

# CEPAL

## Review

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## Review

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# Industrial restructuring, trade liberalization and the role of the State in Central America

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Industrial restructuring is a response of the industrial sector to a dynamic world. In open market economies, industries continuously adjust to technological change, to changes in fashion, and to changes in relative prices. It is a process that Schumpeter referred to as "creative destruction," i.e. the replacement of outmoded products and production techniques with new products and techniques.

During a long period of "inward" industrialization, tariffs shielded Central American industries from technological transformations occurring in the rest of the world. Now, however, industrialists in the region face sharp reductions in tariff protection and an economic "opening" that demands of them greater productivity, increased specialization, a more appropriate scale of production, and improved quality in the design, manufacture, distribution and service of goods.

Given the paucity of basic information concerning the conditions of production and the ability of Central American industries to survive import competition, the Industrial Development Unit of ECLAC's Mexico Office decided to implement Project CAM/89/012 "Industrial Restructuring in Central America: Diagnosis and Identification of Technical Co-operation Needs," financed by the United Nations Development Programme (UNDP) with funds from the Special Programme of Economic Co-operation for Central America (PEC). The purpose of the present paper is to describe the analytical framework of the Project and present the main empirical findings.

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## I

### Trade liberalization and industrial restructuring

Trade liberalization promises benefits in terms of an improved allocation of resources and greater efficiency in production, but these benefits are slow in coming. In the short run, a reduction of trade barriers implies costs due to a fall in output and employment in industries accustomed to high protection, but these costs tend to be lower than predicted for two reasons. First, if the reduction in import tariffs is accompanied by real currency devaluation, some industrial activities will survive, and even be able to export, despite lowered tariffs. Second, adjustment to trade liberalization can occur *within* the manufacturing sector, or even *within* specific industries or firms. This type of industrial restructuring is less costly, for example, than a transfer of resources from industry to agriculture. To illustrate the possible costs of trade liberalization, we will briefly examine the experience of Chile and Mexico before analysing the incipient trade liberalization in Central America.

#### 1. Chile<sup>1</sup>

The government of Chile began to dismantle its protective import barriers more than fifteen years ago; the experience is one that is cited frequently but erroneously as an example of the high cost of trade liberalization. A proper understanding of the Chilean case requires differentiation of four separate stages. In the first stage, from 1974 to 1976, the government eliminated import quotas, reduced import tariffs from a simple average in excess of 100% (largely redundant protection) to a maximum of 60% and an average of approximately 35%, and devalued the peso sharply in real terms. This reform did not affect Chilean trade, but the country entered a recession in 1975 due to a sharp fall in the price of copper (the main export commodity) and to anti-inflationary policies implemented by the government.

The second stage, from 1976 to 1981, involved considerable trade liberalization: the tariff

<sup>1</sup> This section is based largely on ECLAC (1990a), box IV.8, p. 85.

was gradually reduced until by mid-1979 it stood at 10% for all items except automobiles. Heavy external borrowing allowed the authorities to freeze the nominal exchange rate as a means of combating inflation: this produced overvaluation of the peso and an external shock. Between 1982 and 1984, in the third stage, the peso devalued 23% in real terms and tariffs increased from 10% to 35%. Finally, in the fourth stage, beginning in 1985, import tariffs were again lowered until a uniform tariff of 15% was reached in 1988.

In short, Chile actually experienced *two* periods of trade liberalization. One began in 1976 and ended in 1981. In this period, the Chilean peso *revalued*, in real terms, more than 75%, which was not favourable for the survival of a manufacturing sector accustomed to protection. Despite this overvaluation of the peso, exports of manufactures grew at more than 20% a year, while industrial production increased at an average annual rate of 6.5% (see table 1).

Table 1

**CHILE AND MEXICO: MANUFACTURING  
OUTPUT DURING PERIODS OF TRADE  
LIBERALIZATION**

(Annual percentage growth rates)

Year	Chile		Mexico
	1976-1981	1985-1990	1985-1990
1	4.9	0.1	7.0
2	10.1	8.3	-3.4
3	7.4	4.2	3.9
4	7.7	6.3	3.0
5	5.9	10.0	6.0
6	3.3	0.4 <sup>a</sup>	5.2

Source: ECLAC, based on official statistics.

<sup>a</sup> January-June of 1990 compared to the same period in 1989.

The second period of trade liberalization began in 1985 and continues today. The Chilean peso has devalued by 33% in real terms, and there are also other incentives for the export of new products. Between 1985 and 1988 traditional exports of manufactures (fish meal, pulp and paper) and exports of agricultural commodities grew at 21% a year whereas non-traditional exports of manufactures grew at 27%. Today, 20% of Chile's exports are non-traditional manufactures, including basic metals (5.4%), processed food (4.7%), wood

(4.4%), and chemicals (2.6%). At the same time, industrial production is growing rapidly (table 1).

The Chilean experience thus shows that trade liberalization can produce a restructuring of production *within* branches of industry, depending on the capacity of each to adjust to the new environment. In general, Chilean industrialists learned to compete and, apparently, became more efficient. Output fell in industries that were not able to resist import competition (for example, transport equipment and some electrical goods). Other industries, with great difficulty, were able to reduce their costs in order to compete with imports and even export (textiles, clothing, plastic products, white goods, capital goods). Others, despite a long history of protection, turned out to be relatively competitive: without major changes they were able to survive the removal of high import barriers (steel, petrochemicals, sugar).

## 2. Mexico

Trade liberalization has progressed at a very fast pace in Mexico, but has not yet gone so far as in Chile. The programme began in July 1985 with the substitution of tariffs for most import licenses. The maximum tariff was reduced from 100% to 50% at the beginning of 1986 and to 20% two years later. Only a few products remain subject to import licenses, namely basic grains, pharmaceuticals, automobiles and computers, and the government recently began to liberalize the importation of automobiles and computers.

At first, trade liberalization was accompanied by real devaluation of the Mexican peso, which inhibited any sharp increase in imports. Beginning in 1988, however, the peso has revalued continually in real terms, so that imports became more attractive and their competition was felt.

It is important to note that the Mexican tariff structure, unlike the Chilean, is not uniform: many of the imports are subject to very low, even zero, tariffs. Tariffs tend to be higher, the more processed the product, which implies that the *effective* protection of industries producing final consumer goods is higher than 20%. If the production of a particular good requires, for example, intermediate goods that, at international prices, cost half the value of the final good, then nominal protection of 20% implies effective protection of 30% if inputs

are subject to a 10% tariff, and 40% if inputs can be imported free of duty.

Trade liberalization has not had such a negative effect on Mexico's industrial sector as was originally feared. Except for 1986—a recession year attributable to a fall in the international price of petroleum—industrial production has shown satisfactory growth (see table 1). Not a single industrial branch is about to disappear as a result of trade liberalization. Between 1985 and 1988 non-oil exports (in dollars) grew at an annual rate of 6.8% and exports of manufactures at 13.4%.

Textiles and clothing is perhaps the branch of industry most affected by import competition. Tariffs were reduced, in December 1987, to 10% for fibres, 15% for cloth and 20% for clothing, yet employment (excluding *maquila* operations that make up and re-export imported cloth) fell only 7.2%, from 428 000 persons in 1985 to 397 000 in 1988, while the branch's contribution to gross domestic product fell 8.6%. Moreover, exports of textile products increased sharply, and the branch has maintained a positive trade balance (*El Mercado de Valores* (1990), pp. 26-36).

### 3. Central America

Thirty years ago, the countries of Central America merged their economies behind a common external tariff in order to promote the substitution of imports at a regional level. In the words of SIECA, "Central America, when it formed the Common Market, announced from the beginning an 'inward' policy of industrialization and development, and for this purpose conceived a number of instruments, the most important of which was a tariff that was clearly protectionist, together with a regime of [intra-regional] free trade" (SIECA, 1974).

In the beginning, substitution of imports within a protected common market produced growth. Manufacturing output grew at an annual rate of 8.4% in the 1960s: considerably higher than the 5.7% growth rate of the gross regional product (table 2), and as a result, the contribution of the manufacturing sector to the gross regional product increased from 12% in 1960 to more than 16% in 1970, reflecting the substitution of regional production for imports of final consumer goods. Eventually, however, the opportunities for "easy" substitution of imports were exhausted. Growth

rates fell in the 1970s, and still more in the 1980s, when the economies were affected by armed conflicts and by a drastic fall in intra-regional trade.

Table 2

#### CENTRAL AMERICA: MANUFACTURING VALUE-ADDED AND GROSS DOMESTIC PRODUCT

(Annual percentage growth rates at constant 1980 prices)

	1960- 1970	1970- 1975	1975- 1980	1980- 1985	1985- 1990
Central America					
Manufactures	8.4	6.1	4.4	-0.9	1.3
GDP	5.7	5.3	3.5	-0.6	2.3
Costa Rica					
Manufactures	9.2	8.9	5.9	0.2	4.4
GDP	6.1	5.8	5.1	0.2	4.5
El Salvador					
Manufactures	8.1	5.6	0.3	-2.5	2.7
GDP	5.6	5.4	0.8	-2.0	1.8
Guatemala					
Manufactures	7.6	4.8	7.7	-2.1	1.7
GDP	5.5	5.6	5.8	-1.2	2.8
Honduras					
Manufactures	7.0	6.8	6.2	1.0	4.6
GDP	5.0	3.8	7.1	0.6	3.3
Nicaragua					
Manufactures	11.1	5.9	-1.0	0.9	-9.4
GDP	6.9	5.1	-1.2	0.6	-5.0

Source: ECLAC calculations based on official data.

A number of Central Americans concluded that a strategy of "inward development" was not viable for the region because of the limitations imposed by a protected market that was very small, even taking into account the entire Central American region. For this reason they proposed tariff reform, and the government of Costa Rica was the first to promote it. In 1985 Costa Rica was able to convince other members of the Central American Common Market (CACM) of the need to establish a new external tariff with the following characteristics:

- i) *Simplicity*. Specific tariffs were eliminated; all were expressed in *ad valorem* terms.
- ii) *Flexibility*. Mechanisms for modification of the common external tariff were adopted that did not require legislative approval in each country.

iii) *Less protection.* Tariff rates were reduced on average, and exemptions were eliminated with the establishment of a 5% floor for imported inputs. To a large extent, what was reduced was redundant protection, i.e., that which was not needed by the industrialists.

The new tariff went into effect in three countries in 1986 and in the fourth (Nicaragua) in 1987. Honduras long ago decided to withdraw from the CACM's common tariff, and maintains its own protectionist tariffs.

In October of 1987 the government of Costa Rica unilaterally decreed a small reduction in import tariffs and established a programme of biannual tariff reductions to attain a maximum tariff of 40% at the end of 1990. For textiles, clothing and footwear, the programmed reductions are slower, but the goal is to reduce all tariffs on these products to 40% by the end of 1992. Even so, however, Costa Rica lost the lead in tariff reductions to El Salvador, for the government of that country announced in September 1989 its intention to implement a *uniform* tariff of 20% by the year 1994, and immediately reduced the maximum tariff to 50% while maintaining the "floor" of 5%. In March 1990 the maximum tariff fell to 35%, leaving El Salvador at that time with the lowest tariffs in Central America. In the same month, the Guatemalan government reduced its maximum tariff to 37%, creating a tariff structure quite similar to that of El Salvador, and in October 1990 the Nicaraguan government lowered its tariffs to a maximum of 20%: the lowest of Central America.

Until 1990, Honduras remained aloof from tariff reform, but the new government which took office in that year adopted a very ambitious programme in this respect. On 8 March 1990 it lowered the maximum tariff to 40% and established a floor of 2%. In January 1991 the maximum tariff was to fall to 35% and the floor to rise to 4%; by the beginning of 1992 the maximum rate would be 20% and the minimum 5%.

Paradoxically, Central American governments have encountered greater resistance to increases in low tariffs than to decreases in high tariffs. But this behaviour is understandable for two reasons. First, high tariffs often represent redundant protection, i.e., trade barriers so prohibitive that imports enter the country as contraband rather than passing through Customs. Secondly, low tariffs normally apply to inputs, not to final goods, and protection

of an input is equivalent to a tax on industrial activity.

The second point reflects the fact that the protection relevant for an activity is *effective* protection, i.e., the protection of value-added, and not nominal protection. This can be made clear with the help of the following example. Suppose that, at international prices, a pair of shoes is worth 10 Central American pesos and the leather needed in their manufacture, 6 pesos; the value-added of the shoemaker, at international prices, would then be 4 pesos (10 less 6). With a nominal tariff of 40%, the shoes could sell for 14 pesos, leaving 8 pesos (14 less 6) of value-added for the shoemaker. In this example, the *effective* rate of protection is 100%, because the value-added at domestic prices is double the value-added at international prices. Now, suppose the country is an importer of leather and collects a tax of 20% on imports of this input; the cost of leather to make a pair of shoes then increases from 6.00 to 7.20 pesos, the value-added in shoe-making drops from 8.00 to 6.80 pesos and effective protection falls to 70%. The shoemaker cannot evade this increase in costs by buying domestic leather of the same quality at a lower price, because the tanneries will take advantage of the tariff to increase their prices to those of the imported products, including the tariff. If the country exports leather, an export subsidy produces the same effect because the domestic price will rise to the level of the international price plus subsidy. (Indeed, this is what happens with high quality leather in Costa Rica). For this reason, shoe manufacturers do not favour export subsidies for leather, and even ask for export prohibitions so that the domestic price of leather may fall below the international price.

Only El Salvador has established a goal for protection in the long run, namely, a uniform tariff of 20%. Although this would result in a much lower level of protection than that currently in effect, it still implies considerable anti-export bias, for products would be worth 20% more at home than in export markets. In theory, the bias can be eliminated by subsidizing exports, or at least those exports favoured by the government, but this solution presents two difficulties. First, it is a violation of international trade law, and subsidized exports can be subjected to countervailing duties in the importing countries. Secondly, if the programme were successful (as was the case of one such pro-

gramme recently in Costa Rica), it could represent a serious financial drain on the Treasury.

If the State wants to eliminate anti-export bias for favoured goods (which may be termed "non-traditional") without granting explicit subsidies, it will have to effect a *compensated devaluation* of its currency and impose export taxes on unfavoured products (which may be termed "traditional").

The implications of this option can be better understood with a hypothetical example. If the uniform, free exchange rate is 10 pesos per dollar and there exists a uniform tariff of 20% on imports, then there is an anti-export bias because a good that is worth 12 pesos in the local market is worth only 10 pesos when it is exported. If the currency is devalued to 12 pesos per dollar and the tariff is simultaneously lowered to zero, this compensated devaluation is not inflationary because the good that sold for 12 pesos in the local market will con-

tinue to sell for 12 pesos. But the same good will now be worth 12 pesos in export markets: the anti-export bias will have disappeared. If the State does not want exporters of traditional products (coffee, bananas, beef, etc.) to benefit from the devaluation, it need only collect a tax of 16.7% so that they continue to receive only 10 pesos for each dollar of exports. The export tax will also help to compensate the loss of tax revenue that results from the elimination of the import tariff.

When five countries, with five distinct currencies, share a common market, compensated devaluations require considerable co-ordination, but they are by no means impossible. It is, however, of extreme importance that all members of the CACM carry out the compensated devaluations at the same time. If one country abstains, its producers will be at a competitive disadvantage compared to producers in other CACM countries, and the effects will soon manifest themselves in the balance of trade.

## II

### The role of the State in industrial restructuring

In lowering import barriers, the State sends a message to business regarding the need to adjust to international competition, but the role of the State does not end with a decree of freer trade. The policies adopted after trade liberalization are crucial, and can facilitate or obstruct the restructuring process.

The State can implement three basic types of policies: i) those that are "liberal" in the sense that they do not discriminate between industries or firms; ii) those that favour designated industries; and iii) those that favour specific firms. Implementation of one type of policy does not exclude implementation of others: indeed, the three types of policies are often applied simultaneously.

#### 1. Liberal policies

Liberal policies favour neither particular industries nor specific firms, but rather allow market forces to "select the winners." The authors of a recent study state the liberal view with unusual clarity:

"The role of the State in no instance ought to be that of a judge that decides which firms or which sectors are or could be winners or losers, or that of a saviour of bankrupt firms. Its role should rather be to create appropriate conditions that make restructuring possible, helping the process with both general and specific measures. The latter could include fiscal incentives for research and development of new products, processes or technologies; the creation of national systems of information on patents, data banks, etc.; investment in education and tax credits for firms that give education and training to their personnel" (Centro de Investigación para el Desarrollo (CID) (1988), pp. 111-112).

Liberalism does not necessarily imply an inactive State, for the State can aid industrial transformation with services and fiscal incentives without discriminating between firms or industries. Moreover, it is essential to apply good fiscal and monetary policies in order to avoid inflationary pressures, and to maintain a realistic exchange rate

in order to avoid problems with the balance of trade. Often it is also appropriate to privatize public enterprises, or at least to improve their finances so that they do not operate at a loss.

Although "liberals" oppose granting aid to specific firms (i.e., to the owners of the means of production), they generally support granting it to specific workers: namely, those who become unemployed as a result of industrial restructuring. In the industrial countries, such aid is given automatically in the form of unemployment insurance and retraining. The Spanish Government, facing a drastic reduction in industrial employment as a result of restructuring, decided to supplement the unemployment insurance with Employment Promotion Funds that guarantee a continued income to affected workers and subsidize businessmen who make jobs available to them. In Central America, where unemployment insurance does not exist and workers often fail to obtain their severance pay when a firm becomes bankrupt, there is a definite need to create instruments to help workers who suffer from the effects of industrial restructuring.

Bankruptcy is, of course, traumatic for the entrepreneur and his employees, but it allows a firm to pass to the hands of another entrepreneur who may be able to reshape it and restore its profitability. The authors of the study cited above, after analyzing industrial restructuring in many parts of the world, reached the conclusion that "the most successful countries ... followed policies that ... did not permit difficult industries to become uncontrollable problems. Among these policies, the most important was to allow the bankruptcy of firms that were unable, on their own, to confront technological change or international competition. At the same time, tax laws favoured the takeover of firms that had problems or that were bankrupt" (Centro de Investigación para el Desarrollo (CID) (1988), p. 38). If a government—even with the best of intentions—attempts to prevent bankruptcies, it can obstruct the restructuring of industry.

## 2. Policies directed to specific industries

Since the State, by imposing tariff barriers, contributes to the creation of inefficient industries, one might argue that the same State has an obligation to aid these industries when they suffer the consequences of lowered tariffs. Private firms are

not responsible for, nor can they foresee, major changes in the "rules of the game," so the State ought to identify those industries most affected (the losers?) and cushion the impact of trade liberalization on them. This is customarily done through implicit subsidies (import tariffs) paid by the consumer, rather than explicit subsidies paid by the Ministry of Finance. Chile, for example, retained a high tariff for its automotive industry for many years; Mexico granted temporary protection in the form of quantitative restrictions on imports of pharmaceuticals, computers and automobiles; and Costa Rica allowed the textile, clothing and footwear industries an additional two years before lowering protective tariffs to the maximum of 40%.

Those who favour programmes to aid those industries most affected by tariff reductions emphasize that the aid should be *temporary* in order to facilitate the expansion of competitive industries. To cite a Costa Rican study, "a programme of industrial restructuring ought not to function only as a 'hospital' of firms or industries with problems" (Salazar and Doryan (1990), p. 83).

The State can also, at least in theory, select industrial branches and grant aid to *all* firms in these designated industries, without discrimination. This, precisely, is the function of import tariffs, to protect all firms that produce a particular product. In government programmes to aid industrial restructuring, however, no case is known in which explicit subsidies have been given to all firms in a given industry. The Spanish Government, for example, selected twelve industries and declared them to be the object of industrial restructuring, but the massive public aid was concentrated in very few firms.

One way in which the State can help all firms in a particular industry is by training workers. This type of programme exists in each country of the region (INA in Costa Rica, FEPADE in El Salvador, INTECAP in Guatemala, INFOP in Honduras and SINACAP in Nicaragua), and it is possible to give preference to training requirements in a specific industry. Moreover, in the absence of State intervention, industrialists tend to provide too little training due to the existence of "externalities." When an entrepreneur hires an unskilled person he often must pay him, by law or by custom, a salary greater than his productivity merits. Once the new worker is trained, his productivity increases, pro-



viding the entrepreneur with a return on his investment in training. The problem is that the worker, who now has skills, can leave his employer for a more highly paid job. This constitutes the "externality": when this happens, the employer who provides on-the-job training benefits his workers and rival businessmen without himself receiving compensation.

Many believe that government intervention in the process of industrial restructuring must necessarily be selective. The agency responsible for industrial restructuring in Costa Rica, the Corporación Costarricense de Desarrollo (CODESA), argues, for example, that "the universe of the Costa Rican industrial sector consists of approximately 4 700 firms, even without including the so-called 'informal sector,' so it would be impossible for the programme to reach all firms. Moreover, it is appropriate to concentrate efforts and scarce resources in those industries with the greatest potential for growth ...." (CODESA (1989), p. 13). But the agency adds that "the programme has to cover industries under 'stress' or competitive pressure that results from lowered tariffs as well as industries with competitive advantages and a great potential for growth" (*Ibid.*, p. 14). Apparently the programme, though designed to aid both winners and losers, still seeks, despite this, to be selective.

To select industries that deserve help in industrial restructuring is an extremely difficult task. The Costa Rican agency, in making such a selection, applied twelve criteria:

- "a) Comparative advantage, static and dynamic
- b) Objectives of the programme of structural adjustment
- c) The 'stress' imposed by tariff reductions
- d) Export potential and market niches
- e) Number of firms and workers in the industry
- f) Priority assigned by other programmes
- g) Concentration and factors of economic democracy
- h) Regional priorities
- i) Interindustry linkages
- j) Technological and commercial potential
- k) Organization and attitude of the firms
- l) Other types of externalities and market imperfections that make compensatory intervention necessary." (*Ibid.*, p. 15).

Some of these criteria are not truly independent: for example, comparative advantage and export potential, or number of firms and concentration. Nonetheless, with the application of so many criteria it is difficult to imagine an industry that might fail to qualify for the programme of industrial restructuring.

In Costa Rica's official programme of industrial restructuring, working groups known as Subsectoral Business Committees (SBCs) play an important role. There is an SBC in each industrial branch selected by the Minister of the Economy, and each consists of three representatives of government (CODESA, Ministry of Science and Technology and Ministry of the Economy), plus a minimum of four representatives of the private sector, named by the Chamber of Industries. Thus far, SBCs have been formed in seven branches of industry: processed food, footwear, textiles (including clothing), pharmaceutical products (locally owned firms only), graphic arts, wood and metalworking. The installation of SBCs has also been approved (though they are not yet functioning) in two additional branches: cardboard and plastics. It has not yet been decided whether or not any of these industries merit State aid for industrial restructuring.

### 3. Policies directed to specific firms

It is difficult for a State to intervene directly at the level of the firm, yet policies of this type are often included in national programmes to promote industrial restructuring. Such aid is typically given to only a few selected firms. The Spanish Government, for example, began in 1982 to channel massive State aid to a total of 796 firms. These subsidized credits were used in part to purchase capital equipment and reduce payrolls, but a substantial proportion were also employed to cancel debts of the firms with private banks. Seventy per cent of the total aid of the Spanish programme was directed to State enterprises; of the remainder, the majority went to large private firms, including foreign-owned companies. For example, in the electronic components branch of industry, which contains numerous small private firms, the largest firms received almost all of the financial aid, and in the textile industry, aid was given to 76% of the large firms, but to only 36% of the medium-sized and 4% of the small firms (Molero and Buesa

(1989), pp. 77-123, and Belzunegui (1989), pp. 87-116).

In Mexico, the Programme for Industrial Restructuring (PROFIRI) is quite modest compared to the Spanish programme, but similar with respect to the concentration of aid in few firms. Up to US\$ 11 million of PROFIRI funds can be lent for "any project that promotes international competitiveness." In the first year of the programme (1987), approximately US\$ 120 million (100 million from the World Bank, 20 million from the Mexican Government) of subsidized credit was given to 89 firms. The vast majority of the credit (81%) was for fixed assets and the remainder (19%) for working capital. Large firms received 87% of the total credit, medium-sized firms 9% and small firms 4% (*El Mercado de Valores* (1988), pp. 3-9). In 1988 PROFIRI lent a similar amount of money, but there is no published information concerning the number or size distribution of the favoured firms.

In 1989, Costa Rica received a line of credit from the Inter-American Development Bank (IDB) for "Tourism and Industrial Restructuring", and the money was lent to individual firms through the commercial banks following conventional criteria for business loans. At the insistence of the Chamber of Industries, a limit on the amount of credit per firm was established to ensure the participation of a larger number of firms. In April 1990, Costa Rica obtained a line of credit from the World Bank in the amount of US\$ 30 million for industrial restructuring. Once again, firms interested in obtaining access to this credit will have to apply through the commercial banks. Once an application is approved by the bank, it will be passed to the Industrial Restructuring Agency, which will carry out a "restructuring audit".<sup>2</sup> The criteria of the audit are not very clear, but it is certain that a good balance sheet is a necessary, though not a sufficient, condition for access to this fund.

### III

## Toward a diagnosis of needs for industrial restructuring

### 1. Methodology and principal results

In this section we will describe the methodology utilized in the Project on industrial restructuring in Central America and summarize some of the main findings, stressing those problems that are common to most of the industries studied.

The industries included in the Project are those that are particularly vulnerable to trade liberalization or that have export potential. We deliberately excluded industries with "natural protection" due to high transport costs (cement, bricks, tiles, beverages, etc.). We also excluded assembly and draw-back (*maquila*) activities. Rubber (ISIC 355) and plastic products (ISIC 356) were grouped with chemicals, and two consultants were assigned to this branch of industry. Pottery, china and glass (ISIC 361-362) consists largely of sanitary fixtures and glass, and as the existing firms (one in glass, three in sanitary fixtures) have strong ties with transnational firms, they can therefore receive from them the technical advice required to restructure their plants. Food processing

is important in Central America, so we decided to subdivide it into two parts: perishable foods (meat and dairy products) and preserved foods.

The industrial branches finally selected for study were the following: processed foods (meat and dairy products, tinned and bottled foods), leather and footwear, wood and furniture, metal-working industries, chemicals, textiles (cloth and knitwear), and clothing.

Each of the ten consultants were given instructions concerning the format of their reports and the characteristics of the firms to be visited, which were to include small, medium, and large firms in each industry. The sample of plants chosen was, if possible, to be restricted to those with few ties to transnational firms, for subsidiaries of transnationals can obtain advice and technical assistance from their parent companies.

<sup>2</sup> Information given by the Minister of the Economy, Industry and Commerce, Lic. Antonio Burgués, in the High Level Meeting on Industrial Restructuring in Costa Rica, San José, 4 April 1990.

The consultants visited a total of 358 plants, of which 119 have fewer than 51 employees, 128 between 51 and 150, and 107 more than 150 workers (see table 3). It should be noted that the consultants were well received in the majority of plants, and were able to interview the owner of the firm or a high level executive. This illustrates the concern of entrepreneurs with both the problems and the opportunities of trade liberalization. A considerable percentage of the plants visited reported that they export to countries in Central America (42%) and to countries outside the region (26%). Even some of the smallest firms export, but the tendency to export is greater the larger the firm.

Table 3  
CENTRAL AMERICA: PLANTS VISITED

	Small (up to 50 em- ployees)	Medium (51 to 150 em- ployees)	Large (more than 150 em- ployees)	Total
Food products	19	23	17	59
Meat and dairy products	8	13	10	31
Canning, preserving	11	10	7	28
Wearing apparel	9	12	4	25
Textiles	7	20	34	62 <sup>a</sup>
Knitwear	5	11	12	28
Spinning, weaving of cloth	2	9	22	34 <sup>a</sup>
Leather and footwear	36	17	15	68
Leather	14	7	2	23
Footwear	22	10	13	45
Wood and furniture	10	10	7	28 <sup>a</sup>
Chemicals	31	35	22	90 <sup>b</sup>
Chemical substances	5	-	1	6
Fertilizers, pesticides	-	2	2	4
Resins	-	-	1	1
Paints	5	1	-	6
Rubber products	1	2	3	6
Plastic products	4	9	3	16
Cosmetics, detergents	16	21	12	51 <sup>b</sup>
Metal-working	9	10	7	26
<b>Total</b>	<b>121</b>	<b>127</b>	<b>106</b>	<b>358</b>

<sup>a</sup> One firm failed to provide information on the number of employees.

<sup>b</sup> Two firms failed to provide information on the number of employees.

The ten edited diagnoses were presented at a Seminar-Workshop on Industrial Restructuring held in Guatemala City on 29 and 30 May 1990. The purpose of this event was to discuss the findings of the Project with authorities, specialists and industrialists from throughout the region (see ECLAC, 1990b). Afterwards, workshops were organized in each country in order to discuss in depth specific problems of the industrial sector at the national level (see ECLAC, 1990c). Although the sample of 358 firms did not pretend to be statistically representative, it was possible to confirm, in the regional seminar and in the national workshops, that the findings reflect the situation of the vast majority of Central American firms at the present time.

The Project was able to identify the difficulties faced by industries in Central America, which include depressed demand, high levels of unused capacity, technological backwardness, deficient or nonexistent quality control, lack of liquidity, loss of markets within and outside the region, foreign exchange shortages and the need to improve management and labour productivity. The situation has become more complex in recent years, due to the dismantling of trade barriers and the need to restore industrial growth.

Industrialists and their governments are very concerned with the effects of trade liberalization, and a large amount of technical assistance is needed if firms are to adapt to new market conditions.

For many of the plants included in the study, the consultants concluded that improved efficiency depends on factors other than modernization of equipment or large investments. There is a need, rather, to introduce improvements in management, the use of raw materials, planning and control of inventories, marketing, etc., all of which imply relatively small investments. In some cases modernization of equipment is unavoidable, but such an investment will not, in itself, produce a sustained increase in efficiency unless other deficiencies are corrected as well.

Even though the five Central American countries differ in industrial structure and industrial development, their firms sometimes face the same problems. In such cases, corrective action at the regional level could be highly effective.

## 2. Problems common to all branches of industry

This section offers the reader a summary of the principal problems faced by firms, which call for an urgent solution, especially given the pace of trade liberalization in countries of the region. Although some problems are specific to a particular industry, many are present in a majority of the industries studied.<sup>3</sup>

Management is a crucial determinant of the success of a firm. Efficacious administration prevents the accumulation of diverse, yet related, problems that can result in bottlenecks and paralyze a firm's operations. Most of the large and medium-sized firms visited have modern systems of management, with departments staffed by specialists who have specific responsibilities. This is not true of smaller firms, where the owner himself handles administration, purchasing, production, sales, etc. Small firms often adopt a family style of administration that hinders true entrepreneurial functions; this implies inefficiency and slow growth. Most firms, both large and small, need to improve their management, be more aggressive and dynamic in facing competition, and penetrate export markets.

One of the most tangible effects of the economic crisis in Central America is the drastic contraction of investment during the past ten years. Few firms have replaced their machinery, and this fact is reflected in the low productivity of industry. This is particularly evident in industries that, internationally, have experienced rapid technical change in the past two decades, such as metal-working, chemicals and textiles. In some cases, obsolescence makes it difficult to obtain spare parts. It should be noted, however, that in some industries (processed food, wooden furniture, clothing and leather) the large and medium-sized plants have adequate machinery, though they need to invest in maintenance and introduce small innovations to increase productivity.

Due to depressed demand in local markets and a paucity of extra-regional exports, levels of capacity utilization are very low. Even industries that produce consumer goods for mass consumption—processed food, footwear, clothing, furniture—do not utilize, on average, even 60% of their installed

capacity. Exceptions to this generalization are the textile plants in El Salvador, Guatemala and Honduras that produce cloth, for they operate at full capacity, in part because of extra-regional exports.

The supply of raw materials does not, in general, present any problems. Industrialists can usually purchase the required inputs on the open market, whether these be national—occasionally synonymous with lower quality— or imported. Nonetheless, in some industries—leather, chemicals, metal-working, clothing—it is difficult to obtain foreign exchange at official exchange rates. Industrialists are almost always net users of foreign exchange, and obtaining it involves slow and cumbersome procedures; sometimes they have no choice but to turn to the black market, which significantly increases their costs.

Planning and control of production is difficult because of an absence of specific programmes for this purpose in firms and because of numerous problems that affect small firms in particular, such as difficulties in the supply of raw materials, breakdowns in equipment, unstable demand and uncertainty regarding markets in the future. Deficiencies were also confirmed in production processes and in inventory control. The use of raw materials in the manufacture of leather and furniture is suboptimal; in addition, the range of furniture manufactured in each plant is much too diversified (a single factory produces 85 types of furniture and only four of them are made of standardized pieces). Metal-working firms have neither production plans nor planning departments; planned production is based on past sales, orders and inventories; raw materials and goods in process are held in inventory for as long as six months, resulting not only in financial costs but also costs due to deterioration of materials (oxidation). Textile plants must hold large stocks of cotton for long periods, for it is the only way to guarantee uniform quality; this gives rise to financial problems due to the need for large amounts of working capital and indebtedness.

With regard to quality control, 45% of the plants visited had no system whatsoever in place to test the quality of raw materials, products in process or final products. Even firms that attempt some type of quality control often have a mistaken approach, for they make visual and subjective inspections, giving more importance to appearances than to the intrinsic qualities of the product or the

<sup>3</sup> For a detailed analysis of each industrial branch, see ECLAC, 1990d.

raw material. Responsibility for the control of input quality is often delegated to suppliers or to workers in the plant. In extreme cases, quality control amounts only to the selection and notation of defective goods at the end of the production process. The majority of small firms give no importance to quality and are not aware of international standards. An additional problem is the lack of laboratories for tests and analysis and the little use made of those laboratories that do exist. At the same time, little attention is paid to the effects of industrial waste on the environment.

Most of the firms do not have any design capability. This absence is particularly relevant in the production of final consumer goods, where product differentiation can be crucial for sales. Designs are typically copied from foreign products, with a few changes introduced at the request of a client or, in a very few cases, by specialized modellers/designers. The packaging and labelling of food products is deficient, which limits export opportunities. The wooden furniture industry would benefit from artistic design that combines local abilities with international tastes.

Manpower training is a problem in nearly all firms. Industrialists have difficulty in finding qualified workers, so normally they train their own personnel. Nonetheless, the training is not always successful, for frequently it is the older workers with some experience who are entrusted with the training of new workers. On the other hand, industrialists feel that the training programmes offered under government auspices do not, in general, meet the needs of business. In addition, high labour turnover—due largely to low wages, especially in small firms—discourages industrialists from providing on-the-job training. The problem is particularly relevant at this time, for industrial modernization requires an upgrading of the skills of workers and technicians.

Finance is perhaps the problem most frequently cited by industrialists. Executives of nearly all the firms visited listed it as the principal obstacle to growth. Nonetheless, without ignoring its relevance, neither should one exaggerate its importance. Financial problems often reflect other problems in the firm. For example, an erroneous sales forecast can result in excess purchases of inputs or the hiring of extra personnel, which, when the sales are not realized, causes financial problems for the firm.

Most of the industrialists do not consider access to credit at preferential rates of interest to be crucial; they are willing to pay market rates, but find it difficult to work with banks because of the lack of timely credit and the intricate approval process. All this is frequently a result of financial policies that are designed more for short-term profits than for the needs of industrial development.

### *3. Recommendations*

This section summarizes recommendations for industrial restructuring derived from reports of the consultants and from participation by entrepreneurs in the workshops held in each country in the region. The proposals include actions to be taken by industry as well as by government; they are presented by industrial branch and are generally valid for all five countries.

The food industry requires an integrated programme of assistance to firms, emphasizing improvement of the technology used, quality control and, in El Salvador and Nicaragua, new equipment in view of the fact that there has been virtually no investment in the past ten years. Such a programme would include medium- and long-term financing, provided in such a way as to reach those who need credit.

In the clothing industry, it is necessary to i) replace obsolete equipment (20-25% of the total number of machines) with modern machinery, ii) implement training programmes and technical assistance in industrial engineering, cost accounting and administration, which could increase production by 40% with the same installed capacity and the same number of employees, and iii) encourage specialization in production, especially in small firms, which would result in lower unit costs and increased productivity.

The following recommendations were made for the textile industry: i) managerial training should be encouraged, principally in the technical and financial areas and fundamentally to increase productivity and exports to overseas markets; ii) industrialists should be made aware of the notion of industrial restructuring and the process of trade liberalization; iii) lines of credit with technical supervision should be created, principally for the purchase of machinery and modern technology and directed primarily to small firms; iv) co-operation

and linkages among firms in the industry at both the national and the regional level should be encouraged, in order to fill export orders that are too large for a single firm; v) in order to facilitate international trade, each country should establish an overseas office to inform potential buyers of exports available from the region and to provide Central American firms with information regarding markets, new products and equipment, trade fairs, exhibitions, etc.

The technical needs of the leather and footwear industry are enormous: with few exceptions, the organization of the firms, the technology used and the quality of the final product are deficient. The following measures are thus required: i) transformation of the industrial structure so that the branch can compete with imports; ii) credit for imports of critical inputs (e.g. shoemakers' lasts) and the establishment of standards for both local production and imported products; iii) aid to small producers in the form of technical assistance and financing; iv) in the case of medium and large firms, the possibilities of export would increase if they manufactured all-leather shoes, produced a variety of styles and implemented systems of quality control; and finally, v) the possibility of establishing a regional centre for training in this industry should be studied, with courses, in a first stage, in design, cutting and sewing.

For wood and furniture the recommendations are: i) specialization –the number of models should not exceed five per plant and the pieces should be standardized; ii) low-cost automation should be encouraged so as to reduce the amount

of handling by operators; iii) for export, furniture of a proprietary or client's design should be produced, preferably disassembled, and should be finished using considerable labour in the form of artificial aging, hand carvings or painted decorations; iv) solar and air drying ought to be followed by industrial drying for any wood destined for export.

In the chemical industry consultants visited plants producing chemical substances; fertilizers and insecticides; paint, varnish and lacquers; rubber products; plastic products; cosmetics; soaps and detergents; and essential oils. This heterogeneity is reflected in the recommendations, but some are applicable to the industry in general: i) improved management and manpower training; ii) more financing; iii) optimal handling of inventories; and iv) renovation of machinery and equipment. Recommendations applicable to specific types of chemical plants can be found in the final report of the Project (ECLAC, 1990d).

The metal-working branch of industry is also very heterogeneous; at the level of government policy the industrialists propose: i) the reduction and standardization of import tariffs on raw materials; ii) encouragement of the creation of firms to import and market inputs, which could result in savings of up to 10%; iii) revision of the policies for allocation of foreign exchange and establishment of specific lines of credit for this industry in line with the specific restructuring needs of firms; and iv) establishment of closer ties between research institutes and firms so that the former can take into account the true needs of the latter.

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