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FOREWORD

Among the few currently existing elements fostering stability and good communications in Central America, the Central America Common Market (CACM) and its institutions stand out. With a return to peace and political accommodation in the region, having these structures still in place would unquestionably hasten efforts at reconstruction and recovery of developmental momentum.

A return to the political and economic status quo ante 1960 appears neither realistic nor desirable. The philosophy of trade and industrial modernization, based on regional concepts of cooperation and mutual well-being, has come too far to be abandoned on the basis of short term assessments about current and medium term political and economic conditions in the region. It is suggested, therefore, that the analyses and judgments expressed in the following pages will bear out the validity of such a conclusion.

The following assessment of the Central American Common Market (CACM) addresses three basic questions:

1. Is the CACM likely to be an important element in a strategy aimed at achieving, initially, the region's economic recovery and, later, resumed growth?;
2. Should the U.S. forget about the CACM (i.e., the integration movement and its institutions) in allocating funds to the region?; or
3. Should it play a significant role in U.S. strategy?

This assessment was performed by Development Associates, Inc., under an IQC task order with the ROCAP USAID Mission. Francis Masson, a senior consultant, spent three weeks during March-April, 1983, in Guatemala collecting data and reviewing and analyzing documents. It was then reviewed and edited by Development Associates staff at its headquarters in Arlington, Virginia. The report should not be viewed as a comprehensive treatment of the CACM. Rather, it sought to review and analyze a series of questions of current import as defined by the ROCAP Mission. In approaching this task, the consultant dwelt principally on those changes, trends, and issues which were significant in the evolution of the CACM up until 1979. The economic and social disruption occurring since 1979,

e.g., war, insurgency operations, worldwide recession, capital flight, inflation, devaluations and the array of resultant chaotic social and economic conditions, should not mask the very substantial achievements which can be attributed directly to the CACM, nor its potential role in the normalization of intraregional economic and political relations in future years.

In preparing this report, a computerized literature search of three data bases on the subject "Central American Common Market" was performed. The results of this search included a review of the following:

- PAIS 1976 to date - 24 studies
- ABI/INFORM 1971 to date - 9 studies
- AGRICOLA 1970 to date - 13 studies

We are grateful for the support provided by the ROCAP staff, Messrs. Montavon and Joel in particular, who made their time and resources available for this undertaking.

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EXECUTIVE SUMMARY

A. General

The majority of opinions concerning the CACM held that its benefits to date have exceeded its costs; that Central American governments can, and with some external assistance probably will continue to make policy effectively within the integration system for some time to come; and that the prospects over the medium term are moderately good for making progress on several remaining problems of the Central American integration system -- if one can assume both a general economic recovery and improved political climate.

Leading the list of reasons for the surprising continuity of CACM momentum (against enormous odds) has been the development of a new class of managers and entrepreneurs, who are now in positions of responsibility and influence throughout Central America. Conversely, the greatest loss from abandonment of the CACM concept would be the demoralization (and reduction of status and influence) of these business and government leaders who are productivity conscious in a supranational environment, and who have learned through adversity how to influence public policies to meet the needs of a rapidly modernizing private sector.

This new generation of managers/entrepreneurs, brought forth by the creation of the CACM, augurs well for future endorsement and understanding of the CACM's objectives. Numerous early leaders in the movement have taken senior posts in national governments, as well as in regional institutions such as the Central American Bank for Economic Integration (CABEI).

B. Impact of the CACM on Growth

The impact of the Common Market was greatest on industry during the 1960s and its effect was substantial. There is no evidence, however, that it had an overall adverse effect on the primary sectors as is sometimes postulated. It undoubtedly stimulated demand in the tertiary sectors, especially in business services. In addition, some quantitative measures are available regarding the

effect of the CACM on aggregate demand through the investment in manufacturing facilities and social overhead capital which it induced, the rise in real income and purchasing power due to the overall reduction of tariffs, the increase in industrial employment and wages, and the added foreign exchange earnings from exports generated by some industries which, under a single country market approach, would never have come to the region, or which could never have become internationally competitive without the regional economic arrangement of the CACM.

Adding all these up, there is no reason to doubt the claims made in favor of the CACM during the 1960s for an added percentage point on GDP growth (Chapter 1). There is reason as well to suppose that these positive results attributable to the CACM would have continued into the 1980s had not the area's economies and societies been severely stressed at the turn of the last decade. Further, aggregate data suggest that there is still ample ground for pursuing import substitution policies, if demand is desirable under future economic conditions, particularly in intermediate products and capital goods. For finished consumer goods, despite the apparently high ratio of total production to total supply, there will be new mass fads and whims to satisfy in the marketplace which will open new areas for import substitution. In addition, there are a number of infant industries which appear to have grown up during the last 20 years.

C. Comparative Advantage, Specialization and Efficiency

Adam Smith's celebrated pin-making example relates specialization to efficiency. The type and degree of specialization and the efficiencies derived depend on comparative advantages. Thus, what is stressed in Chapter 2 is efficiency. Specialization has gone very much further in Central America than many observers appreciate. Not only has the development of industry within the CACM been very different from what would have taken place over the past 22 years in the five separate economies, but also -- disaggregating the trade data -- intraregional trade is highly specialized between countries and

appears to be linked to comparative advantage, leading to increased efficiency in the use of resources. As indicated in Chapter 2, some individual products, originating in several countries, were appearing in both intraregional and extraregional trade. This suggests that competition even behind a tariff wall is forcing economies to bring costs below CIF-landed prices, as has happened in Brazil on a major scale.

D. Economies of Scale, External Economies, Technological Progress and Efficiency

The available data base sheds diffuse light on these topics. It was found that a number of the firms which sell within the CACM seem to have achieved the economies of scale necessary also to sell extraregionally; indeed, when the smaller firms were eliminated from the sample, this relationship was much stronger (See Chapter 3).

Situations were also found where competition had compelled firms to specialize in narrow lines of production, which in turn contributed to economies of scale in the long run. Finally, much more rapid growth was noted in those sectors of industry where normally there are greater returns to scale. But none of this evidence rigorously proves high returns to scale or indicates which industry groups exhibit them at this time and to what extent. More econometric work should be performed on the basis of available information or additional research conducted to draw conclusions about the relationship of specialization, industrial growth, or returns to scale. (Chapter 2).

One would have to disaggregate the service sector in order to document the large growth in services to business since 1960, including such public services as power, communications, transport and other social overhead. Equally important is a cataloguing of what businessmen have been doing collectively to help themselves in mastering management techniques, new technologies, and ways of influencing public policy to meet the needs of a modernizing private sector (Chapter 2).

The same can be said for the vehicles for promoting technological transfer to the region. These have been identified as professional societies, technological institutes, and the growing influence of multinational firms.

Much has been written about these developments, and is documented in this report; how much of all this is attributable to the CACM, however, is still open to speculation (Chapter 2).

E. Efficiency and Growth

The region's established manufacturing industries for nondurable consumer goods cannot continue to expand at rates achieved previously under the CACM unless they are able to tap extraregional markets. Many companies which have heretofore relied on intraregional sales exclusively have begun to develop extraregional export markets as well, to stimulate their own continued growth. The evidence suggests that sufficient efficiencies have been forced by intraregional competition, even behind a common external tariff wall, to make extraregional prices competitive internationally. This being the case, as more companies become successful in their export objectives more foreign exchange will be generated by them, offsetting increases in foreign exchange outlays for industrial inputs occasioned by industrial growth. This latter point is a relief to those concerned with balance of payments problems.

Primary manufactured goods, intermediate products, and capital goods, however, represent areas where there appears to be particularly good potential for growth, which is very important to the success of the integration scheme. The production of intermediate goods for CACM consumption and for export is important in keeping foreign exchange outlays for industrial growth under control. As the CACM began to break up at the end of the last decade, the production and export of intermediate goods leveled off and in some cases declined.

The concern over regional production of intermediate goods for industrial growth and increasing efficiency is that subsequent increases in demand in primary products would inevitably spill out as increased demand for intermediate goods, and for other imports needed for the production of primary import substitution products. The extent to which these secondary imports into the region become a disproportionate drain on foreign exchange merits careful analysis. Therefore, growth of CACM industry and the consequent increased demand for imported raw materials and other inputs needs

to be seriously considered. There is a distinct need, therefore, for public and private planning on a regional basis to rekindle the existing industries responsible for the production and export of intermediate goods. It is important as well to establish industries for intermediate products not now produced so as to round out an incomplete and, therefore, a potentially foreign exchange wasting, industrial structure.

It has been documented in this report that total imported industrial inputs were no higher as a share of the gross value of industrial production in the late 1970s than they were in the early 1960s (Chapter 4) indicating that while industrial imports have increased, as would be expected given production increases in the time period, they have not done so disproportionately. The conclusion with regard to the foreign exchange question is that industrial growth supported by the CACM has not occurred at the expense of disproportionate increases in foreign exchange outlays for the industrial sector.

With regard to the region as a whole, it lags in the production of basic chemicals, iron and steel, pulp, and paper. However, for the lack of data and analytical tools at our disposal, we cannot currently indicate which are the most feasible to produce for the regional market, much less for export. It is our contention, however, in general terms, that without a common market there is no hope of achieving the economies of scale and minimum levels of efficiency in most, if not all, of these lagging industries which are needed for them to become competitive, non-inflationary, and non-foreign exchange wasting. Without a common market structure, this industrial base will not be feasible and, if attempted on a country-to-country basis could become a serious drain on individual economies and have a disastrous negative effect on all areas of economic and social development.

F. Criticisms of the CACM

This report has also sought to address some of the major criticisms of the CACM, based on available data. The report indicates four key criticisms:

- The CACM has done little more than promote assembly-type operations with little value added. If this is the case, one would expect modest growth of value added, concentration on consumer goods industries, and little growth in the production or intraregional export of intermediate goods. While some instances can be cited of particular industries that are little more than assembly-type operations, this conclusion does not hold for the manufacturing sector as a whole. For example, the data presented in this report (Table 4.1), while inconclusive, show that the value added by the manufacturing sector, when expressed in current prices, increased at average annual rates of 10 to 13% in all five countries between 1960-1980, leading one to question this criticism.
- Import substitution opportunities have been exhausted. We postulate that while no definitive conclusions are possible without further analysis, the available data suggest significant opportunities in the intermediate products area. We were also able to document to some extent that, overall, import substitution has not been carried to extreme levels that contribute little value added to the manufacturing sector and unnecessarily raise prices (Chapter 4). Some doubts remain on this score, however, arising not so much from the level of aggregation of the data used, as the fact that we do not really have a notion of inter-industry and inter-sectoral linkages. Thus, we have no way to trace through the economy the effects of high prices in any one sector, or how the growth of other industries might be inhibited and distort the economy as a whole.

We were told by SIECA staff that in the history of the CACM, there have been as many as 30 instances of formal actions for raising the common external tariff on "new" products. The Secretariat must be provided with the tools with which to evaluate the effects of such tariff hikes, if the CACM were to be re-established.

- The CACM has led to a net loss of foreign exchange. We were able to show that the industrial sector was a net earner of foreign exchange during the latter years of the CACM, whereas previously the total exports of manufactured products outside the region were less than imports of raw materials and intermediate goods destined for the industrial sector (Chapter 4).
- The CACM may have interfered with the development of exports of manufactured goods to extraregional markets. We were able to show that extraregional exports of manufactured goods have grown more rapidly than even intraregional trade in these goods, lending little substance to the criticism that the CACM has interfered with extraregional exports (Chapter 4).

G. The CACM as a Viable Institution?

The external and internal pressures which disrupted the CACM were truly immense. The 1973 oil crisis and the further doubling of oil prices in 1978 were only a single element in the worsening of Central America's terms of trade. The other factor was the failure of sugar, coffee and other export commodity prices to outpace the advance in prices of imports. The outcome of both these occurrences was a widening of current account deficits depressing demand and finally leading to import limitations against both goods from the outside world and those traded among the Central American countries. Capital flight further exacerbated the economic contraction; private direct investment leveled, and then began a precipitous fall after 1978.

The CACM is intact today so far as its treaties and institutions are concerned; these are all legally binding in the four remaining member countries. A list of the difficulties in implementing them would include:

- Inability of the member countries to cancel their bills against each other (some have large negative balances with the Caja de Compensacion);
- Physical risk in transporting goods internationally along traditional routes; and
- Overall balance of payments problems which inhibit the purchase of industrial raw materials in each of the member countries.

Furthermore, it should be recognized that the recent trend toward autarchy in the Central American countries has doubtless had a large impact on price levels which were already rising, though at different rates in different sectors in different countries. This process is the greatest danger of all to the intricate pattern of specialization and interdependence traced in this report, as prices and exchange rates begin to disrupt comparative advantage and alter patterns of international trade.

What we are not able to show in this report is how much of the pattern of specialization (Chapter 2) has been destroyed since the late 1970s by the elements sketched above. The necessary detailed data are published only with a long time lag. Some interesting evidence was gained in the survey (see Chapter 3, "Influence of the CACM on Extraregional Exports") in which entrepreneurs were asked in late 1982-early 1983 whether the existence of the

CACM had assisted them in achieving extraregional exports (i.e., through lowering prices of imported inputs, permitting economies of scale, etc.). Most of them said "no," although the trade data, even for these very firms, clearly indicated otherwise. They said "no" because they perceived that the CACM is not working, because they cannot operate to capacity*; and because of lack of markets, they are now having to restructure their patterns of production and trade, growth has slowed and profits are down. Thus, the attempt to re-establish the CACM, and soon, is vitally important in order to reverse this adverse pattern of business behavior.

We cannot, therefore, address fully the question as to whether the CACM has ceased to play a positive role in recent years. The institutional structure of the CACM is the only one available, however. In the absence of political decisions to rely on these institutions, it is unlikely that their benefits (Chapter 5) will continue to be realized in a significant way. However, since the potential benefits appear to be considerable, as this and other studies have documented, we believe that efforts should continue in the direction of tracing the steps to be taken in order to recover them. To achieve this goal, a modest program of economic research is proposed in order to establish the empirical bases for demonstrating the costs and benefits of different alternatives. Among these are:

- Updating the Cline study to 1982;
- Developing an intersectoral model, as described elsewhere in this document;**
- Extending the work by ECID*** on purchasing power parity exchange rates among the CACM member countries to include extraregional exchange rates and;

*Of the firms surveyed (Chapter 3), the average rate of capacity utilization was 50%.

**See also "Identificacion de Oportunidades Industriales en Centroamerica con base en Analisis de Relaciones Industriales," SIECA/ECID 11 Sem.D.T.7 1/24/83.

***Estudio Comparativo Centroamericano de Niveles y Estructura de Precios 1973, 1977 y 1981 SIECA/ECID (no date).

- Studying the possibility of including agricultural commodities and trading companies in a reconstituted CACM.

In summary, this report provides an overview of the influence of CACM. In the following chapters, detailed information on the CACM is provided including an abbreviated history of the integration movement, trade within the market, the influence of the CACM on extraregional exports, a critique, and finally in Chapter 5 a summary of Cline's evaluation of the social and economic benefits of the CACM.

CHAPTER 1. ABBREVIATED HISTORY OF THE INTEGRATION MOVEMENT

A. Long-term Trends in Economic Variables

The political history of the CACM and its institutions is well told elsewhere (McClelland 1968, Cline 1979) and need not be repeated here. Following ratification by member countries of the General Agreement (signed in 1960), inter-member tariffs were removed from all goods with a list of exceptions -- certain agricultural products. Simultaneously, the five countries adopted a common external tariff. The leveling process led to substantial reductions in the tariffs of Guatemala and Costa Rica, moderate declines for Honduras and Nicaragua, and a slight increase for El Salvador. Table 1.1 contains observations for 1958 before the initiation of the CACM, for 1968, and for 1972 when the leveling process was complete. The common tariff has not been modified since it became effective, except for an across-the-board surcharge of 25% imposed in 1968. But exemptions have become more important in recent years, and this has the effect of lowering the averages, especially for intermediate products and capital goods; hence, the large discrepancies between legal tariffs and adjusted tariffs in 1972.

TABLE 1.1

WEIGHTED AVERAGE INDUSTRIAL TARIFFS,
1958, 1968, AND 1972

<u>Tariffs</u>	<u>1958</u>	<u>1968</u>	<u>1972</u>
Based on Import Value Weights			
Legal Tariffs			
Guatemala	53.8	28.1	27.9
El Salvador	25.2	28.9	26.2
Honduras	34.4	28.5	36.0
Nicaragua	30.7	25.5	34.5
Costa Rica	52.9	28.9	28.1
Adjusted Tariffs ^a			
Guatemala	48.8	19.5	10.4
El Salvador	13.3	23.4	12.6
Honduras	28.7	22.9	14.2
Nicaragua	15.4	14.9	12.0
Costa Rica	47.4	15.2	8.5

^a/Adjusted tariff -- adjusted for exemptions.

Source: Cline, W. (1979).

Cline analyzes the effects of these changes by means of a 3-digit CIIU breakdown. Adjusted for exemptions, the average (unweighted) nominal tariffs

of the five countries in 1972 were:

	<u>Guat.</u>	<u>El Sal.</u>	<u>Hond.</u>	<u>Nic.</u>	<u>C.R.</u>
Finished Consumer Goods (11 groups)	21	47	49	23	42
Intermediate Products (12 groups)	15	13	14	13	14
Capital Goods (4 groups)	11	13	13	11	8

A large body of literature exists concerning the proper means of weighting these rates: if weighted by import values, a sufficiently high tariff will keep out all imports and therefore have a weight of zero. But neither are consumption value weights (the consumer market basket) very indicative since they do not average what is actually imported. The above is an alternative to a sophisticated measure,* but it clearly illustrates the salient feature of the common external tariff: industrial consumer goods are protected more heavily than intermediate products and capital goods.

Cline converts nominal tariffs into measures of effective protection (protection on value added) by means of an input-output table for Guatemala. This manipulation raises the average rate on industrial consumer goods by about one-third for Guatemala and Nicaragua and raises it by nearly one-half for the other three countries. The effective protection measures are above the nominal rate for intermediate goods in all countries; much more so in Honduras, Nicaragua and Costa Rica (Cline, p. 703). A closer look at the industry data reveals that the averages for broad industry classes are fairly good proxies for the rates on individual industries, i.e., that the dispersion within the broad groups presented above is not as great as one might suppose. Both the ranking of protection for the broad industry classes and those of

*Since the rates are unweighted, they are not comparable with the averages in Table 1.1. Another alternative would be to weight by value added in the sector. For 1972, this procedure provides:

	<u>Guat.</u>	<u>El Sal.</u>	<u>Hond.</u>	<u>Nic.</u>	<u>C.R.</u>
Traditional Industries Producers of Intermediate Products (Cline p. 703)	18	40	47	27	56
	15	20	16	14	12

individual countries remain unchanged when analyzed at the 4-digit level.

What happened as a result of economic integration? This can be viewed on two levels: (1) The trade effects, i.e., the growth and changing composition of international trade; the diversion of trade from world to higher-cost Central American sources; the creation of trade because of an overall lowering of import barriers. (2) A more subtle evaluation of the interaction between trade, investment and aggregate demand.

Cline comes to the conclusion that neither of the two trade effects suggested are very important in evaluating the economic consequences of integration in Central America, at least up to 1972. Instead, he calls attention to such phenomena as overall foreign exchange saving for the area, increased exploitation of economies of scale, and dynamic effects such as increased investment attributable to integration.

In many respects, this approach is intellectually satisfying; it is strongly buttressed by the work of the Brookings Institution on comparative prices and purchasing power in Latin American countries, which has been extended and refined by SIECA over the years. One conclusion is that integration has had a leveling effect on prices throughout the region, even on non-traded goods such as agricultural products and housing. Another is that sectors dominated by wage costs show El Salvador to have a comparative advantage, whereas Guatemala's lower prices on durable consumers goods reflect its comparative advantage in that sector. Recent SIECA publications have focused considerable attention on "sensitive" products, textiles, clothing and shoes, since the latter have been subject to quantitative restrictions among the CACM countries from 1971 to the present time. These data show that for most of these products (except shoes), the internal price is below the world price CIF. Cline's analytical work is synthesized in Chapter 5 of this report.

The growth in intraregional trade during the early phase of the CACM was truly phenomenal (Table 1.2). Starting from a low base in 1960, the volume of trade, unadjusted for inflation among member countries, expanded by 30% per year until 1968. Since these goods were almost entirely industrial, this rate of expansion implies that the CACM gave a strong impetus to the expansion of

TABLE 1.2

TRENDS IN LEVEL OF INTRAREGIONAL TRADE
1960-82

	<u>Intraregional Exports</u>	<u>Intraregional Exports as Percent of Total Exports</u>
1960	30.3	6.9
1965	132.1	17.4
1968	246.9	26.1
1970	286.3	26.1
1975	536.4	23.3
1979	891.7	19.9
1980	1,125.7	24.0
1981	922.6	21.8
1982	777.1	ABOUT 18.0

Average Annual Compound Growth Rates:

1960-68	30.0%
1968-80	11.4%
1980-82	- 16.9%

Source: SIECA, VI Compendio Estadístico Centroamericano, and VII Compendio (growth rates computed by ROCAP).

manufacturing facilities for the regional market. Between 1968 and 1980, the growth track in intraregional trade, 11.4% annually, was still substantial. This growth track was interrupted in the latter year by a number of factors beyond the scope of this paper.

The composition of intraregional trade did not undergo significant change during the years of expansion of the CACM. Production and trade of raw materials and intermediate goods grew somewhat more rapidly than that of consumer goods. The growth rate between 1963 and 1979 in intraregional trade was 17.3% annually for raw materials and intermediate goods, slightly above the expansion of total intraregional trade (16.9% -- see Table 1.3). This phenomenon, combined with the fact that raw materials and intermediate goods imported from outside the region declined from 35% of total imports in 1958 to 31% in 1979 (Table 1.4), is quite significant. It suggests that new production and trade induced by the CACM were increasingly based on local resources rather than simply the assembly of imported components.

The composition of imports from outside the region (Table 1.4) changed to a somewhat greater degree since consumer goods declined as a share of the total as a result of import substitution. Capital goods and fuels showed the highest rates of growth. The share of raw materials and intermediate goods in total extraregional imports remained roughly constant between 1958 and 1970, but fell significantly over 1970-79 (from 37 to 31 percent). This suggests that import substitution was taking place in the latter type of products during the seventies.

The relationship between trade in intermediate products and industrial growth is further developed in Table 4.6 (see page 61), which divides imported industrial inputs between those imported from other CACM countries and those imported from outside the region, showing both as percentages of the gross value of production in industry. The data on imports from outside the area (and for gross value of production) for recent years are distorted to some extent by the recent explosive growth of drawback industries in Central America which perform operations on goods of U.S. origin and re-export them to the United States. The U.S. International Trade Commission reports imports on the order of \$50 million of such products from Central America in 1982 and

TABLE 1.3

COMPOSITION OF INTRAREGIONAL IMPORTS,
1963-79 (CUODE CLASSIFICATION)
(In Millions of Dollars)

	1963		1970		1979		Annual Growth Rate 1963-79 Percent
	Value	Perct. of Total	Value	Perct. of Total	Value	Perct. of Total	
Consumer Goods	35.2	48.6	49.6	395.4	44.7	16.3	
Fuels, including Crude	4.7	6.5	5.2	67.1	7.6	18.1	
Raw Materials & Intermediate Goods	30.4	41.9	42.1	391.5	44.2	17.3	
Capital Goods	1.5	2.0	2.8	29.3	3.3	20.4	
Transp. Expt. and Misc.	.8	1.1	.2	1.6	.2	4.4	
TOTAL	72.5	100.0	100.0	884.9	100.0	16.9	

Source: SIECA, VI Compendio Estadístico Centroamericano,
P. 318; and VII Compendio, P. 418.

TABLE 1.4

COMPOSITION OF IMPORTS FROM OUTSIDE THE
REGION, 1958-79 (CUODE CLASSIFICATION)
(In Millions of Dollars)

	1958		1970	1979		Annual Growth Rate 1958-79 Percent
	<u>Value</u>	<u>Perct. of Total</u>	<u>Perct. of Total</u>	<u>Value</u>	<u>Perct. of Total</u>	
Consumer Goods	156.0	33.6	22.5	765	18.4	7.9
Fuels, Inclgd. Crude	54.9	11.8	11.9	914	22.0	14.3
Raw Mat. & Interm. Goods	164.6	35.4	36.9	1307	31.4	10.4
Capital Goods	77.0	16.6	22.1	883	21.2	12.3
Transp. Expt. & Miscell.	11.9	2.5	6.6	287	6.9	16.4
TOTAL	464.4	100.0	100.0	4156	100.0	11.0

Source: SIECA, Compendios Estadísticos VI and VII.
Imports from outside the region were
calculated as the difference between total
and intraregional imports.

virtually none in the 1960s.*

During the period 1963-70, extraregional exports of manufactures, starting from a very small base, grew more rapidly than trade within the region -- 26% per year as compared to 25%. Even after 1970, when extraregional exports had achieved a respectable level of \$CA209 million, over 9% of the gross value of industrial production, and the intraregional trade had grown to \$CA265 million, the growth of extraregional exports outstripped that of intraregional trade in manufactures. The growth rates during 1970-79 were 18 and 14% per year, respectively. Capital goods took off from a small base and grew most rapidly; final consumer goods and intermediate goods in the aggregate expanded at the same rate. There were some star performers in each: furniture, leather products, textiles and non-metallic mineral products. The sustained high rates of growth of extraregional exports over an extended period, in all cases much greater than that of gross industrial product (10.2% for 1960-70 and 17% for 1970-79), are indicators, albeit inconclusive, that under the CACM industry was developing according to comparative advantage.

B. Economic Growth and Structural Changes

Structural changes on the order of magnitude implied by the trade data in manufactured goods, both intraregional and extraregional, by themselves had a significant impact on aggregate demand in the region. These were obviously not the only factors influencing aggregate demand in a region which was predominantly agricultural in 1960. Fluctuations in world commodity prices had and continue to have similar, and at times offsetting, effects. But the industrial growth which was induced by the formation of the CACM was accompanied by a very large volume of private investment, which had a multiplier effect on the region's economy. Cline presents survey data which indicate that some 45% of industrial investment between 1960 and 1973 can be attributed to the CACM. Extrapolated to total industrial investment in 1973,

*U.S. ITC, annual tabulation of imports under USITC Section 806 and 807-a. This tabulation is not available in Guatemala.

this would amount to 170 million \$CA per year (as compared to regional GDP of \$CA7.3 billion).

There were also various fiscal effects. Tariff revenue dropped initially because the CACM induced lower collections. Over time, this effect was compensated by a higher volume of trade. Also, the industrial incentives systems of all member countries created a fiscal drag which was not made up until tax holidays expired. Although none of the literature examined attempts to trace and quantify the fiscal effects of the CACM and their impact on public investment, the losses in the earlier years were doubtless offset many times over during the decade of the 1970s by means of direct and indirect taxes on increased income and output respectively. Public investment in the area in 1970-80 grew by 25% per year, which suggests that the region's governments were able to finance investment in overhead needed for continued growth.

The overall effects of these and other social gains from the CACM will be postponed for a fuller discussion of the methodology employed by the Brookings-SIECA work (see Chapter 5). But GDP growth did accelerate from 5.2% per year in 1950-60 to 7.7% in 1960-68 during the period of consolidation of the CACM. More recent data are distorted by inflation originating in the industrialized countries and transmitted to the CACM. The growth rate in current-prices for 1970-1980 is 11.3%. Roughly half of this latter rate is attributable to inflation.* But the real growth which did occur doubtless continued to be influenced by the CACM during most of the decade through the mechanisms sketched above. McClelland attributed about 1% of GDP growth in the 1960s to the CACM, but other methodologies (e.g. Nugent's) have developed even higher estimates.

*Constant-price (1970) GDP growth rates for the region are:

	%
1960-1970	5.7
1970-1975	5.3
1975-1980	3.4

Source: Características Principales del Proceso y de la Política de Industrialización de Centroamérica E/CEPAL/MEX/1982/L.29.

The significance of the structural changes induced by the CACM within the industrial sector of Central America cannot be overstressed. First as to the inter-country distribution, Cline's assessment of the change in gross output attributable to integration between 1968 and 1972 at the three digit CIIU level was that the most important sectors in terms of output gain were: (1) basic metals and metal products in all countries except Honduras, (2) chemicals in all countries, (3) textiles and paper in Guatemala, El Salvador and Honduras, (4) food products in all countries except El Salvador, and (5) petroleum refining in Nicaragua. As a result of this detailed work, the total changes in gross output for each country between 1968 and 1972 (except for Honduras, for which the computation is for the single year 1968) can be estimated. These are:

TOTAL CHANGES IN GROSS OUTPUT INDUCED BY
THE CACM, 1968-1972
(In Million \$CA)

	<u>Industry</u>	<u>Agriculture and Mining</u>
Guatemala	219	7
El Salvador	176	10
Costa Rica	104	2
Nicaragua	96	4
Honduras (in 1968 only)	32	4

It is clear from these data that integration initially tended to shift the composition of output in the area away from the primary and toward the secondary sector, with significant impacts throughout the region. These impacts would account for about a quarter of total industrial production (compare with gross value of production, Table 1.5). During the decade of the 1970s, these effects would have been even greater, as growth accelerated from a higher base. But there was another factor, discussed shortly, which made for greater impacts on agriculture and mining.

Capital goods, as we have defined them, showed the highest growth rates in both the earlier and later periods of integration. Among the intermediate goods, some of the groups such as paper and paper products, basic metals and metal products show even higher growth rates, especially during the period 1960-70; but the intermediate goods group as a whole significantly outpaced

TABLE 1.5

CENTRAL AMERICA: GROSS VALUE OF PRODUCTION IN INDUSTRY,
BY GROUPS, 1960, 1970 AND 1977 AND RATES OF GROWTH

	1960	1970	1977	Growth Rates	
				1960-70	1970-77
	(million CA\$)			(% per year)	
Finished Consumer Goods					
1. Food, beverages and tobacco	539	1147	3315	7.9	16.4
2. Clothing and shoes	98	192	440	6.9	12.6
3. Furniture	17	34	91	7.2	15.1
4. Printing	13	36	88	11.1	13.5
5. Leather Products	10	20	52	6.9	14.9
6. Other	6	74	295	27.7	22.0
TOTAL	684	1503	4283	8.2	16.1
Intermediate Goods					
1. Textiles	54	185	467	13.2	14.1
2. Wood Products	32	70	188	8.3	15.2
3. Paper and Paper Products	3	53	143	32.5	15.1
4. Rubber Products	6	24	79	15.7	18.7
5. Chemical Products	43	204	801	16.8	21.6
6. Non-metallic Mineral Products	25	68	230	10.3	19.2
7. Basic Metals	1	9	34	33.2	21.2
8. Metal Products	10	112	277	26.8	13.8
TOTAL	174	724	2218	15.4	17.3
Capital Goods					
1. Non-electrical Machinery	2	18	48	25.3	14.9
2. Electrical Machinery	2	36	121	34.3	18.8
3. Transportation Equipment	8	24	77	34.1	18.2
TOTAL	12	78	245	20.2	17.8
Total Manufacturing	870	2306	6746	10.2	16.6

finished consumer goods. Obviously, the former are based to a greater extent on local agricultural and mineral resources. Also, as demonstrated above, they are, as a whole, less protected by the common external tariff than the finished consumer goods. While final conclusions must await other data, this preliminary analysis suggests that the argument that the sole, or even a major, consequence of integration was to produce hothouse assembly industries behind a high tariff wall is not valid.

CHAPTER 2. INDUSTRIALIZATION AND TRADE WITHIN AN EXPANDED MARKET

The preceding chapter summarizes a number of broad tendencies over the past two decades as measured by the macro-aggregates. What is proposed here is to develop some of the themes suggested in the previous chapter: that the CACM appears to have promoted intraregional specialization according to comparative advantage, that it appears to have encouraged some intra-firm economies of scale, that there were some external economies associated with it, and that it encouraged the introduction of improved technology.

It should be noted at the outset of this discussion that in recent years there has been a serious lack of academic and institutional research on the reference points to this chapter. We have had to rely to some extent on a survey recently completed for ROCAP on firms in industries which were presumed to have advantages in exporting outside the region. Not all of them turned out to have these advantages; some marketed only within the CACM, and some only within their own countries. This provides a sample frame for looking at some of the dimensions by which the existence of the CACM influenced business behavior. The results of the survey are summarized in Chapter 3.

A. Specialization and Comparative Advantage: Intraregional Trade

As indicated in Chapter 1, the industrial structure of the region is closely linked by intraregional trade (which in 1978 accounted for 11% of the value of industrial production in the region) as well as to the rest of the world. Extraregional trade accounted for an additional 9% of industrial production. Of this latter, 70% was destined to the United States, 9% to the E.E.C., 1% to Japan, 5% to other countries outside Latin America, and only 15% to other Latin American countries. The fact that Central America's extraregional trading partners in manufactured products are predominantly industrialized countries suggests that the specialization and efficiency developed within the region are a factor in foreign trade with highly developed industrial structures as well.

This aspect of the region's industrial structure can be traced by examining

Table 2.1, which shows intraregional trade as a percent of the gross value of industrial production for each country by two-digit industry groups. The table suffers from some flaws: in several cases (notably basic metals) the volume of trade reported exceeds that of the value of industrial production; the data for Guatemala are reported in 1958 prices, and in the absence of sub-group price indices, one cannot adjust for shifts in intra-industry terms of trade over a twenty-year period. Hence, some sectors may be undervalued and some overvalued.

It can be readily seen that, for the region as a whole, the most export-intensive industry groups are intermediate products and capital goods, especially textiles, paper and paper products, rubber products, leather products, chemical products, non-metallic mineral products, basic metals, metal products and electrical machinery which all exceed, and in some cases double or nearly triple, the regional average of 11%. Clothing and shoes are at the regional average, as would be nonelectrical machinery if Honduras were excluded from the average.

Another generalization for the region is that although virtually every industrial sector of every country is involved in intraregional trade to some extent -- almost every cell of the table has a fairly significant number in it -- but a closer look shows a concentration by industry groups in one or two countries. In only one case (rubber products) are as many as three out of the five countries major intrazonal exporters, but rubber products show a high overall export coefficient.

A look at the trade disaggregated to the 7-digit level* confirms this conclusion. Guatemala, whose industry's export coefficients exceed the regional averages in nearly half of its industries, is the most export-intensive country in the region. In processed foods, it specializes in fruits and vegetables in cans or jars, cereal mill products, miscellaneous foods and confectionary products. In clothing, it has a predominant regional share of exports of knitted goods. In textiles, it exports cotton thread and

*The CEPAL study cited above provides this information by countries and commodities.

TABLE 2.1

EXPORT COEFFICIENTS^{1/} FOR INTRAREGIONAL TRADE
IN INDUSTRY, CENTRAL AMERICA AND
INDIVIDUAL COUNTRIES, 1978
(PERCENT)

	<u>Central America</u>	<u>Guatemala^{2/}</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>
Production of Finished Consumer Goods						
1. Food Products	4	5	4	2	5	4
2. Clothing and Shoes	11	18	15	3	8	5
3. Furniture	4	2	6	4	8	3
4. Printing	5	3	17	*	1	4
5. Leather Products, ex. Shoes	13	5	10	10	29	18
6. Other ^{3/}	7	2	18	3	2	12
Production of Intermediate Goods						
1. Textiles	28	38	32	13	12	24
2. Wood and Cork Products	4	7	2	4	8	1
3. Paper & Paper Products	20	26	63	2	5	7
4. Rubber Products	24	38	5	4	33	26
5. Chemical Products	27	33	33	27	25	19
6. Non-metallic Mineral Products	13	27	4	*	10	2
7. Basic Metals	21	**	47	**	**	81
8. Metal Products	14	4	34	12	3	19
Production of Capital Goods						
1. Non-electrical Machinery	9	3	11	*	22	34
2. Electrical Machinery	30	33	34	-	**	26
3. Transportation Equip.	5	12	6	-	4	1

*Less than 0.5

**Gross value of production insignificant.

^{1/}Intraregional exports/gross value of production.

^{2/}Gross value of production converted from constant 1958 \$CA by multiplying by the factor 2.16.

^{3/}Excludes beverages, tobacco, petroleum derivatives, mines and quarries.

Source: Computed from data in Compendio Estadístico Centroamericano, SIECA 1981.

cloth. In rubber products, its exports are predominantly tires. In chemicals, it is the major regional exporter of medicines, soaps, wood pulp, pesticides, fertilizers and chemicals n.e.c. In non-metallic minerals, it is the predominant exporter of glass containers and in metal products, the leading item is metal products n.e.c.*

Industrial exports from El Salvador, the second most export-intensive country, are even more highly concentrated than those of Guatemala. In food, El Salvador concentrates on bakery products and chocolate products. In clothing and shoes, it concentrates on shoes. It leads in the exports of publications. As for the "other" manufactures exported intrazonally, these are plastic products and professional and scientific equipment. Textiles are bolts of synthetic cloth for men's suits. Paper is containers of paper and paperboard. Chemicals are pesticides and fertilizers. Basic metals are nonferrous metals. Metal products are hand tools. Machinery (non-electrical) is predominantly agricultural implements and some industrial equipment. Electrical machinery comprises household appliances (whereas Guatemala classes its exports of electrical machinery almost exclusively as capital goods). El Salvador's exports of transport equipment is bus bodies.

Costa Rica's trade is also highly concentrated by industrial sectors. In the early 1970s, Costa Rica reported large intraregional trade of wood products, but by 1978 this had become insignificant. Costa Rica has switched from an intraregional exporter to an extraregional exporter of wood products and

*Even seven digits cannot break out some of the important exports.

**The NAUCA trade classification lumps all of these chemicals; if the region ever changes to Brussels Nomenclature (as proposed by the SIECA tariff reform), it would be possible to find out whether the pesticides and fertilizers exported by four of the five countries duplicate each other or whether each country has specialized in certain products. About all we know is that Costa Rica produces ammonium sulfate and El Salvador produces ammonium nitrate, while Nicaragua produces toxaphene, a chlorinated hydrocarbon; but this information is not derived from the NAUCA trade statistics.

furniture (Table 2.2). In rubber, it exports tires. In chemicals, it exports pesticides and fertilizers.** Costa Rica also produces glass containers and is a heavy exporter within the region of metal furniture, non-electrical machinery n.e.c., radio and television sets and electrical machinery (capital goods).

Nicaragua is virtually the sole exporter within the region of processed dairy products; in foods, it also exports cereal mill products (number two country in these products), vegetable oils and animal feed. In chemicals, Nicaragua is the sole exporter of PVC and of "industrial chemicals." It also benefits from an integration industry, caustic soda, and is the only intraregional exporter of this product.

Finally, there is Honduras, which despite its marginal participation in the CACM by means of bilateral trade agreements with three of its members, has a very different pattern of intrazonal trade from the other four Central American countries. Honduras exports leather products, but very little clothing and shoes intrazonally. Its wood products industry is export-oriented to 89% of the gross value of production; but only a tiny fraction (4%) is sold within the region. The same is true of Honduran exports of furniture; 42% are exported, but only 4% within the region. Honduras' only other industry in which intrazonal exports equal the average for the whole group within the region is chemicals; this turns out to be soap derived from the country's considerable meat packing industry.

Summarizing the intraregional trade statistics, it would seem a priori that in a poor region where consumers' tastes are sharply limited by income constraints, the industrial structure of each country would be the mirror image of every other one, and that there would be little opportunity for trade. It would also seem that each country would be attempting to trade the same articles to every other country within the region. But trade has expanded very fast, and to a significant extent it seems to have developed along the lines of comparative advantage, making for more efficient use of resources. Much of this latter cannot be picked up from the trade statistics. Also, there are some cases in which specialization has taken place within industries in several trading countries, such that although

TABLE 2.2

EXPORT COEFFICIENTS^{1/} FOR EXTRAREGIONAL TRADE IN
INDUSTRY, CENTRAL AMERICA AND INDIVIDUAL COUNTRIES, 1978
(PERCENT)

	<u>Central America</u>	<u>Guatemala^{2/}</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>
Production of Finished Consumer Goods						
1. Food Products	26	37	35	23	25	10
2. Clothing and Shoes	4	4	3	5✓	8	3
3. Furniture	18	31	8	38✓	17	3
4. Printing	10	6	8	21✓	*	14
5. Leather Products, ex. Shoes	8	2	*	10✓	14	17
6. Other ^{3/}	17	13	1	2	20	36
Production of Intermediate Goods						
1. Textiles	7	4	12	3	9	8
2. Wood and Cork Products	26	*	27	85✓	40	13
3. Paper & Paper Products	10	22	11	3	*	3
4. Rubber Products	12	28	4	10	*	6
5. Chemical Products	38	99	4	34	9	3
6. Non-metallic Mineral Products	6	7	5	4	8	4
7. Basic Metals	1	**	4	**	**	*
8. Metal Products	14	*	6	73✓	21	3
Production of Capital Goods						
1. Non-electrical Machinery	17	2	69	25✓	*	8
2. Electrical Machinery	4	2	1	*	**	14
3. Transportation Equip.	*	*	*	*	*	*

*Less than 0.5

**Gross value of production insignificant.

^{1/}Extraregional exports (total exports -- intraregional exports)/gross value of production.

^{2/}Gross value of production converted from constant 1958 \$CA by multiplying by the factor 2.16.

^{3/}Excludes beverages, tobacco, petroleum derivatives, mines and quarries.

Source: Computed from data in Compendio Estadístico Centroamericano, SIECA 1981.

relatively few commodities are traded internationally, the structure of production has been profoundly altered. Within textiles, for example, the broadening of markets after 1960 and the pressure of intraregional competition compelled producers in several countries to specialize in either cotton or synthetic products. There are doubtless other cases of this phenomenon; a modern economy cannot accommodate a "Jack-of-all-trades."

Regarding competition among producers in different CACM countries, some can be inferred from the trade data, although it is sometimes not well demonstrated by the statistics. Several industries are owned in more than one country by the same multinational firm (e.g., the glass plants in Guatemala and Costa Rica), and they probably specialize in some way. Also, there are cases of branches of a multinational being assigned a marketing area -- this is true of pharmaceuticals, which are very important to Guatemala. Thus, if the firm assigns different areas to different branches, or if it owns a technology unavailable to any other firm established in the region, there will be very little competition and perhaps little trade as well, depending on the location of its facilities. Hence, concentration indices (e.g., number of firms in an industry accounting for X% of production) may not be any better measures of competition than are the trade statistics. By this means, Cline demonstrates that the Central American economy, viewed as a whole, has a much less concentrated industrial structure, and therefore would have much more scope for competition than the average of its component countries (Appendix H, p. 664). What Cline was unable to show, but what this look at intrazonal trade strongly suggests, is that the development of industry within the CACM has been very different from what would have taken place over the past 22 years in the five separate economies.

There is a real dearth of good industrial economics with which to back up this assertion. But there are situations where appearance of the product in several countries' intrazonal export statistics (wood products, knitted goods, paints and varnishes, dry cells and batteries, electrical appliances, fertilizers and insecticides) suggests strong competition among the region's producers. These products -- with the possible exception of fertilizers and insecticides -- are likely to become leaders in extraregional trade for the

reason that competition even behind a tariff wall can force economies within the firm that make the products internationally competitive.*

There are situations, on the other hand, where the market is too small to permit any competition -- many types of tires produced only in Guatemala, for example, or the caustic soda plant which Nicaragua received as an integration industry (not based on cheap salt, hydroelectric power, or any apparent comparative advantage), and doubtless some of the pharmaceuticals as well. Finally, there are the happy situations of intermediate products which are not produced at all in Central America -- happy situations because if these industries had been established, their higher-than-CIF-landed prices would have sent inflationary ripples throughout the region and especially to its exporting industries.** No ethylene or ammonia is produced in the region, and none of the monomers for petroleum-based plastics or synthetic fibers.

B. Specialization and Comparative Advantage: Extraregional Trade

Exports of manufactured goods to world markets are extremely difficult to categorize and explain: they result from diverse endogenous and exogenous variables and (in the case of Central America) their behavior is somewhat erratic. Among the endogenous variables are the structure of production, including the degree and nature of competition in the industry, local and CACM

*For a comprehensive look at the transition of an industry from import substitution to outstanding export performance -- achieved behind a high protective tariff -- see Masson, F. G. "Protection and Competition in the Brazilian Household Appliance Industry" A.I.D.-I.P.E.A., 1970. What Masson found was that inter-firm competition brought prices and costs of electrical and electronic goods down to below CIF landed prices in Brazil. This process seems also to be well advanced in Central America, judging from the growth and composition of extraregional exports, especially of intermediate products.

**An interindustry matrix is needed to demonstrate and pinpoint the effects of inadvisable import substitutions; none such exists. This is a priority for regional economic planning and should be undertaken by SIECA-ECID. It could serve as a tool for resisting pressures for increasing protection on intermediate products as import substitution proceeds in this sector over the next two decades.

demand,* and (more recently) the availability of foreign exchange with which to purchase imported capital goods, intermediate inputs, or competing final goods. Exogenous variables include the business cycle in industrial countries, the elasticity of foreign demand, competitive prices, the quality of the Central American product in relation to that of its competitors, and the structure of protection in importing countries.

The cross-section data in Table 2.2 (also for 1978) show that extraregional exports are somewhat more evenly spread among consumer goods, intermediate products and capital goods than intraregional exports. Also, viewed by industry groups and countries, there seems to be rather less specialization than in the case of intraregional trade (the dispersion across rows is a little less).

Judging from Table 2.2, the three most extraregional export-intensive countries in Central America are Guatemala, Honduras, and Costa Rica. Guatemala specializes in food products, furniture, "other" manufactures, paper and paper products, rubber products and chemicals, whereas Costa Rica features publications, "other" manufactures, wood products, tobacco and electrical machinery.

It appears that with respect to consumer goods, the CACM stimulated the strengthening of firms and industries in these traditional areas, and their linkages with the primary sectors, both as regards production volumes and productivity, until they could generate exportable surpluses at competitive prices. The intermediate products, on the other hand, are more diverse; they are, to a considerable extent, not traditional to the region; they are more likely to be influenced by parent-subsidiary relations in multinational firms (for the reason that they are more likely to be produced by the multinationals which became established in Central America after 1960 -- see Section D).

*The fact that the growth rates of various industries (Table 4.1) do not match very well with the data in Table 2.2 suggests that this variable is quite important.

It suffices to note that El Salvador, Honduras, and Nicaragua are heavily involved in extraregional exports of food products. El Salvador is also specializing in wood products and is involved heavily in non-electrical machinery. Honduras exports furniture extraregionally, as well as wood products, tobacco, chemicals (soap), metal products and non-electrical machinery. Certain sectors of Honduras' industry are extraordinarily dependent on extraregional trade, to an extent not encountered elsewhere in Central America.

The alternative means of analysis for the extraregional exports is contained in Tables 2.3 and 2.4. These graft the intraregional exports, at the 3-digit level of disaggregation by activity groups in 1970 and 1975, onto the extraregional exports in 1980 for the two major extraregional exporters, Costa Rica and Guatemala. The graft is amazingly effective. The biggest exports are chemicals, food products (in which Costa Rica maintains the regional average), machinery and "other" manufactures in which Costa Rica's intraregional exports far exceed the regional average. Guatemala's main exports in extraregional trade are food, chemicals, tobacco, textiles, wood, rubber and glass, in all of which Guatemala's intraregional exports are far above the average.

Our analysis seems to confirm the conclusion that many of the same factors are at work, on the supply side at least, as regards both intra-trade and extra-trade. Thus, economic integration may have greatly assisted the balance of payments of a number of Central American countries as they enter the eighties. Manufactures, as a share of total exports in 1960, were only 15% of the region's overall exports. By 1970, this share had risen to 41%; by 1975, to 50%. There was a drop between 1975 and 1980 to 37%. The recent drop has largely been confined to intermediate products; consumer goods such as processed foods, textiles, clothing and shoes continued to expand in value until 1980.* Moreover, there is now a surplus in the region's balance of trade in manufactured consumer goods.

*CEPAL, op. cit. attributed this trend to manipulations by the multinationals in order to maintain control of the region's "vital" resources of food and goes on to attribute the malnutrition in the area to these manipulations.

Cuadro No. 2.3

GUATEMALA: CIFRAS COMPARATIVAS DE LA EXPORTACION
CA \$ MILES

Grupo	Descripción	Centro América				Fuera del área	
		1970		1975		1980	
		Valor	%	Valor	%	Valor	%
	Fabricación de productos alimenticios	44 980	32.9	165 256	48.2	23 772.6	26.7
	Industria del tabaco	1 964	1.5	1 601	0.5	15 194.7	17.2
	Fabricación de textiles	22 370	16.4	34 068	10.0	7 024.2	8.0
	Fabricación de prendas de vestir	2 702	2.0	6 648	1.9	206.8	0.2
	Fabricación de calzado excepto de caucho	4 013	2.9	4 195	1.2	1 452.4	1.7
	Madera y productos de madera	2 215	1.6	3 929	1.1	1 743.7	2.0
	Fabricación de papel y productos de papel	4 070	3.0	8 830	2.7	466.3	0.5
	Fabricación sustancias químicas industriales	2 817	2.1	10 806	3.1	10 004.4	11.4
	Fabricación de otros productos químicos	17 613	12.9	33 468	9.8	15 280.3	17.4
	Fabricación productos de caucho	4 716	3.4	7 736	2.3	4 467.1	5.0
	Fabricación productos de plástico	1 530	1.1	3 614	1.1	701.2	0.8
	Fabricación vidrio y productos de vidrio	5 451	3.9	14 800	4.3	4 018.2	4.5
	Básicos de hierro y acero	3 652	2.7	4 587	1.3	125.4	0.1
	Fabricación productos metálicos	3 138	2.3	4 984	1.5	68.3	0.3
	Aparatos, accesorios y suministros	5 056	3.7	10 301	3.0	15.8	0.2
	Otras industrias manufactureras	5 758	4.2	14 799	4.3	-	-
	Industrias varias	4 667	3.4	12 844	3.7	3 466.9	4.0
	Total industrias manufactureras	136 712	100.0	342 433	100.0	88 008.3	100.0

Fuente: Elaborado por ECOAGRO en base del Anuario de Comercio Exterior.

Cuadro No. 2.4

COSTA RICA: CIFRAS COMPARATIVAS DE LA EXPORTACION
CA \$ MILES

Grupo	Descripción	Centro América				Fuera del área	
		1970		1975		1980	
		Valor	%	Valor	%	Valor	%
	Fabricación productos alimenticios	38 904	45.1	103 902	44.2	11 311.1	15.6
	Fabricación de textiles	7 038	8.2	17 295	7.4	1 514.8	2.1
	Fabricación prendas de vestir	1 329	1.5	2 637	1.1	4 606.0	6.4
	Madera y productos de madera	1 493	1.7	2 988	1.3	4 567.1	6.3
	Papel y productos de papel	1 988	2.3	5 202	2.2	2 599.4	3.7
	Substancias químicas industriales	4 717	5.5	27 449	11.7	8 574.6	11.9
	Otros productos químicos	6 781	7.9	14 375	6.1	8 151.4	11.3
	Productos de caucho	2 242	2.6	6 111	2.6	609.5	0.8
	Productos plásticos	1 552	1.8	6 174	2.6	4 330.5	6.1
	Básicos de hierro y acero	1 623	1.9	4 074	1.7	3 386.2	4.7
	Productos metálicos, excepto maquinaria	3 435	4.0	7 272	3.1	2 572.3	3.6
	Maquinaria, aparatos, accesorios	4 835	5.6	4 119	1.8	5 104.0	7.1
	Cuero y productos de cuero	-	-	1 372	0.5	-	-
	Fabricación de calzado	-	-	1 376	0.5	1 782.4	2.5
	Otras industrias manufactureras	10 272	11.9	30 617	13.0	13 024.5	18.0
	Total industrias manufactureras	86 201	100.0	234 963	100.0	72 193.5	100.0

Fuente: Elaborado por ECOAGRO en base del Anuario de Comercio Exterior.

C. The CACM and External Economies

The factors which affect a firm's cost of doing business that originate outside that firm -- simple enough to define, but extremely difficult to measure -- multiply whenever balanced growth is taking place. In a competitive economy, such commonplace examples as quality control, off-the-job staff training, storage and delivery of spare parts, provision of transportation services and public utilities, and of professional services are performed to a major extent by private firms. The flow of these external economies to the firm is determined by supply and demand; an economy which is rapidly modernizing seems to need them to a degree which is disproportionately greater than the growth rate of production. Other services are provided by public authorities, and these are more easily quantified, although their true effects on costs (taking into account the taxes with which to pay for them) are debatable.

There is a third area of relevance which is often ignored. This is what entrepreneurs do collectively to help themselves. Since the impact on production and productivity in Central America of this type of externality has been most dramatic, it must be explored as well. We do not have good data on the social background of the entrepreneurs who were faced by the challenge of the creation of the CACM. But a majority were doubtless of agricultural or commercial origin, with little idea of industrial technology, general management techniques or financial management. Their first contacts with the foreign-managed multinational firms who flocked to the area after 1960 (see below) must have been traumatic. Yet by the end of the decade of the 1960s, some of these local entrepreneurs had actually succeeded in such sophisticated undertakings as product and process design, notably in processed foods, attire, cosmetics and household products such as cleansers and detergents.

Although national universities played some role in disseminating the required techniques, this role is more likely to have been effected by the privately-supported Instituto Centroamericano de Administracion de Empresas (INCAE). INCAE has developed a solid program for exposing top management to problem-solving by the case method, short courses on specialized subjects as well as general management, middle-management training, etc.

Another tendency in this area has been the establishment and increasing professionalization of national chambers of industry, chambers of small and artisan industry, chambers of exporters and, probably most effective of all, as a means of technology transfer, the specialized organizations within given industries such as textiles, foods, metal working and the like. The latter are often affiliated with international organizations such as the Institute of Food Technologists, the American Society of Cereal Chemists, the American Chemical Society, the American Society for Testing of Materials, etc. With a realization of the impact of both national and regional economic measures, such organizations have increasingly participated in analysis and discussion of, for example, the proposed modifications of the Central American common tariff, the negotiation of bilateral tariff treaties with Honduras, or standards of quality required of integration industries. Since 1972, the information and pressure-group function of the Chambers has been facilitated by the Federacion de Camaras Industriales Centroamericanas.

As a new generation of entrepreneurs has been called forth by the creation of the CACM, it should be noted that many of them have taken posts in national governments as well as regional institutions such as the Central American Bank for Economic Integration, gaining further insight into broader issues of policy formation and project evaluation.

We believe that the coming to power of a new class of managers and entrepreneurs is the most important single consequence of the CACM. Conversely, a loss of faith in the integration movement would severely impair the status and influence of these persons, who are productivity conscious in a supranational environment and learning to influence public policies to meet the needs of a modernizing private sector.

As for the public sector, there are clearly some activities which benefit an identifiable group of users and which can be linked to the goals of Central American economic integration, such as industrial parks or investment in ports and major highways of regional significance. This could be said for public expenditures on prefeasibility studies (virtually every Central American government has provided for such funding), and for industrial financing by public institutions. The same might be ventured for public investment in

electrical generating facilities, reforestation, even technical education. But as one moves out toward such expenditures, it becomes more and more difficult to trace the linkages. One runs across cases -- the pulp and paper project in Honduras cited by CEPAL of which more than 50% of the investment will be in infrastructure -- but these are doubtless exceptional.

In Chapter 1 of this report it was noted that formation of the CACM had an overall favorable effect on public finance in the area despite certain fiscal drags caused by the reduction of tariff duties and industrial incentives. This is borne out in Table 2.5 which shows public investment expanding since 1960 by about 50% faster than either private investment or value added in manufacturing. Consequently, our concern about the quality and direction of this investment is certainly justified.

One important means of regionalizing public expenditures has been the Central American Bank for Economic Integration (CABEI) which by mid-1981 had authorized 907 loans in the amount of CA\$1,567 million. Of this amount, over two-thirds of the funding was directed to physical infrastructure such as roads and ports, electricity, water supply, transport, storage and communication. An additional 11% was directed to the manufacturing industry. These loans are made to both Central American and mixed enterprises. Not surprising, in view of the predominance of the former in CABEI's portfolio, is the predominance of the non-durable consumer goods industries (95 out of 147 loans extended through 1978). Although most of this borrowing was for projects with markets in more than one country, only five of these loans appear to have anything to do with extraregional trade. CEPAL reports (p.196) that the same tendency is true of public and private bank financing for industry. This suggests that much of the financing of industries which export outside the region was received from outside the region through either private direct investment or foreign financial institutions.

In conclusion, the influence of the CACM on external economies, although diffuse and difficult to document, was nevertheless pervasive. But the major vehicle of change was doubtless the foreign private firm; its influence is examined in the final section of this chapter.

TABLE 2.5

INCREASE IN REAL GDP, VALUE ADDED
BY MANUFACTURING, PRIVATE AND PUBLIC INVESTMENT,
1960-79 (OR 80)
(In Millions of Constant 1960 Dollars)

	<u>Private Investment</u>	<u>Public Investment</u>	<u>Value Added in Manufacturing</u>	<u>Real GDP</u>
1960	275.0	74.0	379.4	2700.9
1968	495.9	140.2	739.5	4314.5
1972	548.6	220.9	933.7	5270.3
1975	691.4	309.6	1095.4	6070.1
1978	998.4	537.5	1378.2	7211.2
1979	875.0	471.5	1347.8	7208.1
1980	-	-	1368.0	7265.9
Average Annual Compound Growth Rates	%	%	%	%
1960-68	7.6	8.3	8.7	6.0
1968-75	4.9	12.0	5.8	5.0
1975-79	6.1	11.1	5.3	4.4
1960-79	6.3	10.2	6.9	5.3

Sources: SIECA, VI Compendio Estadístico Centroamericano, 1975, Pages 362-363; and Estadísticas Macroeconómicas de Centroamérica, 1971-81, July 1982, P. 1.

D. Technological Transfer to Industry in CACM Countries

In the previous section we viewed one of the major types of agents for technological transfer: the professional societies which modernizing entrepreneurs and professional workers have been forming to an increasing extent in Central America. Through their ties with counterpart organizations in industrial countries, they obtain access to the books, professional journals, seminars, exhibits and short courses sponsored by the latter. And as anyone who is familiar with the inner workings of such societies is aware, they are generally organized and strongly influenced by public and private research institutions such as Bell Labs, the National Bureau of Standards, the USDA's regional research laboratories, the National Food Processors' Association, etc.

Thus, it was natural that Central American scientists and engineers would seek to establish local research institutes around which their societies might coalesce. Since privately-sponsored research would not be sufficient to pay their bills at the outset, public support was sought to establish first ICAITI (Instituto Centroamericano de Investigacion y Tecnologia Industrial) and then others. ICAITI is now a relatively mature organization with a broad program of short-term and long-term contract research. Among these contracts have been those with national governments to assist in the organization, staffing, development of work programs for national research institutes such as INDUTEC (Dominican Republic) and ITCR (Costa Rica). Another regional research organization, more public sector oriented, is the Instituto de Nutricion (INCAP).

According to a recent study by SIECA,* each of the five countries in Central America spends between 0.1% and 0.3% of its GDP on research and development. Although there has been much solid work in applied technology, especially by ICAITI, the most significant effects of this movement so far have doubtless

*Documento Centroamericano para la Conferencia de las Naciones Unidas sobre Ciencia y Tecnologia para el Desarrollo, SIECA 1978.

been consciousness raising toward consideration of environmental and conservation aspects of industrialization, toward the need to select and apply technologies which match the region's human and resource endowment, and toward facilitating the access of local entrepreneurs to foreign technology.

The major consequence of the formation of the CACM as regards technological transfer was, as indicated above, the attraction of multinational firms to the area. The attractions include greatly extended markets, tax exemptions, free convertibility of foreign exchange and tariff protection. CEPAL states that in the 1950s, only 47 new subsidiaries of foreign firms were established in the area as contrasted with 80 in the 1960s. Also, there was a sharp increase in foreign direct investment in established Central American firms. One obvious effect of this is to strengthen the capital structure of such firms. As important, though, is their access through foreign investment to the investing firms' patents, engineering and technological know-how. In fact, it has become quite common for a U.S. firm, rather than to enter into a formal licensing or management contract, simply to reduce its contribution to a joint venture by a specified amount and write an access agreement to any and all past and future know-how by means of compensation.*

*Masson, F.G. Conference paper for Latin American Conference on Scientific and Technological Transfer (CACTAL), Brasilia 1972, reproduced in part in Vision 12/72 and in Journal of International Business 5/73. Masson interviewed firms in the United States in eight industries as well as their subsidiaries, joint ventures or independent purchasers of their technology in Brazil, Argentina, Peru, Colombia and Mexico. One finding was the almost universal preference of sellers of technology for an "evergreen" type agreement as an item in each firm's capital structure (described in text, above). This prevented subsequent arguments with the buyer over just what he was entitled to receive, or to do with it. Another finding was that the arms-length buyers (independent firms who dealt with sellers through formal contracts) were informed shoppers, tended to know what they wanted and where they could get it, and what the going rates for purchased technology are. On the other hand, they were often frustrated by exchange control regulations, attempts by public bodies to impose price controls on royalties, marketing agreements, supply contracts and the like, all of which problems were much more easily handled by those who chose the "evergreen" route. Masson's policy conclusion was that little could be done by way of public action to facilitate the sale of foreign technology to Latin American firms or to control its price, i.e., that the existing system works extremely efficiently.

The principal industrial sectors in Central America to which foreign firms have been strongly attracted have been food, chemicals, non-metallic minerals, metal working, paper, rubber and petroleum derivatives. These sectors account for about 90% of the intraregional trade in Central America, of which approximately half was accounted for by the foreign firms (CEPAL p. 125). Guatemala was the most important recipient of foreign investment in the 1970s, followed by Costa Rica, El Salvador, Honduras and Nicaragua, in that order. Aggregate data are shown in Table 2.6 for 6-year periods following 1960. The World Bank estimates that during the period 1962-69, new flows of private foreign investment accounted for about 10% of industrial financing in the region, and that reinvested profits of foreign firms accounted for an additional 7%.*

TABLE 2.6
FOREIGN DIRECT INVESTMENT IN CENTRAL AMERICA
1960-65, 1966-71, 1972-77 AND
INDIVIDUAL YEARS AFTER 1977

<u>Period</u>	<u>Foreign Direct Investment Per Year (million \$CA)</u>
1960-65	32.7
1966-71	62.1
1972-77	139.4
1978	201.6
1979	161.7
1980	120.3

Source: Compendio Estadístico Centroamericano, SIECA 1981.

*The Common Market and its Future, World Bank 1972, Table 16.

CHAPTER 3: INFLUENCE OF THE CACM ON EXTRAREGIONAL EXPORTS

This chapter further develops the relationship between participation of individual firms in the CACM and their extraregional exports in recent years (1978-81). In contrast with the aggregate data presented in Chapter 2, data on individual exporting firms are used from a sample survey prepared for ROCAP with the objective of identifying manufacturing firms in the five Central American countries with a capacity to export extraregionally.*

The sample of 94 firms in the five Central American countries selected by ECOAGRO was predominantly from the four-digit ISIC groups which showed high shares of extraregional exports in 1980. The sample was further biased toward the firms which export outside the CACM by considering:

- the comparative advantage of the firm in use of local raw materials, intensive use of labor or application of exclusive production techniques; and
- actual or potential advantage in exporting to countries outside the area.**

In order to use the information provided by this survey the respondents of the survey were split into two groups: those which exported significantly to the CACM (whose intraregional exports are greater than 10% of gross sales), and those which did not export significantly to the CACM (intraregional exports less than 10% of gross sales). The first group, Table 3.2(a) comprises 42 firms; the second Table 3.2(b), 35 firms.*** We have re-grouped the first sample of 42 firms by two-digit industry groups and averaged their ratios of CACM exports to gross sales, as follows:

*"Identificacion de Empresas Manufactureras y Agroindustriales en Centroamerica con Capacidad para Exportar a Paises Fuera del Area" ECOAGRO, Guatemala, Contract 596-000-C-00-2061-00, March 1983.

**Ibid., p. 3.

***The other 17 firms did not provide a breakout of exports.

TABLE 3.1 (a)

AVERAGE RATIO OF INTRAREGIONAL EXPORTS TO
GROSS SALES OF 42 FIRMS WHICH EXPORT MORE THAN
10% OF EXPORTS TO CACM, 1978-81

Group	Percent of Gross Sales to CACM			
	1978	1979	1980	1981
31 Food, beverages, tobacco	19.5	32.6	29.8	35.3
32 Textiles, clothing, leather products, including shoes	34.4	31.5	33.8	29.6
33 Wood and wood products, including furniture	12.0	17.0	33.5	14.5
34 Paper and paper products	6.5	16.0	18.0	24.5
35 Chemicals	53.0	50.0	52.1	42.9
36 Non-metallic mineral products	2.0	11.0	32.5	29.5
37 Basic metals	35.0	36.0	42.5	44.0
38 Metal products, machinery and equipment	33.7	34.0	27.0	41.7
39 Miscellaneous manufactures	49.5	55.0	53.5	51.5

Analogous data for the second group are:

TABLE 3.1(b)

AVERAGE RATIO OF INTRAREGIONAL EXPORTS TO
GROSS SALES OF 35 FIRMS WHICH EXPORT LESS THAN
10% OF EXPORTS TO CACM, 1978-81

Group	Percent of Gross Sales to CACM			
	1978	1979	1980	1981
31 Food, beverages, tobacco	2.6	0.6	1.9	1.7
32 Textiles, clothing, leather products, including shoes	2.7	2.4	3.0	1.9
33 Wood and wood products, including furniture	2.0	0.0	3.0	0.0
34 Paper and paper products	0.0	0.0	0.0	0.0
35 Chemicals	1.4	1.6	1.5	6.8
36 Non-metallic mineral products	..	..	..	..
37 Basic metals	0.0	2.5	1.5	0.8
38 Metal products, machinery and equipment	..	..	..	..
39 Miscellaneous manufactures	8.0	4.0	4.0	3.0

..Less than 0.5.

Averaged at the two digit level, the two groups of firms are rather consistent, both year-to-year and with regard to each other. In both groups, over the four-year period, chemicals, miscellaneous manufactures, and basic metals are fairly consistently the most export-intensive groups and non-metallic mineral products, paper and paper products and wood and wood products, the least export-intensive. These data are also reasonably consistent with the industry aggregates shown in Table 2.1, earlier, for the single year 1978.

Dropping to the four-digit level of disaggregation, however, some major differences can be noted. Turning to the firms with high percentages of intrazonal trade, they can be grouped as follows:

(i) Foodstuffs with high unit values (7 firms):

- Fruits and vegetables, preserved and prepared
- Cereal mill products (breakfast cereals)
- Bakery products
- Cocoa, chocolate and candy
- Miscellaneous foods (starches, mayonnaise, mustard, powdered drinks)

This group of products is exported to a large extent within the CACM, but are not exported outside the region. The reasons are various. Some have a high import content. The limiting factors for some of the others do not reside in the manufacturing sector, but rather it is high cost agricultural inputs in the country of origin.

(ii) Manufactured products using inputs from agriculture or stock raising and/or highly labor-intensive (11 firms):

- Thread and textile fabrics
- Products manufactured from textiles, except clothing
- Clothing
- Shoes, except rubber shoes

Within this group of rather similar products, the inter-firm differences are extreme. The more efficient firms export outside the CACM consistently -- note firms H06 and C06 (these are country designations, Honduras and Costa

Rica respectively). Some firms within this group appear to have benefitted from the CACM to achieve efficiency; others evidently have not.

(iii) Wood products (2 firms):

-Sawmills, planing and finishing

One firm exports outside the region; the other does not.

(iv) Products originating in plants which were designed and installed to supply the CACM heavily represented by multinational firms and integration industries (22 firms):

- Paper and cardboard boxes
- Chemicals
- Fertilizers and pesticides
- Pharmaceutical products
- Glass products
- Primary iron and steel
- Electrical apparatus and supplies
- Agricultural implements
- Miscellaneous manufactures

Many firms in these categories are able to export extraregionally since they have achieved economies of scale and apply relatively advanced technology.

Analyzing the firms which do not sell within the CACM, Table 3.2(b), we note the following groups for which markets are predominantly national and extraregional.

(i) Food and tobacco products (7 firms):

- Vegetable and animal oils (cottonseed)
- Miscellaneous foods (90% is coffee extract)
- Processed tobacco

(ii) Highly labor-intensive, high added value products (4 firms):

- Leather
- Leather products
- Shoes

CENTROAMÉRICA: ESTRUCTURA INDUSTRIAL DE VENTAS CON ALTO PORCENTAJE RELATIVO AL MCCA DE LAS EMPRESAS ENCUESTADAS

Código país y empresa	Código CIIU	Descripción	Total	Mercado interno				Mercado centroamericano				Resto del mundo			
				1978	1979	1980	1981	1978	1979	1980	1981	1978	1979	1980	1981
CO1	3113	Lavado y conservación de frutas y hortalizas	100	85	85	85	85	15	15	15	15	-	-	-	-
CO2	3113	Envasado y conservación de frutas y hortalizas	100	60	60	60	60	40	40	40	40	-	-	-	-
NO2	3116	Productos de molinería	100	..	..	72	55	..	..	28	45	..	..	-	-
NO3	3117	Fabricación de productos de panadería	100	..	..	70	80	..	..	30	20	..	..	-	-
CO20	3119	Fabricación de cacao, chocolate y artículos de confitería	100	92	88	89	89	8	12	11	11	-	-	5	5
CO5	3121	Elaboración de productos alimenticios diversos	100	20	20	20	20	80	80	80	80	-	-	-	-
NO1	3121	Elaboración de productos alimenticios diversos	100	81	74	72	61	19	26	28	39	-	-	-	-
NO2	3121	Elaboración de productos alimenticios diversos	100	85	77	92	67	15	23	7	33	-	-	-	-
CO7	3211	Hilado, tejido y acabado de textiles	100	36	30	25	30	18	21	28	27	41	49	47	43
NO3	3211	Hilado, tejido y acabado de textiles	100	72	74	55	47	28	21	41	49	-	5	4	4
CO8	3212	Artículos confeccionados de materiales textiles, excepto prendas de vestir	100	24	26	35	63	76	74	65	37	-	-	-	-
E10	3220	Fabricación de prendas de vestir, excepto calzados	100	56	60	48	57	46	40	52	43	-	-	-	-
NO4	3220	Fabricación de prendas de vestir, excepto calzados	100	83	72	70	71	17	28	30	29	-	-	-	-
NO5	3220	Fabricación de prendas de vestir, excepto calzados	100	86	91	78	85	14	9	22	15	-	-	-	-
NO6	3220	Fabricación de prendas de vestir, excepto calzados	100	35	35	37	38	22	15	15	14	43	50	48	48
CO3	3220	Fabricación de prendas de vestir, excepto calzados	100	24	37	63	63	74	42	36	36	2	1	1	1
CO4	3220	Fabricación de prendas de vestir, excepto calzados	100	15	5	39	39	35	38	24	22	-	-	-	-
G11	3240	Fabricación de calzados, excepto caucho vulcanizado o moldeado o plástico	100	75	65	58	..	25	35	35	..	-	-	7	..
CO6	3240	Fabricación de calzados, excepto caucho vulcanizado o moldeado o plástico	100	52	45	49	51	23	24	24	24	25	31	27	25
NO8	3311	Aserraderos y talleres de acepilladura y otros talleres para madera	100	88	47	47	50	12	17	18	29	-	36	35	21
NO7	3311	Aserraderos y talleres de acepilladura y otros talleres para madera	100	..	..	51	100	..	..	49	-	-	-	-	-
NO9	3412	Fabricación de envases y cajas de papel y cartón	100	91	88	82	67	9	12	18	33	-	-	-	-
C10	3412	Fabricación de envases y cajas de papel y cartón	100	79	63	66	70	4	20	18	16	36	17	16	16
N12	3511	Fabricación de sustancias químicas industriales básicas, excepto abonos	100	..	..	51	54	..	..	48	45	..	..	1	1
N13	3512	Fabricación de abonos y plaguicidas	100	..	..	100	44	..	..	-	36	..	..	-	-
N14	3513	Fabricación de resina sintética, materias plásticas y fibras artificiales, no vidrio	100	..	..	15	12	..	..	80	..	..	..	5	8
G18	3522	Fabricación de productos farmacéuticos y medicamentos	100	25	25	25	25	75	75	75	75	-	-	-	-
CO1	3522	Fabricación de productos farmacéuticos y medicamentos	100	34	40	40	38	33	30	30	31	33	30	30	31
C12	3522	Fabricación de productos farmacéuticos y medicamentos	100	80	95	93	47	20	5	7	4	-	-	-	47
C13	3522	Fabricación de productos farmacéuticos y medicamentos	100	1	-	..	-	91	88	..	89	8	12	..	11
H10	3529	Fabricación de productos químicos n.e.p.	100	54	57	54	51	46	43	46	49	-	-	-	-
C15	3560	Fabricación de productos plásticos	100	97	41	21	..	-	59	79	..	3	-	-	..
C16	3620	Fabricación de vidrio y productos de vidrio	100	..	..	45	49	..	..	49	44	..	..	6	7
N12	3692	Fabricación de cemento, cal y yeso	100	88	75	67	70	2	11	16	15	10	14	17	15
C17	3710	Industrias básicas de hierro y acero	100	81	76	62	60	10	11	27	29	9	13	11	11
E16	3720	Industrias básicas de metales no ferrosos	100	40	40	42	41	60	60	58	59	-	-	-	-
E17	3811	Fabricación de cuchillería, herramientas manuales y artículos generales de ferretería	100	-	2	13	-	82	79	64	66	-	-	-	-
G19	3829	Construcción de maquinaria y equipo n.e.p., exceptuando maquinaria eléctrica	100	85	85	84	82	12	12	11	12	3	3	5	6
E18	3839	Construcción de aparatos y suministros eléctricos, n.e.p.	100	59	55	57	55	41	45	43	45	-	-	-	-
C21	3839	Construcción de aparatos y suministros eléctricos, n.e.p.	100	100	100	100	42	-	-	-	44	-	-	-	14
E19	3909	Industrias manufactureras n.e.p.	100	-	-	0	-	93	94	93	92	7	4	7	8
H13	3909	Industrias manufactureras n.e.p.	100	94	86	86	89	6	14	14	11	-	-	-	-

FUENTE: Identificación de empresas manufactureras y agroindustriales en Centroamérica, con capacidad para exportar a países fuera del área. Informe principal cuadros de la encuesta No. 3, 26, 49, 72, 90.

CUADRO

CUADRO No. 3.2(b)
CENTROAMÉRICA: ESTRUCTURA PORCENTUAL DE VENTAS CON MÍNIMO O BAJO PORCENTAJE RELATIVO AL MCA
DE LAS EMPRESAS ENUESTADAS

Código país y empresa	Código CIUO	Descripción	Total	Mercado interno				Mercado centroamericano				Resto del mundo			
				1978	1979	1980	1981	1978	1979	1980	1981	1978	1979	1980	1981
001	3113	Envasado y conservación de frutas y legumbres	100	100	100	100	98	-	-	-	1	-	-	-	1
003	3115	Fabricación de aceites y grasas vegetales y animales	100	100	100	100	100	-	-	-	-	-	-	-	-
004	3115	Fabricación de aceites y grasas vegetales y animales	100	65	55	61	78	7	0	4	-	28	45	35	22
N01	3115	Fabricación de aceites y grasas vegetales y animales	100	..	..	100	100	..	..	0	0	..	..	-	-
E01	3119	Fabricación de cacao, chocolate y artículos de confitería	100	99	99	100	100	-	-	-	-	-	-	-	-
E02	3121	Elaboración de productos alimenticios diversos	100	100	100	100	100	-	-	-	-	-	-	-	-
E03	3121	Elaboración de productos alimenticios diversos	100	100	100	100	100	-	-	-	-	-	-	-	-
N04	3121	Elaboración de productos alimenticios diversos	100	..	..	36	48	..	..	5	3	..	..	59	49
006	3140	Industria de tabaco	100	51	20	22	1	11	4	4	8	38	76	74	71
N05	3140	Industria de tabaco	100	..	..	100	100	..	..	-	-	..	..	-	-
008	3211	Hilado, tejido y acabado de textiles	100	99	99	98	99	1	1	2	1	-	-	-	-
006	3211	Hilado, tejido y acabado de textiles	100	99	99	99	99	1	1	1	1	-	-	-	-
E07	3212	Artículos confeccionados de materiales textiles, excepto prendas de vestir	100	-	100	100	100	-	-	-	-	-	-	-	-
E09	3215	Cordelería	100	100	100	100	100	-	-	-	-	-	-	-	-
N07	3231	Ortudería y talleres de acabado	100	70	76	52	72	9	8	5	7	21	16	43	21
N06	3231	Ortudería y talleres de acabado	100	..	..	75	100	..	..	8	-	..	..	13	-
G10	3233	Fabricación de productos de cuero y sucedáneos de cuero, excepto calzado y otras prendas de vestir	100	67	67	59	22	-	-	-	-	33	33	41	78
005	3240	Fabricación de calzado, excepto caucho vulcanizado o moldeado o plástico	100	15	37	53	72	8	7	5	4	77	56	40	24
009	3311	Aserraderos y talleres de acepilladura y otros talleres para madera	100	100	96	97	93	-	-	-	-	0	4	3	7
G14	3320	Fabricación de muebles y accesorios, excepto los que son principalmente metálicos	100	96	100	100	100	4	-	-	-	-	-	-	-
N08	3320	Fabricación de muebles y accesorios, excepto los que son principalmente metálicos	100	..	..	91	100	..	..	9	-	..	..	-	-
009	3412	Fabricación de envases y cajas de papel y cartón	100	100	100	100	100	-	-	-	-	-	-	-	-
G15	3511	Fabricación de sustancias químicas industriales básicas, excepto abonos	100	100	100	100	98	-	-	-	2	-	-	-	-
E11	3511	Fabricación de sustancias químicas industriales básicas, excepto abonos	100	100	100	100	99	-	-	-	1	-	-	-	-
N09	3511	Fabricación de sustancias químicas industriales básicas, excepto abonos	100	..	..	100	85	..	..	-	1	-	-	-	14
G11	3512	Fabricación de abonos y plaguicidas	100	80	90	100	88	-	-	-	-	20	10	-	12
G17	3522	Fabricación de productos farmacéuticos y medicamentos	100	100	100	94	82	-	-	-	18	-	-	-	-
E14	3523	Fabricación de jabones, preparados de limpieza, perfumería, cosméticos y otros productos de tocador	100	94	94	95	95	6	6	5	5	-	-	-	-
G14	3523	Fabricación de jabones, preparados de limpieza, perfumería, cosméticos y otros productos de tocador	100	100	100	100	10	-	-	-	20	-	-	-	70
N11	3529	Fabricación de productos químicos, n.e.p.	100	80	76	88	88	4	5	7	7	16	19	5	5
E15	3710	Industrias básicas de hierro y acero	100	100	90	94	99	-	10	6	1	-	-	-	-
G18	3710	Industrias básicas de hierro y acero	100	100	100	100	96	-	-	-	2	-	-	-	2
G19	3710	Industrias básicas de hierro y acero	100	100	100	100	51	-	-	-	-	10	7	6	3
G20	3710	Industrias básicas de hierro y acero	100	90	93	94	97	-	-	-	-	10	7	6	3
G22	3839	Construcción de aparatos y suministros eléctricos, n.e.p.	100	91	92	86	97	8	4	4	3	1	0	0	0

FUENTE: Identificación de empresas manufactureras y agroindustriales en Centroamérica, con capacidad para exportar a países fuera del área. ECOMCA, informe principal, cuadros de encuesta No. 3, 26, 49, 72, 90.

In contrast to the preceding two groups, we note:

- (iii) All products, except those listed above (24 firms); in only one case (soaps, perfumes, cosmetics) is either intraregional or extraregional trade of much importance.

As indicated above, there are considerable inter-firm differences in export behavior. Thus, in the group of 42 firms which export to the CACM, there are 11 which do not export extraregionally. And in the group of 35 firms that do not export to the CACM, there are 10 which export heavily outside the region. These exceptional cases are shown in Table 3.3 by four-digit industry groups. To test the hypothesis that the large firms were more likely to export extraregionally, using value of production as a measure of size, we obtain the following results:

1. Firms which export to CACM

	<u>No. of Times</u>
a) extraregional exporter larger than extraregional non-exporter	5
b) extraregional non-exporter larger than extraregional exporter	<u>1</u>
TOTAL	6

(However, within pharmaceuticals two exporters are smaller yet than the non-exporter.)

2. Firms which do not export to CACM

a) extraregional exporter larger than extraregional non-exporter	3
b) extraregional non-exporter larger than extraregional exporter	<u>2</u>
TOTAL	5

From the first set of matched pairs, one would conclude that extraregional exporters might have achieved economies of scale by exporting to the CACM. But from the second set (five pairs), it is not clear that the larger firm is usually the extraregional exporter.

TABLE 3.3

VALUE OF PRODUCTION IN 1981 AS AN INDICATOR OF
PROPENSITY TO EXPORT EXTRAREGIONALLY

<u>Industry Group</u>	Value of Production (million \$CA)	
	<u>Exporter</u>	<u>Non-exporter</u>
<u>1. Firms which Export to CACM</u>		
Thread, cloth, finished textiles	19.7	8.7
Clothing	6.6	5.6
		..
		0.7
		3.0
Shoes, ex. rubber or plastic	2.7	1.4
Lumber	2.8	1.2
Containers of paper and cardboard	1.2	3.2
Pharmaceutical products	16.8	1.6
	0.3	
	0.4	
Cement, Lime, gypsum	17.2	None
Primary iron and steel	0.2	None
Electrical apparatus and supplies	N.D.	1.9
<u>2. Firms which do not Export to CACM</u>		
Vegetable and animal oils	3.0	11.6
Miscellaneous foods	9.1	0.9
Tobacco products	6.7	24.4
Leather	5.6	2.0
Leather products, ex. shoes	7.2	None
Shoes, ex. rubber or plastic	1.0	None
Industrial chemicals, ex. fertilizer	7.0	2.2
Fertilizers and pesticides	1.4	None
Soaps, cosmetics and similars	0.6	0.6
Chemical products, n.e.c.	2.6	None

..Less than 0.5.

The number of workers is another measure of size. The results, if we pool the whole sample, are as follows:

	<u>Average Number of Workers Per Firm</u>
1. Firms exporting to intra- and extra- markets (31)	286.9
2. Firms exporting to intra-market only (11)	202.8
3. Firms exporting to extra-market only (25)	224.8
4. Firms exporting to neither market (10)	166.1

These results show the firms exporting to both markets to be significantly larger (and perhaps more labor-intensive as well) than any other group. As might be expected, the firms exporting extraregionally employ more persons, on the average, than those exporting within the region only. These data, however, do not really explain the presence or absence of extraregional exports among those firms which do not export intraregionally. The variable size of firm alone is not an explanatory one.

CHAPTER 4: CRITIQUE OF THE CACM*

In this chapter, the merits, in the light of available data, of various criticisms that have been directed against the CACM are examined. Critics have charged that: (a) much of Central American industry to which the Common Market has given rise consists mainly of assembly-type operations generating little value added in the CA region; (b) the region has exhausted, or has come close to exhausting, its import substitution opportunities so that little additional impetus to the region's future growth could be expected from the market itself; (c) the development of the manufacturing sector promoted by the CACM has actually tended to reduce net earnings of foreign exchange owing to the substantial increase in imports of intermediate and semi-finished goods induced by the CACM tariff structure; and (d) that establishment of the CACM actually interfered with the development of exports of manufactured goods to extraregional markets owing to the incentives that the CACM provided for import substitution. Each argument is examined in turn.

A. Promotion of Assembly-Type Operations

Does most of the manufacturing industry promoted by the CACM consist of assembly-type operations generating little value added? Some has undoubtedly taken this form. There are, for example, reports of packaging operations in the pharmaceutical and cosmetic industries. Yet, analysis of the official statistics published by the five Central American governments on value added and intraregional and extraregional trade reveals a very different picture of what has actually happened in the Central American region since 1960.

If the assertion that the CACM has done little more than promote the establishment of assembly type operations were true, one would expect to find: (a) modest growth in value added in the manufacturing sector; (b) most of this growth would be concentrated in consumer goods industries that do not use substantial amounts of domestic labor and materials; and (c) little growth in either production or intraregional exports of intermediate goods.

*This chapter of the report was prepared by Clark Joel.

The data presented in Tables 4.1 through 4.4 do not bear out this assertion. Table 4.1 shows that value added by the manufacturing sector, when expressed in current prices, increased at average annual rates of 10 to 13% in all five countries over the 19 to 20-year period 1960-1979 or 1960-80. When the data are expressed in constant prices, the average annual growth rate of the manufacturing sector is still a substantial 6 to 8%.*

Looking at the composition of value added by major component sectors, it is apparent that growth was broadly distributed among most sectors. It was not concentrated in the consumer goods industries alone. Thus, very high growth rates were registered by all countries in textiles, foodstuffs, paper and paper products, printing, leather and hides, chemicals, non-metallic minerals, and, in Guatemala and Costa Rica, in metal products, machinery and electrical machinery and accessories. For many of these industries, the average annual growth rate (in current dollars) ranged between 12 and 18 % a year (see Table 4.1).

The data on the gross value of manufacturing production and on the ratio of value added to gross value, presented on Tables 4.2 and 4.3, confirm these findings. Intermediate goods as a group increased at an average annual compound rate of 15.6% over 1963-78, compared with 12.5% for final consumer goods and 21% for capital goods (Table 4.2). Thus, the output of finished consumer goods increased at a significantly lower rate than that of intermediate and capital goods. Note that all major categories of intermediate goods increased very rapidly over the 15-year period 1963-78.

The data in Table 4.3 show a declining trend in the ratio of value added to gross value of manufacturing production over 1960-78. The ratio for consumer goods declined from 40% to 37%, while the coefficients for intermediate and capital goods declined from 44% to 35%, and from 65% to 40%, respectively. This decline reflects the fact that Central America's manufacturing processes became increasingly dependent on inputs from other economic sectors as CA

*For individual countries, the average annual growth rates (in constant prices) are as follows: Guatemala, 1965-79, 7.0%; for El Salvador 1965-77, 5.9% (it declined substantially thereafter); Honduras 1965-79, 6.5%; Nicaragua 1965-78, 6.4% (it declined sharply thereafter); Costa Rica 1965-79, 8.6%.

TABLE 4.1

VALUE ADDED BY MANUFACTURING SECTOR
(In Millions of Current CA Pesos)*
(CIIU CLASSIFICATION)

	Guatemala				El Salvador				Honduras			
	1960	1970	1980	Annual Growth Rate 1960-80	1960	1970	1979	Annual Growth Rate 1960-79	1960	1970	1978	Annual Growth Rate 1960-78
Foodstuffs	41.2	82.4	368.2	11.6	32.7	55.6	153.6	8.5	5.6	21.2	63.7	14.5
Beverages	24.6	33.0	171.6	12.4	11.6	20.1	57.7	8.8	4.3	7.8	24.9	10.2
Tobacco	11.2	19.0	75.9	10.0	4.8	6.7	21.5	8.2	1.6	2.5	7.6	9.0
Textiles	12.3	36.5	126.4	12.4	5.8	25.4	53.2	12.4	1.5	3.4	15.6	13.9
Shoes and Apparel	18.9	35.1	127.5	10.0	11.7	20.5	48.2	7.7	1.7	3.4	9.1	9.8
Wood and Wood Products	2.5	5.8	25.3	12.3	.5	.8	4.0	11.6	3.2	6.1	19.7	10.6
Furniture and Accessories	4.8	7.1	24.0	8.4	.9	4.2	9.2	13.0	.5	.9	4.1	12.4
Paper and Paper Products	.6	5.3	23.2	20.1	.2	3.0	8.9	22.1	.2	1.3	3.7	17.6
Printing	2.4	5.3	19.9	11.2	1.6	3.2	9.5	9.8	.7	1.9	5.7	12.4
Leather and Hides	1.6	3.2	9.8	9.5	1.0	1.5	6.3	10.2	.2	.5	2.7	15.6
Rubber Products	1.1	4.2	17.0	14.7	.5	1.3	4.9	12.8	.3	.7	4.5	16.2
Chemicals	4.6	10.8	37.2	11.0	2.5	14.9	48.0	16.8	2.1	3.2	10.7	9.5
Petroleum Derivatives	-	-	-	-	-	8.1	29.0	-	-	3.4	5.8	-
Non-Metallic Minerals	5.3	11.0	56.8	12.6	3.5	6.7	26.8	11.3	.5	4.5	15.0	20.8
Basic Metal Industries	-	-	-	-	.2	1.8	7.8	21.3	-	-	.1	-
Metal Products	1.5	23.7	81.5	24.6	.8	2.7	7.8	12.7	.3	3.1	12.0	22.7
Machinery, other than Electric	.2	3.9	12.6	23.0	.5	2.0	6.6	14.5	.2	.2	1.0	9.4
Electric Machinery and Accessories	.3	4.2	17.3	22.5	.4	5.7	14.4	20.8	-	.3	3.0	-
Transport Equipment	1.6	3.2	14.7	11.7	1.8	2.9	5.3	5.8	-	-	.6	-
Other (miscellaneous)	.8	10.8	131.1	29.0	1.7	6.8	14.3	11.9	.1	2.0	9.6	28.9
Handicrafts	-	-	-	-	-	-	-	-	17.0	23.9	35.8	4.2
TOTAL	135.5	304.7	1339.8	12.1	82.7	193.9	537.0	10.3	40.0	90.3	254.9	10.8

*Guatemala's figures are a crude approximation as we had to convert the data from constant 1958 CA pesos to current CA pesos by means of the value added deflator for the overall manufacturing sector.
Source: SIECA, VI Compendio Estadístico, 1975, Pages 376-378; and VII Compendio Estadístico, 1981, Pages 478-487.

	Nicaragua				Costa Rica			
	1960	1970	1980	Annual Growth Rate 1960-80	1960	1970	1979	Annual Growth Rate 1960-79
Foodstuffs	18.7	60.3	197.8	12.5	28.6	53.9	204.6	10.9
Beverages	4.8	14.9	100.5	16.4	10.1	17.9	94.2	11.8
Tobacco	3.9	9.2	43.3	12.8	3.1	8.7	26.7	12.0
Textiles	2.2	10.7	23.3	12.5	2.6	8.9	30.9	13.9
Shoes and Apparel	3.1	9.6	30.5	12.1	5.4	10.9	30.8	9.6
Wood and Wood Products	1.8	5.4	11.1	9.5	5.8	7.0	25.8	8.0
Furniture and Accessories	.4	2.1	4.0	12.2	2.7	4.4	22.5	11.8
Paper and Paper Products	.2	1.6	5.7	18.2	.2	3.9	15.7	25.8
Printing	.7	3.6	14.9	16.5	1.8	4.2	15.1	11.8
Leather and Hides	.6	1.9	4.7	10.8	.9	1.0	5.2	9.7
Rubber Products	.2	.8	4.7	17.1	.6	4.1	12.9	17.5
Chemicals	3.9	12.5	53.2	14.0	3.5	11.0	52.0	15.3
Petroleum Derivatives	-	4.9	25.5	-	-	2.5	23.5	-
Non-Metallic Minerals	1.6	6.4	19.6	13.3	1.9	8.9	28.1	15.2
Basic Metal Industries	-	-	-	-	-	.6	2.2	-
Metal Products	.8	6.7	16.9	16.5	.7	5.2	15.2	17.6
Machinery, other than Electric	-	2.4	5.6	-	.4	3.7	7.6	16.8
Electric Machinery and Accessories	.1	-	-	-	.4	2.8	17.7	22.1
Transport Equipment	-	.4	1.0	-	2.2	3.8	25.1	13.7
Other (miscellaneous)	.3	5.3	9.8	19.0	.5	6.7	22.8	22.3
Handicrafts	-	-	-	-	-	-	-	-
TOTAL	43.3	158.7	572.1	13.8	71.5	170.1	668.6	12.5

TABLE 4.2

GROSS VALUE OF MANUFACTURING PRODUCTION
IN THE CACM, 1963-78
(In Millions of CA Pesos)*

	<u>1963</u>	<u>1978</u>	<u>Average Annual Compound Growth Rate 1963-78</u>
A. <u>Final Consumer Goods</u>	<u>826.2</u>	<u>4840.4</u>	12.5%
Food products, beverages and tobacco	643.4	3713.4	
Clothing and shoes	120.4	489.5	
Furniture	21.7	107.7	
Printing	15.2	98.4	
Leather Products	11.6	65.0	
Other	13.8	366.4	
B. <u>Intermediate Goods</u>	<u>288.6</u>	<u>2536.7</u>	15.6%
Textiles	87.0	513.5	
Wood Products	37.1	197.1	
Paper and Paper Products	13.2	175.6	
Rubber Products	8.6	84.9	
Chemical Products	84.5	907.2	
Non-metallic Minerals	33.5	266.9	
Metal Products	24.7	391.5	
C. <u>Capital Goods</u>	<u>17.5</u>	<u>294.3</u>	20.7%
Non-electric Machinery	4.7	75.2	
Electric Machinery	3.4	127.1	
Transportation Equipment	9.4	92.0	
D. Total Manufacturing	1132.3	7671.4	13.6%

*1 CA Peso = \$1.00

Source: SIECA, Compendios Estadísticos VI and VII.

TABLE 4.3

**RATIO OF VALUE ADDED TO GROSS VALUE OF PRODUCTION
IN THE CENTRAL AMERICAN MANUFACTURING SECTOR
(In Millions of Current CA Pesos)**

	1960			1970			1978		
	<u>Value of Production</u>	<u>Value Added</u>	<u>VA/VB</u>	<u>Value Added</u>	<u>Value of Production</u>	<u>VA/VB</u>	<u>Value of Production</u>	<u>Value Added</u>	<u>VA/VB</u>
Consumer Goods	683.7	271.8	39.8	1503	569.2	37.9	4840.4	1770.2	36.6
Food products, beverages and tobacco	539.0	206.8	38.4	1147	413.2	36.0	3718.4	1299.5	35.0
Clothing and shoes	98.4	40.8	41.5	192	79.5	41.4	489.5	193.5	39.5
Furniture	17.1	9.3	54.4	34	18.7	55.0	107.7	52.8	49.0
Printing	12.7	7.2	56.7	36	18.2	50.6	98.4	50.2	51.0
Leather Products	10.1	4.3	42.6	20	8.1	40.5	65.0	26.8	41.2
Other	6.4	3.4	53.1	74	31.6	42.7	366.4	147.4	40.2
Intermediate Goods	173.6	76.1	43.8	724	288.8	39.9	2536.7	906.5	35.7
Textiles	53.9	24.4	45.3	185	84.9	45.9	513.5	212.4	41.4
Wood Products	31.6	13.9	44.0	70	25.1	35.9	197.1	82.2	41.7
Paper Products	3.2	1.4	43.8	53	15.1	28.5	175.6	55.2	31.4
Rubber Products	5.5	2.7	49.1	24	11.1	46.3	84.9	33.9	39.9
Chemical Products	43.2	16.6	38.4	204	71.3	35.0	907.2	269.2	29.7
Non-metallic Mineral Products	25.3	12.8	50.6	68	37.5	55.1	266.9	132.8	49.8
Metal Products	10.9	4.3	39.4	121	43.8	36.2	391.5	120.8	30.9
Capital Goods	12.4	8.1	65.3	78	35.5	45.5	294.3	119.0	40.4
Non-electric Machinery	1.9	1.3	68.4	18	12.2	67.8	75.2	32.8	43.6
Electric Machinery	1.9	1.2	63.2	36	13.0	36.1	127.1	46.4	36.5
Transportation Equipment	8.6	5.6	65.1	24	10.3	42.9	92.0	39.8	43.3
TOTAL	369.7	356.0	40.9	2306	893.6	38.8	7671.4	2795.7	36.4

Sources: SIECA, VI and VII Compendio Estadístico.

VB: Gross Value of Production

VA: Value Added

industry became more complex. Still, the value added coefficients are significantly higher than they would be in simple assembly-type operations: in 1978, they fell in the range of 35 to 40 percent. The degree to which the region's manufacturing sector has come to rely on imported raw materials and intermediate goods will be examined in subsequent sections.

Data on the composition of intraregional exports between 1963 and 1979 show higher growth rates for intermediate and capital goods in comparison with finished consumer goods (Table 4.4). Thus, over this 16-year period, intermediate goods as a group increased at an average annual compound rate of 19.2%, compared with 15.7% for final consumer goods and 25% for capital goods. As a proportion of total intraregional trade, the intermediate goods category increased from 62 to 68 percent, while final consumer goods declined from 35 to 24 percent (Table 4.2).

In conclusion: while instances can be cited of particular industries that are little more than assembly-type operations contributing little to value added and employment, this conclusion does not hold for the manufacturing sector as a whole.

B. Are Import Substitution Opportunities Exhausted?

The available data do not permit a definitive conclusion with respect to the scope that remains for further import substitution opportunities in particular areas. To answer this question, a detailed study would have to be undertaken in various industrial subgroupings (with breakdown into at least 4-digit CIIU categories) to evaluate the magnitude of imports in relation to domestic costs and profitability, degree of capacity utilization, future requirements as influenced by income-elasticity of demand, and feasibility of expansion. However, the data available at the two-digit level have enabled us to calculate the import substitution coefficients* in 1978 (the last year for

*The import substitution coefficient is the ratio of total domestic production (i.e., production within the region) to total available supply, the latter being the sum of the region's output plus imports (from outside the region) for each major industrial category. Thus, an import substitution coefficient of 96 for a particular industrial category indicates that 96% of the total available supply to the region is being produced within the region.

TABLE 4.4

TRENDS IN CACM INTRAREGIONAL EXPORTS
1963-79
(In Millions of CA Pesos)

	<u>1963</u>	<u>1970</u>	<u>1979</u>	<u>Average Annual Compound Growth Rate 1963-78</u>
A. <u>Final Consumer Goods</u>	<u>19.6</u>	<u>77.2</u>	<u>201.5</u>	<u>15.7%</u>
Food products, beverages and tobacco	12.0	45.4	112.2	15.0
Clothing and shoes	4.0	17.7	48.7	16.9
Furniture	.6	2.2	5.3	14.6
Printing	.7	2.3	6.3	14.7
Leather Products	1.2	3.3	7.1	11.8
Other	1.1	6.3	21.9	20.6
B. <u>Intermediate Goods</u>	<u>34.8</u>	<u>169.6</u>	<u>578.6</u>	<u>19.2</u>
Textiles	10.5	57.7	143.9	17.8
Wood Products	2.8	4.5	11.6	9.3
Paper and Paper Products	2.6	10.1	49.7	20.3
Rubber Products	1.3	7.3	19.8	18.6
Chemical Products	12.9	59.6	245.6	20.2
Non-metallic Minerals	2.2	9.1	37.7	19.4
Basic Metals	.4	10.9	36.0	32.5
Metal Products	2.1	10.4	34.3	19.1
C. <u>Capital Goods</u>	<u>1.9</u>	<u>18.1</u>	<u>67.8</u>	<u>25.0</u>
Non-electric Machinery	.6	3.2	16.5	23.0
Electric Machinery	.9	13.7	48.7	28.3
Transportation Equipment	.4	1.2	2.6	12.4
D. <u>Total Manufacturing</u>	<u>56.3</u>	<u>264.9</u>	<u>847.9</u>	<u>18.5</u>

Source: SIECA, VI Compendio Estadístico, 1975, P. 325 and VII Compendio Estadístico, 1981, Pages 352-353.

which complete data are available) for the major industrial categories; we have also plotted the trend in these import substitution coefficients over 1963-78.

The calculated import substitution coefficients (along with supporting data) are presented in Table 4.5. Note that opportunities for further import substitution in the area of final consumer goods appear to be relatively limited. In food products, clothing and shoes, furniture, and leather products, the import substitution coefficients were already in the range of 95 to 98 percent in 1978. Further opportunities for import substitution in the consumer goods categories still exist in printing and in the broad "other" category where the coefficients were 77 to 78 percent. Still, opportunities for further import substitution in the final consumer goods category as a whole are not very substantial, not only because of the relatively high import substitution coefficients already prevailing, but because the total absolute magnitude of extraregional imports is not very high. Thus, in 1978, total imports of consumer goods amounted to only \$305 million, which constitutes only 9% of total extraregional imports (Table 4.5).

Intermediate goods, on the other hand, offer much better prospects. Total intermediate goods imports of extraregional origin amounted to \$1,716 million in 1978 (Table 4.5), equal to 50% of total extraregional imports. While the import substitution coefficient for intermediate goods has risen significantly between 1963 and 1978 -- from 49% to 60% -- there still appears to be significant additional import substitution opportunities in certain industrial categories, including paper and paper products, rubber products, non-metallic minerals and, particularly, chemicals.* In the chemical products category, total imports of extraregional origin amounted to \$934 million in 1978, which slightly exceeded the gross value of total chemicals produced domestically (\$907 million). Thus, the import substitution coefficient in this category is less than 50%.

*At this stage, this conclusion is most tentative. A significant further expansion of import substitution in the chemical industry would most likely entail major investment outlays (owing to the capital intensity of the industry) whose economic feasibility cannot be taken for granted.

TABLE 4.5

**IMPORT SUBSTITUTION: DOMESTIC PRODUCTION AS A % OF
TOTAL AVAILABLE SUPPLY, 1963-78
(In Millions of Dollars)**

	Imports from Outside Region	Gross Value of Domestic Manufacturing Production 1963	Imports from Outside Region	Gross Value of Domestic Manufacturing Production 1970	Imports from Outside Region	Gross Value of Domestic Manufacturing Production 1978	Percent		
	Mw (Mt-Mr)	Q	Mw	Q	Mw	Q	IS 1963	IS 1970	IS 1978
A. Final Consumer Goods	71.5	826.2	84.4	1503.2	305.1	4840.4	92.0	94.7	94.1
Food products, beverages and tobacco	42.0	643.5	43.5	1147.1	148.7	3713.4	93.9	96.3	96.1
Clothing and shoes	5.1	120.4	4.8	192.3	13.8	489.5	95.9	97.6	97.3
Furniture	.4	21.7	1.0	34.2	1.8	107.7	98.2	97.2	98.4
Printing	2.8	15.2	6.5	36.6	27.9	98.4	84.4	84.9	77.9
Leather Products	2.8	11.6	1.5	19.7	3.1	65.0	80.6	92.9	95.4
Other	18.4	13.8	27.1	73.5	109.8	366.4	42.9	73.1	76.9
B. Intermediate Goods	297.9	288.6	467.6	724.2	1715.9	2536.7	49.2	60.8	59.7
Textiles	52.5	87.0	58.2	185.4	115.9	513.5	62.4	76.1	81.6
Wood Products	.7	37.1	1.1	70.1	2.7	197.1	98.1	98.5	98.6
Paper & Paper Products	24.6	13.2	57.1	53.2	136.0	175.6	34.9	48.2	56.4
Rubber Products	12.8	8.6	14.0	23.7	44.4	84.9	40.2	62.9	65.7
Chemical Products	135.8	84.5	201.2	203.6	934.5	907.2	38.4	50.3	49.3
Non-Metallic Minerals	14.4	33.5	21.4	67.5	78.0	266.9	69.9	75.9	77.4
Metal Products	57.1	24.7	114.6	120.9	404.5	391.5	30.2	51.3	49.2
C. Capital Goods	176.7	17.5	325.0	79.0	1376.9	294.3	9.0	19.4	17.6
Non-electric Machinery	84.9	4.7	155.3	18.1	637.8	75.2	5.2	10.4	10.5
Electric Machinery	37.7	3.4	65.5	36.2	253.7	127.1	8.3	35.6	33.4
Transportation Equipment	54.1	9.4	104.2	23.7	485.4	92.0	14.8	18.5	15.9

Mw: Imports from Outside Region
Q: Total Domestic Production

Mt: Total Imports from all Sources

Mr: Intraregional Imports

IS: Import Substitution Coefficient equivalent to $Q/(Mw+Q)$

Source: SIECA, VI Compendio Estadístico 1975; and VII Compendio Estadístico (CIU Classification), Pages 284-285 and 406-407

The import substitution coefficients are lowest in the capital goods category (only 18%), but here the requirements in terms of capital and technology are highest. Still, there may be good prospects for further import substitution in electrical machinery and apparatus. The import substitution coefficient in this area has increased very rapidly -- from only 8% in 1963 to 33% in 1978, with substantial scope for further growth.

In conclusion: While no definitive conclusions are possible without further analysis, the available data at the two-digit level suggest significant further import substitution opportunities in the intermediate goods area, particularly for chemical products, textiles, paper products and electrical equipment.

C. Impact of the Manufacturing Sector on the Net Supply of Foreign Exchange

Critics of the CACM have charged that the CACM has led to a net loss of foreign exchange to the region as a result of the stimulus provided to the importation of raw materials and intermediate goods (which carry very low import duties) which replaced formerly imported consumer goods carrying much higher tariffs. As a result, the region's net earnings of foreign exchange have diminished.

In the data presented in Table 4.6, we have calculated net foreign exchange earnings by the Central American manufacturing sector as the difference between the total value of exports of manufactured products sold extraregionally (line 1) and total raw materials and intermediate goods imported for the manufacturing sector from outside the region (line 2). Note that both exports of manufactured products (line 1) and imports of raw materials and intermediate goods (line 2) have expanded rapidly over 1963 to 1979, the former from \$43 million to \$950 million, the latter from \$139 million to \$908 million. Net foreign exchange earnings were increased from minus \$97 million in 1963 to a positive \$155 million in 1975 and \$42 million in 1979 (Table 4.6, line 3).

TABLE 4.6

IMPACT OF GROWTH OF MANUFACTURING SECTOR
ON SUPPLY OF FOREIGN EXCHANGE
(In Millions of Current Dollars)

	<u>1963</u>	<u>1968</u>	<u>1970</u>	<u>1975</u>	<u>1979</u>
1. Total Exports of Manufactured Products Outside the Region	42.6	113.9	209.2	693.1	950.3
2. Imports of Raw Materials & Intermediate Goods for the Industrial Sector from Outside CACM*	139.3	218.8	242.2	537.6	907.9
3. Net Foreign Exchange Earnings (Lines 1-2)	-96.7	-104.9	-33.0	155.5	42.4
4. Gross Value of Manufacturing Production	1169.9	1891.3	2305.6	4867.5	8256.9**
5. Imports of Industrial Raw Materials & Intermediate Goods as % of Gross Value of Manufacturing Production (2 as % of 4)	11.9	11.6	10.5	11.0	11.0

*Exclusive of imports of oil and petroleum products.

**Assumes \$1.0 billion for Honduras (data not available).

Sources: For Imports: for 1963-68, SIECA VI Compendio Estadístico Centroamericano, 1975, pages 290 and 325; for 1970, 1975 and 1979, SIECA, VII Compendio Estadístico 1981, pages 296-297 and 418-419. For Value of Production: VI Compendio Estadístico, P. 379 and VII Compendio, Pages 478-487.

The most interesting development is the constancy of the ratio between the region's total imports of industrial raw materials and intermediate goods to the gross value of manufacturing production. That ratio remained within the narrow range of 10.5% and 12% throughout the 1963-1979 period (line 5). Thus, the data do not bear out the conclusion that the region's manufacturing sector has become increasingly dependent on imports of raw materials and intermediate goods from outside the region.* It also fails to bear out the contention that the industrial sector has become a drain on net foreign exchange earnings.

D. Interference with Extraregional Exports

Has the establishment of the CACM interfered with the development of exports of manufactured goods to extraregional markets? Presumably, this effect could have come about because the protected regional market provided a special incentive to the production of import substitution goods, thus diverting resources from the export to the import-substitution sectors.

This effect could have been expected if the Common External Tariff established by the CACM had been set at a significantly higher level than the tariff structures of the five countries in force prior to the establishment of the CACM. However, as discussed in Chapter 1, this was not the case since the Common External Tariff provides a lower level of protection than the national tariffs previously in force, with the exception of that of El Salvador.

While the available evidence is not conclusive (owing to the difficulty of establishing a cause-and-effect relationship between the establishment of the CACM and exports), the vigorous growth of extraregional exports that

*Note that this analysis (based on Table 4.6) excludes oil imports from raw material and intermediate goods imported for the manufacturing sector. The conclusion might be different if all oil imports were included in this category. However, much of the region's oil imports are for consumption (private vehicular use) and general purpose electricity generation. Thus, only a fraction of the oil imports can be charged to the manufacturing sector.

occurred between 1963 and 1979 causes us to be skeptical with regard to the contention that the establishment of the Common Market has interfered with the growth of manufactured exports to outside markets. Data on trends in extraregional exports of manufactured products are presented in Table 4.7. Note that the total increased from \$209 million in 1970 to \$950 million in 1979, or at an average annual compound growth rate of 18.3%. Both consumer and intermediate goods exports to extraregional markets increased at about the same rate -- by 18%. Capital goods increased even more rapidly, at an annual rate of 26%, but started from a much lower base. The relative share of consumer and intermediate goods did not alter significantly over this period, amounting to 72% for the former and 26 to 27 percent for the latter. Note that the average annual growth rate of extraregional manufactured exports (18%) significantly outstripped that of intraregional manufactured exports (14%), thus lending little substance to the contention that the growth of extraregional exports has been impeded by the CACM.

TABLE 4.7

TRENDS IN VALUE OF EXTRAREGIONAL MANUFACTURED
EXPORTS, 1970-79
(In Millions of Dollars)

	<u>1970</u>	<u>1979</u>	<u>Average Annual Compound Growth Rate 1963-78</u>
A. <u>Final Consumer Goods</u>	<u>149.4</u>	<u>686.3</u>	<u>18.5%</u>
Food products, beverages and tobacco	137.0	581.5	17.4
Clothing and shoes	1.1	5.3	19.1
Furniture	.1	4.5	52.6
Printing	.2	.4	8.0
Leather Products	.1	9.8	66.4
Other	10.9	84.8	8.8
B. <u>Intermediate Goods</u>	<u>57.7</u>	<u>247.4</u>	<u>17.6%</u>
Textiles	3.8	36.6	28.6
Wood Products	19.3	65.9	14.6
Paper and Paper Products	.6	2.9	19.1
Rubber Products	.5	3.0	22.0
Chemical Products	16.6	52.2	13.6
Non-metallic Minerals	.2	5.4	44.2
Basic Metals	15.0	77.8	20.1
Metal Products	1.7	3.6	8.7
C. <u>Capital Goods</u>	<u>2.1</u>	<u>16.4</u>	<u>25.7%</u>
Non-electric Machinery	.4	3.0	25.1
Electric Machinery	1.7	12.3	24.6
Transportation Equipment	-	1.1	-
D. Total Extraregional Exports of Manufactured Goods	<u>209.2</u>	<u>950.1</u>	<u>18.3%</u>

*1 CA Peso = \$1.00

Source: SIECA, VII Compendio Estadístico 1981, pages 214-215 and 352-353. Extraregional exports were calculated as the difference between total exports and intra-regional exports.

CHAPTER 5. SUMMARY AND APPRAISAL OF CLINE'S EVALUATION OF THE SOCIAL AND ECONOMIC BENEFITS FROM CACM

The Brookings-SIECA (W. Cline, senior editor) evaluation of the net benefits from economic integration is now a classic in the literature of regional integrations of developing countries. The work was circulated in draft form in 1976 from which an abstract was prepared by ROCAP.* At first reading, some of the concepts introduced by Cline are difficult to comprehend, since he has produced essentially a feasibility study for an event which occurred some 15 years previously -- feasibility studies are normally forward-looking. Also, Cline was breaking some new ground in analytical methodology. His analysis of the trade effects was alluded to in Chapter 1. This is, in part, a straightforward use of the concepts used by Scitovsky, T. (1960) in quantifying the effect of formation of the European Economic Community. But whereas Scitovsky was more concerned with intersectoral linkages and adjustment mechanisms by which the trading partners might prevent chronic deficits of certain members of the Community, Cline ignored these problems since he was looking backward to a period of intense import substitution during which the benefits from trade had apparently become rather evenly distributed among the members of the CACM.

A. Static Benefits

Cline dismisses the static effects of the CACM on trade (trade creation, trade diversion) as irrelevant in measuring the social benefits of the CACM.

Equally great in magnitude are the effects of higher tariffs on some products if a country raised a tariff on a product when it moved to a common external tariff. This is what Cline calls "trade suppression." Conversely, if the tariff declined, there are cases of "external trade augmentation" which Cline also measures.

*Benefits and Costs of Economic Integration in Central America, CAPTO CIRCULAR A-02, March 8, 1976.

In addition to these four static effects, Cline's study also quantifies three others: (a) economies of scale effect (discussed in Chapter 2), (b) labor opportunity cost effect, and (c) foreign exchange scarcity effect. Social benefits from raising the opportunity cost of labor, which could not occur under full employment and are therefore not considered by Scitovsky, do appear when surplus labor is available. Thus, if the CACM allows each country to produce and export more goods, integration promotes a fuller use of the labor force.

TABLE 5.1

STATIC BENEFITS FROM CACM, BY SECTORS, 1972
(Million \$CA, with tariffs adjusted for exemptions)

	<u>Industry</u>	<u>Agriculture and Mining</u>
Social Benefits		
Trade Creation	2.4	4.4
External Trade Augmentation	0.6	0.8
Labor Opportunity Cost	23.5	0.3
Economies of Scale	2.9	0.0
Foreign Exchange Savings*	55.5	-1.9
TOTAL	<u>84.9</u>	<u>3.6</u>
<u>Social Costs</u>		
Trade Diversion	6.6	0.2
Trade Suppression	10.9	0.2
Labor Opportunity Cost	10.9	0.1
Economies of Scale	.0	0.0
TOTAL COSTS	<u>28.4</u>	<u>0.5</u>
<u>Net Social Gain</u>	113.3	2.4
..less than 0.05		

*Assumes shadow price of foreign exchange = 1.25. This effect for industry is evaluated at 98.8 million in Table 7. The lower figure results from adjustments in order to avoid double counting through the other trade effects (Cline p. 494).

Source: Cline, Chapter 3, Tables 5,7 and 9.

The last static benefit, foreign exchange scarcity, assumes a shadow price of foreign exchange higher than the official exchange rates. Estimating the impact of integration on each country's trade balance, and multiplying the net result by a shadow price premium on foreign exchange (25%), Cline estimates this effect on the assumption that countries in the CACM had obtained from each other what they would otherwise have had to import from the rest of the world. There is a further assumption that intraregional trade does not cause any reduction of exports to the rest of the world. The foreign exchange scarcity effect turns out to be the predominant static benefit. Were it not for this benefit, static benefits from the CACM would be insignificant (Table 5.1).*

The sum of the static net benefits represents a one-time outward shift in the area's production possibility frontier. In 1972, it represented about 2% of the GDP of the four remaining CACM countries, which is large in relation to findings for other customs unions. To our knowledge, no one has questioned the data or the methodology used to obtain the estimates for static benefits; for the most part, they follow conventional thinking. Hindsight reveals some of the problems in Cline's failure to pursue the consequences for the CACM of an increasingly local resource-intensive industrial structure along the lines suggested by Scitovsky. However, very little is known about this matter, as explained in previous chapters of this paper. Thus, it is difficult to speculate as to whether this tendency might today be altering the relative magnitude of the static benefits or their distribution among member countries, and as to whether they might be relieved by exchange rate adjustment, labor migration, or other measures.

An additional point might be made concerning the methodology. The study correctly adjusts the trade effects for a net loss in tariff revenues resulting from integration. In relation to total government finances in the

*Estimates are presented in the study for 1968 and 1972. In the interest of simplifying the exposition, the contrast between the two is made at the end of this chapter.

region, these changes had already become large by 1972. The result was a shift from reliance for revenue from the external trade sector to indirect levies on internally produced goods. So long as the dominant theme of the CACM was import substitution, the income-elasticity coefficients from this new source of revenue were very high and evidently did not hamper public finance. But as exports rise as a share of GDP, the buoyancy of such revenues for CACM countries falls. Government finance suffers unless tax bases are broadened. However, this cost of integration is not examined.*

B. Dynamic Benefits

Cline proceeds to discuss some dynamic gains from integration, some of which are quantifiable and at least one of which is not with Cline's methodology. The first of these is specified as the benefit from shifting from predominantly primary to predominantly secondary economies, "structural transformation." Although Cline can easily demonstrate that integration played a role -- perhaps the predominant role -- in encouraging industrialization of the Central American economies, he must make two simplistic assumptions (that agriculture is riskier than industry and that this is the only difference between agricultural and industrial pursuits) in order to derive a number (based on a risk-aversion assumption) for structural transformation benefits. Fortunately, the number is quite small since the analysis is superficial (Table 5.2).

By contrast, Cline's analysis of the second dynamic benefit, the investment effect, is quite comprehensive. Once again, there are two steps required to reach conclusions about social gains: first, he must determine the increase in investment attributable to integration, and second, he must decide what are the net welfare gains associated with each unit of investment. He conducted a

*For comparisons of tax base erosion within the CACM as compared to trends in Panama and Mexico, see Wilford, W.T. "Sales, Excise and Production Tax Performance: The Experience of Central America and Mexico" Journal of Developing Areas 6/79.

survey in which he attempted to find out from entrepreneurs the impact of the CACM on the investment decisions of the firm. He discovered that this was quite high (Table 14, p. 105, also discussed in Chapter 1, above). He also wanted to find out the share of the investment attributable to integration (45%).

Cline's calculation of investment effect benefits takes into account the source of the invested funds (foreign direct investment, domestic firms, foreign borrowing) and draws out the consequences. Although chains of reasoning become rather elaborate, Cline does not deal with all of the possibilities in the real world. For instance, he assumes that if investment comes in from outside the region, then future profits go to foreigners and benefits are confined to added wages only. But suppose the foreign firm reinvests rather than repatriates its profits, whereas the national firm uses its profits to purchase real estate in Miami? Also, there is a problem at this point in that the impact of added investment on employment may duplicate the static labor opportunity cost benefit. Cline adjusts his benefit for the latter possibility in order to eliminate double counting (Table 5.2).

After discussing the relevant and measurable theoretical considerations, Cline develops a model with two alternative assumptions: (a) that all the domestic investment effect is incremental, and (b) that only half of the social gain is realized because the other half of the extra investment attributed to integration came at the expense of investment which would have occurred even without integration. Because the 100% extra case appears more plausible, since virtually all of the foreign investment must have been incremental, this is the case which we follow through in Table 5.2. (The basic data for the 50% extra case are inserted after line II-B.)

The assumptions behind the welfare gain computations in Cline's investment effect model have been in circulation since A.C. Pigou published The Economics of Welfare in 1920, which extended Marshallian utility analysis into capital theory, and are not strongly contended. But one aspect which Cline might have considered was that the bulk of the new investment went to industries with decreasing long run average costs, so he may have understated benefits on this

score. Also, to the extent that the new investment was financed from new income, the region was not really "reducing current consumption," i.e., Cline did not have to take into account a time discount rate for consumption and the net welfare benefits from the new investment could be higher for this reason as well. Third, there is a "veil of money" argument in Pigou to the effect that if retained earnings are increased by inflation, the welfare cost to the public from saving is reduced because it is not perceived.* The mild inflation of the 1960s, about 1.2% per year in Central America, might fit this case.

None of the above arguments are really very quantifiable -- with the exception of the decreasing cost cases from cross-country comparisons -- but they all are at least plausible. They suggest that Cline is not exaggerating the benefits derived from the investment effects of integration. As for the effects of increased competition, Cline does not quantify them. In Chapter 2, we have attempted to push the argument somewhat farther, bringing competition from a bit player into center stage. What is needed now are a few good case studies in the industrial sectors surveyed by the previous discussion.

C. Conclusions; Country Distribution of Benefits

- The welfare gains from economic integration in Central American have been very substantial. Annual gains appear to be on the order of three to four percent of gross domestic product for the whole region. Two sources account for the bulk of these gains. First, the static social gain derived from economizing on foreign exchange by importing from partners' goods that otherwise would have been imported from outside the region, and by increasing exports to partners. Second, the dynamic social gain attributable to increasing total investment, both domestic and foreign, above what it would have been in the absence of integration.

*This argument was often used to justify the welfare cost of forced draft industrialization in Brazil during the 1950s. It broke down when the mild inflation of the 1950s turned into hyperinflation during the following decade.

- The traditional measures of gains from customs unions -- the social effects of trade creation and trade diversion -- are negligible compared with these other effects. Three non-traditional effects are more important -- increased use of low opportunity cost labor, increased exploitation of economies of scale, and improved social benefits from the structural transformation of the economies towards industry -- but, these effects are also of limited importance relative to the foreign exchange savings and the investment effects.
- The static social gains indicate that in 1968 there was an exact correlation between the rankings of the countries by relative share in integration gains and absolute size of the economy and industrial sector, but that by 1972 this correspondence had broken down -- and in addition the distribution of gains was much more even.
- The dynamic social effects indicate that the two countries with the lowest relative shares in static gains -- Honduras and Nicaragua -- had the most dramatic dynamic gains from increased investment attributable to integration. This seems to reflect investors' anticipating future growth through integration that had not made itself evident in 1972 in trade among partners.
- All five countries enjoyed positive gains from economic integration.
- The price studies, coordinated with work by Brookings on other countries in Latin America, demonstrate that integration in the CACM has contributed to price equalization for tradeable goods, a tendency which is further transmitted to non-tradeable sectors. This has occurred to a much greater extent than in other customs unions such as LAFTA. Subsequent work by SIECA has updated these series, permitting more accurate estimates of the effects of government policies such as the tax structure. It also permits the calculation of purchasing power parity exchange rates among the members of the CACM.
- The aggregate benefit increased by approximately one-half between 1968 and 1972, even though Honduras dropped out of full participation in the CACM in the interim. Basic gains were not seriously affected by this event.

D. Evaluation

The above conclusions (several of them are discussed in detail in other sections of this paper) have been examined and matched with available information from other sources. Cline's methodology is sound for the purpose intended -- a feasibility study performed after the fact. Much of the data developed for this work remain relevant and useful today. In his summation of costs and benefits, Cline appears inclined to overstate the former and understate the latter.

With the benefit of hindsight, we could suggest directions in which the work might have gone that would permit more thorough evaluation at this time of developments in the CACM. These are most notably the effects of inter-firm competition, economies of scale, and technological innovation in reducing production costs and facilitating extraregional exports. Also, we can discover from Cline very little about intersectoral linkages, how, for example, a growing dependence on local natural resources instead of imported inputs may have altered the size and distribution of the benefits from integration. This knowledge would make it possible to identify more clearly policy options for the CACM. We hope that ways can be found to fill these gaps, and believe that investment in these areas of research would yield high returns.

As a conclusion to this study a list of the persons contacted is presented on the following page.

APPENDIX
PERSONS CONTACTED

Otto Samayoa, Director, ECOAGRO*

Lic. Gilberto Corso, Gerente Interino, Camara de Industria

Jose de Jesus Monteagudo, Director, Seccion Comercio Extraregional, SIECA

Rafael Ponciano, Director, Seccion Industrial, SIECA

Enrique Delgado, Director, ECID/SIECA

Lic. Manuel Trujillo, Roberto Valladares, Rodolfo Leal, Depto. de Investigaciones Industriales, Banco de Guatemala

Fanny de Estrada, Subgerente, GUATEXPRO

William Cline, International Trade Institute, Washington, D.C.

Joseph Grunwald, Brookings Institution

Gabriel Siri, World Bank

Clarence Zuvekas, International Economist, LA/DP, AID/W

Richard Finberg, Overseas Development Council, Washington, D.C.

Julian Heriot, ROCAP

Clark Joel, ROCAP**

Antonio Palacios, Analyst ECID/SIECA Econometric Model

*Provided the data for Chapter 3 of this report.
**Prepared the draft of Chapter 4 of this report.