazil (a)		Exports to the rest of the world (b)		World (c=a+b)		Proportion X to Brazil d=(a/c)*100 *(Percentages)*		Imports from Brazil (d)		Imports from the rest of the world (e)		World (f=d+e)		Proportion M from Brazil g=(d/f)*100 *(Percentages)*	
		1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006	1997-1998	2005-2006
4802	Paper and paperboard, uncoated and uncovered, of a kind used for writing, printing, or other graphic purposes	16.8	20.4	22.3	73.3	39.1	93.7	43.0	21.8	30.1	38	30.2	24.8	60.3	62.8	49.9	60.5
7901	Zinc, unwrought	51.7	66.3	9.7	16.6	61.4	82.9	84.2	80.0	10.5	36.3	0.6	4.7	11.1	41	94.6	88.5
8707	Bodies (including cabs) for motor vehicles	10.3	21.5	0.7	0.4	11	21.9	93.6	98.2	40.5	1.7	7.4	1.5	47.9	3.2	84.6	53.1
Total 14 products (a)		*125.2*	*300.9*	*270.85*	*552.42*	*396.05*	*853.32*	*31.6*	*35.3*	*448.6*	*495.9*	*853.2*	*829.8*	*1 301.8*	*1 325.7*	*34.5*	*37.4*
Total exports/imports MIO (b)		4 402.2	4 129.1	4 076.7	9 202.2	8 478.9	13 331.3	51.9	31.0	6 212.1	9 948.8	21 472.2	17 894.7	27 684.2	27 843.5	22.4	35.7
Percentage of total (a/b)		2.8%	7.3%	6.6%	6.0%	4.7%	6.4%			7.2%	5.0%	4.0%	4.6%	4.7%	4.8%		

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

MIO: Manufactures of industrial origin
MCN: Mercosur Common Nomenclature
(a) Total products analysed in the table.
(b) Total imports/exports.
(a/b) Total products analysed in the table / total imports (or exports, as the case may be).

V

Analysis of Argentina's trade regionalization with Uruguay and Paraguay

This section raises a number of important issues concerning Argentina's trade with Uruguay and Paraguay. Firstly, Argentina maintained a clear surplus in its trade with these two partners during the period under study, unlike its trade with Brazil. These two countries represent a market to which Argentina exports a wide variety of products but imports insignificant amounts, particularly compared to its imports from Brazil.

An interesting feature of Argentina's trade with these two countries is that within the 4-digit headings in the sample, none has been selected as important simultaneously for Argentina's imports and exports to each destination.

This section will follow the same analytical scheme as used with Brazil, although the analysis of Argentina's trade with Uruguay and Paraguay, respectively, is clearly less important than that with Brazil, as shown by the fact that there are very few significant cases, unlike the situation with Argentina's largest MERCOSUR trade partner.

1. Trend of Argentine imports from Uruguay that display high levels of regionalization

Uruguay is of little importance as a supplier to Argentina. Only a few of the selected headings have become more regionalized, and jointly they have little importance in Argentina's total MIO imports. The products in question have very low values both in terms of imports from Uruguay and globally. Increasing regionalization stems mainly from a reduction in Argentine imports from the rest of the world.

With regard to headings that are becoming less regionalized, most cases reflect a reduction in Argentine imports from Uruguay combined with a stable level of imports from the rest of the world. These are also headings that are largely irrelevant in the trade between the two countries.

In both cases, the regionalization trend reflects import substitution processes involving an expansion of local production in Argentina.

2. Trend of Argentine exports to Uruguay that display high levels of regionalization

Unlike it exports to Brazil, there are many headings in Argentina's exports to Uruguay that are becoming more regionalized —products which, in 2005-2006, display a significant increase in their share of total MIO exported by Argentina. In turn, the variety of products shows that, while there is significant regionalization of exports from Argentina to Uruguay, these are dispersed among different industries, many of which are mainly represented by SMEs, such as textiles, footwear and bottles.

Secondly, although the amounts exported are mostly insignificant, they involve products where Argentina has not had a strong export position on external markets during the period. This helps to explain the heavy weight of exports to Uruguay, even though the latter is a small market.

At the same time, there is a wide range of product lines in which Argentine exports to Uruguay have become less regionalized. These include light-industry products such as textiles, paints and varnishes and other liquids and creams for various uses; and also small and medium-sized machines such as electric heaters, electrical transformers, television adapters, among others.

In both cases, exports to the neighbouring country between the two periods remained relatively stable or grew slightly, while sales of these products to the rest of the world increased sharply, thereby explaining the drop in regionalization as trade with other destinations has grown. Possibly the learning process facilitated by the existence of MERCOSUR provided the knowledge needed to start developing dynamic comparative advantages in these product lines.

3. Trend of Argentine imports from Paraguay displaying high levels of regionalization.

As in the Uruguayan case, there are few headings where regionalization increased during the period under study. Paraguay is not one of Argentina' leading

suppliers, and the type of products imported, mainly linked to the textile industry, suggests that high levels of regionalization stem from the geographic proximity of the two markets. In fact, the increasing regionalization shown between the years under study mainly represents a reduction in Argentine imports from the rest of the world, as part of an import substitution process rather than a major increase in trade with its partner.

There is also a very small number of headings for which (previously high) regionalization falls between the two periods. This strengthens the previous argument regarding Paraguay's minor role as a supplier of industrial products to Argentina, even though it is a trading partner with preferential tariffs.

4. Trend of Argentine exports to Paraguay displaying high regionalization

As in the case of imports, Argentine exports to Paraguay include very few headings with high levels of regionalization. Nonetheless, in some cases, such as footwear, the increase in regionalization with Paraguay reflects a sharp drop in Argentine exports of the product in question to the rest of the world (particularly to Brazil, as noted above). Lastly, exports of cellular phones (Code 8525) to Paraguay grew very fast between the two periods, despite being small in value terms.

Secondly, in keeping with the previous results, headings that show declining regionalization are mainly explained by a fall in Argentine exports to Paraguay. This decrease, which was offset in some cases by an increase in exports to the rest of the world, shows that, for some cases, Paraguay has served as an initial platform to generate learning processes in the production of goods such as paper and paperboard, cables, washing machines, and mechanical therapy or massage equipment, etc. Trade with Paraguay, boosted by the existence of MERCOSUR, may thus have helped Argentina gain access to a broad market and develop dynamic comparative advantages enabling it to subsequently expand its exports outside the trade bloc.

VI
Conclusions

This article set out to analyse the extent to which a more diversified pattern of specialization in Argentina's trade with Brazil, compared to each country's trade with developed countries, generated dynamic comparative advantages both at the regional level and in relation to external markets. For this purpose, the article analysed the recent trend of trade in industrial products which by 1998 were displaying high levels of regionalization (in terms of imports and/or exports) between two periods of study: one prior to the macroeconomic crises suffered by the two countries (1997-1998) and another more recent period (2005-2006).

Ten years after publication of the article by Yeats, far from confirming the conclusions of that author, the Brazilian experience (and, to a lesser extent, that of Argentina) seems to support those who consider that South-South trade not only does not damage trade with third countries but could also be beneficial for expanding and diversifying such trade in the medium and long terms.

Argentina is increasingly concentrating its purchases of industrial manufactures in Brazil while selling such goods to the rest of the world. This reflects very asymmetric regionalization trends in bilateral trade in industrial goods between the two main MERCOSUR partners.

Firstly, it shows an increase in the regionalization of Argentina's industrial imports in certain categories — the combined result of an increase in the proportion of imports from Brazil and a reduction in the proportion sourced from the rest of the world. In these product lines, Brazil has become the leading supplier. Does this imply inefficient diversion of trade from Brazil, as Yeats argued, or the development of new comparative advantages by this country? The statistics clearly show the latter, because for the industrial products identified, Brazil also reports a sharp expansion of exports to the rest of the world (with growth of between 80% and 300%).[11] These data seem to be more consistent with the approach proposed by Amsden, since Brazil shows a clear development of learning processes.

[11] For further detail, see annex 3.

The second aspect to highlight in Argentine-Brazilian trade relations is that various Argentine export categories are becoming less regionalized. This mostly reflects a decrease in exports to Brazil, but also an increase in sales to the rest of the world. There has also been an increase in the regionalization of Argentine exports in certain segments of the petrochemical sector.

This reveals the existence of highly asymmetric regionalization trends in the bilateral industrial goods trade of the two leading MERCOSUR partners.

What implications would this have for evaluating the impact of the regional integration process? On the Argentine side, it might mean that, in some cases, such as the automotive industry and certain petrochemical and plastic commodities, MERCOSUR has served as an initial export platform, for later expansion to the rest of the world. In this case it has been possible to develop learning processes and/or improved organization of production. From the Brazilian standpoint, in a context of domestic productive policies that favour competitiveness, MERCOSUR provided clear opportunities for strengthening certain industrial sectors based on the development of economies of scale and learning. We cannot ignore the fact that these trends reflect the globalizing strategies of multinational enterprises that have made better use of the benefits of the integration process thus far.

A detailed analysis of the results obtained, and considering South-South trade in industrial goods as beneficial, firstly highlights exports of motor vehicles and autoparts. The trend of trade in this type of product has been varied. What initially helped sustain the Argentine bilateral trade balance through growing exports to Brazil, now shows a different face. Whereas imports of motor vehicles and autoparts (chapter 87) from Brazil have grown considerably in recent years, Argentine exports have declined slightly. Nonetheless, the interesting point here is the significant diversification achieved by Argentine exports of this type to the rest of the world. Although Brazil remains the leading destination for Argentine sales of motor vehicles and autoparts, other destinations are also gaining ground. When Brazil started to reduce its purchases of automobiles and autoparts from Argentina, the latter was able to divert and expand its sales to other countries.

Plastics are another major product line in Argentina; and a key feature of this group is that production is atomized among nearly 1,700 firms, mainly SMEs (Briner et al, 2007).

Despite the sharp rise in Argentina's industrial imports from Brazil, the latter's exports to Argentina are becoming less regionalized, in the wake of a rapid expansion to external markets. Whereas in 1997-1998, 21% of Brazil's MIO exports went to Argentina, the share had declined to 15% in 2005-2006. In the case of certain industrial products, trade with Argentina clearly gave Brazil a significant boost to develop dynamic comparative advantages and subsequent expansion to the rest of the world.

In contrast, from the Argentine standpoint, it could be argued that exports based on static comparative advantages (primary commodities and a few agricultural manufactures) gave poor results in its trade with Brazil in the medium term. Moreover, that result could have been worse if the strategy had been maintained, because Brazil is becoming either self-sufficient or else a major exporter of those products. Hence, the large trade surplus that Argentina maintained during the 1990s steadily dwindled, to become a deficit driven by trade in industrial goods from 2002 onwards.

Argentina has been the main beneficiary in its trade with Uruguay and Paraguay. Both geographic proximity and the existence of MERCOSUR enabled it to export certain products to these partners, developing a learning-by-exporting process that enabled it later to expand its sales to the rest of the world. This shows that for certain products, Argentina was indeed able to develop dynamic comparative advantages, which are being strengthened by the negligible levels of regionalization that currently exist between Argentina and Paraguay, and between Argentina and Uruguay, respectively. On the other hand, Paraguay and Uruguay have to some extent been relegated in the process of developing dynamic comparative advantages as a result of intra-MERCOSUR trade.

This article clearly shows that MERCOSUR has served as a tool for developing dynamic comparative advantages in its larger member countries. The question now is to what extent the integration process can continue to play that role. A broader question, whether integration could be achieved more equitably for all participating countries, which means reducing economic-policy asymmetries and extending its benefits to the smaller members. These are the major challenges facing the integration process in the future.

(Original: Spanish)

ANNEX I

The regional trade orientation index

For exports, the index is defined as follows:

$$IRX_t = \frac{X_{i,BRA;t} / X_{MOI,BRA;t}}{X_{i,ROW:t} / X_{MOI,ROW;t}}$$

where:
IRX_t: Regional orientation index for exports in year t
$X_{i,BRA;t}$: Exports of product/heading i to Brazil in year t
$X_{MOI,BRA;t}$: Total exports of MIO to Brazil in year t
$X_{i,ROW;t}$: Exports of product/heading i to the rest of the world in year t
$X_{MOI,ROW;t}$: Total exports of MIO to the rest of the world in year t

and $\sum_l^n X_{MOI}$, in other words, the sum total of items i is equal to total MIO exports.

The procedure in the case of imports is analogous.

$$IRM_t \frac{M_{i,BRA;t} / M_{MOI,BRA;t}}{M_{i,ROW;t} / M_{MOI,ROW;t}}$$

where:
IRM_t: Regional orientation index for imports in year t
$M_{i,BRA;t}$: Imports of product/heading i from Brazil in year t
$M_{MOI,BRA;t}$: Total imports of MIO from Brazil in year t
$M_{i,ROW;t}$: Imports of product/heading i from the rest of the world in year t
$M_{MOI,ROW;t}$: Total exports of MIO from the rest of the world in year t

and $\sum_l^m M_i = M_{MOI}$, in other words, the sum total of items i is equal to total MIO imports.

MIO: Manufactures of industrial origin

ANNEX II

Sample selection

This article drew upon the entire universe of Argentina's exports and imports divided into those traded with Brazil and those with the rest of the world.[12] From this universe, a sample of exports and imports was chosen to include headings which, in at least one year during the time period analysed, exceeded US$ 10 million. This reduces the export sample to 61 tariff headings, representing on average 85% of sales to Brazil and 73% of sales to the rest of the world. The import sample was similarly reduced to 184 headings, on average representing 90% of imports from Brazil and 65% of imports from the rest of the world.

From that initial selection, the analysis used headings displaying a regionalization index (either for exports or for imports) higher than 1.[13]

The final selection criterion consisted of choosing headings for which intra-MERCOSUR imports (exports) accounted for over 30% of total imports (exports).

[12] This produced two large groups: exports, consisting of 919 four-digit tariff headings under the MERCOSUR Common Nomenclature (MCN4); and imports encompassing 928 four-digit headings under the same classification.

[13] A regionalization index of over 1 means that, for the heading in question, trade (exports or imports, as the case may be) is regionalized between Argentina and Brazil.

ANNEX III

Brazilian exports to the rest of the world in the main industrial chapters, and headings exported to Argentina

	Chapter	Brazilian exports to the rest of the world (*US$ million F.O.B.*) 1997-1998	2005-2006	Inter-period variation
28	Inorganic chemical products; inorganic or organic compounds of precious metals, radioactive elements, rare earth metals or isotopes	360.7	1 223.1	239.1%
29	Organic chemical products	892.5	1 630.7	82.7%
30	Pharmaceutical products	118.2	470.8	298.2%
84	Nuclear reactors, boilers, machinery, and mechanical appliances; parts thereof	3 593.8	9 068.7	152.4%
85	Electrical machinery and equipment and parts; sound recording or reproduction equipment, image and sound recording or reproduction equipment in television; parts and accessories thereof	1 426.3	4 722.4	231.1%
87	Motor vehicles, tractors, cycles and other land vehicles; parts and accessories thereof	3 326.6	8 828.5	165.4%

	Heading	Exports (*US$ million F.O.B.*) Average value of Brazilian exports to Argentina 1997-1998	2005-2006	Average value of Brazilian exports to the rest of the world 1997-1998	2005-2006
8418	Refrigerators, freezers and other material, other non-electrical freezing equipment; heat pumps, excluding air-conditioning machinery and equipment under heading No. 8415.	51	120	63	308
8525	Transmission apparatus for radio telephony, radiotelegraphy, radio or television broadcasting, with a built-in receiver or apparatus for recording or reproduction of sound; television cameras; video cameras, including still cameras.	66	685	54	2 000
8701	Tractors (other than works trucks) of heading No. 8709).	143	338	113	901
8702	Motor vehicles for the transport of 10 or more persons, including the driver.	21	96	141	223
8703	Motor cars and other motor vehicles mainly for transporting persons (excluding those in heading No. 8702) including family type vehicles ("break" or "station wagon"), and race cars.	649	1,390	892	3 106

Source: Prepared by the authors on the basis of INDEC data.

Heading		RI of Brazilian exports to Argentina	
		1997-98	2005-2006
8418	Refrigerators, freezers and other material, other non-electrical freezing equipment; heat pumps, excluding air-conditioning machinery and equipment under heading No. 8415.	3.0	2.3
8525	Transmission apparatus for radio telephony, radio telegraphy, radio or television broadcasting, with a built-in receiver or apparatus for sound recording or reproduction; television cameras; video cameras, including still cameras.	7.8	2.0
8701	Tractors (other than works trucks) of heading No. 8709.	4.9	2.2
8702	Motor vehicles for the transport of 10 or more persons, including the driver.	0.6	4.1
8703	Motor cars and other motor vehicles mainly for transporting persons (excluding those in heading No. 8702) including family-type vehicles ("break" or "station wagon"), and race cars.	2.8	2.6

Source: Prepared by the authors on the basis of data from the National Institute of Statistics and Censuses (INDEC).

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