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Notes and explanation of symbols

The following symbols are used in tables in the *Review*:

Three dots (...) indicate that data are not available or are not separately reported.

A dash (—) indicates that the amount is nil or negligible.

A blank space in a table means that the item in question is not applicable.

A minus sign (-) indicates a deficit or decrease, unless otherwise specified.

A point (.) is used to indicate decimals.

A slash (/) indicates a crop year or fiscal year, e.g., 1970/1971.

Use of a hyphen (-) between years, e.g., 1971-1973, indicates reference to the complete number of calendar years involved, including the beginning and end years.

Reference to "tons" mean metric tons, and to "dollars", United States dollars, unless otherwise stated.

Unless otherwise stated, references to annual rates of growth or variation signify compound annual rates.

Individual figures and percentages in tables do not necessarily add up to corresponding totals, because of rounding.

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International insertion and institutional renewal

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In the 1990s, we may expect to see the convergence of tendencies which had been developing in the 1980s but which will now presumably have greater impact, interrelations and political relevance. What is involved is the intensification of international competition, increasingly based on the incorporation and spread of technical progress, within a context of generalized awareness of the economic and political importance of environmental sustainability.

This article explores some of the effects that these trends could have on Latin America in the 1990s. Part I makes an empirical analysis of the competitive performance of the countries of Latin America in comparison with the developed and developing countries of other parts of the world. In section II, an element which gives a special character to the international insertion of Latin America –its stock of natural resources and their incidence on environmental sustainability– is introduced, and it is linked up analytically with technical progress and the goals of growth and equity. Finally, some reflections are formulated against this background on the institutional changes demanded by the international insertion of the region in an increasingly globalized and regionalized world economy.

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I

The competitive performance of Latin America

This first section of the article presents the initial results of an evaluation exercise to quantify the competitive performance of the countries of Latin America compared with other developing and developed countries. First of all, the concept of competitiveness used will be defined and various approaches for identifying the factors of competitiveness will be examined, after which the results obtained on the basis of the approach adopted will be described and finally, some of the limitations of the methodology used will be discussed.

1. *The concept of competitiveness used*

There is general consensus on the importance of international competitiveness, but as often happens in these cases, this consensus is far from being reflected in identity of views on the agents whose competitiveness is being evaluated, the markets in which it is measured, the level of aggregation of the products considered, the correct length of time for carrying out these measurements, and the specific indicators used in the measurement. In the present exercise, attention was centered on the countries competing for the import market of the Organization for Economic Co-operation and Development (OECD) in the period 1978-1989. The level of aggregation of the analysis will be the three-digit level of the Standard International Trade Classification (SITC), Rev. 2.

The method used could also be applied to a broader market than that of the OECD, at other levels of aggregation, for other periods of time, and, if suitable information were available, to enterprises instead of countries.¹

The definitions adopted were inspired by the aim of contributing to the design of national and sectoral strategies and policies, as well as by the need to have updated information.

¹ For a detailed description of the methodology used and its theoretical and practical background, see Mandeng, 1991.

2. The factors influencing competitiveness

a) The simple approach

One frequently hears simple and specious formulations such as the following:

- The competitiveness of countries increases with per capita income. Consequently, the gap between poor and rich countries is increasing.
- The competitiveness of countries increases with the degree of openness of their economies. Consequently, the higher the export coefficient of the countries, the higher their international competitiveness.
- The competitiveness of countries is favoured by a relative reduction in the size of the State sector.
- The competitiveness of countries increases with their size.
- The competitiveness of countries increases with their spending on research and development.
- The competitiveness of countries increases with the level of educational coverage.
- The competitiveness of countries is associated with their capacity for expanding their exports of manufactures.
- The competitiveness of countries both favours the growth of the national economy and is also based on it.

If competitiveness is defined on the basis of the variation in the share of the OECD's imports between the end of the 1970s (average 1978-1979-1980) and the end of the 1980s (average 1987-1988-1989), and if it is then compared with the corresponding indicators (level of per capita income, export coefficient, relative weight of public spending in the product, degree of insertion in the international market at the beginning of the period, share of non-natural resource based manufactures in total exports of each country, educational coverage and performance, spending on research and development and, finally, growth in the per capita product over the period reviewed), it may be concluded that none of the foregoing assertions has a rigorous empirical basis (within the context of the simple linear regressions carried out, the results of which are given in table 1). The aspects which seem to have greatest weight with regard to competitiveness are the share of non-natural resource based exports of manufactures and the growth rates of the national economies. Even in these

cases, however, the empirical evidence is far from conclusive.

The foregoing does not mean that the factors in question have no influence on competitiveness; what it does suggest is that their influence is neither total nor insignificant. Competitiveness is influenced by a set of factors through relations which cannot be quantified in a simple manner. More important that the size of the State is the quality of the relationship between the government and production activity (as clearly illustrated by the contrast between the United States and Japan, whose public sectors are of similar relative weight, but which are radically different in the nature of the links between the government and production activity. The degree of openness of the economies, educational coverage and spending on research and development favour competitiveness to the extent that they are effectively reflected in greater incorporation and spread of technical progress in production activity as a whole. A high export coefficient based on goods with a low technological content and low technological dynamism makes less of a contribution to competitiveness than a lower export coefficient based on items with high technological dynamism and content. With regard to educational coverage and spending on research and development, a factor which is just as important as the absolute level of those variables, if not more so, is the type of linkages which they have with production activity, the agents participating in them, and the quality of the results obtained.

Consequently, in order to make progress in the design of strategies and policies that favour a better international insertion, it is necessary to consider various factors simultaneously, leaving aside the well-beloved and ubiquitous simple solutions. A first limited step in this direction is attempted in the methodology set forth below.

b) The approach used

An attempt is made here to progress in the task of determining the competitiveness of countries, as measured by the changes in their presence in the OECD market between the beginning and end of the 1980s.

To this end, the concepts of *competitive position* and *efficiency* are introduced. Competitive position, in this context, means the relative dynamism of a given line of production in the im-

Table 1

"WINNING" AND "LOSING" COUNTRIES: SIMPLE LINEAR REGRESSION ANALYSIS, 1979-1988

Variable Y= Increase in global share							
	Observations		R ²	Value of F	Proba- bility	Y inter- cept	X coef- ficient
	Total	Not taken into account					
Variable X= Following items:							
Natural-resource-based manufactures	33	0	0.26	10.94	0.24	0.78	-0.03
Non-natural-resource-based manufactures	33	0	0.30	13.27	0.10	-0.48	0.01
Growth rate of per capita GDP (%)	28	5	0.51	27.53	0.00	-0.08	0.16
Export coefficient (X/GDP)	27	6	0.02	0.42	52.41	0.42	-0.01
Per capita income (Per capita GDP, US\$)	28	5	0.07	1.92	17.75	0.46	0.00
Public expenditure as a percentage of GDP	27	6	0.05	1.43	24.23	0.47	-0.01
<i>Educational coverage</i>							
Primary (% of enrolled age-group)	15	2	0.05	0.76	40.06	205.60	-1.85
Secondary (% of enrolled age-group)	15	2	0.05	0.64	43.66	56.82	-0.46
Higher (% of enrolled age-group)	15	2	0.00	0.00	96.59	18.43	-0.04
R & D spending, as a percentage of GDP	16	1	0.00	0.04	84.38	24.90	-2.62
<i>Educational achievement</i>							
Grades 4/5 (10 years of age)	14	3	0.27	4.44	5.69	56.41	-5.11
Grades 8/9 (14 years of age)	16	1	0.00	0.00	98.55	20.77	-0.04
Biology	12	5	0.00	0.00	97.98	11.45	0.06
Grades 12/13 Chemistry	12	5	0.10	1.09	32.05	32.33	-2.72
Physics	12	5	0.03	0.36	56.41	23.97	-1.61
Students of other disciplines	8	9	0.02	0.12	73.73	11.73	1.92

Source: Joint ECLAC/UNIDO Industry and Technology Division, on the basis of World Bank, *Poverty*, World Development Report 1990, Washington, D.C., Oxford University Press; International Association for the Evaluation of Educational Achievement, *Science Achievement in Seventeen Countries, A Preliminary Report*, New York, Pergamon Press, Inc., 1988 and UNESCO (United Nations Educational, Scientific and Cultural Organization), *Statistical Yearbook, 1990*, Marseilles, France, 1990.

ports of the OECD, being considered favourable when the share of those imports increases and unfavourable when it decreases. Efficiency, for its part, as used in this study, means the relative share of a country in sales of a given product line, this efficiency being considered high when the share in the imports of the OECD increases, and low when it decreases. In other words, a country is poorly placed when it exports goods of low relative dynamism, and it is inefficient when, regardless of the types of goods concerned, its share in the mar-

ket goes down compared with that of other countries exporting to the region in question.

If we combine the features mentioned above, we can distinguish between four strategically different situations (figure 1): i) favourable competitive position and high efficiency (optimum situation); ii) favourable competitive position and low efficiency (a situation of missed opportunities); iii) unfavourable competitive position and high efficiency (a situation of vulnerability);

Figure 1

INSERTION IN INTERNATIONAL TRADE: COMPETITIVE POSITION AND EFFICIENCY

		Relative position of products	
		Unfavourable	Favourable
Relative efficiency of countries	Low	SITUATION OF RETREAT	SITUATION OF MISSED OPPORTUNITIES
	High	SITUATION OF VULNERABILITY	OPTIMUM SITUATION

Source: Joint ECLAC/UNIDO Industry and Technology Division, on the basis of Ousmene Mandeng (1991), *Competitividad internacional, especialización y dinamismo de los mercados*, Santiago, Chile, Joint ECLAC/UNIDO Industry and Technology Division, *mimeo*.

and iv) unfavourable competitive position and low efficiency (a situation of retreat).

The incorporation of technical progress influences competitiveness both through the *competitive position*—inasmuch as, in general, dynamism is associated with the technological content of the products, as reflected in their design and manufacture—and through the *efficiency* of production, that is to say, the systemic and organizational capacity to produce goods of levels in keeping with the demands of the international market.

The insertion of each country in international trade is defined here, then, through the composition of its exports according to this classification and their share in the imports of the OECD countries. On this basis, we can identify the countries

which increased their share in the 1980s (the “winners”) and those which have lost ground (the “losers”), and we can determine their shortcomings in terms of competitive position and efficiency, as well as in respect of the other variables mentioned in the foregoing paragraph.

This analysis gives rise to some indications which are of importance for a strategy to improve a country’s insertion in international trade.

3. Results

a) *Winners and losers*

The first important distinction is between the countries which maintained or increased their share in OECD imports in the 1980s and those

which lost ground in this respect. Of the 51 countries considered in this analysis, 26 were in the first group, which increased its relative share of OECD imports from 44% to 56%. The second group contains 25 countries, whose share went down from 29% to 23%. The totality of the countries in question increased their share in the OECD's imports from 75% to 79% over the decade. The "winners" increased their share of the market by 27%, while the "losers" saw their share go down by 9% (table 2).

Figure 2 shows the structure of the exports of the "winners" and "losers". Of the total exports of the "winners", 45% correspond to dynamic products in which the producer countries are also more efficient than their competitors (an optimum situation); 22% correspond to dynamic products in which there has been a deterioration in the relative position of the countries (a situation of missed opportunities); 24% correspond to products which are of lower dynamism, but in the case of which the relative position of the countries has improved compared with their competitors (a situation of vulnerability), while only 10% correspond to low-dynamism products in which, moreover, the countries are losing their market share (a situation of withdrawal). In the case of the "winners", optimum situations in which the favourable competitive position of the products is accompanied by efficiency on the part of the exporting country prevail, and in fact 67% of the exports of those countries are of dynamic products.

In the countries which are losing market shares (the "losers"), the largest proportion of exports are those combining an unfavourable competitive position with lower relative efficiency (a situation of retreat) (32% of total exports). These are followed by exports of products of low dynamism but which the countries produce efficiently (a situation of vulnerability) (30% of the total). Thus, in these countries the less dynamic products form 62% of total exports, and in half of these exports the low dynamism of the goods is accompanied by lower relative efficiency. Dynamic products which these countries can produce efficiently (the optimum situation) account for only 17% of their total exports, while dynamic products in which they are losing relative efficiency (a situation of missed opportunities) account for 21% of the total.

If we compare the global structure of the exports of the two groups of countries, we see that

the fundamental difference between them lies in the fact that the winners display a combination of good competitive position with high efficiency, whereas the losers display the opposite situation: poor competitive position and low efficiency. Both groups of countries register comparable proportions of dynamic products where there is a loss of relative position and non-dynamic products where there is an increase in relative position. Consequently, in both of them there are varying situations with regard to competitive position and efficiency. This suggests that proposals based on one-dimensional approaches should be rejected out of hand.

If we analyse the structure of exports of the "winners" and "losers" by types of goods (table 2), we see that in the first-named there is a predominance of non-natural resource based manufactures (58%), which are over two and a half times their exports of natural resources, including petroleum (21%). In the "losers", in contrast, the most important exports are those of natural resources, including petroleum (50%), while exports of non-natural resource based manufactures amount to 30%. The relative weight of natural resource based manufactures is similar in both groups of countries.

With regard to the other indicators mentioned earlier, it is noted that the "winners" are more dynamic, have a higher level of per capita income, a similarly higher coefficient of public spending with regard to the gross domestic product, and a similar export coefficient (table 2).

It should be noted that among both the "winners" and the "losers" there are very varied situations with regard to level of development, structure of production, and institutional makeup. This topic is dealt with below.

Extreme cases illustrating the above statement are the United States and Japan. The first of these countries, with a share of 10% in the imports of the OECD, lost 1.5% of its share in the 1980s, while the latter country, with a share of 8% in the OECD's imports, increased its share by 76% over the decade (figure 3). The lines of goods where Japan is in an optimum situation all originated, from the technological and industrial point of view, in the United States: motor vehicles, computers and telecommunication equipment. Paradoxically, motor vehicles and computers now represent "lost opportunities" for the United States: that is to

Table 2

"WINNING" AND "LOSING" COUNTRIES: INSERTION IN INTERNATIONAL TRADE

	Share in OECD imports			Situation in terms of competitive position and efficiency					Export structure			Aggregate indicators			
	1979	1988	% variation	Optimum	Vulnerable	Missed opportunities	Re-treat	Natural resources	Energy	Manufactures	Non-natural resources	Per capita GDP (US\$)	Per capita GDP %	Export coefficient (X/GDP)	Public expenditure as % of GDP
"Winning" countries															
Group 1^a															
China	0.56	1.44	157	66	30	1	2	14	10	11	66	330	9.2	12.8	
Republic of Korea	0.92	2.10	128	83	10	6	1	4	1	5	90	3 600	7.7	35.4	15.7
Spain	1.10	1.58	44	58	24	15	3	16	4	18	62	7 740	2.0	11.9	34.1
Finland	0.77	0.85	10	53	11	22	14	3	3	52	42	18 590	2.7	23.6	30.2
Japan	4.63	8.15	76	80	4	11	5	0	0	4	96	21 020	3.4	9.3	17.0
Mexico	1.03	1.48	44	51	32	13	4	10	23	9	57	1 760	-1.4	11.7	27.9
Portugal	0.27	0.52	93	75	12	10	3	5	2	23	71	3 650	1.9	24.5	45.3
Dominican Republic	0.08	0.08	0	52	22	8	17	16	0	17	62	720	-1.6	19.3	15.3
Singapore	0.46	0.78	70	69	5	15	11	3	10	5	82	9 070	5.8		35.0
Thailand	0.30	0.52	73	65	23	10	3	33	1	17	50	1 000	3.8	27.3	16.4
Turkey	0.15	0.36	140	56	33	1	11	22	12	8	58	1 280	3.0	18.1	22.0
Yugoslavia	0.31	0.43	39	52	20	21	7	7	3	24	65	2 520	-0.1	20.7	7.5
Total	10.58	18.29													
Average	0.88	1.52	73	63	19	11	7	11	6	16	67	5 940	3.0	19.5	24.2
Group 2^b															
Brazil	0.99	1.18	19	41	46	8	4	30	3	29	38	2 160	1.2	10.4	25.1
Chile	0.24	0.25	4	14	33	3	50	39	0	54	3	1 510	-0.1	31.9	33.4
Costa Rica	0.07	0.07	0	37	57	1	5	69	0	4	27	1 690	0.2	27.3	28.0
Greece	0.29	0.33	14	29	26	27	17	22	7	19	52	4 800	0.1	13.2	50.9
Israel	0.30	0.38	27	40	38	14	7	42	1	16	42	8 650	1.5	21.4	50.6
Norway	1.01	1.06	5	15	49	29	7	8	43	24	24	19 990	3.8	24.7	41.5
Uruguay	0.04	0.04	1	17	40	31	12	26	0	23	35	2 470	-1.4	21.0	23.7
Total	2.94	3.31													
Average	0.42	0.47	13	28	41	16	15	34	8	24	32	5 896	0.82	1.4	36.2
Group 3^c															
Federal Republic of Germany	10.66	12.54	18	29	8	55	7	2	1	15	81	18 480	2.0	26.8	29.9
Canada	4.48	4.91	10	43	15	27	15	9	9	29	52	16 960	2.3	25.6	23.4
Denmark	1.06	1.13	7	31	20	40	9	19	3	21	56	18 450	2.3	30.7	41.2
France	5.93	6.41	8	23	11	54	12	9	1	21	68	16 090	1.2	17.0	43.1
Italy	4.35	5.01	15	35	13	46	6	4	2	13	82	13 330	1.7	15.5	51.3
Sweden	1.92	2.06	7	22	12	57	8	3	3	27	67	19 300	1.9	31.2	40.8
Switzerland	2.14	2.22	4	22	18	51	10	9	0	12	70	27 500	1.6	27.4	
Total	30.54	34.28													
Average	4.36	4.90	12	29	14	47	9	8	3	20	68	18 587	1.9	24.9	38.3
Average for all the "winning" countries	1.69	2.15	27	45	24	22	10	16	5	19	58	9 333	2.1	20.7	28.8

Table 2 (conclusion)

	Share in OECD imports			Situation in terms of competitive position and efficiency					Export structure			Aggregate indicators			
	1979	1988	% variation	Optimum	Vulnerable	Missed opportunities	Retreat	Natural resources	Energy	Manufactures	Non-natural resource based	Per capita GDP (US\$)	Per capita GDP %	Export coefficient (X/GDP)	Public expenditure as % of GDP
"Losing" countries															
Group 4^c															
Bulgaria	0.07	0.04	-43	18	12	39	31	19	13	25	42				
Czechoslovakia	0.23	0.19	-17	14	18	42	26	8	10	24	57				
United States	10.23	10.07	-2	11	8	66	15	12	3	13	71	19 840	2.1	6.5	22.9
Philippines	0.39	0.32	-18	35	10	28	28	22	1	23	53	630	-2.4	18.0	15.6
Hungary	0.21	0.20	-5	26	22	31	21	21	7	25	47	2 460	1.8	35.4	58.3
Malaysia	0.68	0.66	-3	25	37	21	17	26	15	17	43	1 940	1.3	60.1	31.3
Netherlands	4.54	4.49	-1	24	14	41	19	14	11	27	49	14 520	1.1	45.2	55.7
German Dem. Republic	0.15	0.13	-13	21	28	39	12	6	10	21	63				
United Kingdom	5.25	5.24	-0	20	17	51	12	7	11	16	66	12 810	2.8	20.7	37.6
Romania	0.25	0.19	-24	13	41	37	9	3	30	17	49				
Total	22.00	21.53													
Average	2.20	2.15	-2	21	21	39	19	14	11	21	54	8 700	1.1	31.0	36.9
Group 5^d															
Australia	1.15	1.06	-8	18	57	6	18	38	19	27	14	12 340	1.7	10.3	28.7
Ecuador	0.12	0.10	-17	27	51	1	21	67	26	5	2	1 120	-1.1	21.4	17.1
Indonesia	1.35	0.80	-41	14	52	4	30	18	51	19	12	440	1.7	23.6	22.7
Paraguay	0.04	0.02	-50	9	63	2	25	82	0	13	5	1 180	-2.1	15.2	7.9
Total	2.66	1.98													
Average	0.67	0.50	-26	17	56	3	24	51	24	16	8	3 770	0.0	17.6	19.1
Group 6^b															
Argentina	0.40	0.25	-38	13	28	22	37	36	3	43	18	2 520	-1.6	11.5	21.6
Bolivia	0.04	0.01	-75	4	35	5	56	49	0	22	5	570	4.3	12.6	15.8
Colombia	0.28	0.23	-18	12	44	4	40	58	27	3	11	1 180	1.2	13.7	14.7
El Salvador	0.08	0.03	-63	5	3	21	71	77	0	4	19	940	-1.8	10.5	11.3
Guatemala	0.09	0.05	-44	17	22	7	54	76	2	7	15	900	-3.1	13.3	12.1
Honduras	0.06	0.05	-17	20	21	4	54	83	0	7	10	860	-1.7	23.8	
New Zealand	0.32	0.31	-3	31	25	10	34	45	2	34	18	10 000	0.6	22.1	49.1
Peru	0.20	0.11	-45	17	37	3	42	37	10	37	16	1 300	-1.2	10.5	14.6
Poland	0.43	0.27	-37	14	11	34	41	19	15	24	42	1 860	1.7	40.4	
USSR	1.62	1.12	-31	8	49	8	35	11	57	19	10				
Venezuela	0.78	0.42	-46	11	50	1	38	6	81	8	5	3 250	-2.4	16.1	21.8
Total	4.30	2.85													
Average	0.39	0.26	-34	14	30	11	46	45	18	19	15	2 338	-1.3	14.9	22.4
Average for all the "losing" countries	1.16	1.05	-9	17	30	21	32	34	16	19	30	3 626	-0.2	15.6	20.0

^a This group is marked by predominance of the optimum situation: favourable competitive position and high country efficiency.

^b This group is strongly marked by a situation of vulnerability: unfavourable competitive position and high efficiency.

^c This group is strongly marked by a situation of missed opportunities: favourable competitive position but low efficiency.

^d The predominant situation in this group is one of retreat: unfavourable competitive position and low efficiency.

Figure 2
 "WINNING" AND "LOSING" COUNTRIES: VARIATION IN SHARE
 OF OECD IMPORTS, 1979-1988

Source: Joint ECLAC/UNIDO Industry and Technology Division.

Figure 3
UNITED STATES AND JAPAN: GLOBAL BREAKDOWN OF COMPETITIVENESS

Situation in 1989, by main product groups^a

	Japan	United States
Global share 1987-1989	8.15%	10.07%
Variation compared with 1978-1980	+76.09%	-1.54%
Optimum situation	Motor vehicles (781) Telecommunications equipment (764) Computers (752)	Non-electrical machinery (714) Wood pulp (251) Fresh fish (034)
Situation of vulnerability	Cameras (881) Machinery (723) Textile fibres and articles (653)	Fresh fruit (057) Other wood (247) Fresh meat (011)
Situation of missed opportunities	Gramophones (763) Radio receivers (762) Television receivers (761)	Computers (752) Automobile parts (784) Aircraft (792) Motor vehicles (781)
Situation of retreat	Motorcycles (785) Universal milling machines (674) Watches (885)	Oilseeds (222) Rubber (322) Animal feedstuffs (248)

Source: Joint ECLAC/UNIDO Industry and Technology Division.

^aThe three digits in parentheses indicate the corresponding group in the Standard International Trade Classification (SITC), Rev. 2.

say, dynamic lines of products in which that country is losing its share, partly because of the process of internationalization of its own enterprises. The lines in which the United States is increasing its share are predominantly natural resources, with different degrees of processing, but two-thirds of the country's total exports are dy-

namic lines of goods in which the United States is losing its relative share. In marked contrast, 80% of Japan's exports consists of dynamic lines in which that country is increasing its relative share.

This explains the latent presence of protectionist tendencies in the United States, as well as the varied and growing criticism of Japan's "inter-

ventionist" practices. One of the many attempts made to tackle this situation by the two governments is the recent bilateral exercise termed the "Structural Impediments Initiative", which will be referred to later on in this article.

b) *The "winners"*

Among the "winners", it is possible to distinguish at least three groups which differ from each other in respect of emplacement and relative efficiency (figure 2). The first of these groups is made up of 12 countries in whose exports products combining good emplacement and efficiency account for a larger share than for the "winning" countries as a whole (45%).² These countries increased their share in the market by 73% during the 1980s (from 11% to 18% of OECD imports). Product lines in which a good emplacement is accompanied by efficiency account for almost two-thirds of their total exports (63%) (figure 4). The exports of this group of countries consist predominantly of non-natural resource based manufactures (67%), while natural resources, including petroleum, account for only 17% (table 2).

Only two of the 12 countries included in this group have a level of per capita income over US\$10 000 (Japan and Finland), and only in Finland do natural resource based manufactures exceed those which are not based on such resources. In the other countries of the group, non-natural resource based manufactures predominate to an overwhelming extent, representing over 80% of exports in Japan, the Republic of Korea and Singapore (countries with only poor natural resource endowments).

The two Latin American countries forming part of this group (the Dominican Republic and Mexico), together with China, Portugal, Singapore, Spain, Thailand, Turkey and Yugoslavia, participate in the international market with non-natural resource based manufactures, thanks largely to the process of globalization of international trade whereby the leading companies in the developed countries have moved towards the use

of suppliers with low labour costs and various forms of co-production, including assembly activities.³ In the case of the Republic of Korea, this form of activity does exist, but it is combined with a strong national industrial base which tends rather to reproduce the Japanese model.

The two Latin American countries are the only ones in the group which registered an increase in competitiveness accompanied by a drop in per capita income in the 1980s. This situation, which is observed in almost all the countries of Latin America, is due to the fact that progress in the form of greater international insertion has been accompanied by heavy external debt service burdens.

Two clear examples of greater insertion in international trade as a result of the process of its globalization and regionalization are Mexico and Spain (figure 5). They register both similar shares in the OECD market (1.5%) and similar degrees of increase in their share of that market in the 1980s (44%). The most important similarities, however, are in the leading place occupied in them by the motor vehicle industry and the relative weight of the different categories of exports, defined according to the dynamism of the products and the relative efficiency of the country in their production.

A second group of "winning" countries is made up of those in which the major part of their exports are characterized by a high degree of efficiency of production, although their competitive position is not favourable (predominance of non-dynamic lines of goods). These countries increased their share of the market by 13% during the decade, accounting for a little over 3% of the total imports of the OECD.⁴ Products which are in a situation of vulnerability, together with natural resources, predominate in their exports, along with a high proportion of natural resource based manufactures (see figure 4 and table 2). Of the seven countries making up this group, only one of them (Norway) has a high per capita income, while four

² This group is made up of the following countries: China, the Dominican Republic, Finland, Japan, Mexico, Portugal, the Republic of Korea, Singapore, Spain, Thailand, Turkey and Yugoslavia. In the case of China, it is interesting to note that its export coefficient went from 4% in 1978 to 19% in 1990.

³ For details on Mexico, see Wilson Peres, 1990. For details on the Dominican Republic, see Joint ECLAC/UNIDO Industry and Technology Division, 1991a and 1991b. In 1988, the proportion of assembly activities in Mexico's exports to the United States came to 46%, while in 1990 in the Dominican Republic the proportion was estimated at two-thirds of the total.

⁴ This group of countries consists of Brazil, Chile, Costa Rica, Greece, Israel, Norway and Uruguay.

Figure 4

"WINNING" COUNTRIES: VARIATION IN SHARE OF OECD IMPORTS, 1979-1988

Source: Joint ECLAC/UNIDO Industry and Technology Division.

^aThis group is strongly marked by a situation of vulnerability: unfavourable competitive position and high country efficiency.

^bIn this group the optimum situation predominates: favourable competitive position and high efficiency.

^cThis group is strongly marked by a situation of missed opportunities: favourable competitive position but low efficiency.

Figure 5
MEXICO AND SPAIN: GLOBAL BREAKDOWN OF COMPETITIVENESS

Source: Joint ECLAC/UNIDO Industry and Technology Division.

^aThe three digits in parentheses indicate the corresponding group of the Standard International Trade Classification (SITC), Rev. 2.

of them are in Latin America (Brazil, Chile, Costa Rica and Uruguay). The greater share in international trade attained by these countries in the 1980s is due fundamentally to the fact that they have improved their efficiency in the production of mainly non-dynamic lines of goods. With the exception of Brazil, they are small countries in the process of greater economic openness, with high educational coverage, and in them the demands of systemic competitiveness can be met to a relative-

ly high degree. Their small size permits them to improve their relative position in the export of non-dynamic products and to gain a global share in the market. Their situation is vulnerable, however, both because of the low dynamism of the products they export and the price fluctuations affecting a number of these lines of goods.

It is interesting to compare the situations of Brazil and the Republic of Korea, which, in spite of obvious differences with regard to natural re-

source endowment, international trade insertion strategy, and presence of foreign firms (which is notably greater in Brazil), have in common a diversified production and export base and a substantial national business presence (although this is not as strong in Brazil as in the Republic of Korea). It may be seen from figure 6 that although the relative share of the latter country is double that of Brazil (2% and 1%, respectively) and the increase in its market share in the 1980s was markedly higher (128% as against 20%), both countries share a similar structure of manufactured exports, including lines that make intensive use of labour (clothing and footwear), partly processed natural resources (wood and iron ore), and capital-intensive goods (motor vehicles, iron and steel products). If we look at the total range of products in which these two countries have increased their relative share (products in an optimum situation, plus those in a situation of vulnerability), we see that in Brazil the proportion of these products comes to 87% and in the Republic of Korea to 93%, although it should be noted that 83% of the latter country's exports are made up of products which, as well as increasing their relative share, display greater dynamism than the international market as a whole (this proportion is even slightly higher than that for Japan).

The third and last group of "winning" countries is made up of nations whose exports are predominantly of dynamic lines of goods (47%) but which are losing their relative position in them to a substantial extent (a situation of missed opportunities) (figure 4 and table 2).⁵ Their products are of high technological content, but their efficiency in production and marketing appears to be lagging compared with their competitors.

The members of this group are developed countries with a good competitive position, but they are losing their market share in dynamic goods to the kind of countries which make up the first of the groups mentioned above. They have increased their share of the OECD market because of their good competitive position, but they have lost market shares in products where they were formerly leaders (a typical example is that of the motor industry). Their export structure, in which non-natural resource based manufactures predominate,

is very similar to that of the first group of "winning" countries, but the fundamental difference lies in the fact that whereas in the latter countries the good competitive position of the products coincides with the efficiency of the country, in this third group this good position is accompanied by loss of market shares (figure 4 and table 2). This puts them in a situation of vulnerability, because if this trend continues, the good position of the products exported may eventually be insufficient to offset the lower efficiency of the country, as we shall see below in the case of some developed countries which are among the "losers".

In short, the "winning" countries include many of the countries of Western Europe and East Asia, together with Mediterranean and Latin American developing countries which are tending to gain an insertion into the market partly through the processes of globalization of the enterprises of the developed countries. In recent decades, in spite of many differences in their characteristics, the countries leading the group of "winners" – Japan and the Western European nations – have shared a form of economic and social functioning which favours agreements and negotiations rather than confrontation (in the law courts or on the battlefield). It may well be that this preference of theirs is due to the traumas of the past and a continued awareness of some degree of vulnerability.

c) The "losers"

Depending on the relative importance of a poor emplacement or of lower efficiency in explaining their loss of market share, here too it is possible to distinguish three groups with different characteristics (figure 7). The first group is made up of countries whose products have a good competitive position, but are losing market shares through low efficiency.⁶ (This situation illustrates what could happen to the third group of "winning" countries – mainly from Western Europe – if they do not react to the need for greater efficiency). The market share of this first group of "losing" countries fell by a little over 2% in the 1980s (from 22% to 21.5%).

This group consists, on the one hand, of the three countries which have successively been

⁵ This group is made up of Canada, Denmark, the Federal Republic of Germany, France, Italy, Sweden and Switzerland.

⁶ This group of countries consists of the former German Democratic Republic, Bulgaria, Czechoslovakia, the United States, the Philippines, Hungary, Malaysia, the Netherlands, the United Kingdom and Romania.

Figure 6

BRAZIL AND THE REPUBLIC OF KOREA: GLOBAL BREAKDOWN OF COMPETITIVENESS **Situations and main products in 1989^a**

	Brazil	Republic of Korea
Global share 1987-1989	1.18%	2.10%
Increase over 1978-1980	20.14%	127.79%
Optimum situation	Canned fruit (058) Footwear (851) Aluminium (684)	Footwear (851) Motor vehicles (781) Clothing (848)
Situation of vulnerability	Coffee (071) Iron ore (281) Animal feedstuffs (081)	Universal milling machines (674) Textiles of artificial fibres (653) Iron pipes (678)
Situation of missed opportunities	Internal combustion engines (713) Textile yarns and fibres (651) Fresh shellfish (036)	Fresh fish (034) Underwear (844) Textiles yarns and fibres (651)
Situation of retreat	Cocoa (072) Worked wood (248) Sugar (061)	Fabrics of textile fibres (654) Raw tobacco (121) Worked wood (248)

Source: Joint ECLAC/UNIDO Industry and Technology Division.

^aThe three digits in parentheses indicate the corresponding group of the Standard International Trade Classification (SITC), Rev. 2.

leaders of the world economy (the Netherlands, the United Kingdom and the United States), plus most of the socialist countries and two Asian countries with a strong natural resource endowment: the Philippines and Malaysia. In contrast with all the other members of the group, the last two countries display a change in the structure of their exports, which increasingly include non-natural resource

based manufactures, particularly in Malaysia. If this trend continues, the latter country could soon move over into the category of the "winners". Strangely enough, this group includes the most distinguished exponents of both the "laissez-faire" and centrally planned economic models. The predominant features of this group are the situation of lost opportunities (figure 7) and the importance of

non-natural resource based manufactures (table 2). In both types of economies ("laissez-faire" and centrally planned), the lack of consensual operation has made it more difficult to achieve the adaptability demanded by the international market. As a result of the end of the Cold War and the collapse of the centrally planned economies, however, there could be significant changes in the 1990s from the situation described. There are those who think, for example, that in the new context the United States will have to make innovations in its policies in order to face up to the growing deterioration of its share in the world market (Kuttner, 1991).

The second group of "losers" is made up of those whose weakness lies in the poor competitive position of many of their products, which is not offset by the relatively high efficiency of the countries concerned.⁷ These are countries where the predominant feature is a situation of vulnerability (56%) (figure 7) and reliance on exports of natural resources, including petroleum (75%); in three of the four countries making up this group, exports in the energy category (petroleum and coal) are of significant importance (figure 2). This group's share of the market has fallen by 26% (from 2.7% to 2%). Australia, which is the only developed country in the group, is to some extent an illustration of what can happen to a country exporting natural resources which, although having a high level of per capita income, lags behind in adapting its structure of production to demand trends.

The third group, in which there is both poor emplacement of their products and low efficiency of production⁸, displays a predominant situation of withdrawal (46%). It is made up of many of the Latin American countries, New Zealand, Poland and the Soviet Union. This group lost 34% of its market share (which went down from 4.3% to 2.9%). In its exports, there is a marked predominance of natural resources (63%), with a low proportion of non-natural resource based manufactures. The only exception is Poland, where the latter type of goods came to 42% of its exports, but which even so lost some of its market share.

⁷ This group consists of Australia, Ecuador, Indonesia and Paraguay.

⁸ This group consists of Argentina, Bolivia, Colombia, El Salvador, Guatemala, Honduras, New Zealand, Peru, Poland, the Soviet Union and Venezuela.

In New Zealand—the only developed country in this group—the same phenomenon as in Australia is observed. All the Latin American countries in this group share the feature of having a low proportion of non-natural resource based manufactures (less than 20% of total exports), even though the group comprises not only small nations with a low level of income and insufficient development but also countries such as Argentina and Venezuela which have relatively high levels of income and development.

To sum up, the "losing" countries include nations which have successively been leaders of the world economy (the Netherlands, the United Kingdom and the United States); the centrally planned economies; most of the countries of Latin America; some Asian countries with a strong natural resource endowment (Indonesia which is rapidly expanding its exports of manufactures, the Philippines and Malaysia), and finally two developed countries (Australia and New Zealand) whose market share is based predominantly on natural resources and which have failed to follow international market trends sufficiently.

4. Methodological limitations

In analysing and interpreting the results obtained, it necessary to bear in mind, *inter alia*, the following limitations of the methodology used:

i) In order to help design strategies and policies, the trend analysis must be supplemented with a prospective exercise, particularly in a period of transition between two different technological patterns. The present exercise is based exclusively on analysis of what happened in the 1980s.

ii) The competitive position of products is associated with the relative growth of sales of such goods compared with the growth of the international market. In the case of products where rapid technical change and increased productivity lead to a drop in relative prices, the physical expansion of the sector in question is underestimated. The opposite occurs with products whose relative prices increase. In the case of natural resources, cyclical price variations may cause products which had a favourable position in the 1980s to pass into another category in the 1990s.

Figure 7

"LOSING" COUNTRIES: SHARE IN OECD IMPORTS

(Variation over the period 1979-1988)

Source: Joint ECLAC/UNIDO Industry and Technology Division.

^aThe predominant situation in this group is one of vulnerability: unfavourable competitive position and high country efficiency.

^bThis group displays a predominant situation of retreat: unfavourable competitive position and low efficiency.

^cThis group is strongly marked by a situation of missed opportunities: favourable competitive position but low efficiency.

iii) A country's efficiency in the production of a certain item is conditioned by the variation in that item's share in the world market. Consequently, this exercise makes no distinction between those cases where this variation derives from a genuine improvement in efficiency (technical progress or higher productivity) and other cases due to "spurious factors" (decline in real wages, plundering of natural resources). If the apparently high efficiency of a country in a particular line of goods is based on the latter factors, then technical progress incorporated by its competitors may do away with its advantages in a few years' time.

iv) The analysis of competitiveness is based exclusively on information on exports. Consequently, it takes no account of the imported content of the latter or of their incidence on domestic production. Thus, two countries with identical export data but radically different export coefficients, in one of which exports are based on assembly activities but in the other involve a high content of domestic production, will appear to have a similar competitive position (an extreme example is that

of the Dominican Republic, which, because of its exports of assembly goods, is classed among the countries exporting a high proportion of dynamic products with a high degree of efficiency).

v) As the analysis is based on the 1980s, this introduces limitations deriving from the special characteristics of that period. If the 1970s and the 1980s are analysed separately, changes are observed in the dynamism of products and the relative position of countries, as a result of changes in oil prices.

vi) The level of aggregation selected (three digits) also conditions the results. Items defined in this manner cover a wide range of products which differ from each other both in their dynamism and in the efficiency with which each particular country produces and exports them. This consideration is of particular importance in the present period of transition between technological patterns, in which items of production appear and disappear within sectors which were previously considered "mature".

II

Technical progress, competitiveness and sustainability

The main aim of this section is to propose an analytical framework linking competitiveness with technical progress and environmental sustainability. In order to achieve this objective, the following procedure is followed: first of all, Latin America's insertion in international trade is analysed, with particular attention to the role of natural resources and this sector's links with technical progress and the industrial sector. Next, a linkage is established between entrepreneurial leadership and participation in international trade based particularly on natural resources. An effort is then made to determine Latin America's relative weight in the OECD market, compared with other regions supplying that market. Finally, the causal relations linking competitiveness with technical progress, environmental sustainability and the objectives of growth and equity are identified.

1. *International insertion and natural resources*

After several decades of industrialization (in some countries, almost a century), the insertion in world trade of the countries of the region is based on their surpluses in the natural resources sectors and their deficit in the trade in manufactures (the only exception is Brazil, which since 1982 has had a surplus in manufactures). The oil-exporting countries (except for Ecuador) also have surpluses in the mining sector and, in the case of Mexico and Peru, deficits in the agricultural sector (table 3). The non-oil exporting countries all have agricultural surpluses, and two of them (Brazil and Chile) have a substantial surplus in the mining sector. Apart from the well-known special features of individual countries, the countries of the region share the basic and fundamental fact that their in-

dustrialization process, as well as having been primarily oriented towards the domestic market, was carried out without appropriate strengthening of the natural resource base, and in some cases even at the expense of it. Among the many factors which can help explain this particular feature of Latin American development, there is one which it is worth stressing because it has a direct relationship with the issue of environmental sustainability. The conception of industrialization which prevailed for a long time contrasted urban modernization with the backwardness of traditional society identified with the natural resource base. Furthermore, as also occurred in the rest of the world up to the end of the 1960s, the dominant economic ideas were based on the implicit assumption that the availability of natural resources and of the environment as a whole were practically unlimited, so that the whole issue of sustainability was pointless. Natural resources were seen as a frontier to be conquered.

It was the oil crisis of the early 1970s, among other factors, which brought home the need to take the fullest account of the availability and efficiency of use of natural resources.

The form of economic insertion in which a surplus of natural resources exists side by side with a deficit in the manufacturing sector is not confined to Latin America. A considerable number of the member countries of the OECD are currently in the same situation. All of them, with the exception of the United Kingdom, have surpluses in the agricultural sector, and some of them also have surpluses in the energy and mining sector (table 4). As was made clear in the first part of this article, except for two Scandinavian countries (Norway and Denmark) and Canada, the countries in question suffered a decline in their share in the OECD market in the 1980s. Canada has an agricultural and mining surplus and a manufacturing deficit fully comparable with those of Latin America as a whole (ALADI), together with an energy surplus which is a good deal less than that of Latin America. This fact reflects an aspect which will be dealt with further on in this article and which affects the links between technical progress and environmental sustainability. Even though natural resources are very important for Latin America's insertion in international trade, this region is only a modest component in the overall group of countries re-

sponsible for satisfying the world's natural resource needs.

Furthermore, the American continent (Canada, the United States and Latin America) has two fundamental features: an abundance of natural resources and a heavy manufacturing deficit. Consequently, the question of international competitiveness is a continent-wide challenge, despite the obvious national differences.

The fundamental difference between Latin America and some of the OECD countries which are well endowed with natural resources lies in the fact that in the latter industrialization is heavily based on the processing of such resources.⁹

This fact is vividly illustrated by the capacity displayed by some of the OECD countries to develop technologies for the integral use of their natural resources. This form of industrialization which takes full account of the potential of natural resources (in marked contrast with the Latin American experience) has direct effects on the capacity of those countries not only to promote a new economic concept which integrates technical progress, natural resources and the environment but also, and even more importantly, to give rise to a wide range of vital technological innovations for this purpose.

In Latin America, the 1980s –the decade of “painful learning”– marked the beginning of a new-found awareness of the need to move towards a new phase in the industrialization process which leaves behind sectoral divisions, favours the linking up of production, and improves international competitiveness, understood as a challenge of a systemic nature which calls for a combined and co-ordinated approach to industry, natural resources, services and the environment (ECLAC, 1990 and 1991).

2. Entrepreneurial leadership, international insertion and environmental sustainability

The international insertion based on natural resources is directly reflected in the nature of the entrepreneurial leadership found in the countries of Latin America. This latter aspect is relevant both to the question of the incorporation and dissemina-

⁹ For more details on the United States case, see Wright, 1990. With regard to the Scandinavian countries, see Fajnzylber, 1990 (chapter V) and Blomström and Meller, 1990.

Table 3

**LATIN AMERICAN INTEGRATION ASSOCIATION (ALADI): TRADE BALANCE BY SECTORS
OF ECONOMIC ACTIVITY, 1988**

(Millions of dollars)

	All sectors	Agricul- ture	Manufacturing		Energy	Mining	Other sectors
			Total	Capital goods			
Total ALADI	23 916	22 216	-14 522	-10 455	11 611	7 891	370
Oil-exporting countries	-52	2 448	-16 006	-6 004	15 642	1 489	25
Bolivia	6	11	-485	-231	213	268	-1
Ecuador	479	980	-397	-591	-62	-39	-3
Mexico ^a	1 755	-294	-5 925	...	7 840	240	-106
Peru	-569	-74	-1 133	-588	-93	731	...
Venezuela	-1 723	1 825	-8 066	-4 594	7 744	289	135
Non-oil exporting countries	23 968	19 768	1 484	-4 451	-4 031	6 402	345
Argentina	3 813	5 488	-1 225	-1 133	-345	-105	...
Brazil	17 704	9 683	8 766	153	-3 941	2 924	272
Colombia	21	1 830	-2 708	-1 462	1 113	-172	-42
Chile	2 223	1 851	-2 964	-1 652	-568	3 792	112
Paraguay	-64	401	-326	-132	-135	-6	...
Uruguay	271	515	-59	-225	-157	-31	3

Source: Joint ECLAC/UNIDO Industry and Technology Division, on the basis of information from the Latin American and Caribbean External Trade Data Bank (BADECEL).

^a Preliminary figures taken from ALADI, *Estructura y evolución del comercio regional, 1985-1990*, Montevideo.

Table 4

**OECD COUNTRIES WITH PREDOMINANTLY NATURAL RESOURCE BASED PARTICIPATION IN
WORLD TRADE: TRADE BALANCE BY SECTORS OF ECONOMIC ACTIVITY, 1988**

(Millions of dollars)

	All sectors	Agricul- ture	Manufac- turing	Energy	Mining	Other sectors
Energy-exporting countries						
Australia	-1 373	8 513	-22 945	3 634	4 202	5 223
Canada	6 368	14 103	-21 850	5 975	6 432	1 708
Norway	-710	535	-10 242	7 377	1 659	-39
United Kingdom	-44 389	-14 507	-29 165	1 378	-2 936	841
Non-energy exporting countries						
Denmark	1 353	4 649	-2 508	-1 068	-247	527
United States	-150 660	15 017	-140 185	-35 898	-5 910	16 316
New Zealand	1 242	5 285	-4 072	-280	194	115
Netherlands	3 757	7 894	-6 723	-493	-15	3 095

Source: Joint ECLAC/UNIDO Industry and Technology Division, on the basis of information from the International Commodity Trade Data Base (COMTRADE), New York, United Nations Statistical Office.

tion of technical progress and to that of environmental sustainability, because both these issues can only be tackled with the active, direct and pre-eminent participation of the leading enterprises of the various countries: both those enterprises which operate in the field of natural resources proper and those which participate in the sectors that give them technological support. In every one of the countries of the region, the biggest enterprises are to be found above all in the area of processed or unprocessed natural resources. This fact may to some extent have marked their entrepreneurial strategy: they have been exposed to a form of competition which is less intense and undoubtedly different from that faced by leading enterprises operating at the international level in the manufacturing sector; the demands for technological innovation, sectoral diversification and internationalization of production have consequently been less marked; they have enjoyed an easier position with regard to the availability of foreign exchange and compliance with national integration rules than the rest of the enterprises in their respective countries, and consequently there has been less incentive in them to substitute imports and develop local suppliers. This description cannot be applied in the same terms to the large private groups made up of a wide range of enterprises producing goods and services, which, if global information were available, would also appear among the largest entrepreneurial units in each country.

In the case of the publicly owned enterprises, their function as collection agencies gives rise to restrictions on their autonomy and reduces the incentive for the design of diversification and internationalization strategies. Foreign-owned enterprises adopt their decisions in line with the global strategies of their head offices, which in some cases include the manufacture of goods in the home country or in third countries. Nevertheless, some public enterprises do carry out relatively extensive technological efforts, especially in comparison with the rest of the domestic enterprises, for which the high and indiscriminate protection of the domestic market greatly reduces the incentive to make innovations or even incorporate technical progress.

It may be observed that in countries such as Argentina, Chile or Venezuela, the ten biggest enterprises, with sales representing approximately 30% of the respective gross domestic product,

correspond in 75% or more of the cases to sectors using natural resources (table 5). In the biggest countries of the region (Brazil and Mexico), the ten biggest enterprises have sales equivalent to 15% of the gross domestic product, and approximately 60% of their sales are in sectors connected with natural resources.

Some additional pointers may be obtained by identifying the biggest enterprises in Latin America and comparing them with the equivalent leading enterprises of a small country with abundant natural resources such as Sweden (table 6). The volume of sales of the ten biggest enterprises together is somewhat greater in Latin America, but in both cases the enterprises are of closely comparable size. Nevertheless, there are at least the following main differences: i) whereas in Latin America the great majority of the leading enterprises are connected with the natural resources sector, in Sweden, enterprises processing natural resources exist side by side with others of high technical content which are leaders in their field at the world level; ii) in Latin America, only two of the biggest enterprises belong to the manufacturing sector, and even then they are branches of foreign firms, whereas in Sweden only one of the biggest enterprises does *not* belong to the manufacturing sector, and all of them are Swedish-owned; iii) in Latin America, unlike Sweden, several of the ten biggest enterprises are public, possibly reflecting the weakness of private enterprise in the region in the initial phase of development; iv) whereas the main Swedish enterprises operate in a wide range of sectors, the leading Latin American enterprises have very little sectoral diversification, and v) several of the leading Swedish enterprises show a high degree of internationalization, whereas the Latin American enterprises have only a very modest or incipient level of such international projection.

3. Competitiveness and natural resources in the OECD market

As well as being the biggest and fastest-growing in the world, the OECD market is also that which applies the strictest environmental regulations and, what is even more important, compliance with such regulations may soon become an essential requirement for entering it.

In the 1980s, there was an intensification of long-term trends and a significant change in the

Table 5

**SELECTED LATIN AMERICAN COUNTRIES: TOTAL SALES
OF THE TEN BIGGEST FIRMS, BY COUNTRIES**

(Percentage breakdown, 1989)

	Latin America	Argentina	Brazil	Mexico	Chile	Colombia	Peru	Venezuela
Total	100	100	100	100	100	100	100	100
Natural resources (excluding oil)	13.0	5.4	13.0	...	59.6	...	44.8	14.3
Oil	65.9	57.9	39.3	56.3	24.8	50.8	36.5	71.5
Manufactures								
- Natural resource based	4.9	12.4	14.6	3.5	11.9	21.2	5.1	4.5
- Non-natural resource based	11.3	5.4	18.5	26.5	...	6.0	...	1.6
- Motor industry	4.4	5.4	7.2	26.5	...	6.0	...	...
- Capital goods	...	...	11.3	...	...	...	...	...
Other sectors	4.9	19.2	14.6	13.7	3.7	22.0	13.6	8.1
Sales of the ten biggest firms, as a percentage of GDP	10.7	31.4	14.6	14.7	38.2	14.9	20.9	29.5

Source: Joint ECLAC/UNIDO Industry and Technology Division, on the basis of *América Economía*, No. 44, October 1990.

Table 6

LATIN AMERICA AND SWEDEN: TEN LARGEST COMPANIES, BY SALES

Latin America 1989				Sweden 1988		
Company	Country	Sales (millions of dollars)	Sector	Company	Sales (millions of dollars)	Sector
PETROBRAS and dist.	Brazil	15 737	Petroleum	Volvo	15 476	Motor vehicles
PEMEX	Mexico	15 074	Petroleum	Electrolux	11 277	Home appliances
PDVSA	Venezuela	12 484	Petroleum	Asea	8 750	Electr. and electronics
YPF	Argentina	9 454	Petroleum	Saab-Scania	6 927	Machinery and engineering
ELECTROBRAS	Brazil	6 357	Electricity	LM Ericson	5 421	Electr. and electronics
IBM Brazil	Brazil	5 542	Electronics	Stora Koppar Bergs B.	3 426	Lumber and paper
CODELCO	Chile	4 030	Mining	Skanska	3 284	Construction
A. Gutiérrez	Brazil	3 939	Construction	Svenska Pulp	2 622	Lumber and paper
M. Dias Branco	Brazil	3 917	Food	Sandvik	2 215	Metals
General Motors	Brazil	3 504	Motor vehicles	Aga	1 772	Chemicals
10 largest companies		80 038		10 largest companies	61 323	
Capital goods		...		Capital goods	21 098	

Source: Joint ECLAC/UNIDO Industry and Technology Division, on the basis of *América Economía*, No. 44, October 1990 and *Business Week*, 11 July 1989.

structure of the OECD's imports. Thus, there was a decline in the market shares of natural resources, fuels and natural resource based manufactures (the decline in the share of the latter goods being much slighter than that of the first two types of commodities), whereas non-natural resource based manufactures rose from 47% of total imports in 1978-1979-1980 to 64% in 1987-1988-1989. Natural resource based manufactures, in contrast, which in 1978 were equivalent to one-third of imports of non-natural resource based manufactures, went down to the equivalent of only a quarter of the latter in 1989. This reflects and confirms the downward trend in the use of natural resources (especially energy) in the economic activity of the developed countries. It does not mean, however, that all natural resources suffered a decline in their share and that all non-natural resource based manufactures increased their relative presence. In each category there are dynamic and non-dynamic products, although the respective proportions vary in each case: whereas in natural resources only a minority of the lines of products grew faster than the international market, the opposite was the case with non-natural resource based manufactures (this situation was illustrated in part I on this article).

The relative share of Latin American exports in the OECD market has remained practically constant over the last decade, standing at approximately 5% of total exports in 1989 (it amounted to 5.6% in 1985, which was the most favourable year). More specifically, the proportion stood at 10% in the case of natural resources, which suffered a slight decline in the course of the decade; 9% for fuels, which registered a substantial increase over the period; rather more than 5% for natural resource based manufactures, which showed little or no change in the decade, and almost 3% for the most dynamic types of goods (non-natural resource based manufactures) whose share was double that registered at the beginning of the period. This increase was due mainly to the bigger exports of manufactures by Mexico and Brazil, as briefly analysed in part I of this article.

With regard to Latin America's relative position as a supplier of the different lines of goods in comparison with other groups supplying the OECD market, it may be observed that total Latin American exports to the OECD are similar to those of the South-East Asian and the Scandinavian countries; rather less than twice those of the Me-

diterranean countries of Europe; and rather more than twice those of the Eastern European countries.

In the case of natural resources, Latin America is only a modest supplier compared with the biggest OECD countries (the Group of Seven): whereas in 1989 Latin America's share was 10%, the OECD countries themselves (those of the Group of Seven plus the Scandinavian and Mediterranean countries) provided 40% of their own needs. This situation is further accentuated in the case of natural resource based manufactures: whereas Latin America's share in the OECD's imports was 5%, that of the OECD countries was 61%.

The foregoing confirms something which is not new but which is often forgotten in the region: namely, that the production and technological pattern linked with natural resources is determined basically by the industrial situation of the developed countries. The first important implication of this (there are already some indications in this direction) is the possible erection of protectionist barriers associated with failure to comply with environmental standards for products, manufacturing processes and raw materials. As natural resource based exports are very important for Latin America, this issue may assume decisive importance.

This does not mean, however, that all exports of these products will be subject to such regulations. It may be assumed that part of them will continue to be exempt from environmental requirements, especially when these exports do not compete with national products (and there is therefore less protectionist pressure), or when they are aimed at lower-income consumers (who are not in such a good position to absorb the increase in costs deriving from environmental protection). Even so, the important point to note is that the environmental dimension has come to be a significant variable in any export strategy aimed at the industrial countries. First of all, because it is already an established requirement for a substantial and potentially growing proportion of the demand from those countries; secondly, because the requirements vary considerably from one country to another and are subject to frequent changes, so that careful attention to their evolution is a necessary condition for gaining lasting access to the OECD market; and finally, because the growing social value attached to these requirements, even when they are not explicitly imposed by the importing country, means that

they can become a useful instrument for product differentiation: a particularly valuable resource even in markets with not very dynamic demand.

The second implication of this situation is connected with the significant place occupied in the Latin American economy by industrial activities (goods and services) connected with the processing of natural resources and, more specifically, activities directly affecting environmental sustainability. In this area, too, there have been promising advances in Latin America, even though the region still displays an indisputable lag in this respect (ECLAC, 1991, chapter VI).

4. Causal relations

It is clear from the foregoing that in Latin America international competitiveness will be indissolubly linked in the future to environmental sustainability, and that the determining factor for reconciling these two objectives (competitiveness and sustainability) is the incorporation and dissemination of technical progress. This explains the central position occupied by these three elements in the system of causal relations described in figure 8.

The impact of competitiveness on growth, which is compounded by the support that the latter provides for the incorporation of technical progress, has been extensively analysed and illustrated in a recent ECLAC document (ECLAC, 1990, chapter IV).

That same document highlights the positive effect that competitiveness can have in certain circumstances on equity, emphasizing, however, that the achievement of the latter calls for a significant effort to apply social policies designed with this objective. Emphasis is also placed on the favourable influence, in certain circumstances, that trade liberalization can have both on competitiveness and on the incorporation of technical progress, which is a determining factor in the long-term stability of the form of insertion in international trade.

The links between sustainability and competitiveness, the influence of progress on the latter, and also the negative effects that the absence of equity can have on sustainability were likewise analysed and illustrated in another recent work by ECLAC (ECLAC, 1991, chapters V and VI).

The three elements shown in the top left hand part of figure 8 –*trade openness, competitiveness and growth*– form the core of the neoliberal propo-

sal, in a simplified version. On the other hand, the three elements shown in the top right hand part of the diagram –*environmental sustainability, equity and social policy*– correspond to the central lines of the ecological proposal, likewise expressed in a very simple form. Although radically different, both proposals have a basic feature in common: they do not include technical progress as a leading factor. This explains why, from the neoliberal standpoint, priority is given to growth and competitiveness at the expense of equity and environmental sustainability. The same occurs in the case of the ecological standpoint, where growth and competitiveness must be “sacrificed” in the interests of equity and environmental sustainability.

Without technical progress, competitiveness and sustainability are hard to reconcile, as it is not possible in these circumstances to simultaneously achieve increased production and reduced environmental damage. The incorporation of technical progress, however, does make it possible to reconcile increased production with environmental sustainability.

The pressing need to reconcile competitiveness and equity explains the importance and prominence given to technical progress in the ECLAC proposal and, hence, the special attention given to the factors that further the incorporation and dissemination of such progress. Outstanding among these factors are the educational and training system, the entrepreneurial base, and the technological and communications infrastructure of the countries (figure 8). In a situation where these factors which serve as a support for the process of incorporation and dissemination of technical progress are extremely weak, it is very likely that trade liberalization –even though it may have a short-term positive effect on resource allocation (static efficiency)– will not be able to help spark off the process of incorporation and dissemination of technical progress which determines the strength of a country's insertion in international trade.¹⁰

¹⁰ For an analysis of policies to support competitiveness which make specific mention of trade openness, education and training, technological policies and the expansion of the entrepreneurial base, see ECLAC, 1990, chapter IV. In recent years, motivated at least partly by the uneven economic relations between the United States and Japan, various authors have made important contributions that seek to show how vital it is to incorporate technological innovation and the accumulation of know-how in growth models. For a recent review of these contributions, see Mujica, 1990.

Figure 8
CAUSAL RELATIONS

The institutional needs associated with the application of a scheme of high, indiscriminate and permanent protection are obviously quantitatively less and qualitatively different from those demanded by a sectorally and temporally selective scheme aimed at furthering technological learning and international competitiveness.

Promotion of industry in a protected market can be compatible with passive public agencies, whereas the strengthening of international competitiveness calls for public institutions with initiative and leadership capacity for bringing together the different production, educational, research, financing and marketing agents. In the preceding

phase, there was strong stimulation of investment, with little attention to its international competitiveness, but the latter consideration is now acquiring clear importance.

Previously, industry had few links with the natural resources sectors and required only limited support from specialized entrepreneurial management support services, while its needs with regard to the ongoing development of its human resources were viewed in a largely rhetorical fashion. The situation has radically changed on these three levels, however. Co-operation of enterprises with each other and with specialized public agencies is now an essential requisite for survival, and this

presupposes ongoing communication and mutual trust, which were ingredients that were absent in the previous phase. The effects of inefficiency in industrial plants or in the transport, marketing and communications infrastructure were previously simply passed on to the captive consumers. Now, however, overcoming these shortcomings has become a shared duty. Consistently conflictive relations between labour and management are incompatible with increased productivity and a sound insertion in international trade, but they can easily survive in captive markets where they are reflected in high prices, interruptions in supply and lower quality. In short, the spirit of renewal demanded of the State and of the latter's form of relationship with the business and labour sectors is something that goes beyond the necessary, but not of itself sufficient, maintenance of the macroeconomic balances.

The need for large-scale institutional renewal, due to the opening-up to international trade and the transition to a new technological pattern, also exists within the enterprise, too. The former markedly hierarchical entrepreneurial structure, split up into separate compartments determined by the functions involved, is tending to evolve into a co-ordinated network of units with greater autonomy. This raises demands with regard to staff training, the need to take an overall view, and the willingness to work as a team. The operation of enterprises, which was previously inspired by trends towards standardization and optimization, is now moving towards forms that favour a rapid response to the demands of segmented and changing markets and the continual assimilation of technical change (Pérez, 1991).

The foregoing gives some idea of the importance of institutional renewal within the educational system itself, where the strategic objectives include the simultaneous quest for a better insertion in international trade, the strengthening of the capacities of the population in general, decentralization as the guiding criterion for a new institutional structure in education, and the strengthening of national integration. On the policy level, it is clearly desirable to replace quantitative criteria based on the expansion of supply, with little attempt to evaluate the results, by new forms which evaluate performance and at the same time look after equity.

With the aim of helping to formulate policies to strengthen the capacity for the absorption and dissemination of technical progress in the countries of Latin America, ECLAC is currently carrying out research projects on some aspects of these three pivotal points on which the incorporation and dissemination of technical progress are based: i) "Educational strategy for changing production patterns with equity" (jointly with UNESCO); ii) "Technical progress and international competitiveness: national strategies, sectoral policies and internationalization of the enterprise" and iii) "Information technologies and their impact on competitiveness and equity".

The relevance of the analytical scheme adopted for this purpose will obviously vary according to the national characteristics in terms of natural resource endowment; the level of educational, entrepreneurial and technological development; the size of the country and its shortcomings with regard to equity; the presence or absence of a tradition of dynamic growth, and the form and extent of insertion in international trade. For this reason, each of the three research projects mentioned analyses both the different national situations and the general trends observable in the region.¹¹

Although figure 8 does not directly link growth with equity, it is worth repeating that, in view of the systemic nature of international competitiveness, it is not feasible to try to attain a sound insertion in international trade without a reasonable degree of social cohesion (equity). At the same time, in view of the transparency and increasingly homogeneous nature of the aspirations of the people at large, trying to consolidate equity without a sustained effort in the area of competitiveness is not a feasible task either.

¹¹ The results of the three studies in question will be available in 1991.

III

Final reflections

The foregoing gives rise to some reflections which are of importance for the design of strategies and policies to support an improved insertion in the international economy.

1. *Openness and institutional change*

Openness to the exterior poses demands for institutional change which go further than an appraisal from the strictly commercial point of view would suggest. Economies and societies which concentrate on the domestic market develop an approach which to some extent ignores what is going on abroad and the signals generated there, except for those concerning demand for basic export commodities to which the country in question adapts through its level of domestic activity. The transition towards an open economy, however, automatically involves –in addition to the well-known political requirements –the need to regulate and subordinate domestic conflicts (social and political) in order to comply with the requirements for stability and credibility imposed by the international market. It is also necessary to incorporate in the public and private decision-making process, on a systematic and permanent basis, the various economic, financial, cultural and technological signals that condition a country's insertion in international trade. The issues already mentioned pose a third requirement, which is to create the capacity for institutional renewal that is essential in order, on the one hand, to regulate domestic conflicts and, on the other, to adapt to the economic, financial and technological stimuli from the exterior. The need for this institutional renewal, which applies at both the government and private level, is particularly strong in such varied areas as those of environmental sustainability and the educational system, and it may even extend to the political form of government.

In short, openness to the exterior goes far beyond the mere suppression of import licenses, the lowering of tariffs and the promotion of exports. It means progressing towards a new framework of institutions and harmonious social and political relations. Since a reasonable degree of social cohe-

sion is needed for a good insertion in international trade and this cannot be attained without sustained growth, the biggest challenge in the renewal of institutions is to reconcile both objectives within a context of representative democracy.

2. *The Structural Impediments Initiative*

Perhaps the clearest illustration of the magnitude of the institutional challenges posed by insertion in international trade is provided by the debate between the United States and Japan over the structural changes required in those two countries in order to reverse their growing trade and financial imbalances. Between September 1989 and July 1990, a group of top-level government officials of the two countries worked out a project termed the "Structural Impediments Initiative". The final report of the group was released on 28 June 1990 (the day after the announcement by the President of the United States of the "Enterprise for the Americas").¹²

The central aim of this exercise was to identify and solve structural problems in both countries which represented impediments to their trade and to the adjustment of the balance of payments, in order to help reduce imbalances in the latter.

Specifically, at the request of the United States, Japan dealt with the following issues: Japanese saving and investment behaviour; policy on land use and value; the distribution system; regulations restricting the market; methods of operation of the economic groups, and price-fixing

¹² The United States participants were: Richard T. McCormack, Under-Secretary of State; Charles H. Dallara, Assistant Secretary of the Treasury; S. Linn Williams, Assistant Trade Representative; J. Michael Farren, Under-Secretary of Commerce; John B. Taylor, Member of the President's Council of Economic Advisors; and James F. Rill, Deputy Attorney-General. Those representing Japan were: Koji Watanabe, Vice-Minister of External Affairs; Makoto Utsumi, Vice-Minister of International Affairs in the Ministry of Finance; Naomichi Suzuki, Vice-Minister of International Affairs in the Ministry of International Trade and Industry, and Tsuneo Unno, Vice-Minister for External Affairs of the Economic Planning Agency (see *Joint Report of the US-Japan Working Group on the Structural Impediments Initiative*, 28 June 1990, Report to the President of the United States and the Prime Minister of Japan).

mechanisms. For its part, Japan requested the United States delegation to put forward reflections, proposals and possible undertakings on institutional changes in the following fields: public and private saving and investment behaviour; factors influencing the improvement of the competitiveness of United States enterprises; government regulations on exports and imports; government research and development efforts, and finally, education and labour training.

In each of these areas, the parties undertook to introduce innovations in institutions and behaviour aimed at overcoming what they termed the "structural imbalances" affecting trade between the two countries.

Regardless of the degree to which these undertakings actually materialize, the important thing is the conviction of both governments, firstly, that there are structural impediments preventing the achievement of balanced trade, and secondly, that the action of the market and the co-ordination of macroeconomic policies is not sufficient to overcome these. In short, a successful insertion in international trade poses demands that "right prices" alone cannot solve.

3. *The Enterprise for the Americas*

The trade relations between the United States and Latin America—which reflect big differences in levels of development, similarities in the natural resource base, and geographical unity—differ radically in these respects from the trade relations between the United States and Japan. Together with the European experience and the Canada-United States relationship, however, they share a basic need: they call for institutional innovations in areas which go beyond the field of trade if beneficial results are to be achieved.

The Enterprise for the Americas covers the areas of trade, investment and the external debt. On the whole, the response of the Latin American governments has been positive, reflecting to some extent the widespread aspiration to gain access to the availability of modern goods and services. What was said earlier suggests that it would be desirable to include within the long negotiating process on this issue some joint reflection by Latin America, the United States and Canada on questions of common interest which will undoubtedly influence not only the course of the negotiations

but also their possible results. Among the questions which could be subjected to systematic analysis are education, the environment, energy, research and development, and international competitiveness. Although the nature and solutions of the respective problems are different, they are issues on which both the Latin American countries and the United States are designing institutions and formulating policies that are innovations compared with the past, and in this sense the exchange of views could be valuable. Moreover, leaving aside the deadlines and subsequent results, such a joint exercise of reflection on the similarities and differences in the responses to the respective structural challenges could have positive effects by leading to a greater awareness, firstly, of the varying needs for institutional renewal and secondly, of the need to base the international insertion on the incorporation and spread of technical progress (authentic competitiveness) and not—as happened in the past—on the lowering of real wages and plundering of the environment (spurious competitiveness). The development, at both the government and business level, of the technical capacity to embark on negotiations of this kind with the United States would be a valuable asset for exploring new forms of relations with Europe and Asia. In short, making serious preparations to tackle this exercise is a worthy task in itself.

4. *Competitiveness, environmental sustainability, and the incorporation of technical progress*

A general perception has grown up in the developed countries that industrialization is one of the main factors in the deterioration of the environment. In Latin America, subject of course to the differences between countries, the industrialization process has followed the same trends (with exceptions and variations) as in the developed countries. In the 1990s it is proposed that industrialization should be the hub of changes in production patterns, mainly because it furthers the incorporation and spread of technical progress, but also because in the new circumstances it must go beyond the narrow sectoral framework in which it has previously been approached and must link up with primary sector activities and the services sector in order to integrate the system of production and reduce the differences between levels of productivity. Overcoming sectoral compartmentization is

one of the keys to changing production patterns and to the new phase of industrialization. The region is lagging behind in gaining the environmental awareness that is general in the developed countries. In Latin America—in view of its natural resource endowment and its form of insertion in international trade, which is based primarily on such resources—environmental sustainability not only affects the quality of life but also the standard of living of the population.

Proposals based on strictly economic considerations give priority to the objectives of growth and international competitiveness, placing environmental sustainability and equity in a subsidiary position. On the other hand, proposals centered around ecological concerns give priority to equity and environmental sustainability, relegating growth and international competitiveness to the background. From what has been said earlier in this article, it is clear that the incorporation and spread of technical progress help to reconcile international competitiveness with environmental sustainability. In this sense, they favour a closer identity between the objectives of growth and equity. In order for this desirable situation to take shape, however, institutional innovations in business and government and in the relations between the two are called for.

5. *The sectoral context*

The 1980s were dominated by the imperative need to protect the macroeconomic balances. Many countries of the region witnessed the collapse of many of their public institutions, which helped to justify the neglect of sectoral policies. The efforts to attain a sounder insertion in the international economy, the heightening of international competition, protectionist reactions, and regional and global international negotiations, however, have made it clear that the sectoral dimension is of extraordinary importance. The differences in dynamism, technological content, market structure, business strategies, social and regional effects, and political impact all point to the need to promote the establishment of sectoral teams, in both the government and private areas, with capacity to explore both potential and weaknesses and to tackle the increasingly arduous international negotiations. What was said in the preceding sections shows the importance of gaining a favourable

competitive position and, accordingly, of the sectoral policies designed to achieve that objective.

In the 1990s, the countries of Latin America will have to supplement the efforts made in the macroeconomic field with comparable efforts to establish top-quality sectoral groups made up of representatives of the government, business, educational and scientific and technological sectors. The developed countries, and the most successful developing countries in other regions, seem to have always understood that one of the purposes of protecting the macroeconomic balances is precisely to be able to carry out the sectoral policies which are indispensable in order to face the challenges of technological change, international competition and the social impact of changing production patterns in the region.

6. *Strategies for an improved international insertion*

The foregoing empirical exercise on competitiveness, despite its simplicity and limitations, offers some useful suggestions with regard to strategies for improving the form of insertion in international trade:

i) The incorporation of technical progress is important both with regard to the features of the different lines of goods and the efficiency with which they are produced and marketed. Just as important as the acknowledged link between market standing and technical progress is the combination of technical progress and organizational efficiency required for international competitiveness.

ii) Nobody has a guarantee of success on the international market, and the ways in which such success can be attained are many and varied. Systemic support for the incorporation and spread of technical progress, along with selectivity in promotion efforts, seem to be the only constants found in all successful experiences.

iii) Although generally speaking natural resources are characterized by lower dynamism, they offer significant potential in terms of generation of foreign exchange, learning improved business practices, producing surpluses that are available for investment in other areas of the economy, furthering technological innovation in related activities and, in some cases, achieving high and sustained growth rates. In the future, natural re-

sources and environmental sustainability will be closely linked.

iv) Non-natural-resource-based manufactures, which of course include the equipment and inputs used to process natural resources, form a major and growing part of international trade. Improving the competitive position of these items is a clear priority.

v) The items which combine rapid growth with high efficiency (optimum situations) form a potential nucleus for spreading technological progress to the rest of the productive sector. The challenge with regard to institutional renewal is that of designing mechanisms and incentives to promote this dissemination process.

vi) The items in which countries increase their market share even though they are not characterized by rapid growth (items in a situation of vulnerability) can and should become a platform for sectoral diversification. In the case of small countries, the diversification phase may be postponed,

but under no circumstances altogether forgotten. The aim of such diversification should be to attain a position of specialization in other product lines, and not simply to embrace a wider and wider range of activities.

vii) The case of fast-growing product lines where a country is losing its share of the market (situation of missed opportunities) calls for sectoral restructuring programmes to regain the positions previously reached.

viii) Withdrawal from declining markets (situation of retreat) may seem a wise choice. However, there are sectors which, despite their low growth rates, could still offer a source of income and employment for several years to come. This situation is to be observed in several countries of the region in traditional export lines. It should be noted that, where possible, situations of vulnerability are preferable to those of retreat.

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