OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

FAIR USE POLICY

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

20162

Distr.
LIMITED

PPD. 240 (SPEC.)
13 April 1993

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Original: ENGLISH

DP/CAM/91/009 "Preparatory Assistance
Diagnosis and Proposals for Industrial
Modernization in Central America"

ECONOMIC INTEGRATION IN CENTRAL AMERICA:

AN OVERVIEW OF IMPLICATIONS FOR INDUSTRIAL MODERNIZATION

IN THE 1990s

V. 93-84249

This report was prepared by the Regional and Country Studies Branch, Industrial Policy and Perspectives Division.

The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

Mention of company names and commercial products does not imply the endorsement of UNIDO.

This document has not been edited.

ECONOMIC INTEGRATION IN CENTRAL AMERICA:

AN OVERVIEW OF IMPLICATIONS FOR INDUSTRIAL MODERNIZATION

IN THE 1990s

PREFACE

The present study has been prepared by the Regional and Country Studies Branch of UNIDO and constitutes the overview report of project DP/CAM/91/009 "Preparatory Assistance Diagnosis and Proposals for Industrial Modernization in Central America". This report seeks to place the detailed prescriptions and recommendations that are spelt out in the report "Lineamientos de Cooperación Técnica para un Programa de Modernización Industrial en Centroamérica", (ONUDI, PPD.—, 1993) in the context of the current economic integration initiative in the sub-region. It also complements the synthesis of project outputs contained therein and draws on detailed subsectoral and policy analyses which are contained in separate reports as listed in Annex 2.

The project, which commenced in 1992, was financed by the United Nations Development Programme (UNDP) Special Plan of Economic Cooperation for Central America (PEC). The main aim of the project was to carry out industrial sector and subsector analysis with a view to elaborating policy and project proposals that would contribute to the modernization of Central American industry in the medium term. The principal areas of analysis included: industrial, trade and financial policy; agroindustry; textiles; metalworking; and leather and footwear.

Acknowledgement is due to the representatives of the Central American[1] governments, private sector, national and regional institutions and the UNDP as well as the national and international project personnel who contributed to the undertaking of field work and the final outcome of the project.

[1] The countries involved in the project were Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

TABLE OF CONTENTS

TABLES

TABLES **PAGE**

I. EXECUTIVE SUMMARY

The manufacturing industry in Central America was seriously affected by the overall economic downturn of the last 10 years. The fall in net output per capita reflected not only the decline in real GDP per capita, but also the sharp reduction in intra-regional trade as a result of the virtual collapse of the Central American Common Market (CACM) in the mid-1980s.

The economies of the region and intra-regional trade are now resuming growth. The liberalization of extra-regional trade and an improved foreign exchange position are fueling an increase in manufactured imports which compete with regional sources of supply. Domestic firms no longer enjoy protected domestic markets to the extent that they did in the past.

Since trade liberalization is at odds with self-sufficiency as much at the regional as at the national level, resource reallocation within the region's manufacturing sector is unavoidable. Steps designed to facilitate resource mobility and specialization ought to be taken in subsectors and product groups with relatively good prospects. This can be done by blending natural and man-made competitive advantages. Although the spur of competition is the main incentive, market inefficiencies may prevent such advantages from coming to fruition. A suitable policy regime for industrial adjustment and competitiveness upgrading is hence a key to an effective transition.

The net benefits stemming from the process of specialization and resource reallocation are in direct relation to firms' success in reducing unit cost by rationalizing production, investing in machinery, adopting state of the art managerial, organizational and production techniques, training the workforce, developing suitable supplier networks and buying inputs at competitive prices. The strengthening of the region's private enterprise system and its ability to compete is a *sine-qua-non* to prevent the manufacturing sector in the region from being crippled by trade liberalization. In this event, trade liberalization itself would be threatened.

Industrial subsectors and product groups where exports to the rest of the world have growth potential should receive the closest attention. Intra-regional, preferably two-way, trade in these sectors should also be encouraged. Yet, with modest protection expected after 1995 in the region, the opportunity cost of promoting within the region activities which cannot compete beyond it would be too high. Intra- and extra-regional trade must reinforce each other.

The growth of manufacturing output could be accelerated if trade within the CACM were truly liberalized. However, non-tariff barriers (NTBs) remain formidable and constitute one of the greatest obstacles to the promotion of closer regional integration. A case may be made to set minimum targets for intra-regional trade expansion.[2]

---

[2] This involves neither balanced trade within each subsector nor managed trade rules, but an encouragement to the development of intra-regional trade in subsectors which, despite accounting for an overwhelming share of industrial value added, contribute minimally to trade within the region. See further below.

NTBs are one of the main reasons why intra-regional trade accounts for an insignificant share of the total supply of manufactured goods in Central America (see Table 3). NTBs are particularly pervasive in industrial subsectors which account for the bulk of manufacturing output. As a result, an inverse relationship between the importance of various subsectors in production and their importance in intra-regional trade is noted (see Table 6).

The pervasiveness of NTBs is therefore a problem akin to that faced by the European Community (EC) in 1985, when it sought to create a single market free of trade barriers. In the end, hundreds of directives had to be adopted to remove the existing NTBs. If intra-regional trade in Central America is to be truly liberalized, a similar sort of procedure may have to be adopted.

Over the 1980s incipient patterns of distribution of competitive advantages began to develop among the countries of the region, both within and between subsectors. Specific findings at the subsectoral levels (for instance, in textiles, agro-industry and metalworking) suggest that, in fact, there is scope for developing differentiated inter-country competitive patterns whereby gains from specialization, economies of scale, organizational synergies and trade creation may be reaped.[3]

However, progress towards an advantageous division of labour within the region must be assessed in the context of the whole process of hemispheric integration. Urgent issues regarding NAFTA's impact on possible investment and trade deviation at the expense of the region as well as opportunities for complementation and intra-firm co-operation across borders arise in this context.

Past trade performance and relative industrial competitiveness suggest that Costa Rica and Guatemala are likely to have a protagonic role in any expansion of the CACM in the 1990s. Regional institutions and a suitable regional framework should ensure that all countries benefit from the process of trade expansion.

This document is focused on the Central American manufacturing industry, with a special emphasis on prospects for industrial integration. However, no policy towards manufacturing industry can fail to duly consider the ensuing impact on the social fabric of the countries involved. Although not brought about explicitly here, an enhanced and more evenly spread social welfare within a reasonable time frame is the ultimate target to be kept in mind.[4]

II. STRUCTURE AND PERFORMANCE OF CENTRAL AMERICAN INDUSTRY

Despite the progress made in terms of trade expansion and reproductive investment during the first two decades of the CACM, industry in the region was in a state of relative backwardness before the eruption of the crisis of the 1980s. Many firms were too small to

---

[3] See the list of studies contained in Annex 2.

[4] See *"Lineamientos de Cooperación Técnica para un Programa de Modernización Industrial en Centroamérica"*, ONUDI PPD.---

enjoy economies of scale and were unable or unwilling to export to the regional market, let alone the world market. Regional trade in manufactured goods was dominated by large firms and in fact, it has been estimated that some 50 per cent exports originated in subsidiaries of multinational companies.[5]

The first half of the 1980s witnessed a decline or stagnation of manufacturing value added in all five nations (see Table 1). This was due in part to the breakdown of the CACM, where intraregional trade fell by some 60 per cent, and in part to the decline in real GDP per capita in each country. The weak balance of payments position led to the adoption of numerous NTBs, which provided some protection for industry. Thus, domestic import substitution continued in each country with production replacing not only imports from the rest of the world, but also from the rest of Central America.

In the second half of the 1980s there was an increase in manufacturing value added in all countries except Nicaragua (see Table 1), where output fell in line with the shrinking of the economy as a whole. Trade barriers began to be dismantled in the this period so that firms had to increasingly compete with imports from all sources. By 1990, manufacturing value added per capita was still below the level attained in 1980 in all five nations (see Table 1). Thus, the relative backwardness of Central American industry was aggravated by the events of the last decade, with manufacturing value added per capita far below the average for the rest of Latin America (see Table 7).

Throughout the 1960s and 1970s, industry's share of GDP tended to rise at the expense of agriculture.[6] Manufacturing became an engine of growth in the pre-1980 economic model. Since 1980, the situation has changed. No country has demonstrated a significant increase in the share of industry in GDP and some, notably Guatemala, have recorded a significant decline. Even Costa Rica, which staged the most successful recovery from the debt crisis, saw industry's share of GDP fall over the decade (see Table 1). This decline is even more marked for the second half of the decade when expressed in current prices (see Table 8).

The lesson from this brief analysis of the manufacturing sector in Central America is clear. *Per se* the new model of development, based on export-led growth and trade liberalization, provides no guarantee of industrial dynamism. The new non-traditional exports can come from agriculture (or mining), while trade liberalization can lead to deindustrialisation (as happened in the Southern Cone of Latin America in the 1970s and beyond). This may not matter if Central America succeeds in its reinsertion into the world economy as a primary goods supplier. If, however, industry is to be seen as a key tool for development, given the social implications of its potential for job creation, then additional measures are required to upgrade its competitiveness and restore its viability as an engine of growth.

---

[5] See L. Willmore, *"Direct Foreign Investment in Central American Manufacturing"*, World Development, Vol. 4, 1976.

[6] See ONUDI, *"Estructura de Protección e Incentivos a la Industrialización en Centroamérica"*, PPD.---, 1993, Section II.3 and Table II.1

Such measures have to be designed with a view to taking full advantage of forthcoming changes in the external trade regime and in internal policy reform given the degree of progress achieved so far. The structure of industry in the sub-region remains very embryonic (see Table 2). Food, beverages and tobacco account for over 40 per cent of manufacturing value added in all countries and over 50 per cent in El Salvador, Guatemala and Nicaragua. This share is similar to the one found in the larger Latin American countries at the end of the 19th century. It is also far higher than the present Latin American average and more than three times the world average (see Table 9).

There are a few subsectors (e.g. textiles, wearing apparel and footwear) where the Central American share of manufacturing is close to the Latin American average. However, the very high share in food, beverages and tobacco means that the subregion is far below the Latin American (and world) average in many sectors, such as basic metal products and machinery and equipment. Thus, Central American industry is specialized in consumer goods with only a few branches producing intermediate goods and virtually none producing capital goods.[7] Regardless of the desirability or not of this pattern of interindustry specialization, the key issue is that it is *not* working effectively to foster growth and social welfare in the region.

III. THE INDUSTRIAL DIMENSIONS OF REGIONAL INTEGRATION AND THE NEW POLICY ENVIRONMENT

Trade in manufactured goods formed the basis of the old CACM. Virtually all intra-regional trade in the three decades after 1960 consisted of trade in industrial products as a result of the removal of tariffs on trade within the region in such products and the application of a high CET on imports from the rest of the world.

The CACM has now been revived as a result of the agreement reached among the five Central American Presidents at the Antigua summit in June 1991. Intra-regional trade in manufactured goods is again expected to recover importance, although it is unlikely to dominate trade flows to the same extent as in the past, since trade in agriculture is going to be liberalized as well as that in manufactured goods. Under the new CACM, a plan has been agreed for the imposition of a CET by the beginning of 1995 to apply to all imports from outside the region while intra-regional trade is to be freed from all restrictions.

A contrast between the formation of the old CACM in 1960 and the formation of the new CACM in the 1990s would show sharp differences. The old CACM began its life with the imposition of a CET which raised average tariff levels. The absence of a significant industrial base at the time in the region meant that the CACM was bound to be net trade diverting, i.e. imports from the rest of the world were replaced by more expensive imports from partner countries (in pre-tariff dollar terms) as domestic industrial production became established. By contrast, the new CACM is being launched with a CET which will lower tariffs on average. At the same time, high-cost local industry is now in place in each

---

[7] Even where output of a capital goods industry is recorded, the product is often a service (e.g. repair work) or a simple consumer product, which for statistical purposes is classified as belonging to the capital goods industry.

country, so that there considerable scope for the new CACM to be net trade creating, i.e. replacing high-cost domestic production with cheaper imports from partner countries.

This matters because it goes to the heart of trade liberalization. Trade creation implies a willingness to shift resources from high-cost activities towards others where the net social benefit is expected to be higher. Trade creation is only possible when governments and the private sector coalesce in phasing out high costs factories and provisions are duly taken to induce and facilitate resource mobility.

There are as yet many uncertainties as to how the new CACM will work in the 1990s. One thing seems certain, though: the current structure of industry in each of the Central American countries and the regional division of labour in manufacturing will undergo significant alterations. The CET to be finally adopted by the beginning of 1995 is very different from its predecessor and almost all the changes have been agreed; indeed, disputes have been reduced to a handful of "sensitive" products (e.g. textiles) where some manufacturers are asking for a longer period to phase in the reductions. Thus, the tariff structure is expected to be as follows:[8]

(a) 1% - Essential goods (e.g. raw materials to produce medicine);

(b) 5% - Minimum tariff for goods not produced locally;

(c) 10% - Basic intermediate goods, semi-processed products and capital goods produced locally;

(d) 15% - Processed inputs and consumer goods not subject to maximum tariff;

(e) 20% - Maximum tariff for goods produced locally.

The reduction in the maximum tariff to 20 per cent is likely to have a major impact on Central American industry. Although trade liberalization has already begun, it is clear that firms are still receiving much greater protection than will be permitted by 1995.[9] If the reduction in the maximum tariff to 20 per cent is not coupled with other measures, many potentially successful firms in the manufacturing sectors will be unable to compete.

The impact of trade liberalization on the industrial sector will be affected by a whole range of domestic policies. These policies are both sectoral and macroeconomic and they vary from country to country. There is as yet no mechanism for coordinating or

---

[8] See ONUDI, *"Estructura de Protección e Incentivos a la Industrialización en Centroamérica"*, PPD.---, 1993.

[9] See ONUDI, op. cit.,

harmonizing regional policies and even within one country policy can change sharply.[10] Thus, the industrial sector faces an uncertain outlook, in which policy is often inconsistent and in which the needs of manufacturing firms are rarely given priority.

Five kinds of policies are of particular relevance to the industrial sector: (a) stabilization and adjustment policies; (b) policies designed to promote domestic and foreign investment; (c) policies which impact directly on the costs of inputs used by industry; (d) policies towards the acquisition of technological skills and capabilities and the diffusion of technology; and, (e) policies aimed at strengthening the enterprise system.

These different spheres of policy action are aimed at creating an enabling environment within which private enterprises may react swiftly to the spur of competition and, by doing so, promote economic and social progress.

The first set of policies is macroeconomic in character and these therefore affect the industrial sector indirectly rather than directly. However, they have an extremely important bearing on the profitability of manufacturing and therefore exert a great influence on the firms' ability to adjust to trade liberalization and tariff reductions. Macroeconomic policies determine the nominal exchange rate and through the rate of inflation, the real effective exchange rate. Macro policies also determine the nominal rate of interest, which is a very important element in the cost of fixed and working capital. It is worth recalling that many drawbacks in industrialization followed trade liberalization in the Southern Cone in the 1980s when macroeconomic policies made it very hard for firms to adjust to the lowering of tariffs and NTBs.

The second set of policies is now fairly similar in the five countries.[11] Foreign investment is given preferential access to foreign exchange in Costa Rica, El Salvador and Honduras and equal treatment in Guatemala, while legislation in Nicaragua continues to impose a number of restrictions. The creation of new enterprises is a time-consuming and expensive process throughout Central America, although it is particularly slow in Guatemala and Honduras. All countries operate policies in favour of Export-Processing Zones (EPZs) with generous tax incentives, although not all insist that total output be exported.

The third set of policies has attracted less attention, but is in some respects more important. The number of firms that survive the impact of trade liberalization depends in part on how successful enterprises are in reducing their costs as tariffs fall. If the price of traded inputs is determined to a large extent by external trade policies, the price of non-traded inputs is affected significantly by domestic policies. Thus, the costs of labour,

---

[10] Monetary policies are, for the most part, passive and so far commitments to coordinate other policies (e.g. fiscal or investment policies) remain quite loose.

[11] See ONUDI, *"Políticas para la Reestructuración Industrial de Centroamérica"*, PPD.---, 1993.

electricity and water, for example, differ significantly between countries.[12] While some of these price differentials are due to different supply and demand conditions in each country, others are due to different policies. Water costs, for example, are six times more expensive in Costa Rica than Nicaragua, while electricity costs are 40 per cent more expensive in Guatemala than in El Salvador.

The fourth sphere of policy concerns the development of technological capability so as to make gains in competitiveness sustainable over time. Not even the best set of macroeconomic policies can guarantee the emergence of efficient market structures in economies with a long record of protection and regulation. The development of such structures requires the promotion of skills, capabilities, institutions and incentives specifically geared to encourage the acquisition, adaptation and diffusion of technology.

Finally, a set of policies is required to strengthen the technical and managerial capabilities of Central American enterprises. One of the major challenges in this respect consists in facilitating their articulation with subcontracting networks and encouraging cooperative efforts in areas of generic interest where firms of all sizes may converge in molding what should amount to a true enterprise system. Such networks may involve the phasing out of many activities by firms currently forced to be vertically integrated, including services and specific supplies which may be contracted out to efficient specialized subcontractors.

It is clear from the above that a competitiveness strategy towards manufacturing industry in Central America cannot just focus on policies which affect the industrial sector directly. It also needs to take into account those policies which affect the sector indirectly. We shall return to this in Section VII below.

IV. COMPETITIVE ADVANTAGE AND SECTORAL BALANCE SHEETS

Trade liberalization and a new (lower) CET implies a reallocation of resources within the industrial sector and between the manufacturing and other sectors. This is inevitable and desirable.

Two very different approaches may be adopted in this regard. The first assumes that market efficiency prevails and necessarily leads to an optimum allocation of resources. Public policy is limited to providing a stable macroeconomic environment and protecting property rights. The second assumes that the government cannot afford to engage in a "hands off" policy, and that market enforcing policies are needed in view of the existence of widespread market failure, indivisibilities and public goods. The second approach will be adopted here. This involves an effort aimed at identifying the competitive outlook of those product categories and subsectors which offer the best prospects and demand the least doses of policy intervention.

---

[12] Ibid., See Cuadro 5.

One important setback is that price distortions and the unsatisfactory nature of Central American statistics often provide misleading answers as to the competitive status of industry and its prospects.[13]

Competitive prospects for each country have to be established not only in relation to the rest of the world, but also in relation to the rest of Central America. One way of doing this is by estimating "revealed comparative advantage" indicators at the subsector level. This may be done by examining sectoral balance sheets which record the sources of supply (domestic, rest of the world and Central American) and the origin of demand (domestic, rest of the world and Central American). The most recent year for which this can be done is 1987, although more recent statistics - if they were available - would almost certainly not change the picture significantly.[14]

The balance sheets are presented for each country in Tables A.1 to A.5. A summary is given in Table 3 for the whole of the manufacturing sector. The results are revealing. It can be seen that roughly one third of total manufacturing supply is provided by imports from the rest of the world - a high figure by Latin American standards. Furthermore, the imports are measured c.i.f. (i.e. exclusive of tariffs) while total supply includes domestic production which is valued at prices that reflect the advantages of tariff protection. If anything, therefore, the one-third figure is an underestimate.

The total supply of manufactured goods is, as Table 3 makes clear, very dependent on foreign imports and this dependence does not vary much between the five countries. By contrast, the importance of regional imports (i.e. imports from other Central American countries) is very small: it varies from a "high" of 5.8 per cent in the case of El Salvador to a low of 1.9 per cent in the case of Honduras. A similar conclusion is reached when the proportion of domestic production sold in the regional market (i.e. exported to other Central American countries) is examined. The highest proportion is found in Guatemala (8.8 per cent) and the lowest in Honduras and Nicaragua (1.1 per cent).

The role of intraregional trade in manufactured goods is therefore very limited. Furthermore, the ratio of total production exported has in fact fallen. Table 4 compares the ratio in three years (1970, 1978 and 1987): it is clear that the ratio has fallen in every country and is in every case below the 1970 level. This decline is a reflection of a fall in intraregional trade (nearly all of which consists of manufactures) at a much faster rate than the fall in domestic manufacturing production. In effect, during the 1980s, there was a process of national import substitution as NTBs made it possible to replace cheaper imports from Central America with more expensive domestic production.

---

[13] For instance, the recent IDB report on manufactured exports from Latin America finds that Nicaragua has a comparative advantage in iron and steel. See Inter-American Development Bank, Economic and Social Progress in Latin America, 1992 Report, Washington D.C., 1992, Appendix Table 4.

[14] A necessary (but not sufficient) condition for the publication of balance sheets is the annual publication by SIECA of the Anuario Estadistico Centroamericano de Comercio Exterior. The most recent refers to the year 1987.

It is also clear from Table 3 that exports of manufactured goods to ROW are now more important than exports of manufactured goods to the rest of Central America. The only exception is El Salvador where the regional market is fractionally more important. It might be possible to draw some encouragement from this if it were not for the fact that in four of the five countries the proportion exported to ROW is lower than it was in 1978 (see Table 4). The exception is Costa Rica, which has had considerable success in shifting production to the world market and where exports to ROW account for nearly 15 per cent of domestic output. Even in the case of Costa Rica, however, there is an enormous gap between exports and imports of manufactured goods so that net exports of manufactures are negative (see Table 3).

Turning now to individual subsectors, it is possible to establish "revealed comparative advantage" in trade with ROW and trade with the rest of Central America based on net exports (see Table 5). With 17 subsectors and five countries, there are 51 cases to consider.

With respect ROW, net exports are positive in 20 cases. All of these, however, occur in food products (311/2) and furniture (332). In all other subsectors, net exports are negative for all five countries. However, net exports are also negative in every case for beverages (where trade is relatively unimportant) and in several cases for leather and textiles. Thus, Central America's "revealed comparative advantage" with ROW is overwhelmingly concentrated in food products (311/2), tobacco manufactures (314), wood products (331) and furniture (332), while the performances of textiles (321), wearing apparel and footwear (322/4) and leather products (323) suggest that these subsectors also have considerable potential.

With respect to the rest of the region, the position is quite different since positive net exports are found (by definition) in all sectors. However, many of the net trade flows are minimal so that it is necessary to restrict consideration to those in excess of $1 million. On this criterion, out of a maximum score of seventeen (i.e. all subsectors in Table 5), Guatemala has regional comparative advantage in eight, Costa Rica in seven, El Salvador in three, Honduras in two and Nicaragua in one.

Under the old CACM, the high CET made it possible for competitive advantage to be different inside and outside the region. For example, the Guatemalan chemical industry had a competitive disadvantage in relation to ROW, but a competitive advantage in relation to the rest of Central America. The lower CET and trade liberalization mean that this is less likely to happen under the new CACM.

The subsectors expected to enjoy competitive advantage in trade with ROW are all those from food products (311) to furniture (332) with the possible exception of beverages (313). Specific product varieties from other subsectors may establish a niche in the world economy. There is no reason at all, provided markets are free, why such products should not prosper, but on the whole they are likely to remain relatively unimportant.

V. SUBSECTORAL DIMENSIONS OF INDUSTRIAL RESTRUCTURING

The summary statistics (in Table 3) demonstrate the relative lack of importance of regional trade for Central American manufacturing. The importance of regional trade,

however, varies from subsector to subsector. In order to assess the impact of future trade flows following trade liberalization and consolidation of the new regional integration scheme, it is necessary to examine the importance of the regional market and the world market on a subsectoral basis for each country in the base year (see Tables A.1-A.5). The main conclusions for each subsector are as follows:

Subsector 311/2. Processed Food and Animal Products

A striking feature of the table is the similarity for all five countries of the trade proportions. Thus, domestic production accounts for approximately 90 per cent supply in every case. Imports from ROW account for 7 to 8 per cent of total supply in every case except Costa Rica where it is 4.2 per cent. Imports from Central America are of negligible importance (3 per cent or less in every case). Exports to ROW are important because sugar and beef exports are included in this subsector. However, exports to Central America are negligible: in four cases they represent less than 2 per cent of domestic production.

The lack of importance of intra-regional trade in this subsector is a major cause of concern. The reason is simple: the subsector is by far the most important in terms of manufacturing output in Central America with at least 40 per cent of the total in every country (see Table 2). If the importance of regional trade in this sector could be increased, it would have enormous impact. If Costa Rica, for example, exported 10 per cent of its domestic production to Central America - not a particularly high figure by any standards - it would more than double its total exports to the region. A similar conclusion can be reached for other countries (see below).

There are a number of explanations for the low export figures to Central America. First, the subsector includes export products such as sugar and beef where each country is self-sufficient and has a surplus for export to the rest of the world. It also includes perishable goods which are difficult to transport over long distances. The subsector also includes many small firms that are content to sell in the local market. Nevertheless, there is little doubt that intra-regional trade is also held back by non-tariff barriers (including unnecessary border delays), the lack of adequate transport facilities and numerous restrictions inherited from the old CACM on the movement of processed foods. Furthermore, numerous studies have identified raw material inputs as a major constraint on the supply of processed foods. As trade in primary products is liberalized in Central America, it should be possible for firms to expand production and start exporting to other countries in the region. This means that production of certain higher cost goods may have to cease if this process of trade creation is to take place. Yet the subsector is so vast that it is quite possible for all countries to gain from this process of trade creation, specializing in those products where they enjoy a cost advantage and importing those products where local production is relatively expensive.

This subsector is the most important in the region (in all nations) and represents a clear case of competitive advantage in trade with ROW. It is also a subsector where intra-industry trade within Central America is possible, such that all five countries may gain from a process of trade liberalization. However, it is not sufficient to remove all the non-tariff barriers which currently affect intra-regional trade. It is also necessary to address the needs of the numerous small firms which operate in this subsector and which are still not accustomed to export their products either to the regional or world market. This would help to generate

greater competition within the region, the lack of which has been identified as a major barrier to effective regional integration.

The subsector embraces many labour-intensive activities processing raw materials (agroindustries). Even if the finished product is not subject to trade barriers within the region, trade in raw materials continues to be subject to severe restrictions. Firms must therefore purchase their material inputs in the domestic market at a higher price and a quality which is often inferior to that which prevails elsewhere in the region. The poor quality of raw material inputs, and the unreliability of supply, have been identified as factors restraining the growth of agroindustries.[15] Thus, trade liberalization and export specialization are meaningless unless firms are free to purchase all their inputs in the cheapest market within the region. The growth of intra-regional trade in manufactured goods cannot be assured unless trade in primary products is also liberalized.[16]

Subsector 313. Beverages

This subsector is almost completely isolated from international competition. Imports from the region as a proportion of total supply and exports to Central America as a proportion of domestic production are less than 1 per cent in every case. Trade with ROW is also of negligible importance: only Costa Rica has trade flows of any significance and even in this case they are very minor.

Lack of international trade in this subsector, which includes soft drinks and beer, is often attributed to high international transport costs. Yet this cannot be the full explanation since trade with Central America is even less important than trade with ROW. This may be an indication of oligopolistic collusion with firms in each national market agreeing not to compete in other markets. Multinational companies have subsidiaries throughout the region in this subsector so that regional trade would involve competition between subsidiaries of the same company.

Existing trade legislation permits regional trade so that the problem is not to be found in the regional trade framework. It is essential, however, that a mechanism be found for promoting trade. Mexican beer, for example, is now being exported all over the world and may soon be widely available in Central America. Without regional trade, Central American producers will not be able to compete effectively. Increased trade is likely to be a matter of survival.

Subsector 314. Tobacco Products

Although Honduras exports a small proportion (4.9 per cent) to the world market (mainly cigars), this sector is even more protected from international trade than beverages. There are virtually no imports from ROW, no imports from the region and no exports to the

---

[15] See ONUDI, *"Competitividad de la Agroindustria de Centroamérica"*, PPD.---, 1993.

[16] See V. Bulmer-Thomas, op. cit., pp.38-47.

region. Even Nicaragua, despite the excellent reputation of its cigars, sells 99 per cent of production in the domestic market.

These figures appear to be contradicted by the widespread availability of imported cigarettes in Central America. It is, however, well-known that contraband is important in this subsector and it is widely reported that trade takes place between Central American countries in tobacco products unofficially. Thus, the reported figures of trade are almost certainly underestimates.

Nevertheless, the absence of trade links may also be a reflection of trade practices engaged in by multinational companies through their subsidiaries in each country. British American Tobacco (BAT) has a subsidiary in each country which dominates the local market. Regional trade would imply competition between subsidiaries of the same firm. If consumers' welfare were measured unambiguously by price reductions, there would be a strong case for forcing the firms to compete. However, in view of the health problems associated with tobacco products, this may be undesirable. It is clearly a debate where economic analysis can contribute only modestly.

Subsector 321. Textiles

International trade is important to this subsector at all levels. The trade is two-way for each country (exports and imports) and involves trade within the region and with ROW. Costa Rica has the highest coefficients, importing a high proportion (49.7 per cent) of total supply from ROW and Central America, but in no case is the proportion elsewhere less than 20 per cent. All countries export some domestic production, although in the case of Honduras and Nicaragua it is a very low proportion. Guatemala exports heavily to Central America, while Costa Rica and El Salvador export a high proportion to ROW.

Only El Salvador has positive net exports in trade with ROW. Yet this is clearly a subsector where other countries (particularly Costa Rica and Guatemala) can expect to achieve positive net exports if unit costs can be lowered to international levels in various product lines. Thus, the liberalization of regional trade is likely to be very important in this subsector both in terms of boosting intra-regional exports and imports and in terms of lowering costs to permit higher levels of exports to ROW. It is also a sector where efficient regional import substitution is both possible and desirable.

Intra-regional trade in textiles already represents a significant share of the total. The volume of trade can certainly be expected to increase in the future. This is an industry were intra-regional trade is likely to be very important - the manufacture of textiles requires inputs which are themselves classified as textiles in many cases. Firms tend to be large, but international and regional competition is widely accepted and few firms rely exclusively on the domestic market.[17]

---

[17] See UNIDO, *"Industrial Modernization in the Central American Textile Industry: The Potential for Regional Cooperation"*, PPD.---, 239 (SPEC.), 13 April 1993.

Yet textiles is also one of the subsectors where local firms are most threatened by trade liberalization and where resistance to the application of a low CET in 1995 is high. There is a real danger that the potential gains from trade in this subsector will be frustrated by the slow progress towards lowering tariffs. Not only will this affect adversely the growth of intra-regional trade, but it will also hurt the growth of extraregional exports since firms will lose the opportunity to cut costs through purchasing inputs in the cheapest market.

Subsector 322/4. Clothing and Footwear

This subsector produces finished goods for final consumption where quality as well as price are important determinants of demand. All countries import a small proportion of supply from ROW while Costa Rica, El Salvador and Guatemala also import a small proportion from the region (the figures for Honduras and Nicaragua are negligible). All countries have some exports to the region, but they do not account for more than 6.2 per cent of output in any country.

The biggest difference between countries is in the proportion exported to ROW. Costa Rica has made this sector one of its key non-traditional exports so that exports to ROW represent more than 50 per cent of domestic output. El Salvador exports some 10 per cent to ROW and Guatemala 5 per cent. These three countries have positive net exports, while Honduras and Nicaragua have negative net exports.

Like textiles, this is a subsector where the region may have dynamic long-run comparative advantage. Costa Rica's success has continued and El Salvador and Guatemala have also shown that they can compete internationally on favourable terms. It is a subsector where intra- and extra-regional trade can be easily increased. Indeed, as intra-regional trade in textiles increases, there is every reason to expect trade in clothing to expand.

Footwear demonstrates many of the problems found in Central American industry. Although many small firms (fewer than 50 employees) operate in this subsector, they appear to sell all their output in the domestic market.[18] This not only reduces the opportunities for gains from trade, but also means that competition is severely reduced - to the disadvantage of the consumer.

Subsector 323. Leather Products

All countries rely on imports from ROW for a small proportion of supply, while Costa Rica, El Salvador and Guatemala also rely on imports from the region to a certain extent. However, 85 to 90 per cent of supply is met from domestic production. Costa Rica exports a very high proportion (33.6 per cent) of total output to the region and almost the same proportion to ROW: the subsector in Costa Rica is hence heavily dependent on exports and net exports are positive. Honduras also exports to the region with total exports and imports roughly equal. Elsewhere, net exports are negative.

---

[18] See ONUDI, *"Modernización Industrial en Centroamérica: El Subsector Cuero y Calzado"*, PPD.---, febrero de 1993, Anexo p.4.

Costa Rica's success suggests that this sector enjoys excellent export prospects. Even in Costa Rica the export surplus could be expanded significantly if regional trade in the main raw material (hides) was made easier. Within Central America, the Costa Rican industry is at present relatively more competitive, but some other countries should also be able to expand sales.

Subsector 331. Wood and Wood Products

This subsector reflects the regional distribution of its principal natural resource input (forests). Honduras, with its abundance of fine quality forests, has virtually no imports and substantial exports. El Salvador, by contrast, relies heavily on imports from the region and has negative net exports. Guatemala has some imports from the region, but large positive net exports based on sales to the region and ROW. Costa Rica has a small export surplus. Only in Nicaragua, unable to exploit its forests because of the economic and political crisis in the 1980s, trade statistics fail to demonstrate competitive advantage.

The liberalization of trade in timber would do much to increase regional trade in this subsector as it would allow firms to cut costs by buying from the cheapest source. Nicaragua can expect to increase exports, regional and international, in both timber and timber products. Costa Rica, its forest cover severely depleted, might be better advised to increase imports. Guatemala and Honduras will continue to have competitive advantage in this sector while El Salvador is likely to continue to have a competitive disadvantage and may have to import.

332. Furniture

Imports from ROW are of little importance (except for Guatemala) and imports from the region are also negligible except for El Salvador. Both Costa Rica and Honduras have had some success with exports to ROW and have positive net exports. Even Nicaragua enjoyed an export surplus, although it was very small. The puzzle is Guatemala, which - despite the potential competitiveness derived from abundant forest reserves - failed to achieve net exports.

The furniture industry is one where a number of Latin American countries (notably Chile) are having considerable success in export markets. Price is only one element in the determination of demand: marketing, brand identification and

design are also very important. These are areas in which Central America is still very weak.

It is also unlikely that the subsector will have real international success until the quality and quantity of the raw materials improve. Thus, increased regional trade in timber and timber products is both necessary and desirable to promote international exports of furniture. The three subsectors must be considered as a complex in which international trade and regional trade are complementary - just as in the case of cotton, textiles and clothing.

Subsector 341. Pulp and Paper Products

This is a subsector in which total supply is heavily dependent on imports from ROW. There is also some dependence on imports from the region. Most of these come from El Salvador which exports over half its domestic production to the region. Exports to ROW are not important, with the partial exception of El Salvador, and all countries - including El Salvador - have large negative net exports.

Production in this sector is technically sophisticated and involves considerable economies of scale. It is a candidate for efficient import substitution at the regional level, but not at the national level. It is a sector in which the state has intervened to promote domestic production - usually with disastrous results. Because of the close links to the principal raw material (timber), those countries with abundant natural resources are better placed to exploit production opportunities. At the same time, technological and financial considerations bring about the need for multinational firms to participate.

Guatemala, Honduras and Nicaragua are the only countries likely to significantly increase in domestic production. However, Guatemala already runs, and is likely to run, a large intra-regional trade surplus while the other two face deficits. This is clearly a case where Honduras and Nicaragua can be expected to play an important role in both efficient import substitution at the regional level and possibly international exports.

Subsector 342. Printing and Publishing

All countries rely on imports from ROW for a small share of total supply. Trade in the region is unimportant and there are virtually no exports to ROW. Thus, all countries have negative net exports and in Costa Rica, with higher literacy levels and a higher standard of living, net imports are almost double those in Guatemala despite the difference in population size.

There are no significant economies of scale in this subsector and the need to import books from ROW for schools, universities and the general public make it unlikely that the negative net exports will disappear. However, there is no reason why intra-regional trade should not increase and some specialization can be expected to take place.

Subsector 351/2/6. Chemicals and Plastic Products

This subsector, together with all the remaining ones, is distinguished by the high proportion of total supply obtained from ROW. Indeed, the lowest proportion is 44.2 per cent (for Costa Rica) and in three countries more than half of total supply comes from ROW. However, the heterogeneous nature of the sector (which includes basic chemicals as well as fertilizers, paints and pharmaceuticals) means that intra-industry trade is very important and every country exports some of its domestic production to ROW. The highest proportion is 16 per cent (for Guatemala) and the lowest is 1.1 per cent (for Nicaragua). Imports from ROW are, however, far more important than exports to ROW and net imports vary from some $150 million to $300 million.

The heterogeneous nature of the subsector means that a high dependence on ROW is not inconsistent with an important intra-regional trade. The proportion of total supply coming from the region varies from 5 to 15 per cent and the proportion of domestic production exported to the region varies from under 5 per cent (Honduras and Nicaragua) to over 25 per cent (El Salvador and Guatemala). Guatemala appears to be the most competitive country in the region: it is the only one with net exports and these are matched by the net imports of the other four countries.

This subsector benefitted much from the CACM with many simple consumer goods being manufactured in the region for the first time behind the high CET and then exported to the region. It might seem as if trade liberalization through tariff reductions would wipe out many firms in this sector. Yet the fact that every country has succeeded in exporting some of its domestic output to ROW without the benefit of tariff protection suggests that a few firms have succeeded in becoming internationally competitive and can survive the anticipated reduction in tariff protection.

Subsector 353/4. Petroleum Derivatives

This subsector is distinguished by an extreme nationalism. The symbolism attached to oil refineries, and the security implications of oil dependence, have led each country to establish its own oil refining capacity. Virtually no trade takes place at the regional level and there are almost no exports to ROW. However, installed capacity and actual production are insufficient for regional demand so that a very high proportion of total supply (from one-third to two-thirds) consists of imports from ROW.

From an economic point of view, considerable gains could be achieved through specialization within the region since oil refining is subject to marked economies of scale. Thus, cost reductions and increased intra-regional trade should in principle go together. However, it is a highly sensitive subsector in which political considerations are also important.

Subsector 355. Rubber Products

This subsector contains tire production as well as miscellaneous rubber products. Thus, it includes one of the two firms (a tire factory in Guatemala) set up at the beginning of the 1960s under the Integration Industries Scheme. Not surprisingly, the share of domestic production exported to the region is high (24.2 per cent) in Guatemala, but it is also high in Costa Rica (20.1 per cent) where a rival tire factory exists. Regional imports are important in El Salvador (28 per cent of total supply) and not negligible elsewhere. Thus, there is a significant level of intra-regional trade with both Costa Rica and Guatemala demonstrating revealed comparative advantage.

Costa Rica has had considerable success in exporting to ROW as part of its efforts to promote non-traditional exports. As a result net exports to ROW are small, but positive. Elsewhere, there are negligible exports to ROW and a high proportion of total supply is obtained from ROW. Thus, net exports to ROW are negative.

Subsector 36. Production of Non-metallic Mineral Products

This subsector produces products which are of enormous importance to the construction industry using raw materials which in many cases can be obtained in the region. At the same time, the unit transport costs of moving the finished products are very high so that firms receive a considerable protection from international trade even without tariffs. Not surprisingly, therefore, imports from ROW represent a relatively small share of total supply (between 12 and 16 per cent), but exports to ROW are even less important so that every country has negative net exports in its trade with ROW.

High transport costs are not such a problem in intra-regional trade as the distances are much smaller. Nevertheless, trade is very small. Only El Salvador obtains 10 per cent of its total supply from regional sources and only Guatemala exports 10 per cent of its domestic production to the region. Once aga ר, Costa Rica and Guatemala reveal competitive advantage in intra-regional trade with positive net exports to the region.

Subsector 37. Basic Metal Products

The absence of an integrated iron and steel industry in any part of the region means that total supply is obtained overwhelmingly from ROW. Since only a tiny proportion of domestic production is exported to ROW, every country has substantial net imports from ROW.

Intra-regional trade is important in proportional terms, but this reflects the low levels of domestic production as much as anything else. The volume of trade is quite modest and most experts would agree that this is a sector where the region has a competitive disadvantage.

Subsector 38. Metal Products, Machinery and Equipment

This subsector is dominated by capital goods where regional production is very small. The proportion of total supply coming from ROW is exceptionally high (from 60 to 80 per cent). Only Costa Rica has had any success in penetrating some niche world markets with its domestic output, which remains at modest levels. Net imports are substantial for every country.

El Salvador and Guatemala export over 10 per cent of domestic output to the region, but domestic output is tiny. Indeed, Costa Rica - with a higher output - exports more in absolute terms although the proportion is lower (5.7 per cent). Thus, the only country in the region that reveals competitive advantage is Costa Rica with net exports equal to the combined net imports of the other four countries.

In general, this subsector does not enjoy competitive advantage in trade with ROW and production within the region will be threatened by lower tariffs. Yet the subsector is so

heterogeneous that it is still possible to find products with export potential.[19] This should prevent the subsector being crippled by restrictive legislation or zero protection.

Subsector 39. Other Manufactured Products

This is an intrinsically difficult subsector to analyze as it contains such a variety of products. Its heterogeneous nature and the difficulty of collecting comparable statistics between countries makes international comparisons awkward. All countries have net imports from ROW, however, and trade within the region is unimportant. Only Guatemala exports more than 10 per cent of domestic production to the region and no country obtains more than 6 per cent of total supply from regional sources.

VI. REGIONAL SPECIALIZATION AND INTRA-REGIONAL TRADE

The above analysis of trade flows by manufacturing subsector reveals a structural weakness in intra-regional trade worth noting. Trade within the region is heavily underrepresented in those subsectors which are important in terms of production and heavily overrepresented in those subsectors which are of minor importance in terms of production. This is made clear in Table 6 where Subsector 31 - Food, Beverages and Tobacco accounts for around half of all manufacturing output in Central America, but it represents less than 15 per cent of total intra-regional exports. By contrast, Subsector 35 (Chemicals, Plastics, Petroleum Derivatives and Rubber) accounts for about 20 per cent of total manufacturing production and nearly 35 per cent of total intra-regional exports.

What is the significance of this imbalance? The subsectors in which intra-regional trade is seriously underrepresented are: 31 (Food, Beverages and Tobacco); 33 (Wood and Furniture); 34 (Paper, Printing and Publishing); and 36 (Non-metallic Mineral Products). In every case, intra-regional exports account for less than 10 per cent of regional production. Let us now assume that intra-regional exports rise to (a) 10 per cent and (b) 20 per cent of regional production as a result of the abolition of various NTBs. In the first case, total intra-regional exports would rise by nearly 100 per cent and intra-regional trade would reach 26.8 per cent of total exports (the figure in 1987 was 13.8 per cent). In the second case, the transformation is even more spectacular. Intra-regional exports would rise by over 200 per cent and intra-regional trade would reach 43.3 per cent - nearly half of all exports.

The assumption of 20 per cent may be considered too ambitious, but that of 10 per cent is very modest. It is not unreasonable to expect 10 per cent of regional production to enter into regional trade. Indeed, anything less suggests that the countries are not reaping the advantages that regional competition can be expected to bring. Thus, the removal of non-tariff barriers which currently impede intra-regional trade in these underrepresented sectors should be regarded as a priority. The analysis of each subsector suggests that the barriers are complex and differ from sector to sector so that their removal is not a simple task. Yet Central America will never be properly integrated in terms of trade until a way is found of removing these barriers.

---

[19] See ONUDI, *"Modernización del Sector Metalmecánico Centroamericano: Potencial de Cooperación, Necesidades y Limitaciones"*, PPD.---, 1993.

The new effort at regional integration is marked not only by the attempt to reimpose a CET, but also by the general reduction in tariffs on imports from ROW. From the beginning of 1995 (or sooner), almost no firm can expect to receive nominal tariff protection greater than 20 per cent and many firms will receive less. This is bound to affect not only the allocation of resources at the level of production, but also intra-regional trade flows.

The impact of tariff reductions will vary from subsector to subsector. One of the most important determinants is the proportion of total supply obtained from ROW. In those subsectors where only a small proportion of total supply is obtained from ROW, it is safe to assume that tariff reductions will have only limited impact. This conclusion is reinforced if the sector has positive net exports to ROW. Thus, the subsectors 311/2, 313, 314, 322/4, 323, 331 and 332 are in this position. A relatively small proportion of total supply is obtained from ROW and most countries have positive net exports to ROW in these subsectors. Many firms are already internationally competitive and do not enjoy tariff protection in the world market on their exports. Although tariff reductions will force them to lower prices on sales in the domestic market, most of these firms will be able to adjust as the cost of their inputs will be lowered as a result of tariff reductions on their inputs. This group of subsectors is therefore well placed to take advantage of trade liberalization and may well be able to increase production and exports to ROW following trade liberalization. Many of these subsectors, however, are underrepresented in intra-regional trade (in particular 311/2, 313, 314, 331 and 332) so that there is no particular reason to think that intra-regional exports, other things equal, will increase significantly. There will only be a big increase if the NTBs referred to above are eliminated.

There is a second group of subsectors where imports from ROW account for a large proportion of total supply, but at the same time exports to ROW are also important. Subsector 321 (Textiles) is in this category for most countries and subsector 355 (Rubber Products) is in this position for Costa Rica. Tariff reductions in these subsectors are expected to reinforce the tendency towards intra-regional trade. Those firms producing only for the regional market are expected to face problems as a result of a fall in tariff protection; those firms already selling in the world market without the benefit of tariff protection are expected to increase production and exports as a result of the decline in their costs. In the case of textiles, there is no reason to assume that this process of increased intra-industry trade will not affect intra- and extra-regional trade equally. Intra-regional trade is already important in textiles and likely to become more so after trade liberalization and external tariff reductions. NTBs do not appear to pose a serious problem in this sector.

The third group of subsectors includes all the remainder where imports from ROW are very important and where net exports to ROW are negative. These subsectors are 341, 342, 351/2/6, 353/4, 36, 37, 38, 39. With the exception of Costa Rica, subsector 355 is also in this category. Tariff reductions are likely to pose serious problems for all these subsectors with the exception of 353/4, where NTBs will continue to be important.

Although the direction of intra-regional trade is indeterminate in these subsectors, any increase will favour those that reveal competitive advantage in the relevant subsectors. In Tables A.1 - A.5 it can be observed that in the nine subsectors in this third group (see above) Costa Rica reveals competitive advantage in five, Guatemala in four, El Salvador in three,

Nicaragua in two and Honduras in one. Costa Rica and Guatemala reveal competitive advantage in all the subsectors which are most important in terms of intra-regional trade.

VII. INSTITUTIONAL CHANGE AND POLICY REFORM

Trade liberalization in Central America holds out the prospect of major gains from trade, in which the manufacturing sector could be a potential beneficiary. However, trade liberalization will not bring the expected gains unless it is accompanied by other measures. Private investment will have to increase in subsectors enjoying competitive advantage in trade with ROW, new technology will have to be adopted and diffused and cost reductions must be achieved. Information on market opportunities within and outside the region needs to become more easily available and regional competition must be increased. The macroeconomic environment must remain stable with lower nominal and real interest rates and no sharp changes in real effective exchange rates.

There are a number of very specific areas where action needs to be taken as a matter of urgency. The key to intra-regional trade is to be found in removing those NTBs which currently impede intra-regional exports in those sectors which account for a high proportion of total domestic production. The removal of these barriers would not only encourage a rapid growth in intra-regional trade, but also allow the weaker industrial countries (Honduras and Nicaragua) to participate fully. Honduras, for instance, reveals a competitive advantage at the regional level in subsectors 322/4, 323 and 331 - none of which figures prominently in intra-regional trade and all of which appear subject to NTBs. This conclusion would be strengthened if either Honduras or Nicaragua were to build an integrated pulp and paper industry based on forest products or a chemical complex vertically integrated with various forest products such as resins.

The NTBs which currently impede intra-regional trade include delays in customs (very important for processed foods), regional legislation (important for oil refining and petroleum derivatives), oligopolistic collusion (important for beverages), agreements between multinational subsidiaries (important for tobacco products), selective consumption taxes and high transport costs (important for almost all products), restrictions on distributors by domestic manufacturers and lack of knowledge of partner country markets. Breaking these NTBs will not be easy. Without this change, however, it is difficult to believe that intra-regional trade in manufactured goods will prosper following trade liberalization and tariff reductions.

If those subsectors with competitive advantage are to prosper, firms must be able to reduce costs. This will be easier if the new regional integration scheme permits a genuine liberalization of trade in raw materials in general and agricultural products in particular. Not only would this allow agroindustrial firms to lower costs and increase quality, but it would also enable the weakest economies in the region (Honduras and Nicaragua) to derive greater benefits from trade liberalization if they manage to establish a regional competitive advantage in the export of natural resources.

Natural resources are not the only commodities where trade has been artificially restricted within Central America. Many presently non-traded goods and services could be traded in a small region such as Central America, if the institutional framework surrounding

the CACM were altered. Electricity, water, gas, finance and transport are all inputs which firms are generally obliged to purchase in the domestic market. A regional market in such inputs could generate considerable cost savings.

The industrial sector in the region is characterized by the existence of many small firms, which account for most industrial employment. However, such firms account for only a small part of intra-regional trade in manufactured goods and virtually none of extraregional trade. In the sectors where the region enjoys comparative advantage, economies of scale are much less important than in the sectors where Central America has comparative disadvantage. Thus, there is no reason to believe these small firms will disappear. However, the export potential of the region will be wasted unless some way is found of inducing such firms to start exporting or to expand exports. Large firms already export and it takes a long time to increase their number. The quickest way to promote exports inside and outside the region is to focus on the needs of small firms, such as access to technology, credit for machinery and information on markets. Even if such firms are at first reluctant to export to ROW, there is no reason why they should not export to the rest of Central America.

Without additional reforms, it is almost inevitable that industrial firms in Costa Rica and Guatemala will enjoy the greatest benefits from trade liberalization. The special needs of industrial firms in the other countries must therefore be addressed. This should preferably not take the form of a longer period for trade liberalization and tariff reforms, since this would detract from the objective of regional integration and risk encouraging the tendency (already strong in some countries) of seeking to integrate into the world economy on the basis of the national market. Instead, the efforts of regional and international institutions should focus on improving the social and physical infrastructure in the weaker countries (particularly Honduras and Nicaragua) together with training programmes for skilled workers and managers.

The functioning of the regional institutions leaves a lot to be desired. The Central American Bank for Economic Integration (CABEI) is an exception. It is well placed to expand its lending programme and the development of infrastructure in the weaker countries depends critically on the division of CABEI's loans among the five countries. SIECA is still in crisis and has been the subject of much criticism. Yet the CACM cannot function without an effective Secretariat and there is no case for starting a new one. SIECA must be made to work better and one of its first priorities needs to be the improvement of regional statistics.[20]

The other regional institutions (e.g. ICAITI) are still not playing a very dynamic role and there is a tendency in the region to respond to specific institutional weakness by creating new institutions. This tendency must be resisted. The original weakness stems from

---

[20] It is detrimental to the regional integration process to have long delays in the publication of detailed trade statistics on a regional basis, while there is no excuse for compiling production and trade data on an incompatible basis. A statistical framework needs to be constructed rapidly which can be used to monitor trade and industry performance. There are still several countries which have not conducted an industrial census since the last regional census in 1968.

budgetary difficulties and the shortage of qualified staff wishing to work in the public sector. The emphasis should be on a few successful (and flexible) institutions rather than numerous poorly funded and ill-equipped ones.

VIII. SOME PRIORITY AREAS FOR TECHNICAL COOPERATION

One of the outstanding problems facing policy-makers in Central America is the poor quality of data on which vital decisions must be made. There is no consistent treatment of trade and production data for the manufacturing sector so that policy is formulated in the absence of full information. Detailed trade statistics have not been produced on a regional basis since 1987 with the result that intra-regional trade cannot be properly assessed.

This report has shown that unofficial balance sheets can be produced from available data to give a more accurate picture of trade and production in the manufacturing sector (see Tables A.1 to A.5). These tables should be produced officially and this requires harmonization of trade and production data throughout the region. Steps must also be taken to reduce the lag in publication of detailed trade data to an acceptable length. A delay of 12 months is the most that should be allowed for.

The existing trade statistics (with the exception of contraband) are based on full coverage of trade flows both inside and outside the region. Production data, however, are nearly all based on samples which are used to extrapolate the performance of the whole sector. This technique is acceptable where a recent industrial census has been undertaken. Unfortunately, there has been no region-wide census in Central America since 1968. Thus, a high priority for international assistance must be the financing of consistent surveys of the manufacturing sector throughout the region and the updating of trade statistics in the sub-region. These tasks should be undertaken on a regular basis by the relevant national and regional entities and in this regard, technical assistance and in particular human resources development services would be required.

This report has demonstrated that a major obstacle to an improvement in intra-regional trade is the prevalence of NTBs in the manufacturing sector within Central America. These obstacles must be fully documented country by country and subsector by subsector (and product by product where necessary) in order to successfully negotiate their removal throughout the subregion. In this field, the experience of the EC in mapping out and implementing its 282 Single Market directives could be of service in tackling such problems. Since there is unlikely to be a sustained increase in intra-regional trade without the removal of such barriers, this area is considered of high priority.

The manufacturing sector in the region is characterized by the predominance of small-sized firms which account for a high proportion of employment. At the same time, the contribution of such firms to trade, both intra- and extra-regional, is very modest. Since large firms are already engaged in exports and given that it takes a long time to create new firms, it is essential that small firms be provided with the opportunity to expose themselves to export markets. Such firms do not have the resources to engage in market research on their own and are wary of the risks (e.g. exchange rate movements, non-payment of goods) associated with exporting. International technical cooperation could address the needs of

these firms through the provision of access to the relevant information and through a reduction or spreading of risk.

The requirements of the manufacturing sector, however, go beyond the mere provision of statistical data and market information. First, the private sector itself must be strengthened through: the development of supplier and commercial networks supported by mechanisms such as subcontracting exchanges and effective producer and marketing associations; and through the incorporation of improved process and product technologies as well as organizational and management techniques and skills development. This will enable greater specialization on the basis of identified competitive advantages,[21] which will lead to quality improvements required ultimately to penetrate international markets.

Second, the existence of an effective technological infrastructure and capacity must be assured. This applies both at the enterprise level where the necessary technical and promotional support mechanisms must be put in place to foster technology acquisition and diffusion as well as systematic innovation activities in individual firms, and at the institutional level, where the strengthening of specialized technological institutes to form an effective sub-regional network must be undertaken.

Third, financial resources must be made available together with appropriate financing modalities in order that the process of industrial restructuring and technological modernization be undertaken. This will involve the establishment of credit lines specifically aimed at increasing the competitiveness of enterprises through rationalization of production, technological upgrading, modernization of equipment and the achievement of efficient scales of production and patterns of specialization. Simultaneously, the systems of financing in the sub-region will have to be modernized so that they satisfy the demands of a more efficient and competitive productive sector and thus stimulate complementary private sector investment and financial flows.

Finally, the modernization of the industrial sector in Central America must be supported by a coherent economic, trade, industry, investment and social policy framework that is based on a realistic assessment of the prevailing domestic and international conditions and trends. Detailed guidelines for such a framework are presented in a separate document.[22]

---

[21] See detailed subsectoral and sectoral analysis presented in the reports listed in Annex 2.

[22] See *"Lineamientos de Cooperación Técnica para un Programa de Modernización Industrial en Centroamérica"*, ONUDI PPD.---, 1993.

ANNEX 1. Statistical Tables

Table 1:

Growth of Manufacturing 1980-90

	Manufacturing Value Added (1988 prices $mn)			Manu Value Added per Head ($ 1988)			Manu/GDP %		
	1980	1985	1990	1980	1985	1990	1980	1985	1990
Costa Rica	818	827	1019	358	313	338	27.1	26.4	26.2
El Salvador	962	845	970	213	177	185	21.2	21.5	22.4
Guatemala	1263	1136	1245	183	143	135	22.0	19.7	19.7
Honduras	412	435	530	113	99	103	23.1	24.5	24.4
Nicaragua	472	492	312	170	150	81	23.7	24.5	20.5

Sources: Derived from Inter-American Development Bank, Economic and Social Progress in Latin America, 1990 Report, Washington, D.C.; Inter-American Development Bank, Economic and Social Progress in Latin America, 1992 Report, Washington, D.C.

TABLE 2:

Structure of Manufacturing Production

ISIC-2 PRODUCT GROUPS	% OF TOTAL PRODUCTION				
	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
31 Food, beverage and tobacco	42.1	52.8	51.5	47.7	55.6
311/12 Food Products	32.8	42.7	42.3	34.8	35.1
313 Beverages	7.7	7.8	7.0	9.9	15.0
314 Tobacco Manufactures	1.6	2.3	2.2	3.0	5.4
32 Textiles, wearing apparel, leather and footwear	6.5	12.1	10.7	5.5	13.3
321 Textiles	3.0	5.8	3.9	2.6	5.4
2322/4 Wearing apparel & footwear	3.1	4.6	5.2	2.4	7.3
323 Leather	0.5	1.7	1.6	0.5	0.6
33 Wood and furniture	4.5	2.5	2.0	8.0	4.6
331 Wood and wood products	2.2	1.0	0.8	6.5	2.3
332 Furniture	2.3	1.5	1.2	1.5	2.3
34 Paper, printing & publish	7.9	3.2	3.8	5.2	3.2
341 Paper	4.2	1.7	1.5	3.6	0.6
342 Printing & publishing	3.7	1.5	2.3	1.6	2.7
35 Chemical, plastic, petroleum derivatives & rubber	24.7	16.5	20.9	18.6	12.6
351/2/6 Chemical & plastic products	13.2	6.6	12.1	5.5	7.5
353/4 Petroleum derivatives	9.6	9.5	6.4	11.5	4.8
355 Rubber products	1.9	0.5	2.4	1.6	0.3
36 Non-metal mineral products	3.9	3.7	4.7	4.2	4.1
37 Basic metal industries	0.0	3.1	1.8	0.6	0.1
38 Metal products, machine & equip	10.0	4.0	3.7	6.0	6.2
39 Other manufacturing	0.3	2.2	0.8	4.2	0.3
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

TABLE 3:

Central American Manufacturing Trade Statistics: 1987

	CENTRAL AMERICAN MANUFACTURING TRADE STATISTICS: 1987					
Country	Imports from ROW as % of total supply (%)	Imports from MCCA as % of total supply (%)	Exports to MCCA as % of production (%)	Exports to ROW as % of production (%)	Value of net exports to MCCA (US $ millions)	Value of net exports to ROW (US $ millions)
Costa Rica	31.7	2.8	4.4	13.6	+1.5	-870.3
El Salvador	27.9	5.8	6.5	5.6	-41.5	-667.2
Guatemala	34.7	3.6	8.8	8.9	+67.2	-1075.8
Honduras	29.3	1.9	1.1	8.9	-30.7	-620.5
Nicaragua	36.5	2.0	1.1	4.9	-25.9	-696.4

Note: ROW= Rest of World

TABLE 4:

Central America: Percentage of Total Manufacturing Production Exported, 1970, 1978 and 1987

COUNTRY	*Percentage of total manufacturing production exported to*					
	Central America			Rest of the World		
	1970	1978	1987	1970	1978	1987
Costa Rica	8.3	8.5	4.4	7.6	8.7	13.6
El Salvador	17.5	18.0	6.5	5.0	5.9	5.6
Guatemala	13.5	21.3	8.8	6.0	15.1	8.9
Honduras	6.1	5.3	1.1	20.7	18.6	8.9
Nicaragua	11.0	12.6	1.1	15.6	12.9	4.9

Sources: For 1970 and 1978, see Weeks, J., The Economies of Central America. 1985.
1987 figures derived from Tables A.1-A.5.

TABLE 5

Central American Manufacturing Industry: Sectoral Balance Sheets (Net Exports), 1987
(in millions of dollars)

	Value of net exports to CACM					Value of net exports to ROW				
ISIC-2 PRODUCT GROUPS	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua

ISIC-2	PRODUCT GROUPS	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
311/2	Food products	(2.2)	(17.6)	17.5	(2.1)	(1.5)	89.9	(18.9)	34.1	50.3	16.8
313	Beverages	(0.7)	0.3	0.3	(0.3)	0.2	(5.2)	(3.6)	(4.9)	(6.1)	(1.2)
314	Tobacco manufactures	0.0	(0.7)	0.5	0.0	(0.1)	0.2	(0.1)	0.2	2.6	0.4
321	Textiles	(15.4)	13.2	6.8	(1.0)	(7.7)	(34.2)	1.2	(39.8)	(22.9)	(37.7)
322/4	Wearing apparel and footwear	(3.7)	(1.0)	2.5	1.6	(0.1)	36.3	6.3	1.6	(3.9)	(8.4)
323	Leather	3.3	(1.4)	(3.1)	0.9	0.0	2.6	(1.5)	(1.5)	(0.8)	(1.3)
331	Wood and wood products	1.6	(7.2)	1.3	3.8	0.3	3.6	(1.0)	4.7	37.4	(5.5)
332	Furniture	0.0	(1.5)	1.3	0.0	0.3	5.7	0.1	(3.3)	2.0	0.3
341	Paper	(3.0)	13.1	(6.9)	(4.2)	0.1	(74.0)	(36.3)	(47.7)	(28.8)	(15.0)
342	Printing and publishing	(1.0)	0.5	(0.4)	(0.2)	(0.2)	(14.4)	(2.9)	(8.7)	(7.1)	(6.4)
351/2/6	Chemical and plastic products	(3.5)	(17.7)	35.7	(18.9)	(10.9)	(246.3)	(153.0)	(296.7)	(155.6)	(186.3)
353/4	Petroleum derivatives	(2.3)	1.6	(2.1)	(0.1)	(1.2)	(128.7)	(104.3)	(185.8)	(153.0)	(128.5)
355	Rubber products	7.5	(8.9)	9.3	(1.0)	(2.3)	0.8	(14.8)	(15.6)	(16.4)	(22.6)
36	Non-metal mineral products	3.8	(8.9)	8.9	(4.1)	(0.2)	(12.5)	(10.3)	(14.7)	(11.6)	(9.6)
37	Basic metal industries	7.4	(4.7)	(2.6)	(2.0)	1.6	(87.3)	(59.3)	(77.8)	(40.7)	(39.6)
38	Metal products, machinery and equipment	0.2	(1.5)	(2.4)	(3.4)	(3.7)	(396.2)	(270.9)	(407.2)	(247.8)	(248.1)
39	Other manufacturing	1.5	0.9	0.6	0.3	(0.5)	(8.6)	(3.9)	(12.7)	(18.1)	(3.8)

Note: Figures in brackets represent negative net exports, i.e. net imports

TABLE 6

Central America: Sectoral Contribution to Domestic Output and Intraregional Exports, 1987 (%)

Central America: Sectoral Contribution to Domestic Output and Intraregional Exports, 1987 (%)										
	Costa Rica		El Salvador		Guatemala		Honduras		Nicaragua	
	Domestic output (%)	MCCA exports (%)	Domestic output (%)	MCCA exports (%)	Domestic output (%)	MCCA exports (%)	Domestic output (%)	MCCA exports (%)	Domestic output (%)	MCCA exports (%)
Food, drink & tobacco	42.1	13.2	52.8	8.2	51.5	20.2	47.7	19.8	55.6	10.3
Textiles & leather prod.	6.5	10.6	12.1	20.7	10.7	14.1	5.5	18.3	13.3	6.8
Wood prod.	4.5	2.2	2.5	0.3	2.0	2.5	8.0	18.8	4.6	4.5
Paper & printing	7.9	3.9	3.2	16.7	3.8	3.3	5.2	2.0	3.2	7.5
Chemicals, plastics, etc.	24.7	35.3	16.5	30.2	20.9	42.5	16.6	22.8	12.6	30.8
Non-metal mineral prod.	3.9	5.9	3.7	0.5	4.7	5.1	4.2	1.5	4.1	2.1
Basic metal prod.	0.0	12.3	3.1	11.3	1.8	6.0	0.6	7.4	0.1	23.5
Metal prod.	10.0	13.0	4.0	10.2	3.7	5.2	8.0	6.9	6.2	13.7
Other manuf.	0.3	3.4	2.2	1.9	0.8	1.0	4.2	2.5	0.3	0.7
TOTALS	100	100	100	100	100	100	100	100	100	100

TABLE 7: MVA/CAPITA IN MARKET PRICES

	in constant 1980 US-$				in current US-$
	1975	1980	1985	1990	1990
Costa Rica	301	350	319	332	339
El Salvador	132	119	96	102	175
Guatemala	103	135	105	126	102
Honduras	82	93	83	86	162
Nicaragua	260	195	170	89	53
CACM	148	156	131	132	148
Mexico	521	619	587	588	662
Venezuela	589	639	607	396	346
Colombia	263	300	288	304	250
Panama	169	182	161	157	183
Latin America	493	552	480	467	659
CACM in % of Latin America	0.30	0.28	0.27	0.28	0.22

Source: REG Database 1992, UNIDO/PPD/IPP.
(Official Statistics, 1990 values are estimates)

TABLE 8: SHARE OF MVA IN GDP IN PER CENT (BASED ON CURRENT US-$)				
	1975	1980	1985	1990
Costa Rica	20.2	16.3	19.1	17.8
El Salvador	18.6	15.0	16.4	18.0
Guatemala	12.1	11.8	11.2	12.4
Honduras	14.2	13.5	13.2	13.8
Nicaragua	22.5	25.6	27.6	12.7
CACM	16.6	15.0	16.0	15.0
Mexico	23.3	22.1	23.4	24.0
Venezuela	16.0	16.2	21.9	14.1
Colombia	23.2	23.3	21.4	20.0
Panama	12.8	10.0	8.6	9.0
Latin America	17.9	23.9	25.0	25.7
Source:	REG Database 1992, UNIDO/PPD/IPP. (Official Statistics, 1990 values are estimates)			

TABLE:9 MVA OF THE INDUSTRIAL SECTORS IN 1990 (IN DEFLATED 1985 US-$) CACM COMPARED WITH OTHER COUNTRIES, LATIN AMERICA AND WORLD AGGREGATES

Sector	CACM		Mexico		Venezuela		Latin America		World	
	MVA	in%	MVA	in%	MVA	in%	MVA	in%	MVA	in%
Food	1,009	25.2	6,242	12.1	1,521	11.2	25,834	13.1	379,793	9.9
Beverage	625	15.6	2,533	4.9	673	4.9	8,063	4.1	80,496	2.1
Tobacco	155	3.9	789	1.5	466	3.4	5,115	2.6	53,819	1.4
Textiles	192	4.8	2,737	5.3	478	3.5	11,656	5.9	172,122	4.5
Wearing apparal	133	3.3	828	1.6	262	1.9	4,195	2.1	90,583	2.4
Leather prod.	27	0.7	680	1.3	51	0.4	1,821	0.9	14,347	0.4
Footwear	38	1.0	534	1.0	130	1.0	3,070	1.6	20,402	0.5
Wood & cork	65	1.6	919	1.8	75	0.6	2,448	1.2	60,982	1.6
Furniture	44	1.1	281	0.6	103	0.8	1,425	0.7	49,663	1.3
Paper products	110	2.8	1,154	2.2	340	2.5	5,736	2.9	120,957	3.2
Print. publish.	132	3.3	1,301	2.5	258	1.9	4,474	2.3	180,369	4.7
Industr. Chemical	105	2.6	4,846	9.4	624	4.6	13,644	6.9	204,013	5.3
Other chem.	415	10.4	2,686	5.2	885	6.5	11,906	6.0	189,437	4.9
Petro-leum refineries	216	5.4	7,860	15.3	3,101	22.7	22,378	11.3	113,289	3.0
Misc. petrol and coal prod.	3	0.1	611	1.2	21	0.2	1,609	0.8	25,710	0.7
Rubber prod.	65	1.6	1,391	2.7	153	1.1	3,926	2.0	48,315	1.3
Plastics prod.	143	3.6	721	1.4	360	2.6	4,184	2.1	94,365	2.5
Pottery china earthen-ware	17	0.4	431	0.8	43	0.3	927	0.5	14,335	0.4
Glass prod.	28	0.7	620	1.2	144	1.1	1,784	0.9	31,033	0.8
Other non-metallic mineral prod.	126	3.2	1,001	2.0	390	2.9	5,723	2.9	110,324	2.9
Iron & steel	42	1.1	3,497	6.8	839	6.2	11,662	5.9	146,561	3.8
Non-ferrous metals	3	0.1	576	1.1	1,062	7.8	5,373	2.7	63,884	1.7

TABLE:9 (cont.) **MVA OF THE INDUSTRIAL SECTORS IN 1990 (IN DEFLATED 1985 US-$) CACM COMPARED WITH OTHER COUNTRIES, LATIN AMERICA AND WORLD AGGREGATES**

Sector	CACM		Mexico		Venezuela		Latin America		World	
	MVA	in%	MVA	in%	MVA	in%	MVA	in%	MVA	in%
Metal prod.	128	3.2	1,748	3.4	488	3.6	7,408	3.8	198,601	5.2
Non-elect. machin.	40	1.0	1,418	2.8	299	2.2	9,606	4.9	497,348	13.0
Electr. machin.	98	2.5	1,504	2.9	471	3.5	9,449	4.8	343,894	9.0
Transport equipm.	24	0.6	2,797	5.4	287	2.1	10,351	5.2	354,734	9.3
Profess. & scient. goods	4	0.1	510	1.0	39	0.3	1,535	0.8	110,609	2.9
Other manuf.	20	0.5	1,204	2.3	81	0.6	2,543	1.3	64,010	1.7
Total	4,004	100	51,420	100	13,642	100	197,358	100	3,735,920	100

Source: GLO Database, UNIDO/PPD/GLO.
(Official Statistics, 1990 values are estimates)

(Data do not correspond with data from REG Database, UNIDO/PPD/REG).[1]

[1] Data from UNIDO/REG Database are based on ECLAC figures and with estimations for 1990 from other sources; calculated figures in 1980 constant US-$ were used as given by ECLAC. Thereby different deflators for each industry are normally used, reflecting different price movements in different industries. The UNIDO/GLO Database is based on 1985 constant US-$ figures which were calculated by using one deflator only. In addition, for Nicaragua, El Salvador and Guatemala, a correction factor was calculated to compensate for temporary overvaluation of the national currency. The correction was done by adapting exchange rates to the reported inflation rates. Sectoral MVA figures for 1990 were calculated using a sophisticated regression equation model based on estimates of the dependence of the sector on the overall economic situation in the country, expressed in terms of GDP, and the sector-specific time behaviour expressed in terms of a lag structure of the value added of the sector. Five diffent types of regressions were tested for this purpose. The relationship producing the best ex-post forecasting figures was finally selected. Thus, real changes in output in terms of quantities are better presented by UNIDO/GLO database. For more detail see UNIDO, *Industry and Development Globcl Report 1989/1990*, p. A-3.

Table A.1
COSTA RICA. MANUFACTURING INDUSTRY: SUPPLY AND DEMAND, 1987
(millions of US dollars)

ISIC-2 PRODUCT GROUPS	SUPPLY						Balance: Supply = Demand	DEMAND					NET EXPORTS	
	IMPORTS				PRODUCTION			Apparent Consump.	EXPORTS					
	From ROW		From CACM		Value	% of Total			To CACM		To ROW		To CACM	To ROW
	Value	% of supply	Value	% of supply				Value	Value	% of prodtn	Value	% of prodtn		
31 Food, beverage and tobacco	48.1	4.3	17.3	1.6	1,048.4	42.1	1,113.8	966.3	14.4	1.4	133.0	12.7	(2.9)	84.9
311/12 Food Products	36.3	4.2	16.6	1.9	817.2	32.8	870.1	729.4	14.4	1.8	126.2	15.4	(2.2)	89.9
313 Beverages	11.8	5.8	0.7	0.3	191.7	7.7	204.2	197.6	0.0	0.0	6.6	3.4	(0.7)	(5.2)
314 Tobacco Manufactures	0.0	0.0	0.0	0.0	39.5	1.6	39.5	39.3	0.0	0.0	0.2	0.5	0.0	0.2
32 Textiles, wearing apparel, leather and footwear	58.5	23.5	27.4	11.0	162.8	6.5	248.7	173.9	11.6	7.1	63.2	38.8	(15.8)	4.7
321 Textiles	53.4	36.2	19.9	13.5	74.2	3.0	147.5	123.8	4.5	6.1	19.2	25.9	(15.4)	(34.2)
322/4 Wearing apparel & footwear	4.0	4.6	6.7	7.7	76.4	3.1	87.1	43.8	3.0	3.9	40.3	52.7	(3.7)	36.3
323 Leather	1.1	7.8	0.8	5.7	12.2	0.5	14.1	6.3	4.1	33.6	3.7	30.3	3.3	2.6
33 Wood and furniture	1.8	1.6	0.8	0.7	112.4	4.5	115.0	101.5	2.4	2.1	11.1	9.9	1.6	9.3
331 Wood and wood products	1.0	1.8	0.7	1.2	54.7	2.2	56.4	49.5	2.3	4.2	4.6	8.4	1.6	3.6
332 Furniture	0.8	1.4	0.1	0.2	57.7	2.3	58.6	52.0	0.1	0.2	6.5	11.3	0.0	5.7
34 Paper, printing & publish	94.6	31.6	8.3	2.8	196.7	7.9	299.6	289.1	4.3	2.2	6.2	3.2	(4.0)	(88.4)
341 Paper	77.9	41.0	6.7	3.5	105.2	4.2	189.8	182.2	3.7	3.5	3.9	3.7	(3.0)	(74.0)
342 Printing & publishing	16.7	15.2	1.6	1.5	91.5	3.7	109.8	106.9	0.6	0.7	2.3	2.5	(1.0)	(14.4)
35 Chemical, plastic, petroleum derivatives & rubber	440.2	40.3	36.9	3.4	615.6	24.7	1,092.7	990.1	38.6	6.3	64.0	10.4	1.7	(376.2)
351/2/6 Chemical & plastic products	285.7	44.2	32.2	5.0	328.2	13.2	646.2	580.0	28.8	8.8	37.4	11.4	(3.5)	(246.3)
353/4 Petroleum derivatives	140.4	36.6	2.6	0.7	240.2	9.6	383.2	371.2	0.3	0.1	11.7	4.9	(2.3)	(128.7)
355 Rubber products	14.1	22.3	2.0	3.2	47.2	1.9	63.3	38.9	9.5	20.1	14.9	31.6	7.5	0.8
36 Non-metal mineral products	19.3	16.1	2.6	2.2	97.9	3.9	119.8	106.6	6.4	6.5	6.8	6.9	3.8	(12.5)
37 Basic metal industries	93.2	94.0	6.0	6.0	0.0	0.0	99.2	79.9	13.4	-	5.9	-	7.4	(87.3)
38 Metal products, machine & equip	421.6	62.4	6.0	0.9	248.0	10.0	675.6	636.0	14.2	5.7	25.4	10.2	0.2	(396.2)
39 Other manufacturing	30.3	75.3	2.2	5.5	7.8	0.3	40.3	14.9	3.7	47.7	21.7	279.6	1.5	(8.6)
TOTAL	1,207.6	31.7	107.5	2.8	2,489.6	100.0	3,804.7	3,358.3	109.0	4.4	337.3	13.6	1.5	(870.3)

Source: Author's calculations derived from official trade and production data.

Table A.2
EL SALVADOR. MANUFACTURING INDUSTRY: SUPPLY AND DEMAND, 1987
(millions of US dollars)

ISIC-2 PRODUCT GROUPS	SUPPLY						Balance: Supply = Demand	DEMAND					NET EXPORTS	
	IMPORTS				PRODUCTION			Apparent Consump.	EXPORTS				To CACM	To ROW
	From ROW		From CACM		Value	% of Total			To CACM		To ROW			
	Value	% of supply	Value	% of supply				Value	Value	% of prodtn	Value	% of prodtn		
31 Food, beverage and tobacco	66.4	6.2	27.8	2.6	968.9	52.8	1,063.1	1,009.5	9.8	1.0	43.8	4.5	(18.0)	(22.6)
311/12 Food Products	62.5	7.2	26.6	3.0	783.3	42.7	872.4	819.8	9.0	1.1	43.6	5.6	(17.6)	(18.9)
313 Beverages	3.8	2.6	0.4	0.3	143.0	7.8	147.2	146.3	0.7	0.5	0.2	0.1	0.3	(3.6)
314 Tobacco Manufactures	0.1	0.2	0.8	1.8	42.6	2.3	43.5	43.4	0.1	0.2	0.0	0.0	(0.7)	(0.1)
32 Textiles, wearing apparel, leather and footwear	30.1	11.0	13.8	5.2	222.2	12.1	266.1	205.4	24.6	11.1	36.1	16.2	10.8	6.0
321 Textiles	26.3	19.0	5.3	3.8	106.7	5.8	138.3	92.3	18.5	17.3	27.5	25.8	13.2	1.2
322/4 Wearing apparel & footwear	2.2	2.4	6.2	6.7	84.1	4.6	92.5	78.8	5.2	6.2	8.5	10.1	(1.0)	6.3
323 Leather	1.6	4.5	2.3	6.5	31.4	1.7	35.3	34.3	0.9	2.9	0.1	0.3	(1.4)	(1.5)
33 Wood and furniture	1.7	3.0	9.1	16.2	45.3	2.5	56.1	54.9	0.4	0.9	0.8	1.8	(8.7)	(0.9)
331 Wood and wood products	1.4	5.3	7.3	27.5	17.8	1.0	26.5	26.0	0.1	0.6	0.4	2.2	(7.2)	(1.0)
332 Furniture	0.3	1.0	1.8	6.1	27.5	1.5	29.6	28.9	0.3	1.1	0.4	1.5	(1.5)	0.1
34 Paper, printing & publish	41.4	38.8	6.3	5.9	58.9	3.2	106.6	84.5	19.9	33.8	2.2	3.7	13.6	(39.2)
341 Paper	38.3	51.3	4.9	6.6	31.5	1.7	74.7	54.7	18.0	57.1	2.0	6.3	13.1	(36.3)
342 Printing & publishing	3.1	9.7	1.4	4.4	27.4	1.5	31.9	29.8	1.9	6.9	0.2	0.7	0.5	(2.9)
35 Chemical, plastic, petroleum derivatives & rubber	288.6	44.2	60.9	9.3	303.5	16.5	653.0	600.6	35.9	11.8	16.5	5.4	(25.0)	(272.1)
351/2/6 Chemical & plastic products	163.2	48.8	50.9	16.2	120.5	6.6	334.6	291.2	33.2	27.6	10.2	8.5	(17.7)	(153.0)
353/4 Petroleum derivatives	110.5	38.6	1.0	0.3	174.7	9.5	286.2	277.4	2.6	1.5	6.2	3.5	1.6	(104.3)
355 Rubber products	14.9	46.3	9.0	28.0	8.3	0.5	32.2	32.0	0.1	1.2	0.1	1.2	(8.9)	(14.8)
36 Non-metal mineral products	10.4	12.0	9.5	10.9	67.1	3.7	87.0	86.3	0.6	0.9	0.1	0.1	(8.9)	(10.3)
37 Basic metal industries	54.5	42.2	10.1	14.0	56.4	3.1	129.0	114.4	13.4	23.8	1.2	2.1	(4.7)	(53.3)
38 Metal products, machine & equip	273.1	75.7	13.6	3.8	74.2	4.0	360.9	346.6	12.1	16.3	2.2	3.0	(1.5)	(270.9)
39 Other manufacturing	4.5	9.9	1.4	3.1	39.5	2.2	45.4	42.5	2.3	5.8	0.6	1.5	0.9	(3.9)
TOTAL	770.7	27.9	160.5	5.8	1,836.0	100.0	2,767.2	2,544.7	119.0	6.5	103.5	5.6	(41.5)	(667.2)

Source: Author's calculations derived from official trade and production data.

Table A.3
GUATEMALA. MANUFACTURING INDUSTRY: SUPPLY AND DEMAND, 1987
(millions of US dollars)

ISIC-2 PRODUCT GROUPS	SUPPLY						Balance: Supply = Demand	DEMAND					NET EXPORTS	
	IMPORTS				PRODUCTION			Apparent Consump.	EXPORTS					
	From ROW		From CACM		Value	% of Total			To CACM		To ROW		To CACM	To ROW
	Value	% of supply	Value	% of supply				Value	Value	% of prodtn	Value	% of prodtn		
31 Food, beverage and tobacco	97.9	7.6	22.3	1.7	1,171.9	51.5	1,292.1	1,124.2	40.6	3.5	127.3	10.9	18.3	29.4
311/12 Food Products	92.8	8.6	22.0	2.0	963.1	42.3	1,077.9	911.5	39.5	4.1	126.9	13.2	17.5	34.1
313 Beverages	5.1	3.1	0.3	0.2	158.1	7.0	163.5	162.7	0.6	0.4	0.2	0.1	0.3	(4.9)
314 Tobacco Manufactures	0.0	0.0	0.0	0.0	50.7	2.2	50.7	50.0	0.5	1.0	0.2	0.4	0.5	0.2
32 Textiles, wearing apparel, leather and footwear	54.5	17.0	22.2	6.9	244.2	10.7	320.9	277.7	28.4	11.6	14.8	6.1	6.2	(39.7)
321 Textiles	48.4	32.0	14.5	9.6	88.5	3.9	151.4	121.5	21.3	24.1	8.6	9.7	6.8	(39.8)
322/4 Wearing apparel & footwear	4.4	3.4	4.6	3.6	119.3	5.2	128.3	115.2	7.1	6.0	6.0	5.0	2.5	1.6
323 Leather	1.7	4.1	3.1	7.5	36.4	1.6	41.2	41.0	0.0	0.0	0.2	0.5	(3.1)	(1.5)
33 Wood and furniture	3.6	6.8	2.5	4.7	46.6	2.0	52.7	42.6	5.1	10.9	5.0	10.7	2.6	1.4
331 Wood and wood products	0.0	0.0	2.0	9.6	18.8	0.8	20.8	12.8	3.3	17.6	4.7	25.0	1.3	4.7
332 Furniture	3.6	11.3	0.5	1.6	27.8	1.2	31.9	29.8	1.8	6.5	0.3	1.1	1.3	(3.3)
34 Paper, printing & publish	56.8	36.3	14.0	8.9	65.8	3.8	156.6	149.5	6.7	7.8	0.4	0.5	(7.3)	(56.4)
341 Paper	47.9	50.5	12.4	13.1	34.5	1.5	94.8	89.1	5.5	15.9	0.2	0.6	(6.9)	(47.7)
342 Printing & publishing	8.9	14.4	1.6	2.6	51.3	2.3	61.8	60.4	1.2	2.3	0.2	0.4	(0.4)	(8.7)
35 Chemical, plastic, petroleum derivatives & rubber	543.2	51.1	42.7	4.0	476.1	20.9	1,062.0	931.3	85.6	18.0	45.1	9.5	42.9	(498.1)
351/2/6 Chemical & plastic products	340.9	52.2	36.5	5.6	275.8	12.1	653.8	536.8	72.2	26.2	44.2	16.0	35.7	(296.7)
353/4 Petroleum derivatives	185.8	55.7	2.3	0.7	145.7	6.4	333.8	333.6	0.2	0.1	0.0	0.0	(2.1)	(185.8)
355 Rubber products	16.5	22.0	3.9	5.2	54.6	2.4	75.0	60.9	13.2	24.2	0.9	1.6	9.3	(15.6)
36 Non-metal mineral products	19.5	15.3	1.3	1.0	106.4	4.7	127.2	112.2	10.2	9.6	4.8	4.5	8.9	(14.7)
37 Basic metal industries	79.6	58.8	14.6	10.8	41.2	1.8	135.4	121.6	12.0	29.1	1.8	4.4	(2.6)	(77.8)
38 Metal products, machine & equip	409.2	80.7	12.9	2.5	85.1	3.7	507.2	494.7	10.5	12.3	2.0	2.4	(2.4)	(407.2)
39 Other manufacturing	13.1	41.2	1.5	4.7	17.2	0.8	31.8	29.3	2.1	12.2	0.4	2.3	0.6	(12.7)
TOTAL	1,277.4	34.7	134.0	3.6	2,274.5	100.0	3,685.9	3,283.1	201.2	8.8	201.6	8.9	67.2	(1075.8)

Source: Author's calculations derived from official trade and production data.

Table A.4
HONDURAS. MANUFACTURING INDUSTRY: SUPPLY AND DEMAND, 1987
(millions of US dollars)

ISIC-2 PRODUCT GROUPS	SUPPLY						Balance: Supply = Demand	DEMAND					NET EXPORTS	
	IMPORTS				PRODUCTION			Apparent Consump.	EXPORTS				To CACM	To ROW
	From ROW		From CACM		Value	% of Total			To CACM		To ROW			
	Value	% of supply	Value	% of supply				Value	Value	% of prodtn	Value	% of prodtn		
31 Food, beverage and tobacco	63.4	6.7	6.4	0.7	876.0	47.7	945.8	831.6	4.0	0.5	110.2	12.6	(2.4)	46.8
311/12 Food Products	57.2	8.2	6.1	0.9	630.5	34.8	701.8	590.3	4.0	0.6	107.5	16.8	(2.1)	50.3
313 Beverages	6.1	3.2	0.3	0.2	182.8	9.9	189.2	189.2	0.0	0.0	0.0	0.0	(0.3)	(6.1)
314 Tobacco Manufactures	0.1	0.2	0.0	0.0	54.7	3.0	54.8	52.1	0.0	0.0	2.7	4.9	0.0	2.6
32 Textiles, wearing apparel, leather and footwear	29.5	22.3	2.2	1.7	100.8	5.5	132.5	126.9	3.7	3.7	1.9	1.9	1.5	(27.6)
321 Textiles	24.6	33.2	2.0	2.7	47.5	2.6	74.1	71.4	1.0	2.1	1.7	3.6	(1.0)	(22.9)
322/4 Wearing apparel & footwear	4.1	8.6	0.2	0.4	43.2	2.4	47.5	45.5	1.8	4.2	0.2	0.5	1.6	(3.9)
323 Leather	0.8	7.3	0.0	0.0	10.1	0.5	10.9	10.0	0.9	8.9	0.0	0.0	0.9	(0.8)
33 Wood and furniture	0.8	0.5	0.0	0.0	146.2	8.0	147.0	103.0	3.8	2.6	40.2	27.5	3.8	39.4
331 Wood and wood products	0.1	0.1	0.0	0.0	119.1	6.5	119.2	77.9	3.8	3.2	37.5	31.5	3.8	37.4
332 Furniture	0.7	2.5	0.0	0.0	27.1	1.5	27.8	25.1	0.0	0.0	2.7	10.0	0.0	2.0
34 Paper, printing & publish	38.5	27.6	4.8	3.4	96.0	5.2	139.3	136.3	0.4	0.4	2.6	2.7	(4.4)	(35.9)
341 Paper	31.4	30.8	4.5	4.4	66.0	3.6	101.9	99.0	0.3	0.5	2.6	3.9	(4.2)	(28.8)
342 Printing & publishing	7.1	19.0	0.3	0.8	30.0	1.6	37.4	37.3	0.1	0.3	0.0	0.0	(0.2)	(7.1)
35 Chemical, plastic, petroleum derivatives & rubber	329.2	47.3	24.6	3.5	342.2	18.6	696.0	687.2	4.6	1.3	4.2	1.2	(20.0)	(325.0)
351/2/6 Chemical & plastic products	158.2	56.2	22.5	8.0	100.6	5.5	281.3	275.1	3.6	3.6	2.6	2.6	(18.9)	(155.6)
353/4 Petroleum derivatives	154.6	42.2	0.1	0.0	211.6	11.5	366.3	364.7	0.0	0.0	1.6	0.8	(0.1)	(153.0)
355 Rubber products	16.4	33.9	2.0	4.1	30.0	1.6	48.4	47.4	1.0	3.3	0.0	0.0	(1.0)	(16.4)
36 Non-metal mineral products	14.2	14.7	4.4	4.6	77.7	4.2	96.3	93.4	0.3	0.4	2.6	3.3	(4.1)	(11.6)
37 Basic metal industries	40.9	74.0	3.5	6.3	10.9	0.6	55.3	53.6	1.5	13.8	0.2	1.8	(2.0)	(40.7)
38 Metal products, machine & equip	247.9	68.3	4.8	1.3	110.4	6.0	363.1	361.6	1.4	1.3	0.1	0.1	(3.4)	(247.8)
39 Other manufacturing	18.9	19.7	0.2	0.2	77.0	4.2	96.1	94.8	0.5	0.6	0.6	1.0	0.3	(18.1)
TOTAL	783.3	29.3	50.9	1.9	1,837.2	100.0	2,671.4	2,488.4	20.2	1.1	162.8	8.9	(30.7)	(620.5)

Source: Author's calculations derived from official trade and production data.

Table A.5
NICARAGUA. MANUFACTURING INDUSTRY: SUPPLY AND DEMAND, 1987
(millions of US dollars)

ISIC-2 PRODUCT GROUPS	SUPPLY						Balance: Supply = Demand	DEMAND					NET EXPORTS	
	IMPORTS				PRODUCTION			Apparent Consump.	EXPORTS					
	From ROW		From CACM		Value	% of Total			To CACM		To ROW		To CACM	To ROW
	Value	% of supply	Value	% of supply				Value	Value	% of prodtn	Value	% of prodtn		
31 Food, beverage and tobacco	36.4	4.9	3.0	0.4	710.6	55.6	750.0	696.0	1.5	0.2	52.5	7.4	(1.4)	16.1
311/12 Food Products	34.0	7.0	2.8	0.6	449.0	35.1	485.8	433.7	1.3	0.3	50.8	11.3	(1.5)	16.8
313 Beverages	2.3	1.2	0.0	0.0	192.0	15.0	194.3	192.9	0.2	0.1	1.1	0.6	0.2	(1.2)
314 Tobacco Manufactures	0.1	0.2	0.2	0.2	69.6	5.4	69.9	69.3	0.0	0.0	0.6	0.8	(0.1)	0.4
32 Textiles, wearing apparel, leather and footwear	49.3	21.6	8.8	3.9	169.6	13.3	227.7	224.8	1.0	0.6	1.9	1.1	(7.8)	(47.4)
321 Textiles	39.0	33.5	8.2	7.0	69.1	5.4	116.2	114.6	0.4	0.6	1.2	1.8	(7.7)	(37.7)
322/4 Wearing apparel & footwear	9.0	8.8	0.6	0.6	92.8	7.3	102.5	101.3	0.5	0.6	0.7	0.7	(0.1)	(8.4)
323 Leather	1.3	14.2	0.0	0.1	7.8	0.6	9.0	9.0	0.0	0.0	0.0	0.4	(0.0)	(1.3)
33 Wood and furniture	6.5	10.0	0.1	0.1	58.8	4.6	65.4	63.5	0.7	1.1	1.3	2.2	0.6	(5.2)
331 Wood and wood products	6.4	17.8	0.1	0.2	29.6	2.3	36.1	34.8	0.4	1.3	0.9	3.0	0.3	(5.5)
332 Furniture	0.1	0.3	0.0	0.0	29.2	2.3	29.3	28.7	0.3	0.9	0.4	1.3	0.3	0.3
34 Paper, printing & publish	21.5	33.5	1.2	1.8	41.4	3.2	64.0	62.9	1.1	2.6	0.1	0.1	(0.1)	(21.4)
341 Paper	15.1	64.1	0.9	4.0	7.5	0.6	23.5	22.4	1.1	14.3	0.0	0.6	0.1	(15.0)
342 Printing & publishing	6.4	15.8	0.2	0.5	33.9	2.7	40.5	40.5	0.0	0.0	0.0	0.0	(0.2)	(6.4)
35 Chemical, plastic, petroleum derivatives & rubber	338.8	65.4	19.0	3.7	160.5	12.6	518.2	512.3	4.5	2.8	1.4	0.9	(14.4)	(337.4)
351/2/6 Chemical & plastic products	187.3	62.7	15.3	5.1	96.1	7.5	298.8	293.3	4.4	4.6	1.0	1.1	(10.9)	(186.3)
353/4 Petroleum derivatives	128.5	67.4	1.3	0.7	60.8	4.8	190.6	190.5	0.1	0.2	0.0	0.0	(1.2)	(128.5)
355 Rubber products	23.0	79.4	2.4	8.2	3.6	0.3	28.9	28.5	0.0	1.1	0.4	10.2	(2.3)	(22.6)
36 Non-metal mineral products	9.6	15.3	0.5	0.8	52.7	4.1	62.8	62.5	0.3	0.6	0.0	0.0	(0.2)	(9.6)
37 Basic metal industries	40.7	91.9	1.8	4.1	1.8	0.1	44.3	39.8	3.4	188.9	1.1	61.1	1.6	(39.6)
38 Metal products, machine & equip	248.6	74.5	5.7	1.7	79.2	6.2	333.5	331.0	2.0	2.5	0.5	0.6	(3.7)	(248.1)
39 Other manufacturing	7.4	66.1	0.6	5.4	3.2	0.3	11.2	7.5	0.1	3.1	3.6	112.5	(0.5)	(3.8)
TOTAL	758.8	36.5	40.5	2.0	1,277.9	100.0	2,077.2	2,000.3	14.6	1.1	62.4	4.9	(25.9)	(696.4)

Source: Author's calculations derived from official trade and production data.

ANNEX 2. DP/CAM/91/009: List of Reports Prepared

1. Lineamientos de Cooperación Técnica para un Programa de Modernización Industrial en Centroamérica, ONUDI PPD.—

2. Economic Integration in Central America: An Overview of Implications for Industrial Modernization in the 1990s, UNIDO PPD. 240 (SPEC.), 13 April 1993.

3. Estructura de Protección e Incentivos a la Industrialización en Centroamérica, ONUDI PPD.—

4. Políticas para la Reestructuración Industrial en Centroamérica, ONUDI PPD.—de 1993.

5. Modernización del Sector Industrial en Centroamérica: Hacia la Formulación de un Programa de Acción, ONUDI PPD.—

6. Industrial Modernization in the Central American Textile Industry: The Potential for Regional Cooperation, UNIDO PPD. 239 (SPEC.), 13 April 1993.

7. Competitividad de la Agroindustria de Centroamérica, ONUDI PPD.

8. Modernización del Sector Metalmecánico Centroamericano: Potencial de Cooperación, Necesidades y Limitaciones, ONUDI PPD.—

9. Modernización Industrial en Centroamérica: El Subsector Cuero y Calzado, ONUDI PPD.—