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An appraisal of recent intra-industry trade for Latin America

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Available evidence shows that intra-industry trade has reached quite significant levels for Latin American countries in recent years. Complementarity of productive structures with regional partners and elsewhere is indicative of specific competitiveness and of capacity to gain access to particular markets. More intra-industry trade should, however, bring about gains in terms of specific sectoral specialization, while at the same time requiring constant technical updating of production, which is likely to affect factor income more intensely than if trade were less specialized.

High degrees of intra-industry trade might also affect trade policies and have considerable repercussions on related variables such as domestic relative prices, the public budget, sectoral policies and others, directly or indirectly linked to the growth of the national product.

Last but not least, increasing shares of intra-industry trade with regional partners and/or with non-Latin American countries are likely to have consequences for the process of regional integration.

This paper presents some recent estimates on the pattern of intra-industry trade in Latin America in the 1980s. Section I compares the rising trends registered in the region with the more stable OECD pattern, in the following section a number of sectoral indexes for selected Latin American countries are discussed, while section III presents some final remarks.

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Introduction

An increasing number of empirical students of international trade have realized that conventional trade theories fail to explain many aspects of recent trade relations. The most obvious shortcomings of the existing theoretical formulations stem from the facts that much of world trade is between (industrial) countries with similar factor endowments, that the expansion of trade in the post-war period has taken place without significant reallocation of resources or income-distribution effects, and that a large part of trade is of the intra-industry type, consisting of two-way trade in similar products.

The importance of taking these new features of trade into account goes beyond the purely academic perspective. Changes in the sectoral composition of trade may also bring about changes in the domestic effects of trade. Sectorally different elasticities, the possibility that agents in various sectors may have different propensities to save, the different intensities of second-round effects on aggregate output due to sectoral linkages, as well as other relevant aspects such as capital-ownership, market concentration, effectiveness of labour unions, etc., all help to alter the consequences that might follow from trade differentiation, affecting the rate of growth of the economy.

I

Background evidence

Intra-industry trade¹ is a result of the unprecedented boom in international trade flows in the 1960s, when trade relations among industrialized economies grew

¹ We shall not deal in this article with the discussion about the most appropriate way of measuring intra-industry trade. In what follows, the indexes of intra-industry trade refer to Grubel-Lloyd indexes, as proposed in Grubel and Lloyd (1975). This type of index, in its total trade-weighted average version, is described as:

$$IIT = \frac{\sum_{i,j,k} [(X_{ijk} + M_{ijk}) - |X_{ijk} - M_{ijk}|]}{\sum_{i,j,k} [X_{ijk} + M_{ijk}]} \times 100$$

where X_{ijk} = exports of product i by country j to country k and M_{ijk} = imports of product i by country j from country k . This index is equal to one (i.e., trade is totally of the intra-industry type) in the limit case where $X_{ijk} = M_{ijk}$ for every i, j and k , or to zero (no intra-industry trade) at the opposite situation of no similarity between exports and imports of each product ($X_{ijk} \neq M_{ijk}$).

at very high rates. Competition in wider markets, product differentiation, economies of scale stemming from regional integration—among other factors—have contributed to the new feature of two-way trading in industrial products.

There is a good deal of empirical evidence showing that intra-industry trade gained importance in the 1960s and 1970s, but more recent indicators point to relatively more stable patterns in the last decades. Table 1 shows that 7 of the 11 OECD countries in the table had higher intra-industry trade (IIT) indexes in 1975 than in 1970, 9 countries had higher indexes in 1980 than in 1975, but only 5 registered higher levels in 1985 than in 1980, and even so for most countries the difference between the 1985 and the 1980 indexes was very small.

This suggests that for OECD the IIT indexes for a number of industries in several countries have halted their growth trend and in some cases may even have started to fall.

Significantly enough, the corresponding indicators for Latin America show a rather different performance, with increasing indexes of intra-industry trade in the last two decades. An overview of these trends is provided by the aggregate figures presented in table 2 for trade flows between Latin America and its two main partner regions, North America and Western Europe,² which accounted in 1987, respectively, for 64% and 21% of total (exports plus imports) Latin American trade in manufactures. Unlike the indicators in table 1, the figures in table 2 show rising trends of intra-industry trade even after the 1982 crisis, which had so many drastic consequences for the region.

A number of reasons may be invoked to explain this situation of simultaneous stabilization of IIT indexes in OECD countries and rising indexes for Latin American trade. The increasing share of manufactures in the latter region's exports is only the most

obvious one, but limiting the analysis to this reason would mean an excessive emphasis on purely statistical effects.

Theory would suggest instead that the ratio of intra-industry trade to total trade between two countries (regions) should (*caeteris paribus*) be higher: a) the smaller the difference in per capita income between the two countries or regions; b) the smaller the difference in factor endowment between them; c) the lower the trade barriers and transportation costs; d) the greater the product differentiation in each industry; e) the greater the economies of scale in the tradeables sector; and f) the greater the potential for technological or vertical differentiation, among other determining factors.

This is not the place to embark on the testing of these hypotheses. It is, however, worth emphasizing that the increasing indicators of intra-industry trade do suggest that at least some Latin American countries have achieved sectoral-specific competitiveness. This may be a result of the diversification of the structure of production of these economies, of the type of economic agents in each sector (foreign-owned firms might have contributed significantly to it), of specific bilateral trade agreements, or other reasons.

Be that as it may, the available evidence of different trade performance by different Latin American countries suggests that aggregate figures may be misleading and that it would be worthwhile considering country-specific indicators.

This is precisely what is done in table 3, which covers all SITC 3-digit industrialized products³ and hence includes a number of semimanufactures which are not comprised in the strict (SITC sections 5-8) definition of manufactures. Estimates in accordance with this strict definition would be even higher than those presented here.

It is worth noting, from the last two columns of table 3, that some of the trade flows have a strong (20% or more) component of trade of the intra-industry type. When only trade in sectors where transactions of industrialized products account for more than half of sectoral trade is considered, these

² Henceforth in this article, Latin America comprises the eleven member countries of ALADI (Latin American Integration Association)—Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela. Western Europe means the countries making up the European Economic Community (EEC) and the European Free Trade Association (EFTA)—Austria, Belgium—Luxembourg, Denmark, Finland, France, Greece, Ireland, Iceland, Italy, Netherlands, Norway, Portugal, Spain, United Kingdom, Sweden, Switzerland and West Germany. North America naturally means the aggregate figures for the USA and Canada, and Southeast Asia comprises Japan, South Korea, Taiwan, Philippines, Hong Kong, Malaysia, Singapore, Thailand and Indonesia.

³ These comprised a total of 96 industrial products according to SITC Rev. 1, which was used for the 1980 (and 1987 for Mexico) estimates, and a total of 138 products according to SITC Rev. 2, used for the 1988 (1987 for Brazil) estimates.

Table 1

SELECTED OECD COUNTRIES: INDEXES^a OF INTRA-INDUSTRY TRADE

| | 1970 | 1975 | 1980 | 1985 |
|----------------|------|------|------|------|
| United States | 0.65 | 0.67 | 0.67 | 0.63 |
| Japan | 0.40 | 0.29 | 0.31 | 0.30 |
| West Germany | 0.62 | 0.62 | 0.69 | 0.70 |
| United Kingdom | 0.66 | 0.74 | 0.83 | 0.81 |
| Canada | 0.69 | 0.65 | 0.67 | 0.75 |
| Italy | 0.63 | 0.66 | 0.71 | 0.68 |
| Belgium | 0.81 | 0.86 | 0.87 | 0.90 |
| Netherlands | 0.73 | 0.73 | 0.77 | 0.76 |
| Norway | 0.62 | 0.69 | 0.61 | 0.63 |
| Finland | 0.40 | 0.48 | 0.59 | 0.60 |
| Australia | 0.33 | 0.37 | 0.41 | 0.39 |

Source: S. Globerman and J. W. Dean (1990), Recent trends in intra-industry trade and their implications for further trade liberalization, *Weltwirtschaftliches Archiv*, Band 126, Heft 1, Kiel, Institut für Weltwirtschaft an der Universität Kiel, 1990, table 2, p. 29.

^aUnadjusted Grubel-Lloyd indexes for SITC section 3 plus SITC sections 5 to 9 (see Grubel and Lloyd, 1975).

Table 2

LATIN AMERICA: INTRA-INDUSTRY TRADE RATIOS^a IN RESPECT OF TOTAL TRADE (%) BY PRODUCTS WITH NORTH AMERICA AND WESTERN EUROPE IN 1970, 1983 AND 1987

| | USA/Canada | | | Western Europe | | |
|---------------------------|------------|------|------|----------------|------|------|
| | 1970 | 1983 | 1987 | 1970 | 1983 | 1987 |
| <i>Total manufactures</i> | | | | | | |
| Chemicals | 2.6 | 9.4 | 12.8 | 2.0 | 6.5 | 8.6 |
| Machinery | 3.6 | 6.5 | 10.1 | 3.8 | 7.1 | 8.8 |
| Transportation equipment | 2.2 | 15.4 | 17.4 | 2.3 | 8.6 | 8.6 |
| <i>Other manufactures</i> | 2.6 | 5.3 | 9.0 | 1.3 | 4.2 | 9.5 |

Source: Estimates on the basis of the ECLAC database.

^aGrubel-Lloyd's Total Trade-Weighted Average Index of Intra-Industry Trade

shares may come close to 40% (as in Mexican trade with North America), and in a number of other cases (regional trade by Argentina, Brazil and Chile, Brazilian trade with North America, Colombian and Chilean trade with Southeast Asia) they account for more than one-fifth of bilateral trade flows.

The other interesting feature that emerges from table 3 is that the number (and hence the relative importance) of sectors where trade is mainly of the intra-industry type has, in several cases, increased quite markedly between 1980 and 1988, thus confirming the previous indications of

increasing importance of two-way trade for Latin American countries.

The figures presented in table 3 are high enough to justify taking them into consideration in the analyses for the region as a whole, for these six countries account for most of Latin America's external trade. The basic reason for considering them separately is the very fact that their individual experiences in trade performance are quite different for each country. In the remainder of this article, we shall present the indexes of intra-industry trade for each of these countries separately.

Table 3

**LATIN AMERICA (SIX COUNTRIES): RELATIVE IMPORTANCE
OF SECTORS^a WITH AN IIT INDEX^b OF OVER 0.5**

| Countries | Number of sectors with IIT > 0.5 in bilateral trade | | Relative weight (%) of sectors with IIT > 0.5 in bilateral trade | | | |
|---------------------------|---|------|--|------|-------------|------|
| | 1980 | 1988 | Industrialized products | | Total trade | |
| | | | 1980 | 1988 | 1980 | 1988 |
| Argentina | | | | | | |
| North America | 14 | 24 | 20.5 | 12.6 | 17.8 | 7.7 |
| Western Europe | 6 | 14 | 1.9 | 4.9 | 1.3 | 2.1 |
| Southeast Asia | 6 | 10 | 16.5 | 0.4 | 12.8 | 0.3 |
| Latin America | 11 | 32 | 20.2 | 23.2 | 15.2 | 14.0 |
| Brazil^c | | | | | | |
| North America | 27 | 40 | 30.2 | 22.3 | 20.0 | 15.6 |
| Western Europe | 10 | 8 | 12.0 | 2.6 | 8.2 | 1.6 |
| Southeast Asia | 8 | 8 | 13.3 | 3.2 | 11.0 | 2.2 |
| Latin America | 16 | 30 | 16.8 | 31.3 | 11.2 | 14.7 |
| Mexico^d | | | | | | |
| North America | 21 | 41 | 7.2 | 37.6 | 3.5 | 21.6 |
| Western Europe | 5 | 4 | 0.4 | 0.6 | 0.4 | 0.5 |
| Southeast Asia | 6 | 9 | 1.0 | 15.7 | 0.9 | 13.4 |
| Latin America | 10 | 6 | 24.0 | 16.5 | 18.7 | 15.0 |
| Colombia | | | | | | |
| North America | 16 | 12 | 6.2 | 13.3 | 3.7 | 2.7 |
| Western Europe | 3 | 3 | 1.8 | 0.8 | 1.6 | 0.2 |
| Southeast Asia | 2 | 1 | 3.7 | 23.9 | 3.7 | 20.2 |
| Latin America | 16 | 6 | 11.5 | 7.7 | 10.1 | 1.5 |
| Chile | | | | | | |
| North America | 8 | 14 | 3.0 | 28.1 | 1.9 | 3.2 |
| Western Europe | 4 | 2 | 2.7 | 1.5 | 0.7 | 0.1 |
| Southeast Asia | 1 | 3 | 0.0 | 21.3 | 0.0 | 1.1 |
| Latin America | 6 | 6 | 7.1 | 28.2 | 3.1 | 5.7 |
| Uruguay | | | | | | |
| North America | 3 | 9 | 0.7 | 11.7 | 0.6 | 3.9 |
| Western Europe | 4 | 4 | 2.0 | 1.3 | 1.4 | 0.5 |
| Southeast Asia | 2 | - | - | - | - | - |
| Latin America | 19 | 17 | 18.3 | 18.4 | 12.7 | 5.9 |

Source: Estimates based on the United Nations International Commodity Trade Data Base (COMTRADE).

^a SITC (3 digits).

^b IIT = Grubel-Lloyd Total Trade-Weighted Average Index of Intra-Industry Trade.

^c 1987: SITC Rev. 2.

^d 1987: SITC Rev. 1.

II

Sectoral indexes

The following presentation of recent estimates of IIT indexes for some Latin American countries takes into account the already mentioned diversity of experiences (which is why individual country indexes are presented in respect of each bilateral trade flow with the regions considered here) as well as the weight of two-way trade in each of these trade flows, so that the analysis is limited to those sectors where a significant share of each bilateral trade flow is of the intra-industry type. We have arbitrarily set the level of significance at 50% of total bilateral trade.

The main objective of the present exercise is to try to identify, from the indexes of intra-industry trade, some indications of a structure of specialization in bilateral trade, for each of the trade flows considered.

Available theory is not much help for the appraisal of IIT indexes in a multi-industry framework. Furthermore, as our sample comprises only sectors where intra-industry trade corresponds to more than half of the value of trade in each bilateral trade flow, it turns out that all the sectors presented here are considered to have significant two-way trade, so it does not make much sense to try to rank them by, say, the magnitude of the estimated indexes.

Instead, the methodological approach adopted here to identify a structure of specialization stresses the double perspective of stability and frequency of the indexes as indicative of such structure. It is assumed that in those industries where IIT indexes remain high over time in bilateral trade one would expect either a relatively stable complementarity between the producers in the two countries, and/or, from the demand side, specific conditions of product differentiation and consumer behaviour that are maintained through different periods of time. Furthermore, it is also considered that—whatever the relative sectoral importance as defined by the value of trade—the incidence of high IIT indexes per sector should of itself indicate those sectors where intra-industry trade is more intense.

The outcome of this reasoning is that the analysis puts emphasis on those product groups with high IIT indexes at the beginning and end of the last decade, as well as on the sectoral distribution of these indexes in 1988, the last year for which the data required for this calculation were available.

Table 4 summarizes the basic statistics with regard to the number of sectors with IIT > 0.5 in 1980 and in 1988, at a 3-digit SITC product group classification. The previously mentioned OECD pattern of stable sectoral indexes would perhaps suggest that it reflects a rather well-defined sectoral structure of production and trade, so that the margins for benefitting from additional economies of scale become narrow.

On the basis of the figures in table 4, a similar reasoning could perhaps be adopted for those product groups that present high IIT indexes at the beginning *and* the end of the 1980s. The last column of table 4 shows that the number of industries that meet such requirements is small, in comparison with the number of industries with high IIT indexes in either 1980 or 1988.

If it is expected that such an indicator may show a pattern of sectoral specialization, it comes as no surprise to find that it is in intraregional trade and (even more) in the trade flows between each of these countries and North America that the incidence of high IIT in both years is most significant. The most striking figures refer to trade between Brazil, Mexico and Argentina with North America, and to trade between Brazil and Argentina and other Latin American countries.

The increasing sectoral and geographical diversification of the Latin American trade structure in recent years—compare, for instance, the figures given in table 3 for the number of sectors with IIT > 0.5 and their relative weight in 1980 and 1988—certainly lies behind the relatively low figures of table 4. Be that as it may, it remains to identify those sectors for which there actually are indications of systematic significant two-way trade.

In order to make it easier to identify those sectors, the figures are presented grouped in 2-digit SITC classification. Table 5 shows the product divisions for which at least one (3-digit) product group registered IIT > 0.5 in those two years.

One generic observation that may be made on the basis of table 5 is that by and large the product groups with systematically high IIT indexes are manufactures (i.e., products classified in SITC sections 5-8), with the sole exceptions of tobacco manufactures and beverages in Argentina, preserved

Table 4

**LATIN AMERICA (SIX COUNTRIES): SITC 3-DIGIT
PRODUCT GROUPS WITH AN IIT INDEX OF MORE
THAN 0.5 IN TOTAL BILATERAL SECTORAL
TRADE, 1980 AND 1988**

| Trade between: | and: | Number of product groups with IIT > 0.5 | | |
|---------------------|----------------|---|------|------------|
| | | 1980 | 1988 | Both years |
| Argentina | Latin America | 11 | 32 | 5 |
| | North America | 14 | 24 | 6 |
| | Western Europe | 6 | 14 | 1 |
| | Southeast Asia | 6 | 10 | - |
| Brazil ^a | Latin America | 16 | 30 | 7 |
| | North America | 27 | 40 | 12 |
| | Western Europe | 10 | 8 | 1 |
| | Southeast Asia | 8 | 8 | 1 |
| Mexico ^a | Latin America | 10 | 6 | 1 |
| | North America | 21 | 41 | 8 |
| | Western Europe | 5 | 4 | - |
| | Southeast Asia | 6 | 9 | 1 |
| Chile | Latin America | 6 | 6 | - |
| | North America | 8 | 14 | 1 |
| | Western Europe | 4 | 2 | - |
| | Southeast Asia | 1 | 3 | - |
| Colombia | Latin America | 16 | 16 | 1 |
| | North America | 16 | 12 | 5 |
| | Western Europe | 3 | 3 | - |
| | Southeast Asia | 2 | 1 | - |
| Uruguay | Latin America | 19 | 17 | 4 |
| | North America | 3 | 9 | 2 |
| | Western Europe | 4 | 4 | - |
| | Southeast Asia | 2 | - | - |

Source: Estimates based on the United Nations International Commodity Trade Data Base (COMTRADE).

^a 1980 and 1987

Table 5

**LATIN AMERICA (SIX COUNTRIES): SITC 2-DIGIT DIVISIONS WITH
AN IIT INDEX OF OVER 0.5 IN BOTH 1980 AND 1988 IN
TOTAL BILATERAL SECTORAL TRADE**

| Trade between: | and: | SITC code | Division |
|---------------------|----------------|-----------|---|
| Argentina | Latin America | 12 | Tobacco and tobacco manufactures |
| | | 59 | Chemical materials and products |
| | | 88 | Photographic apparatus, equipment and optical goods |
| | North America | 11 | Beverages |
| | | 51 | Organic chemicals |
| | | 52 | Inorganic chemicals |
| | | 69 | Manufactures of metal, n.e.s. |
| | Western Europe | 55 | Essential oils and perfume materials |
| Brazil ^a | Latin America | 05 | Vegetables and fruit (preserved) |
| | | 51 | Organic chemicals |
| | | 66 | Non-metallic mineral manufactures |
| | | 77 | Electrical machinery |
| | | 85 | Footwear |
| | | 87 | Professional and scientific instruments |
| | | 88 | Photographic apparatus |
| | North America | 63 | Cork & wood manufactures |
| | | 65 | Textile yarn, fabrics |
| | | 66 | Non-metallic mineral manufactures |
| | | 71 | Power generating machinery |
| | | 76 | Telecommunications equipment |
| | | 77 | Electrical machinery |
| | | 78 | Road vehicles |
| | | 79 | Other transport equipment |
| | | 89 | Miscellaneous manufactures |
| | Western Europe | 55 | Essential oils and perfume materials |
| | Southeast Asia | 77 | Electrical machinery |
| Mexico ^b | Latin America | 72 | Machinery for specialized industries |
| | | 33 | Petroleum (products) |
| | North America | 53 | Dyeing, tanning materials |
| | | 55 | Essential oils and perfume materials |
| | | 65 | Textile yarn, fabrics |
| | | 72 | Machinery for specialized industries |
| | | 82 | Furniture |
| | | 84 | Apparel and clothing |
| | | 89 | Miscellaneous manufactures |
| | Southeast Asia | 59 | Chemical materials, n.e.s. |
| Chile | North America | 64 | Paper, paperboard |
| Colombia | Latin America | 67 | Iron and steel |
| | | 66 | Non-metallic mineral manufactures |
| | | 84 | Apparel and clothing |
| | | 89 | Miscellaneous manufactures |
| Uruguay | Latin America | 11 | Beverages |
| | | 12 | Tobacco and tobacco manufactures |
| | | 69 | Manufactures of metal, n.e.s. |
| | North America | 65 | Textile yarn, fabrics |
| | | 82 | Furniture |

Source: Estimates based on the United Nations International Commodity Trade Data Base (COMTRADE).

^a 1980 and 1987

^b 1980 and 1987: SITC Rev.1

vegetables and fruits in Brazil, and beverages and tobacco manufactures in Uruguay, which are often considered as semimanufactures.

A second broad observation is that most of the industries listed in table 5 are in sections 6 and 8 of the SITC, which means that they are producers of manufactured goods classified chiefly by material or producers of miscellaneous manufactured articles. Furthermore, it is worth noting that only in Brazil did the producers of machinery and transport equipment (SITC section 7) register high IIT indexes in the two years. Indeed, this is the section with the highest number of references for that country. This is particularly surprising, because as is well known (ECLAC, 1991), Mexico was in 1987 not only the second biggest exporter of capital goods in Latin America, but also had the most intense trade (imports and exports) in those products with one single partner, the United States. This indicates that the intensification of two-way trade in capital goods between Mexico and North America is a relatively recent phenomenon, although an important one.

This suggests a well-defined structure of sectoral specialization, and the number of high IIT indexes in bilateral trade with North America in comparison with the corresponding number of indexes for trade with Latin America gives rise to reservations regarding the hypotheses that put emphasis on geographical proximity as a major explanatory variable of intra-industry trade. The conclusion is that other factors matter, too.

It remains to evaluate the sectoral concentration of intra-industry trade in the recent period. In the 3-digit SITC product groups for which there are indications that throughout the decade more than half of each bilateral trade flow was of the intra-industry type, the indexes reported are overwhelmingly much higher than this limit. This reinforces the importance of the analysis, since it shows that two-way trade is quite predominant in several industries.

In order to get a broad view of the degree of sectoral concentration of intra-industry trade between each of the six countries and the four areas considered here towards the end of the decade, we have prepared statistics on the frequency of indexes over 0.5 for each trade flow at the 1-digit SITC classification level. This distribution is presented in table 6.

The first point to be noted with regard to the figures in table 6 is that—as already mentioned—the biggest incidence of intra-industry trade takes place in SITC sections 5 to 8. It is noticeable that in every

trade flow reported in that table there is indication of high IIT in section 6, which comprises manufactures classified chiefly by material, the most significant for the present purposes being textile products, paper products and manufactures of metal.

High indexes of intra-industry trade may reflect complementarity of productive structures or (mainly for final consumption goods) substitutability in consumption patterns. The precise interpretation of the figures presented here calls for more detailed analysis at the product level. In broad terms, however, the incidence of high indexes of intra-industry trade in section 6 could in principle be interpreted as a reaffirmation of the region's comparative advantage in natural resource-based products, which would explain most of the trade in paper products and manufactures of metal (as well as some textiles).

The second most frequent SITC section in table 6 is that comprising miscellaneous manufactured articles, mainly apparel and shoes, toys, and photographic articles. The reasons behind the high indexes in these sectors might—if one accepts the previous arguments—be linked to specific demand patterns and differentiation of final products. It is hard to say anything at this aggregate level: once again, there is a clear need for sector-specific analysis.

A third set of industries worth noting are those grouped in section 7 - machinery and transport equipment, mainly electrical and non-electrical machinery and road vehicles. This is where the highest incidence of two-way trade is found (between Brazil and North America), and there is also quite a high incidence in other trade flows, such as those between Brazil and Latin America, Argentina and Latin America, Argentina and North America, and Mexico and North America.⁴ Given the typical pattern of trade barriers adopted by these countries and the type of products included in this classification, one would expect that these high figures might refer to complementarity of production, more than anything else.

Finally, the figures in table 6 also show the incidence of intra-industry trade in SITC section 5, chemicals and related products, mainly essential oils and perfumes and organic and inorganic chemicals. There is a significant number of industries with intense IIT in this section in trade flows between

⁴ In these first two cases, the Brazil-Argentina trade agreement certainly plays a major role.

Table 6

**LATIN AMERICA (SIX COUNTRIES): SITC REV. 2 SECTIONS (1 DIGIT)
WITH IIT > 0.5 IN TOTAL BILATERAL
SECTORAL TRADE, 1988**

| Trade between: | and: | SITC code | Section | Number of product groups with IIT > 0.5 |
|----------------|----------------|-----------|---|---|
| Argentina | Latin America | 0 | Food and live animals chiefly for food | (3) |
| | | 1 | Beverages and tobacco | (3) |
| | | 5 | Chemicals and related products | (4) |
| | | 6 | Manufactured goods classified chiefly by material | (4) |
| | | 7 | Machinery and transport equipment | (8) |
| | | 8 | Miscellaneous manufactured articles | (10) |
| | North America | 1 | Beverages and tobacco | (1) |
| | | 4 | Animal and vegetable oils | (1) |
| | | 5 | Chemicals and related products | (5) |
| | | 6 | Manufactured goods classified chiefly by material | (10) |
| | | 7 | Machinery and transport equipment | (5) |
| | | 8 | Miscellaneous manufactured articles | (2) |
| | Western Europe | 0 | Food and live animals chiefly for food | (2) |
| | | 5 | Chemicals and related products | (3) |
| | | 6 | Manufactured goods classified chiefly by material | (3) |
| | | 7 | Machinery and transport equipment | (3) |
| | | 8 | Miscellaneous manufactured articles | (3) |
| | Southeast Asia | 3 | Mineral fuels, lubricants | (1) |
| | | 5 | Chemicals and related products | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (3) |
| | | 7 | Machinery and transport equipment | (3) |
| | | 8 | Miscellaneous manufactured articles | (2) |
| Brazil | Latin America | 0 | Food and live animals chiefly for food | (2) |
| | | 5 | Chemicals and related products | (4) |
| | | 6 | Manufactured goods classified chiefly by material | (8) |
| | | 7 | Machinery and transport equipment | (9) |
| | | 8 | Miscellaneous manufactured articles | (7) |
| | North America | 1 | Beverages and tobacco | (1) |
| | | 5 | Chemicals and related products | (3) |
| | | 6 | Manufactured goods classified chiefly by material | (11) |
| | | 7 | Machinery and transport equipment | (17) |
| | | 8 | Miscellaneous manufactured articles | (8) |

Table 6 (continued)

| Trade between: | and: | SITC code | Section | Number of product groups with IIT > 0.5 |
|----------------|----------------|-----------|---|---|
| Mexico | Western Europe | 5 | Chemicals and related products | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (2) |
| | | 7 | Machinery and transport equipment | (1) |
| | | 8 | Miscellaneous manufactured articles | (4) |
| | Southeast Asia | 6 | Manufactured goods classified chiefly by material | (4) |
| | | 7 | Machinery and transport equipment | (3) |
| | | 8 | Miscellaneous manufactured articles | (1) |
| | Latin America | 5 | Chemicals and related products | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (1) |
| | | 7 | Machinery and transport equipment | (2) |
| | | 8 | Miscellaneous manufactured articles | (2) |
| | North America | 0 | Food and live animals chiefly for food | (1) |
| | | 2 | Crude materials, inedible, except fuels | (1) |
| | | 3 | Mineral fuels, lubricants | (2) |
| | | 5 | Chemicals and related products | (7) |
| | | 6 | Manufactured goods classified chiefly by material | (13) |
| | | 7 | Machinery and transport equipment | (6) |
| | | 8 | Miscellaneous manufactured articles | (11) |
| | Western Europe | 0 | Food and live animals chiefly for food | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (2) |
| | | 8 | Miscellaneous manufactured articles | (1) |
| | Southeast Asia | 5 | Chemicals and related products | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (3) |
| | | 7 | Machinery and transport equipment | (3) |
| | | 8 | Miscellaneous manufactured articles | (2) |
| Chile | Latin America | 2 | Crude materials, inedible, except fuels | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (3) |
| | | 7 | Machinery and transport equipment | (1) |
| | | 8 | Miscellaneous manufactured articles | (1) |
| | North America | 4 | Animal and vegetable oils | (1) |
| | | 5 | Chemicals and related products | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (9) |
| | | 8 | Miscellaneous manufactured articles | (3) |

Table 6 (conclusion)

| Trade between: | and: | SITC code | Section | Number of product groups with IIT > 0.5 |
|----------------|----------------|-----------|---|---|
| Colombia | Western Europe | 6 | Manufactured goods classified chiefly by material | (1) |
| | | 8 | Miscellaneous manufactured articles | (1) |
| | Southeast Asia | 6 | Manufactured goods classified chiefly by material | (3) |
| | | | | |
| | Latin America | 6 | Manufactured goods classified chiefly by material | (3) |
| | | 7 | Machinery and transport equipment | (2) |
| | | 8 | Miscellaneous manufactured articles | (1) |
| | | | | |
| | | | | |
| | North America | 0 | Food and live animals chiefly for food | (1) |
| | | 1 | Beverages and tobacco | (1) |
| | | 5 | Chemicals and related products | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (4) |
| | | 8 | Miscellaneous manufactured articles | (5) |
| | Western Europe | 6 | Manufactured goods classified chiefly by material | (2) |
| | | 8 | Miscellaneous manufactured articles | (1) |
| | Southeast Asia | 6 | Manufactured goods classified chiefly by material | (1) |
| Uruguay | Latin America | 1 | Beverages and tobacco | (2) |
| | | 4 | Animal and vegetable oils | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (9) |
| | | 8 | Miscellaneous manufactured articles | (5) |
| | North America | 5 | Chemicals and related products | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (6) |
| | | 8 | Miscellaneous manufactured articles | (2) |
| | Western Europe | 4 | Animal and vegetable oils | (1) |
| | | 6 | Manufactured goods classified chiefly by material | (1) |
| | | 8 | Miscellaneous manufactured articles | (2) |

Source: Estimates based on United Nations International Commodity Trade Data Base (COMTRADE).

Mexico and North America, as well as between Argentina and North and Latin America and between Brazil and other Latin American countries. A broad appraisal of the figures would indicate that not only is it hard to make generic conclusions in respect of this section, but there also appear to be different patterns in different countries and in their trade with

different areas, as illustrated, for instance, by Argentine trade with other Latin American countries (with significant incidence of high IIT in inorganic chemicals and chemical materials) as compared with Mexican trade with North America (which comprises perfumery as well as medicines, colouring materials, plastics and others).

III

Final remarks

The main purpose of this paper is to present some recently estimated indexes of intra-industry trade for the major Latin American trading economies and to stress the importance of taking these new features into account both for the analysis of the domestic effects of foreign trade and for the planning of future trade relations.

It was shown, first of all, that for several Latin American countries intra-industry trade is an important and growing feature of bilateral trade with other regions and with other countries within the region. This is, of itself, a matter calling for further research, the more so because it is occurring at a time when corresponding indicators for OECD countries show relatively stable patterns.

Furthermore, the very fact that in 1988 the number of Latin American industries registering predominantly two-way trade with important partners was much higher than in 1980 suggests both that important changes have occurred in the external sector of several Latin American economies yet remain largely unexplored, and also that these changes—since they have taken place in such a critical period—help to heighten the perception that the region still presents

an undefined structure of trade specialization, at least as far as manufactures are concerned.

It is not possible to feel so sure about the determining factors that lie behind the indicators shown here. Nevertheless, the sectoral indexes presented in this work are undoubtedly a good guide for more detailed investigation.

It might be misleading to minimize the importance of this theme on the grounds of the overall importance of intra-industry trade in total external relations—which may lead to sterile discussions like the “how big is big” type of argument—and it might likewise be myopic to derive conclusions exclusively on the basis of intra-industry indexes, without further consideration of the relative importance of trade for total domestic production in those industries where these indexes are most expressive, as well as of the peculiarities of the international markets for each industry (two-way trade might be an overall tendency for several products).

It is hoped rather that the figures discussed in this paper may convince readers that the levels already reached in two-way trade and its rising trend in recent years might have significant consequences for the design of trade policies, regional integration processes and several other issues.

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