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CONTENTS

The public sector's role in Latin American development <i>Ricardo Carciofi</i>	7
Equity in the public budget <i>Juan Martin</i>	17
Pension system reforms, the capital market and saving <i>Andras Uthoff</i>	29
Public institutions and explicit and implicit environmental policies <i>Nicolo Gligo</i>	51
Non-market valuation of natural and environmental resources in Central America and the Caribbean <i>Steve Shultz</i>	65
An integrated macro-model for the Caribbean subregion <i>Lucio Vinhas de Souza</i>	77
Swerves and skids by the Venezuelan economy <i>José Miguel Benavente</i>	85
How non-traditional are non-traditional exports? The experience of seven countries of the Caribbean Basin <i>Alberto Gabriele</i>	99
Trade openness and structural change in the Brazilian motor industry <i>Ruy de Quadros Carvalho, Sérgio Robles Reis de Queiroz, Flávia Luciane Consoni, Ionara Costa and Janaína Pamplona da Costa</i>	115
The ongoing history of a Chilean metal products and machinery firm <i>Jorge Katz and Héctor Vera</i>	129
The importance of local production and small-scale enterprises for Latin American development <i>Francisco Albuquerque</i>	147
Recent ECLAC publications	162

How non-traditional are *non-traditional exports?* The experience of seven *countries of the* Caribbean Basin

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In the six Central American countries –Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua, which make up the Central American Common Market, and Panama– non-traditional exports increased in the 1970s, went down between 1980 and 1986 because of macroeconomic imbalances, armed conflicts and the crisis in the Central American Common Market, but grew once again in the second half of the 1980s and the early 1990s. Except in Nicaragua and Honduras, the share of such exports in total exports increased, reflecting the general trend towards modernization of the export structure and reduction of the vulnerability of the balance of payments to fluctuations in the prices of traditional exports. The qualitative improvement in the export structure has been only limited, however. On the one hand, the role of non-traditional exports of agricultural origin has been maintained and in many cases has increased, while on the other hand, none of the countries have markedly increased the share of industrial exports that make intensive use of human capital or technology. Among the factors which have most influenced the performance of non-traditional exports are investment, the real exchange rate and, in the case of Costa Rica, fiscal incentives. Non-traditional exporters in Central America and the Dominican Republic have been more sensitive than their traditional counterparts to changes in relative prices. In order to promote exports, governments must maintain competitive real exchange rates and, since the size of the exportable supply is strongly dependent on investment, they must also maintain macroeconomic stability and apply policies that encourage domestic saving.

I

Introduction

The following section of this article (section II) contains a statistical analysis of the quantitative and qualitative changes in the non-traditional exports (NTE) of the five member countries of the Central American Common Market (CACM) and the Dominican Republic over the period 1970-1992, using a classification based on the extent to which they use the various factors of production (factor intensity). The evolution of NTE and of their composition indicates, on the one hand, an increase in the relative

importance of these exports, but on the other hand, the lack of any substantial progress towards the modernization of their structure. An econometric study is then presented on the main factors determining the evolution of NTE in the countries in question (section III), with emphasis on the role of investment and the real exchange rate. Finally, some brief conclusions are presented which sum up the main results and their possible economic policy implications (section IV).

II

Growth, composition and technology-intensiveness

1. Definition and classification of non-traditional exports

The evolution of the external sector in the Central American economies has been based historically on a very small number of traditional exports (cotton, sugar, coffee, bananas). Although these continue to have considerable relative weight, this has been going down over the last quarter-century and they now account for less than half of total exports of goods in most of the countries of the subregion.

Other primary export categories based on the exploitation of scarce and non-renewable natural resources, sometimes called "old non-traditional exports", now have a very stable presence in exports and –what is most important– their economic behav-

iour is very similar to that of the four traditional export products.¹

In view of the statistical and econometric objectives of this study, a uniform and relatively simple criterion, applicable to all the countries concerned, was adopted for the identification of old non-traditional exports. According to this criterion, which is based on the three-digit level of the Standard International Trade Classification (SITC), old non-traditional exports comprise cocoa, tobacco (unprocessed), spices, meat and live animals, shrimps and other seafood, wood, petroleum, leather, silver, lead and zinc. Along with bananas, coffee, cotton and sugar, these products make up the traditional exports group, while all other exports are non-traditional exports.² At this initial stage, no distinctions are made within the

□ This article is based on a study prepared as part of a research project, carried out in the ECLAC Subregional Headquarters in Mexico during 1995, on the degree of preparation of the small Central American and Caribbean countries for membership in a hemispheric integration treaty. The author wishes to thank a number of his colleagues for their comments and assistance, especially the critical advice given by Juan Alberto Fuentes, while making it clear that none of them bear any responsibility for any errors or shortcomings which may still exist in the text.

¹ The evolution of these industries is mostly affected by long-term trends and ecological links, and their production functions tend to be inelastic with respect to prices.

² For lack of homogeneous data based on the SITC, the series on the non-traditional exports of the Dominican Republic was reconstructed from statistical information taken from ECLAC studies. Although less rigorously comparable from the methodological point of view, this classification of non-traditional exports is conceptually similar to that used in the other countries studied.

group of non-traditional exports in terms of their geographical origin.³

In view of the limitations regarding the availability and comparability of historical data, this study has drawn its information on international trade flows from the Latin American and Caribbean External Trade Data Bank (BADECEL) developed by ECLAC. Because of the different methodologies used for collecting the information, the data on exports taken from BADECEL may differ from those given in country studies by ECLAC or other ECLAC databases. The main reason for using BADECEL is that it facilitates the breakdown of non-traditional exports into product groups at the SITC three-digit level, thus making it possible to identify the relative weight of non-traditional exports that make intensive use of technology and human capital.

Furthermore, the data for the Dominican Republic are different from those for the other countries because, since they come from BADECEL, they were obtained from different sources (including the *Economic Survey of Latin America and the Caribbean*, published by ECLAC).

2. Classification of non-traditional exports by sectors and factors

In this article, NTE were divided first of all into two main groups: agricultural and industrial. The first of these comprises vegetable and animal products without any form of processing (or, in some cases, with the basic processing typical of agroindustry),⁴ while all the others are industrial.

Four categories of industrial NTE were then established on the basis of their intensity of use of: i) human capital, ii) technology, iii) unskilled labour and iv) natural resources.⁵ This classification was originally proposed by Fukusaku (1992) in a study on trade among the Asian Pacific countries. Here, we are only interested in the first three groups in Fukusaku's classification, corresponding to manufac-

tures, for measuring the technology-intensiveness of NTE. Agricultural and agroindustrial products, which make up a substantial part of Central American NTE, are naturally excluded from this analysis of factor use. Moreover, Fukusaku's classification is based on the three-digit level of the SITC, so that it only permits a very partial approximation to the qualitative evolution of the subregion's exports, since it is not capable of identifying those forms of technical progress which do not involve a change from one category of product to another, but which have become increasingly important over the last two decades. In Central America, for example, the use of improved technology and the modernization of agricultural NTE have been very important phenomena.

With few exceptions –the most important of which is probably that of Chile in the 1990s– successful late-industrializing countries have sooner or later had to redirect their export structure towards increasingly sophisticated manufactures in order to keep up their market shares. Non-traditional exports which make intensive use of human capital and technology correspond to the most advanced and modern types of products, which tend to be in the fastest-growing segments of world markets. The evolution of their relative weight is therefore an indicator of the technology-intensiveness of such exports and makes it possible to predict a country's capacity to penetrate export markets.

However, manufactured NTE making intensive use of unskilled labour –essentially textiles and clothing– are usually those that grow fastest in countries like those covered by the present study, which so far only show a very modest level of industrial development.

3. Main similarities and differences

The growth of NTE as a whole between 1970 and 1992 was greatest in Panama and Costa Rica, only mediocre in El Salvador, Honduras and Guatemala, and lowest in Nicaragua (the only one of the countries studied where such exports, measured in current U.S. dollars, actually went down).⁶

The long-term performance of all the Central American countries was severely affected by the crisis of the 1980s: in the critical 1980-1986 sub-period (1978-1986 in the case of Nicaragua), NTE went

³ In this respect, this study differs from most of the other studies on the non-traditional exports of the Central American countries because they do not generally consider exports to neighbouring countries as being non-traditional.

⁴ According to the three-digit level of the SITC, these NTE correspond to groups 001 to 245 (excluding of course those classified as traditional), plus groups 291 and 292 (crude animal and vegetable materials).

⁵ The total of these four groups is less than the global total for industrial NTE.

⁶ The statistical trends referred to in this section are based on the figures in table 1.

TABLE 1

Central America and the Dominican Republic: Growth, composition and technology-intensiveness of non-traditional exports (NTE)
(Percentages)

	Growth rate ^a		Share of NTE in total exports		Share of agricultural NTE in total NTE		Share of advanced manufactures in NTE		Share of subregional market in NTE		Share of United States market in NTE	
	1970 1992 (1)	1980 1986 (2)	1970 1992 (3)	(4)	1970 1992 (5)	(6)	1970 1992 (7)	(8)	1970 1992 (9)	(10)	1970 1992 (11)	(12)
Costa Rica	12.7	7.1	18.3	48.8	15.9	31.9	28.2	20.0	55.8	24.9	5.8	37.7
El Salvador	3.5	-11.2	48.5	58.8	6.0	20.7	16.8	14.2	36.3	71.6	5.8	10.8
Guatemala	7.0	-12.9	34.7	46.8	30.6	36.8	9.7	5.8	54.3	60.9	4.7	18.5
Honduras												
(1978-1986)	6.1	-17.5	26.5	25.9	21.7	36.0	5.6	6.8	33.7	21.6	24.0	46.9
Nicaragua	-1.2	-17.7 ^b	27.3	19.7	35.1	39.8	19.8	4.3	57.3	53.4	8.0	10.7
Panama	14.3 ^c	4.7	6.6	30.6	31.7	42.3	6.3	9.2	50.0	33.2	7.8	41.5
Dominican Republic	7.5 ^d	9.0	...	...	...	...	...	...	...	...	...	...

^a Growth rate of NTE in current U.S. dollars (1970-1992).

^b 1978-1986.

^c 1970-1993.

^d 1973-1993.

down in all the CACM countries, although the decline was not uniform, since it was especially serious in Nicaragua and Honduras but relatively milder in Costa Rica, while NTE continued to expand in Panama, albeit more slowly.

Between 1970 and 1992, the share of non-traditional exports in total exports increased in most of the countries studied. El Salvador continued to have the "least traditional" export structure: NTE formed almost half the total in 1970 and a little under 60% in 1992. The most striking change was in Costa Rica: there, the share of NTE in total exports, which was only 18% in 1970 (the lowest of the five CACM countries), rose by over 30 percentage points to stand at almost 50% in 1992. In Guatemala the increase was not so great. The relative weight of NTE in the exports of Panama, which was particularly low in 1970, rose rapidly and amounted to over 30% in 1992. In Honduras and Nicaragua, however, the share of NTE went down (see table 1, columns 3 and 4).

The data also reveal an interesting and unexpected fact: in all the countries studied (with the possible exception of the Dominican Republic)⁷ the relative importance of agricultural NTE has been increasing. The figures reflect the different levels of success

achieved by the Central American countries in their efforts to modernize their respective export structures, but in all of them the development of NTE has shown a bias towards non-traditional agricultural products rather than growing specialization in manufactures. As already noted, this phenomenon was particularly marked in Costa Rica, where the share of agricultural products in total NTE doubled in the course of the period studied. At the end of the period, however, this share was even higher in Panama, Nicaragua, Guatemala and Honduras, although it had not grown so markedly as in Costa Rica. Even in El Salvador –the country with the export structure most oriented towards manufactures– the proportion of agricultural NTE in total NTE more than trebled over the period (see table 1, columns 5 and 6).

In all the countries studied, the growing specialization in agricultural NTE has not been accompanied by any clear qualitative improvement in the structure of manufactured exports. The values attained at the beginning and end of the period studied are given in table 1 (columns 7 and 8), through a simple indicator of qualitative industrial development: the proportion of "advanced" manufactured exports (those making intensive use of human capital and technology) in total NTE. In 1970, Costa Rica had the highest proportion, and it still retained this position at the end of the period, although a good deal less markedly. The relative weight of "advanced" manufactures went

⁷ It was not possible to study the evolution of the Dominican Republic's NTE systematically, for lack of data.

down slightly in El Salvador and quite markedly in Nicaragua. In the other countries, where this indicator had begun the period at a very low level, it went down still further in Guatemala and rose only marginally in Honduras and Panama.

The relative importance of the subregional and United States markets for NTE evolved differently among the countries of the subregion over the period, even though all of them have increased the proportion of their exports sent to the United States in recent years. In 1970, the Central American countries sent all their NTE to other countries of the subregion, the only exception being Honduras, whose biggest market was the "rest of the world". At the end of the period, two countries (El Salvador and Guatemala) had increased their dependence on the CACM, while the others, especially Costa Rica and Panama, had reduced their dependence on the subregional market. The orientation of NTE towards the United States market was particularly marked in the case of Panama and Costa Rica, but not so pronounced in the case of El Salvador, Guatemala and Nicaragua (see table 1, columns 9 -12).

Finally, the Dominican Republic's non-traditional export activities have been marked by the dominance of the free zones on the one hand and the United States market on the other. Other NTE have been on a relatively minor scale and have not yet recovered fully from the slump suffered in the early 1990s.

4. Possible explanations of these similarities and differences

Among the countries studied, Costa Rica and Panama have been the most successful in expanding their NTE over the period. The long-term growth rate was slightly higher in Panama than in Costa Rica, but if we take into account the fact that Costa Rica suffered the impact of the Central American crisis and managed to modernize its export structure more than Panama, then its global performance was probably better. Although the fiscal costs of the Tax Credit Certificates (CAT) programme have been questioned, it is also true that Costa Rica's export promotion policy did succeed in achieving its main objective.

The other Central American countries suffered the impact of the armed conflicts and the collapse of the subregional market in the first half of the 1980s much more severely than Costa Rica. All of them have shown signs of recovery in more recent years,

but none of them have completely got over the effects of the crisis. According to their respective NTE performances in 1986-1992, the most promising prospects are in El Salvador and Guatemala, but the outlook is still very gloomy in Nicaragua.

Except for Nicaragua and Honduras, all the countries studied modernized their export structure during the period, at least in terms of becoming less dependent on traditional exports. The most successful in this respect was Costa Rica.⁸ The "development model" for NTE, which is very similar in all the countries, has been marked by growing importance of agricultural NTE and the absence of any clear trend of manufactured exports towards technologically more advanced branches.

Since the second half of the 1980s, the importance of the United States as a market for the Central American countries' NTE has been increasing, especially as a result of the better access conditions provided by the Caribbean Basin Initiative (CBI) and other preferential trade openness measures taken by the U.S. Government. The subregional market continues to be most important for El Salvador, Guatemala and Nicaragua, however.

The pattern followed by the Dominican Republic has been different from that of the CACM countries, although in the latter, too, growing importance has been assumed by in-bond assembly activities ("maquila") on the one hand and the United States market on the other. The steady expansion of the assembly industry does not seem to have transmitted any major multiplier or anticyclical impulses to the rest of the Dominican economy, at least up to the early 1990s. In view of the modest performance of the domestically-owned NTE activities in recent years, there do not seem to have been any significant transfers of technology from the free zones to the rest of the economy. Consequently, the extremely dichotomous strategy of openness to the exterior applied by the Dominican Republic does not escape the criticisms traditionally levelled against this kind of development model.

⁸ In 1992, El Salvador still had a bigger proportion of NTE in its total exports than Costa Rica, but the growth of that share over time and the growth of NTE as a whole were much less dynamic. Furthermore, El Salvador's continuing dependence on industrial exports to the rest of the subregion suggests a lower overall level of competitiveness than in the case of Costa Rica (which has successfully directed its exports to the United States market), unless the Central American integration process receives a big boost in the near future.

III

Decisive factors for non-traditional exports

1. Econometric studies on the exports of Central American and Latin American countries

Although no general econometric study has been made of the factors that most influence the evolution of the NTE of the Central American countries and the Dominican Republic, there are studies on individual countries, such as Costa Rica. There are also other analyses of the problems of intra-Central American trade and regional integration (Cáceres, 1994; ECLAC Subregional Headquarters in Mexico, 1995) which, although not directly aimed at estimating an export function for NTE, nevertheless contain interesting quantitative results which may usefully be compared with those given here.

Moguillansky (1995) refers to a number of econometric studies on the factors which determine the evolution of exports in various Latin American countries.⁹ Although some of these studies make references to a theoretical framework in which two of the factors explaining export supply are production capacity and its level of utilization (see Moguillansky, 1995, equation on p. 96), no other study reviewed by Moguillansky directly considers investment as an explanatory variable in the equation, as is done in the present study.

Cáceres (1994) presents a study on the costs and benefits of Central American integration which forms part of an extensive tradition of studies on this matter.¹⁰ Cáceres' analysis, which is based on various quantitative exercises, contains interesting observa-

tions on the respective roles of intra-regional and extra-regional exports and their interaction with other macroeconomic variables: extra-regional exports, in contrast to intra-regional ones, are a key factor in national saving in Guatemala, El Salvador, Honduras and Costa Rica;¹¹ the multiplier effect of integration through greater intra-regional exports is not homogeneous, since Guatemala and El Salvador are the main beneficiaries, while Costa Rica is relatively penalized by its peripheral geographical location; in spite of the modest level of industrial development of the Central American countries, the weight of intra-industry trade is substantial and growing; and intra-regional exports are positively correlated with extra-regional ones, and the former can serve as a learning phase for companies before embarking on the latter.

A global study on the present state and future prospects of Central American integration (ECLAC Subregional Headquarters in Mexico, 1995) presents the results of a gravity model which explores the determining factors in intra-CACM trade. The analysis of bilateral flows covers the periods 1978-1986 and 1987-1993. The existence of a subregional trade preference agreement favoured intra-regional imports and GDP growth¹² in both importing and exporting countries. In contrast, depreciation of the bilateral exchange rate and greater distance had a negative effect on trade. It is interesting to note that the coefficient of the variable representing the existence of a subregional trade agreement was smaller in the second period than in the first, which may indicate progressive erosion of regional preferences due to the process of general trade liberalization carried out in the CACM countries.

⁹ Navajas (1993) on Argentina; Zini (1988) on Brazil; Villar (1992) on Colombia; Gaba and Araya (1993) on Costa Rica; Moguillansky and Titelman (1993) on Brazil, and Peñaloza (1988) on Mexico. The results of these studies (many of which have not been formally published) and of other econometric studies on Latin American exports were also commented upon in ECLAC, 1995, chapter IV.

¹⁰ These studies include many documents and articles produced by the ECLAC Subregional Headquarters in Mexico and the Permanent Secretariat of the General Treaty on Central American Economic Integration (SIECA), as well as other publications cited by Cáceres, including Cáceres and Quintanilla (1990), Laumas (1982) and Webb and Feckler (1993), which refer more specifically to exports.

¹¹ This means that there must be a causal relation in both directions between extra-regional exports and saving, since the latter (through investment) is also a key factor in the level of exportable supply. This question is important and could well be addressed in future studies.

¹² In the early 1980s, the decline in per capita GDP caused by the Central American crisis had a strong negative impact on intra-regional trade.

2. Factors influencing the evolution of non-traditional exports

In theory, there are various factors which could have affected the evolution of NTE in Central America and the Dominican Republic. As we shall see below, however, only some of them can be represented in the structure of relatively simple econometric models.

a) *Investment*

The behaviour of investment has a direct effect on the expansion of production capacity. Furthermore, non-traditional export-oriented activities are among the youngest sectors of the economy and are therefore linked with the most recent investments.

In general terms, governments can foster the animal spirits of the private agents in many different ways. Thus, they can increase public investment in infrastructure and services, attracting private productive investment, or else they can increase the country's saving and investment capacity through monetary and fiscal policies and specific measures designed to generate forced saving (by implementing compulsory retirement saving schemes, for example).

Alternatively, they can use exchange-rate, fiscal and trade policies to cause relative prices to evolve in a manner which does not adversely affect the profitability of production activities (especially those oriented towards exports); likewise, they can relax or tighten controls on capital movements to promote foreign direct investment or induce domestic capitalists to invest in production activities because of the risks associated with speculative operations, either at home or abroad.

Obviously, many of these policies can only be effectively applied by a strong, autonomous government which has a clear strategy and a competent public administration.

b) *The exchange rate*

Leaving aside its influence on investment flows as a whole, the real exchange rate is the macroeconomic price which most directly affects the relative profitability of exports. Such profitability may also be increased by export subsidies, when they exist.¹³

¹³ It is more difficult to express the effect of industrial and sectoral policies, because they have an indirect impact on exports. As the success of the recently industrialized Asian countries has shown, and—in the opposite sense—the many frustrated efforts made in the developing world as a whole, if industrial and incentive policies are to be effective they must be well managed, properly focussed on specific objectives, they must be of limited duration and must not be discriminatory, and they must be in keeping with the general line of macroeconomic policy.

c) *Trade policies*

The trade policies applied by a country affect the availability and price of imported capital goods and inputs and, hence, the effective rate of protection of export-oriented activities. The trade policies of other countries naturally affect the access to and profitability of potential export markets. International trade agreements can significantly reduce the negative effects of protectionism.

d) *The systemic determinants of competitiveness*

A number of institutional factors are of decisive importance for the long-term development of production activities that can compete on the international market and for economic modernization in general. They include the maintenance of macroeconomic order and stability;¹⁴ the creation and development of systemic economies of scale in the fields of information, transport, marketing and credit; and the existence of a relatively competitive market structure. The availability of skilled labour, and of human capital in general, has also been acknowledged to be a decisive factor related in the long term with the educational and social policies of the government and, indirectly, with income distribution.

e) *Exogenous factors*

Finally, exogenous factors of an economic nature (such as international crises) and of a non-economic nature (such as natural or man-made disasters) also affect exports, just like any other economic activity. Thus, civil war had a very severe impact in Nicaragua and El Salvador and also adversely affected Guatemala, Honduras and Costa Rica. In other words, all the Central American countries suffered a decline in subregional trade, partly because of the armed conflicts.

¹⁴ It has been shown, for example, that uncertainty over the level of the real exchange rate has a negative effect on the exports of developing countries (see Caballero and Corbo, 1989; Alonso, 1993; Paredes, 1989). More specifically, a recent World Bank study has shown that the long-term instability of the real exchange rate has been markedly greater in the Central American countries than in most of the Asian countries. It goes on to argue that this factor helps to explain the very different economic performances of these two groups of economies (Leamer, Guerra, Kaufman and Segura, 1995, section VIII).

3. Econometric analysis

a) *Costa Rica*

In Costa Rica, which is the Central American country least affected by armed conflicts and which has also been free from extreme macroeconomic disturbances, the econometric analysis of NTE gave the most reliable and coherent results, in spite of the shortcomings in the database (table 2). Previous econometric studies (Araya, 1994; Hoffmaister, 1992) have shown that the coherent policy of incentives for non-traditional exports to markets outside the subregion applied by that country from the mid-1970s to the early 1990s did indeed have a substantial positive impact on NTE.

In order to measure the role of incentives, two different methodologies were applied in the present study which gave fairly similar results. The first method was to add to the right side of the equation a variable representing the logarithm of the ratio between the incentives paid to exporters of non-traditional products –tax credit certificates (CAT)– and the value of NTE in each year (Araya, 1994, table 1, p. 37). The second method was that used by Araya, which consists of incorporating the effect of such incentives in the measurement of the real exchange rate, assuming that their ultimate effect is to increase the profitability of exports. The resulting explanatory variable is the logarithm of the adjusted exchange rate (table 2). Since CATs were granted only for exports outside the subregion, it was considered appropriate to carry out regressions with this second method using only NTE to markets outside the subregion as a dependent variable. Tests were made with the first method using the same dependent variable, but also using total NTE.¹⁵

In order to measure the effects of the exchange rate, fixed investment and incentives, three basic regression models were chosen, using the least common squares method. In the first model, the logarithm of NTE to markets outside the subregion was

regressed on the three explanatory variables (also expressed as logarithms): the real exchange rate, fixed investment and incentives. The best results were obtained with a specification which includes the logarithm for the exchange rate lagged by one year and a two-year mobile average of the investment logarithm. All the coefficients of the explanatory variables are significant, and the equation complies with the standard econometric tests.

The elasticities with respect to the adjusted exchange rate and fixed investment are greater than 0.6, which reflects the notable impact of exchange rate policy and investment activity on the performance of NTE to markets outside the subregion. The elasticity of the incentives variable is 0.26, which indicates that an incentive of 1% (with respect to the total value exported) results approximately in an increase of 1/4 of 1 percent in exports to markets outside the subregion.

If we add the effect of the Caribbean Basin Initiative (CBI) with the alternative methodology, using the adjusted real exchange rate which takes into account the effect of the incentives, the reliability and coherence of the equation are greater and it is possible to identify the positive effect of the implementation of the CBI on the access of Costa Rican exporters to the United States market. NTE to markets outside the subregion were regressed on the two-year mobile average of the adjusted exchange rate, on fixed investment lagged by one year, and on the CBI dummy variable, whose value is 1 in 1984-1993 and 0 in earlier years. The coefficient of the adjusted exchange rate is greater than unity, indicating that exports to markets outside the subregion have been very elastic to the combined effect of the real exchange rate and incentive policies; the coefficient for investment is also high (0.9%), and the coefficient for the CBI is smaller but nevertheless significant, suggesting that the implementation of the CBI has had a noteworthy positive impact on the evolution of Costa Rica's NTE to markets outside the subregion.¹⁶

¹⁵ A dynamic error correction model was also constructed, with the first difference of the dependent variable on the left side of the regression equation and its lagged value, together with the prime differences and the lagged values of the exogenous variables, on the right side, following the methodology used by Moguillansky and Titelman (1993) in their econometric study on Chile's copper exports. The T statistics of the variables of the dynamic model were not significant, however, and neither were the adjusted values of F and R² satisfactory. This negative result suggests that the impact of the explanatory variables on the evolution of NTE can only be measured in the short term.

¹⁶ The dummy variable technique only indicates a change of level in the regression function over a certain period of time and then incorporates any other factor, other than the implementation of the CBI and other trade policy measures, which may have improved access to the United States market and affected the behaviour of the dependent variable. Among these factors, we should probably take into account the improvement in the Costa Rican economy as a whole after the mid-1980s.

TABLE 2

**Central American Common Market and Dominican Republic:
Coefficients of the explanatory variables and statistical tests
of the regressions resulting from the selected models^{ab}**

	Real exchange rate (RER)	Fixed invest- ment	Central American GDP	CAT ^c	WAR ^d	CBI ^e	GDP	Adjusted R ²	Durbin- Watson statistic	F statistic
Costa Rica (I)	0.61 (2.50)	0.64 (3.33)		0.26 (3.19)				0.76	2.37	21.60
Costa Rica (II)	-1.18 (-2.64)	0.90 (6.07)				0.37 (2.37)		0.84	1.97	38.33
Costa Rica (III)	-0.78 (-3.52)	0.53 (4.57)	0.69 (2.24)					0.84	2.19	36.25
El Salvador	0.80 (3.67)	0.45 (3.73)			-0.27 (-2.66)			0.83	2.06	35.47
Guatemala		0.67 (5.73)						0.60	2.12	32.82
Honduras	1.48 (3.36)	0.76 (2.66)						0.49	1.34	11.07
Nicaragua	-0.58 (-3.42)	-0.48 (-2.37)			-1.20 (-5.16)			0.78	1.22	24.58
Dominican Republic	0.63 (4.23)	0.99 (5.33)					-0.41 (-2.78)	0.65	1.90	13.18

^a As noted in the text, the specification of the models is not completely uniform for all the equations. The main differences are the following:

- In models (I) and (II) for Costa Rica, the dependent variable is the value of NTE to markets outside the subregion. In the other models it is the value of total NTE.
- In models (II) and (III) for Costa Rica, the RER variable corresponds to the adjusted real exchange rate, which incorporates the effect of incentives.
- The RER variable was obtained by different methodologies in different equations because of the lack of homogeneity of the statistical information. For this reason, the coefficients are positive in some models and negative in others. The signs obtained are always in keeping with theory, however.
- In the model for Nicaragua, the investment variable corresponds to private investment. In all the other models it corresponds to total fixed investment.
- In some models the real exchange rate and/or investment are given with a one-year lag and/or as two-year mobile averages.

^b The figures in parentheses are T statistics.

^c CAT = Incentives (as a proportion of value of NTE).

^d WAR = Dummy variable with a value of 1 in periods of armed conflict.

^e CBI = Dummy variable with a value of 1 during period of implementation of the CBI.

The partial elasticities of NTE to markets outside the subregion with respect to the real exchange rate and the incentives variable in the first model and with relation to the adjusted real exchange rate in the second, indicate that the economic agents actively

respond to the combined effect of the real exchange rate and export subsidies on the profitability of NTE. This result suggests that exchange rate and incentives policies which affect the price of exports in real terms can be very effective for promoting exports.¹⁷

¹⁷ When taken separately, on the other hand, exchange rate and subsidies policies may be more or less efficient from a macroeconomic point of view. According to the results of the empirical analysis made by Hoffmeister (1992), the fiscal cost of export subsidies in Costa Rica has been high, and the same degree of promotion of NTE could have been obtained more efficiently from the macroeconomic point of view through more rapid de-

preciation of the nominal exchange rate. The results of the first model presented in this section corroborate this position to some extent, taking into account the fact that the half-elasticity of NTE to markets outside the subregion with respect to the real exchange rate is more than double the half-elasticity with relation to the incentives variable.

In order to take into account the effect of the subregional demand for imports, another model includes the logarithm of total NTE as a dependent variable, and on the right side it has the adjusted exchange rate and investment lagged by one year, plus an extra variable which serves as an approximation to the subregional demand for imports. This latter variable is the logarithm of the Central American GDP. The adjusted exchange rate and investment are significant variables, and their coefficients are lower than those of the model in which the dependent variable is the value of NTE to markets outside the subregion. In the case of the adjusted exchange rate, the result was to be expected, as the impact of incentive policies was felt only by a portion (NTE to markets outside the subregion) of total NTE. The lower investment coefficient suggests that most of the investments in the export sector went to create production capacity for exports to markets outside the subregion.

Finally, the significance of the subregional GDP variable and the fact that its coefficient is quite high (0.7) indicate that the subregional NTE are strongly dependent on the evolution of global demand from the Central American trading partners, at least in the case of Costa Rica. The fact that it was not possible to reproduce this result for the other countries studied may indicate that the structure of Costa Rica's NTE to the rest of the subregion is more "modern" and hence more elastic with respect to price and demand than that of its neighbours, where the level of NTE to markets outside the subregion corresponds essentially to the level of supply determined by domestic factors.

b) *El Salvador*

As in the case of Costa Rica, in El Salvador the econometric analysis of the factors determining the evolution of NTE gave the most significant results. The model chosen (estimated as usual using the least common squares method) is linear-logarithmic, with total NTE as an endogenous variable and the real exchange rate and fixed investment (both lagged by one year) as explanatory variables. A dummy variable for the war years 1981-1991 was also significant, indicating that the armed conflict substantially affected the export development of El Salvador. The adjusted R^2 is high (0.83) and reflects the fact that most of the variability of the dependent variable is effectively explained by the model. The regression passes the standard econometric tests.¹⁸

The half-elasticity of NTE with respect to the real exchange rate is greater than in Costa Rica, indicating a high degree of sensitivity of the economic agents to changes in the profitability of export activities. This result suggests that policies aimed at maintaining a competitive real exchange rate can be very effective for promoting exports. The fixed investment coefficient is lower than in Costa Rica, which would appear to indicate that in El Salvador a relatively minor portion of investment is destined for export activities.

c) *Guatemala*

In the case of Guatemala's NTE, the real exchange rate did not display much explanatory value, possibly because most international transactions are effectively carried out at exchange rates other than the official rate.¹⁹

The best results were obtained through a linear-logarithmic model, with total NTE as an endogenous variable and fixed investment as the only explanatory variable. The regression passes the standard tests, but the adjusted R^2 comes to only 0.60, indicating that the model explains less than two-thirds of the variability of NTE. Thus, although the investment coefficient is higher than in the case of El Salvador, this cannot be interpreted as an elasticity in the strict sense, since it probably incorporates the influence of missing variables. Nevertheless, the model indicates that the evolution of investment has a strong impact on the behaviour of NTE.

d) *Honduras*

The regression analysis gave particularly weak results for Honduras. The relatively most acceptable model was a linear-logarithmic model with total NTE on the left side of the equation and total fixed investment and the real exchange rate on the right side. The coefficients of the explanatory variables are significant, and the regression passes the standard econometric tests.

¹⁸ In the case of El Salvador, too, neither the model with NTE to markets outside the subregion as an endogenous variable nor the error correction model gave significant results.

¹⁹ In the case of the real exchange rate, the data may lead to the wrong conclusions because of the existence of transactions on the black market. Exporters would have gained by using this market to convert their foreign exchange instead of the official market. The diversion of foreign exchange to the black market may have taken place through under-valuation of exports or through three-way trading transactions within the CACM (Colindres, 1993).

The adjusted R^2 is low, however (0.49). This indicates that NTE are linked with investment and the real exchange rate in the orthodox manner, but about half of the variability of NTE is attributable to other factors,²⁰ which could not be incorporated in the model.

e) *Nicaragua*

In the 1980s, the long civil war, accompanied by foreign intervention, led to the total collapse of the Nicaraguan economy, and no recovery was to be glimpsed even in the early 1990s. Naturally, NTE did not escape from the general deterioration in production activities.

For these reasons, it was only to be expected that the results of the regressions for Nicaragua could not reflect a stable model and were strongly affected by non-economic factors. The most reliable and coherent model was one in which the most significant explanatory variable, which also has the highest coefficient, is a dummy variable expressing the effect of the long armed conflict, with a value of 1 for the years 1979-1993 and 0 for all previous years. NTE are also negatively linked with the logarithm of the real exchange rate. Thus, the destruction caused by the conflicts and the distortions in relative prices reflected in the overvaluation of the córdoba (especially in the 1980s) go a long way towards explaining the unfavourable evolution of the Nicaraguan NTE.

More surprising is the fact that the logarithm of private investment is also significant and shows a negative, although small, coefficient. This result is probably due to the extraordinary distortions prevailing in the Nicaraguan economy during most of the period studied, which did not allow private investment to play a positive role in the promotion of exports.

f) *Dominican Republic*

The most reliable and coherent model for the Dominican Republic gives three interesting results. The investment coefficient (represented by the mo-

bile average of fixed investment lagged by one year) is very high and close to unity. The coefficient for the real exchange rate is high (0.63) and in line with the theory. The general level of activity (represented by the logarithm of GDP) is a significant explanatory variable (the only case among the countries studied) and its coefficient is negative.

Thus, on the one hand there is a very strong positive correlation between investment and NTE, which probably reflects a marked export orientation on the part of domestic and foreign investors. On the other hand, the negative correlation between NTE and GDP may reflect a kind of crowding-out between domestic and external demand. This phenomenon, which has been demonstrated in the case of such a large and highly industrialized country as Brazil,²¹ seems very unusual in the case of this Caribbean island country, with its small economy and an export structure specializing in the production of goods mainly intended for external markets. The reliability and coherence of the equation is moderately satisfactory (adjusted $R^2 = 0.65$).

g) *Panama*

Panama is the only one of the countries studied for which it was not possible to construct an acceptable regression model for explaining the evolution of NTE. This negative result may be due to the marginal role of NTE in the Panamanian economy, whose external sector is dominated by financial and service activities.

4. Comparative analysis of the results obtained for Central America and the Dominican Republic

The basic interpretative hypothesis, according to which the level of investment and the relative profitability of export-oriented activities (represented, as a substitute variable, by the real exchange rate and, in the case of Costa Rica, by export incentives) are the main economic factors for explaining the evolution

²⁰ Some of these unknown factors were probably of a non-economic nature. An attempt was made to take in the negative effect of the armed conflicts of the 1980s through a dummy variable, but it was not possible to obtain significant results.

²¹ According to the results of the econometric analysis made by Moguillansky (1993), Brazil's industrial exports are negatively linked with GDP, which suggests that the domestic and export markets are interchangeable and that production is transferred to export markets in periods of low domestic demand.

of NTE,²² was confirmed in the countries studied. The corresponding variables were significant and had a sign in keeping with the theory in all the models except those for Guatemala and Nicaragua. In these two countries, the results are probably due to extra-economic factors, such as the scant practical relevance of the official exchange rate in the first-named country and the disorganization caused by the armed conflict in the second.

The coefficients of the real exchange rate were particularly high in the models for Honduras and El Salvador, indicating that in these two countries exchange rate policy could be particularly effective for promoting the expansion of NTE. Except in Honduras (where the most reliable and coherent model was not very robust) the half-elasticities of NTE with respect to the real exchange rate are less than unity, indicating that a competitive real exchange rate is a necessary but not of itself sufficient condition for the expansion of exports. This result is in keeping with those of other studies carried out in a number of Latin American countries, where exports were also found to be inelastic with respect to the real exchange rate. Both in the case of the present study and in that of the studies reviewed by Moguillansky (1995), there are basically two reasons explaining this inelasticity. First, NTE (or even more so, total exports, as may be seen in most of the studies referred to) consist of heterogeneous groups of goods in which those which are relatively "traditional", and hence rather inelastic with respect to price, have considerable weight.²³ Second, in Latin America there is a lack of many conditions other than

price which could promote a more elastic response by potential exporters to better conditions of profitability: these conditions mostly belong to the fields of credit, technology, human resources and infrastructure.²⁴

In view of the basic coincidence between the present results and those of the studies examined by Moguillansky, some of the conclusions of the latter author on export promotion policies in Latin America are probably also applicable to the countries studied in the present article too. They include in particular the following: stability of the real exchange rate (and of incentives, if they exist) is a very important factor for stimulating exporters; tariff reduction policies definitely have a positive effect on the competitiveness of exports, but after the initial effect has been exhausted they cease to be an important factor in the evolution of exports, since the domestic and external markets may compete for the use of scarce inputs and investment goods, and finally, in contrast with the small-country hypothesis, in some cases external demand may become a limiting factor on the expansion of industrial exports (in the countries studied, the results obtained indicate that this might be true only for exports within the subregion).

With regard to investment, the highest coefficients were those of the Dominican Republic model and one of the models for Costa Rica. This could indicate that in these countries –the two countries which have been most successful in exporting non-traditional products to markets other than the CACM– a higher share of investment was made in that part of the export sector oriented towards world markets, and/or the investment was more efficient than in other countries.

²² Through the saving they generate, the bigger exports also help in the growth of investment. Within the analytical framework used in the regression exercises, however, in almost all the models the variables representing investment are lagged, which means that there is only a one-way causality from investments to exports.

²³ According to the results of the studies on total exports, exports of manufactures are highly elastic and rapidly adjust to changes in the real exchange rate. The opposite is true, however, of agricultural exports. As the present study considers only NTE as a dependent variable, and the definition of NTE adopted only

includes the most "modern" branches of agricultural production, this result does not necessarily apply to the present analytical framework.

²⁴ See Moguillansky, 1995, p. 97. This author also notes that in econometric studies by Balassa and Williamson (1989) and Riedel (1986) on South Korea and Hong Kong –countries where, in general, the systemic conditions of competitiveness already referred are considered to be satisfied to a greater extent than in Latin American– high elasticities of exports with respect to the real exchange rate were found, considerably over unity.

IV

Conclusions

In most of the countries studied, NTE increased their share in total exports. On the one hand, however, the role of agricultural NTE has been maintained and in many cases strengthened, and on the other, industrial NTE have not evolved towards the branches making intensive use of human capital and technology. These tendencies indicate that the modernization of the export structure of the countries of the subregion has been only partially successful, since their place in the international division of labour continues to depend mainly on relatively vulnerable sectors of low dynamism.

The econometric analysis showed that the main quantifiable factors determining the performance of NTE were investment, the real exchange

rate and, in the case of Costa Rica, fiscal incentives. The sensitivity of non-traditional exporters to changes in relative prices confirms the importance traditionally attached to the maintenance of a competitive real exchange rate. At the same time, however, as the size of the exportable supply is strongly dependent on investment, it is also of fundamental importance that governments should maintain macro-economic stability and promote policies which encourage domestic saving. With regard to the viability and desirability of selective-type industrial development or export promotion policies, the methodology used in this study did not allow any definitive conclusions to be reached.

(Original: Spanish)

Appendix

1. Availability of data and non-significant tests

Because of the limitations of the database, many factors could not be suitably quantified for the econometric analysis. No long-term detailed data were available on the trade policies of the Central American countries. A test was made, however, by adding average tariff series as additional explanatory variables in the regression analysis. According to neoclassical theory, protection from imports should have unfavourable repercussions on the level of exports, since it would result in price distortions and, in particular, in more expensive and poorer-quality inputs for export activity. According to an alternative viewpoint, however, if the protection is applied selectively and is accompanied by suitable industrial policies, the net impact of these distortions on exports could actually be positive. As was to be expected, the results of the tests on both these theories were not significant.

Nor were significant results given by the tests carried out with: dummy variables designed to express the effect of different policy lines in different periods of time; variables representing external demand constructed on the basis of total United States imports and the GDP of the CACM countries; and a dummy variable for the period 1984-1992 designed to take account of the effect of the opening-up of the United States market after the implementation of the Caribbean Basin Initiative.

The attempts to establish specific relations between exports within the subregion and the Central American GDP or the trade policies of the CACM through dummy variables did not give significant results either, the only partial exception being in the case of Costa Rica.

With regard to export incentives, detailed data were only available for Costa Rica, which is the only country which has applied them continuously for a considerable length of time. The real exchange rate is of little relevance when transactions are carried out on the foreign currency black market and there is over- or under-valuation of external trade, as seems to have occurred in Guatemala.

Finally, it may be noted that the dummy variables introduced into the regression equations to take account of the impact of the war were significant in the cases of El Salvador (1981-1991) and Nicaragua (1979-1993).

2. Econometric variables, techniques and tests

Various variables were generated and tested in the econometric analysis. Only some of them proved to be significant, and are given in the results of the regression shown in table 2. First, series were calculated for all the countries, at constant U.S. dollar prices, for total non-traditional exports (TNX), fixed investment (FI), private investment (PI) and GDP. Other series of NTE to subregional markets (TNXCA) and to markets in the rest of the world (TNXRW) were calculated for the five CACM countries. The logarithms of the variables obtained in the regression analysis were then used. Thus,

LTNX = logarithm of total non-traditional exports
 LFI = logarithm of fixed investment
 LTNXCA = logarithm of non-traditional exports to subregional markets
 LPI = logarithm of private investment
 LTNXRW = logarithm of non-traditional exports to markets outside the subregion (rest of the world)
 LGDP = logarithm of GDP.

In some cases, mobile two-year averages were also used for the variables representing investment:

AVLFI = 2-year mobile average of LFI
 AVLPI = 2-year mobile average of LPI.

In most of the countries, the real exchange rate (RER) was calculated on the basis of the nominal exchange rate, expressed in units of national currency per U.S. dollar, divided by the national consumer price index and multiplied by the United States consumer price index.

According to economic theory, it could therefore be expected that the elasticity of exports with respect to the real exchange rate would be positive.

In the case of Nicaragua, because of the difficulties involved in calculating the real exchange rate with the above methodology, on account of the hyperinflation prevailing in the 1980s, a reordered series for the real effective exchange rate calculated by the International Monetary Fund (IMF) was used. Because of the methodology used by the Fund, an increase in this indicator reflects real appreciation of the national currency, in contrast with the real exchange rate calculated for the other countries. For this reason, in line with economic theory it is probable that the elasticity of Nicaragua's exports with respect to the real exchange rate as calculated on the basis of the IMF series will be negative.

In the case of Costa Rica, a different methodology was used to represent the effect of export subsidies or to incorporate them in the calculations of the real exchange rate. First, a variable was calculated for each year, representing the incentives, that is to say, the relation between the export subsidies (tax credit certificates -CAT) and the value of non-traditional exports:

$$CATXOP = CAT/NTE$$

CATXOP is used as an additional explanatory variable in one of the models. In an alternative model, following Araya (1994), the adjusted real exchange rate was constructed on the basis of a measurement of the real effective multilateral exchange rate (ITCER) calculated by the IMF. As in the case of Nicaragua, ITCER is expressed in the number of units of national currency per unit of foreign currency and thus, according to economic theory, exports should be negatively linked with this variable. ITCER was then adjusted to incorporate the effect of the incentives by dividing it by $(1+CATXOP)$. This gave the adjusted real exchange rate ARER:

$$ARER = ITCER (1+CATXOP)$$

It would naturally be expected, in line with economic theory, that ARER -like ITCER- would be negatively correlated with exports (higher values of CATXOP, corresponding to lower values of ARER, should lead to smaller exports).

As in the case of RER, transforms of ARER were also used in the regressions:

$$LARER = \text{logarithm of ARER}$$

$$AVLARER = \text{2-year mobile average of LARER}$$

Only a few of the dummy variables were significant. For Costa Rica, a variable corresponding to the period in which the CBI was in force (1984-1993) helps to explain the evolution of NTE to markets outside the subregion. Another dummy variable, WAR, was included in the respective equations to take account of the disturbing effects of the armed conflicts in El Salvador and Nicaragua. For El Salvador, WAR has a value of 1 in 1981-1991 and 0 in the other years. In Nicaragua, where the economic impact of the armed conflicts has still not been overcome, WAR has a value of 1 in 1979-1993 and 0 in 1970-1978.

All the regressions were estimated by the least common squares method with logarithmic specifications. Dynamic models were also tried, but they did not give significant results, which suggests that the effect of the explanatory variables on NTE can only be determined in the short term. All the regression models which were finally selected passed the following standard econometric tests: the DW test, the LM serial correlation test, the Jarque-Bera normality test, the RAMSET stability test, and the CUSUM parameter stability test.

Bibliography

- Alonso, G. (1993): *Determinantes de la oferta de las exportaciones menores colombianas*, Santafé de Bogotá, Banco de la República (BRC), *mimeo*.
- Araya, R. (1994): Determinantes de las exportaciones no tradicionales de Costa Rica, *Comentarios sobre asuntos económicos*, No. 124, San José, Central Bank of Costa Rica, May.
- Balassa, B. and J. Williamson (1989): *Les réussites du Sud-est asiatique dans le commerce mondial: Corée, Hong Kong, Singapour, Taïwan*, Paris, Económica.
- Caballero, R. and V. Corbo (1989): The effect of real exchange uncertainty on exports: Empirical evidence, *The World Bank Economic Review*, vol. 3, No. 2, Washington, D. C., World Bank.
- Cáceres, L. (1994): Central American integration: Its costs and benefits, *CEPAL Review*, No. 54, LC/G.1845-P, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Cáceres, L. and S. Quintanilla (1990): Sector externo y ahorro doméstico: el papel de las exportaciones intrarregionales en Centroamérica, *Cuadernos de economía y finanzas*, No. 11, Tegucigalpa, Central American Bank for Economic Integration (BCIE).
- Colindres, Ana María (1993): Non-traditional exports in Guatemala, in W. Pelupessy and J. Weeks (eds.), *Economic Maladjustment in Central America*, London, Macmillan.
- ECLAC (1995): *Latin America and the Caribbean: Policies to Improve Linkages with the Global Economy*, LC/G.1800/Rev.1-P, Santiago, Chile. United Nations publication, Sales No. E.95.II.G.6.
- ECLAC Subregional Headquarters in Mexico (1995): *El regionalismo abierto en América Central. Los desafíos de profundizar y ampliar la integración*, LC/MEX/L.261, Mexico City.
- Fukusaku, K. (1992): *Economic Regionalisation and Intra-Industry Trade: Pacific-Asian Perspectives*, Technical Papers, No. 53, Paris, Organization for Economic Cooperation and Development (OECD).
- Gaba, F. and R. Araya (1993): Determinantes de las exportaciones globales de Costa Rica, *Comentarios sobre asuntos económicos*, No. 111, San José, Central Bank of Costa Rica.
- Hoffmaister, A. (1992): The cost of export subsidies, *Staff Papers*, vol. 39, No. 1, Washington, D. C., International Monetary Fund (IMF).
- Laumas, P. (1982): Exports and the propensity to save, *Economic Development and Cultural Change*, vol. 30, No. 4, Chicago, IL, The University of Chicago.
- Leamer, E., A. Guerra, M. Kaufman and B. Segura (1995): *Central America and the North American Free Trade Agreement*, Washington, D. C., World Bank, *mimeo*.
- Moguillansky, G. (1993): *Factores determinantes de las exportaciones industriales brasileñas durante la década de 1980*, Documento de Trabajo No. 22, Santiago, Chile, ECLAC.
- (1995): The impact of exchange-rate and trade policy on export performance in the 1980s, *CEPAL Review*, No. 55, LC/G.1858-P, Santiago, Chile, ECLAC.
- Moguillansky, G. and D. Titelman (1993): *Análisis empírico del comportamiento de las exportaciones no cobre en Chile: 1963-1990*, Documento de Trabajo, No. 17, Santiago, Chile, ECLAC.
- Navajas, F. (1993): *Una estimación de la función agregada de las exportaciones. Argentina 1970-1992*, Buenos Aires, ECLAC Office in Buenos Aires, *mimeo*.
- Paredes, C. (1989): *Exchange Rate Regimes, The Real Exchange Rate and Export Performance in Latin America*, Brookings Discussion Papers on International Economics, No. 77, Washington, D. C., The Brookings Institution.
- Peñaloza, R. (1988): Elasticidad de la demanda de las exportaciones: la experiencia mexicana, *Comercio Exterior*, vol. 38, No. 5, Mexico City, Banco Nacional de Comercio Exterior, S.N.C (BANCOMEXT).
- Riedel, J. (1986): *Price and income elasticities of demand for LDC exports of manufactures re-examined*, Washington, D.C., Johns Hopkins University, School of Advanced International Studies, *mimeo*.
- Villar, L. (1992): *Política cambiaria y estrategia exportadora*, paper presented at the XIII Simposio sobre el Mercado de Capitales, Santafé de Bogotá, Asociación Bancaria de Colombia (ASOBANCARIA), *mimeo*.
- Webb, M. and J. Fackler (1993): Learning and the time interdependence of Costa Rican exports, *Journal of Development Economics*, vol. 40, No. 2, Amsterdam, North-Holland.
- Zini, A.A. (1988): Funções de exportação e de importação para o Brasil, *Pesquisa e planejamento econômico*, vol. 18, No. 3, Rio de Janeiro, Institute of Economic and Social Planning (IPEA).