

Free Trade in Manufactures among Developing Countries: The Central American Experience*

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Recent studies of the pattern of trade in Europe have provided substantial evidence in support of the hypothesis that trade liberalization among industrial countries increases intra-industry specialization.¹ This paper uses empirical evidence to test the applicability of this hypothesis to the manufacturing sector of less developed countries.

According to the traditional textbook explanation of international specialization, a multilateral removal of trade barriers will cause a country to shift its resources from import-competing industries to export-oriented industries in which it has a comparative advantage.² The country as a whole will thus be able to improve its efficiency of production, but it will have to bear the cost of reallocation or loss of part of its capital investment due to the expected decline of import-competing industries.

This traditional interpretation of international specialization has

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¹ P. J. Verdoorn, "The Intra-Block Trade of Benelux," in *Economic Consequences of the Size of Nations*, proceedings of a conference held by the International Economic Association, ed. R. A. G. Robinson (London: Macmillan & Co., 1960), pp. 291–329; Bela Balassa, "Tariff Reductions and Trade in Manufactures among the Industrial Countries," *American Economic Review* 56 (June 1966): 466–72; and Herbert G. Grubel, "Intra-Industry Specialization and the Pattern of Trade," *Canadian Journal of Economics and Political Science* 33 (August 1967): 374–88. These empirical studies have influenced the writings of several Canadian economists in their predictions of the probable effects of multilateral tariff reductions. See, for example, H. E. English, "Canada's Economic Interests in Trade Liberalization," in *A Free Trade Association*, ed. T. M. Franck and E. Weisband (New York: New York University Press, 1968), pp. 191–223; and D. J. Daly, B. A. Keys, and E. J. Spence, *Scale and Specialization in Canadian Manufacturing*, Staff Study no. 21 of the Economic Council of Canada (Ottawa: Queen's Printer, 1968).

² See Paul A. Samuelson and Anthony Scott, *Economics: An Introductory Analysis*, 2d Canadian ed. (Toronto: McGraw-Hill Co. of Canada, 1968), chap. 34; Delbert A. Snider, *Introduction to International Economics*, 4th ed. (Homewood, Ill.: Richard D. Irwin, Inc., 1967), chaps. 3, 4; and Charles P. Kindleberger, *International Economics*, 4th ed. (Homewood, Ill.: Richard D. Irwin, Inc., 1968), chaps. 2, 3.

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influenced both public opinion and government officials in Central America. One of the major obstacles to the development of the Central American Common Market (CACM) has been the fear on the part of the less industrialized countries (Costa Rica, Nicaragua, and Honduras) that most of the gains from integration would fall to the relatively more industrialized countries (Guatemala and El Salvador). Costa Rica, in particular, at first declined to sign the General Treaty of Central American Economic Integration because of her protectionist fears.³

The Costa Rican minister of economics, Lic. Jorge Borbón Castro, defended his government's decision to remain outside the CACM on the grounds that (1) the Central American economies are not complementary but competitive, so existing industries with a comparative disadvantage will be eliminated, and (2) the gains from free trade will fall to Guatemala and El Salvador because of lower labor costs, more abundant capital, and proximity to markets.⁴ Minister Borbón was particularly concerned with the need to protect traditional, well-established industries which would face competition from industries of the other four countries. He concluded that the producers of a traditional product such as beer or footwear could only be affected in one of three possible ways in the event of economic integration: (1) the industries of all five countries could develop equally, with each "maintaining control of the national market" as if free trade did not exist; (2) a country containing an inefficient industry could lose that industry because of the competition of imports; or (3) four countries could cease to produce a good because of competition from a foreign firm which "establishes a plant or absorbs existing installations in one of the Central American countries."⁵

³ The fears of Costa Rica were, at that time, less justified than those of Honduras or Nicaragua. See Charles E. Staley, "Costa Rica and the Central American Common Market," *Economía internazionale* 15 (February 1962): 117-30.

⁴ *Costa Rica y la integración económica Centroamericana* (San José: Asociación Nacional de Fomento Económico, 1961), pp. 3-36. For a contemporary rebuttal to Minister Barbón, see the articles by Raúl Hess in *ibid.*, pp. 37-54, and Staley, pp. 117-30.

⁵ *Costa Rica y la integración económica Centroamericana*, p. 19. Professor Staley, in his criticism of Lic. Borbón's argument, did not deny that "some reallocation of resources would be necessary and to that extent some Costa Rican industry might be curtailed," but emphasized that the process would be a gradual one, and that "along the lines of the comparative cost doctrine, some other industry would be expanded." In addition, Staley suggested that Costa Rica, along with Guatemala and El Salvador, had the greatest potential for industrialization: "The Central American region has the potential to develop in time into a region of complementary countries, with Costa Rica, Guatemala, and El Salvador producing different types of industrial goods. Honduras and Nicaragua will continue as suppliers of food and materials" (Staley, pp. 124-25). For similar examples of the traditional interpretation of international specialization, see R. F. Mikesell, "The Theory of Common Markets as Applied to Regional Arrangements among Developing Countries," in *International Trade Theory in a Developing World*, proceedings of a conference held by the International Economic Association, ed. R. Harrod (London: Macmillan & Co., 1963), pp. 205-29; and R. L. Allan, "Integration in Less Developed Areas," *Kyklos* 14 (1961): 330 and *passim*.

The hypothesis of intra-industry specialization suggests a fourth possibility not considered by Minister Borbón in his thoughtful a priori analysis, namely, that all five countries may continue to produce and export the same commodity without “maintaining control of the national market.” With the data now available for the CACM, it is possible to examine the traditional explanation of international specialization with respect to the Central American experience. In the empirical section below, it will be seen that in Central America, as in Europe, a country can simultaneously produce, export, and import a commodity without the benefit of protection in a regional market. This pattern of trade suggests the existence of intra-industry rather than inter-industry specialization.

Intra-Industry Specialization and Product Differentiation

A convincing explanation of the phenomenon of simultaneous imports and exports of the same commodity requires the assumption that the goods in question are differentiated, thus permitting specialization within an industry along the lines of varying consumer tastes. A country might, for example, specialize in the production and export of an inexpensive, standard type of shoe and import the more fashionable styles, thus registering both imports and exports of a differentiated product. Such products are differentiated to the extent that buyers have varying preferences among the competing output of an industry; some consumers may be willing to sacrifice style for a decrease in price, while others are willing to pay a premium for the latest fashion. The actual sources of product differentiation are varied and include, in addition to style, differences in quality among the competing products, ignorance on the part of the buyer, and persuasive advertising designed to create “brand name” appeal.⁶

The hypothesis of intra-industry specialization and trade based upon product differentiation is particularly applicable to Central America, for very little of the CACM trade can be explained solely in terms of plant location or transportation costs.⁷ The majority of the population and most of the productive facilities are located away from the borders of the five countries. A recent preliminary survey of the region indicates that more than half the total number of industrial establishments employing five or more persons are located in or near the capital cities. The survey included food processing plants (bakeries being numerically the most important

⁶ Joe S. Bain, *Industrial Organization*, 2d ed. (New York: John Wiley & Sons, 1968), pp. 223–50.

⁷ Grubel (pp. 380–81) notes that simultaneous exports and imports of a commodity can be registered even without intra-industry specialization and even if the products in question are standardized or “perfectly homogeneous.” If the frontiers of the countries under consideration were heavily populated and were centers of industrial production, a large part of the uniformity of exports and imports might be explained in terms of the location of factories and markets, without assuming the existence of differentiable products or intra-industry specialization.

industry), so there is reason to believe that the geographic concentration of production is even greater for the industries considered in this paper.⁸

Intra-Industry Specialization and Trade in Manufactures

Unlike regional integration schemes in other parts of the developing world, the Central American arrangement has been very successful during its formative years.⁹ The General Treaty of 1960, which superseded a number of limited bilateral and multilateral treaties of free trade, provided for the elimination of tariffs among member countries within a period of five years (with some exceptions, notably coffee, cotton and rum) and for the creation of a common external tariff. The General Treaty became effective in June 1961 for Guatemala, Nicaragua, and El Salvador, in June 1962 for Honduras, and in September 1963 for Costa Rica. By June 1966, the five Central American states were united in a customs union which excluded only a few domestically produced items from free trade.

As a stimulant to intraregional trade, the CACM has surpassed the expectations of even its most optimistic proponents. One student of the Central American economies in the mid-fifties recognized the need to enlarge the market for manufactured goods but doubted "that even the conclusion of a multilateral free trade agreement among the five countries would have the effect of substantially increasing inter-Central American trade in the near future."¹⁰ Contrary to such predictions, intraregional trade increased, in real terms, from \$36.8 million in 1961 to \$203.8 million in 1967 (see table 1).

Exports of manufactured goods have increased at a much more rapid pace than have exports of agricultural products. Manufactures alone account for approximately 75 percent of the total increase in intraregional trade between 1961 and 1967. While manufactures comprised less than half the total value of intraregional exports in 1961, by 1967 more than

⁸ The industries consideration in this paper include all manufactures other than food products (see n. 11 below). The 1968 "Directorio de la industria manufacturera" lists a total of 6,089 establishments, of which 3,556 are located in the departments which contain the respective capital cities. An additional 804 establishments are located in the second most developed department of each country (Secretaría Permanente del Tratado General de Integración Económica Centroamericana (SIECA), "Anexo estadística," *Carta informativa*, vol. 86 [December 1968]). It should be noted that transport costs and bureaucratic delays at the borders still form formidable nontariff barriers to the free exchange of goods. For an interesting discussion of these and other problems from the point of view of a Costa Rican businessman, see the presentation of don Miguel Barzuna in *Seminario sobre el Mercado Común Centroamericana* (San José: Asociación Nacional de Fomento Económico, 1968), pp. 41-48.

⁹ An interesting comparison of the CACM with the East African Common Market is presented in Aaron Segal, "The Integration of Developing Countries: Some Thoughts on East Africa and Central America," *Journal of Common Market Studies* 5 (March 1967): 252-82.

¹⁰ Bert F. Hoselitz, "Economic Development in Central America," *Weltwirtschaftliches Archiv* 76 (1956): 307.

TABLE 1
CENTRAL AMERICAN INTRAREGIONAL IMPORTS,
1959-1968
(IN MILLIONS OF U.S. DOLLARS)

	VALUE	
	At current prices	At 1963 prices*
1959.....	28.68	29.0
1960.....	32.68	32.7
1961.....	36.81	36.8
1962.....	50.85	49.4
1963.....	71.80	71.8
1964.....	105.51	103.4
1965.....	135.25	127.6
1966.....	173.92	167.2
1967.....	213.96	203.8
1968.....	259.24	...

SOURCES.—Secretaría Permanente del Tratado General de Integración Económica Centroamericana (SIECA), *Carta informativa* 95 (September 1969): 22; SIECA, "Anexo estadístico," *Carta informativa* 82 (August 1968); and SIECA, "Anexo estadístico," *Carta informativa*, vol. 93 (July 1969).

* The adjustment is based upon the price index for Latin American imports, as no such index exists for Central America (*Statistical Yearbook* 1968 [New York: United Nations, 1969], p. 68).

two-thirds of intraregional exports were manufactured commodities (see table 2).

Although the manufacturing sector accounts for only a small part of Central America's gross domestic product, it is this sector which supplies most of the intraregional exports of the area. As a consequence of free trade, the manufacturing industries have had to adjust their production in an integrated market to a much greater extent than have the food processing or service industries. It is the thesis of this paper that this adjustment has been in the form of intra-industry specialization.

The hypothesis of intra-industry specialization is supported by the change in the pattern of intra-CACM exports after removal of trade barriers, and by the relationship between exports and imports of the various industries in each of the Central American countries. For the purposes of this study, we can divide the manufacturing sector of each country into fifty-nine industries¹¹ and consider the changes in intra-

¹¹ For the purposes of this paper, "manufacturing sector" is defined as exclusive of the food processing industries. The classification system is similar to that used by Balassa for the European Economic Community, although the nature and availability of the Central America data has given rise to certain modifications. Of the fifty-nine categories employed, forty-three correspond to three-digit NAUCA (Central American Uniform Customs Nomenclature) items and twelve to five-digit NAUCA items, while four categories comprise groupings of two or more three-digit items. Twelve of the three-digit NAUCA items were excluded from analysis because their role in intraregional trade is quite negligible. A list of the fifty-nine categories and the disaggregate data for each country is available from the author upon request.

TABLE 2
MANUFACTURES* AS A PERCENTAGE OF TOTAL CACM
INTRAREGIONAL EXPORTS, 1961 AND 1967

	1961	1967
Guatemala†	49.2	67.6
El Salvador	59.3	72.7
Honduras	11.0	55.7
Nicaragua	13.5	62.6
Costa Rica	58.4	82.5
CACM.....	41.9	69.6

SOURCES.—Guatemala, Dirección General de Estadística, *Anuario de comercio exterior* (1961); El Salvador, Dirección General de Estadística y Censos, *Anuario estadístico* (1961 and 1967), vol. 1, *Comercio exterior*; Honduras, Dirección General de Estadística y Censos, *Comercio exterior* (1961 and 1967); Nicaragua, Dirección General de Aduanas, *Memoria* (1961 and 1967); Costa Rica, Dirección General de Estadística y Censos, *Comercio exterior* (1961 and 1967).

* Manufactures are defined as sections 5–8 of the Central American Uniform Customs Nomenclature (NAUCA), with the exception of unwrought metals.

† There are no published trade statistics for Guatemala after 1964; therefore imports registered by the other four countries have been calculated as the exports of Guatemala in 1967.

regional trade between 1961 and 1967. The first year is representative of substantial barriers to intraregional trade, while the second year illustrates the results of free trade in manufactures.

If the hypothesis of intra-industry specialization is applicable to Central America, one would expect the shares of the dominant suppliers to decrease rather than increase as a consequence of integration; in other words, the pattern of exports within each industry should become more uniform.¹² The results reported in table 3 show a positive correlation between the intraregional exports of manufactured goods in the CACM and, with the exception of Honduras, show that the pattern of exports has indeed become more uniform since the removal of tariff barriers. The rank correlation coefficients calculated from the value of intra-CACM exports of fifty-nine industries show a marked increase over time for all pairs of countries except those paired with Honduras. This statistical evidence of the lagging industrialization of Honduras is probably somewhat overstated, for the commodity trade statistics of Honduras, unlike those of the other four countries, do not include re-exports.

These results might be summarized by saying that the unweighted average of the rank correlation coefficients increased in value from .49 in 1961 to .60 in 1967. The increasing uniformity of export patterns between most of the Central American countries is evidence that existing industries

¹² Balassa, pp. 466–72. The statistical methodology of Balassa is relied upon throughout this section of the paper.

TABLE 3
RANK CORRELATION COEFFICIENTS FOR INTRAREGIONAL EXPORTS
OF MANUFACTURES, 1961 AND 1967

	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica
Guatemala:					
1961 .....	...	.490	.531	.476	.320
1967 .....	...	.683	.543	.617	.569
El Salvador:					
1961 .....	.490	...	.562	.514	.387
1967 .....	.683	...	.531	.602	.611
Honduras:					
1961 .....	.531	.562	...	.649	.524
1967 .....	.543	.531	...	.541	.588
Nicaragua:					
1961 .....	.476	.514	.649	...	.447
1967 .....	.617	.602	.541	...	.698
Costa Rica:					
1961 .....	.320	.387	.524	.447	...
1967 .....	.569	.611	.588	.698	...

SOURCE.—See table 2.

NOTE.—Spearman rank correlation coefficients, data for fifty-nine industries ranked by the value of intra-CACM exports. All coefficients statistically significant at the .01 level.

have not lost ground and that new trade in manufactures has taken the form of intra-industry specialization.

Another approach to the problem is to compare the relative values of export (import) balances in each of the fifty-nine commodity categories. Following the method of Balassa, the absolute difference of exports and imports is calculated as a ratio of the sum of exports and imports. The “representative ratio of trade balances” for a country in a given year is simply the unweighted average of the total number of ratios. The traditional explanation of international specialization suggests that these ratios would approach unity under conditions of free trade, since a country would be forced to shift production from import-competing industries to export-oriented industries. In other words, a country would not likely import *and* export the same commodity. If, on the other hand, the hypothesis is correct that free trade will result in greater intra-industry specialization, one can expect the “representative ratios” to approach zero.

The results shown in table 4 indicate that free trade has brought about an increase in intra-industry specialization. In the five countries of the CACM, the “representative ratios” were in the .5–.9 range in 1961 and the .4–.8 range in 1967. The higher ratios for Honduras, Nicaragua, and Costa Rica in 1961, and for Honduras and Nicaragua in 1967, indicate that intra-industry specialization increases with the process of industrialization. The low ratio for El Salvador in 1961 may be the result not only of that country’s relatively high level of industrialization but also of the bilateral trade agreements in effect between El Salvador and the other four countries since 1953.

TABLE 4
REPRESENTATIVE RATIOS OF TRADE BALANCES, 1961
AND 1967

	1961	1967
Guatemala .....	.698	.473
El Salvador .....	.576	.510
Honduras .....	.842	.725
Nicaragua .....	.874	.684
Costa Rica .....	.805	.578

SOURCE.—See table 2.

NOTE.—Ratios of trade balances calculated as an unweighted average of the ratios of the absolute difference of exports and imports to the sum of exports and imports for 59 commodity categories, as per the following formula:

$$\frac{1}{n} \sum_{i=1}^n \frac{|X_i - M_i|}{X_i + M_i},$$

where X_i and M_i refer to the intra-CACM exports and imports of the i^{th} commodity, and n is the number of commodities considered. The sum of exports plus imports was equal to zero, thus preventing the formation of a ratio, two times for Guatemala, once for El Salvador, three times for Honduras, once for Nicaragua, and three times for Costa Rica.

Recalling the concern of Minister Borbón for the small entrepreneur in Costa Rica, it is useful at this point to examine the impact of free trade upon those industries which are of traditional importance in the Central American economies. In every developing economy, certain manufactures can be produced locally with little need to import raw materials or technology. Such manufactures represent a transition from handicraft to factory production, and governments usually recognize their importance by enacting the appropriate tariff legislation. In Central America, the list of traditional manufactures includes leather and footwear, wood and furniture, paper and paper products, textiles, clothing, cement, and printed materials. Although these traditional manufactures are produced by only seventeen of the fifty-nine industries considered above, as of 1961 they accounted for more than two-thirds of the total value added by the manufacturing sector of the Central American economy.¹³

The “representative ratios” calculated for the traditional manufactures and reported in table 5 show an increasing trend toward the simultaneous import and export of these commodities. The relative importance of the traditional manufactures will undoubtedly decrease as new industries are established in Central America, but they are produced in all five countries and represent a significant portion of CACM trade at this time. These seventeen commodity categories accounted for 54.0 percent of the total intraregional exports of manufactures in 1961 and 45.7 percent in 1967.

¹³ Roger D. Hansen, *Central America: Regional Integration and Economic Development* (Washington, D.C.: National Planning Association, 1967), pp. 35–38.

TABLE 5
 REPRESENTATIVE RATIOS OF TRADE BALANCES FOR
 SEVENTEEN TRADITIONAL MANUFACTURES, 1961
 AND 1967

	1961	1967
Guatemala .....	.650	.418
El Salvador .....	.553	.561
Honduras .....	.687	.580
Nicaragua .....	.756	.576
Costa Rica .....	.693	.506

SOURCE.—See table 2.

On the whole, the traditional industries in each country continued to produce for domestic consumption and to export their products to other Central American countries. El Salvador, which in 1961 had already demonstrated a high degree of intra-industry specialization, does not show a significant change over time.

Footwear provides an interesting example of a traditional handicraft industry which is experiencing competition from modern factories. The Central American cobbler in an integrated market must now compete not only with local producers but also with the large companies which have the advantage of well-advertised “name brands” and numerous retail outlets.¹⁴ The ADOC firm in El Salvador has been the most successful to date in marketing shoes throughout Central America, for its large production permits popular prices and extensive advertising of both the ADOC brand and international brands such as Hush Puppies produced under licensing arrangements. The small entrepreneur, for the most part, has been unable to compete in the popular-price lines and has thus tended to specialize in the production of a higher-quality shoe. This specialization has permitted the domestic producers in all five countries to continue to supply part of the local market and to export shoes to the rest of Central America (see table 6).¹⁵

¹⁴ The footwear industry, after bakeries and garment making, provides a livelihood for the largest number of entrepreneurs in Central America. Of the 351 enterprises employing five or more employees, 117 are located in Costa Rica, and only twenty-nine in El Salvador (SIECA, “Anexo estadístico,” *Carta informativa*, vol. 86 [December 1968]). The fact that El Salvador exports the most shoes in Central America, and Costa Rica the least, illustrates the advantage of the larger Salvadorean firms in regional marketing.

¹⁵ The discrepancies in table 6 between total imports and exports of shoes demonstrate the limitations of trade statistics in Central America. The problem is presumably worse under conditions of free trade, for registration of imports from other Central American countries no longer serves a revenue purpose. As a result the value of imports is no longer carefully verified by the customs official, and a shipment in transit from Costa Rica to Guatemala, for example, may inadvertently be registered as an import by Nicaragua or El Salvador. See Escuela Superior de Administración Pública América Central (ESAPAC), *Informe del seminario sobre discrepancias en las estadísticas de comercio exterior de los países del Istmo Centroamericano* (San José, 1966).

TABLE 6
INTRAREGIONAL EXPORTS AND IMPORTS OF FOOTWEAR, 1961 AND 1967
(IN THOUSANDS OF U.S. DOLLARS)

	EXPORTS		IMPORTS	
	1961	1967	1961	1967
Guatemala	270.0	2,247.3	118.7	1,544.7
El Salvador	443.7	4,567.2	195.3	1,397.9
Honduras	10.6	625.2	426.5	2,633.2
Nicaragua	39.2	1,453.0	21.5	1,812.9
Costa Rica	0.2	559.0	46.0	1,989.1
CACM.....	763.7	9,451.7	808.0	9,377.8

SOURCE.—See table 2.

As Central American firms adopt modern marketing techniques, product appeal necessarily includes “superficial” differences such as style and brand name in addition to the more basic differences such as quality and service. One would expect product differentiation to be greater in consumer goods than in intermediate goods, since consumers are, on the whole, less informed than commercial buyers, more conscious of style and brand names, and more susceptible to persuasive advertising. Greater product differentiation among consumer goods enhances the prospect of intra-industry specialization for those industries which produce final demand goods. Consequently, the phenomenon of a country importing and exporting the same commodity should be more evident if the commodity in question is destined for sale to a household.

Statistical verification of the hypothesis that intra-industry specialization is greater for consumer goods than intermediate goods is inevitably lacking in precision. The governments of Central America, or of any market economy, rarely record the final destination of a manufactured good. It is possible to verify, for example, that Guatemala exported \$3 million of tubes and tires to the rest of Central America in 1967. The portion destined for sale to the producing sector and that destined for sale to the final consumption sector remains unknown. Nevertheless, a rough measure of trade in consumer goods would comprise fourteen of the fifty-nine commodity categories under consideration. Those commodities which are sold primarily to households include pharmaceutical products, perfumes and cosmetics, soap, glassware, pottery, furniture, luggage and handbags, clothing, footwear, printed material and musical records. In 1967 these consumer goods accounted for 44.1 percent of the total intraregional exports of manufactures. The remaining 45 commodity categories are made up largely, but by no means entirely, of intermediate goods purchased by industry and agriculture.

As shown in table 7, for each country and year under consideration the “representative ratio” calculated for the fourteen consumer com-

TABLE 7
 REPRESENTATIVE RATIOS OF TRADE BALANCES, CONSUMER GOODS
 AND INTERMEDIATE GOODS, 1961 AND 1967

	CONSUMER GOODS (<i>n</i> = 14)		INTERMEDIATE GOODS*	
	1961	1967	1961	1967
Guatemala .....	.545	.315	.747	.524 (43)
El Salvador .....	.437	.405	.620	.543 (44)
Honduras .....	.831	.684	.846	.739 (42)
Nicaragua .....	.787	.677	.901	.686 (44)
Costa Rica .....	.734	.526	.829	.595 (42)

SOURCE.—See table 2.

* Number of commodity categories for intermediate goods given in parentheses.

modities is consistently less than that calculated for the remaining intermediate goods. In Central America, product differentiation and intra-industry specialization appear to be greatest for final demand goods. These results also suggest that the problem of product differentiation is equally relevant to both the final consumer market and the intermediate industrial and agricultural markets. The intermediate goods are more standardized than consumer goods but are by no means perfectly homogeneous. Consumer goods alone do not explain the total increase over time in intra-industry specialization.

In summary, manufactures account for a large part of what has been a very substantial increase in trade among the Central American countries. An analysis of the pattern of trade in manufactures provides evidence in support of the hypothesis that the multilateral removal of tariff barriers has resulted in increased intra-industry specialization rather than inter-industry specialization. The degree of intra-industry specialization appears to be greatest in the case of consumer goods, which are more differentiated than intermediate goods.

Conclusion

The results of this study have obvious implications for free trade arrangements among developing countries at a similar level of industrialization. The implications are less obvious and more tentative for regions dominated by one or two relatively advanced countries. Although the difference between El Salvador and Honduras is great, it is by no means comparable, for example, with the difference between Argentina and Ecuador.

With respect to the efforts of trade liberalization among countries with similar levels of development, the main implication of this study is that the problem of reallocation of resources is much less serious than has been assumed. The structural changes in the manufacturing sector will tend to be in the form of intra-industry specialization rather than inter-industry specialization, with no need to abandon existing production facilities. In this manner the varied factories and shops of Central America

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have continued to supply part of the domestic demand and to export an increasing amount of goods to the rest of the isthmus.

The formation of a regional market in Central America has permitted greater economies of scale than was possible in any one of the smaller markets. Most of the industries in the area have achieved economies of scale through a reduction in the variety of goods produced by individual plants rather than through a general increase in plant capacity. This "horizontal specialization" in production¹⁶ may well result in a substantial increase in efficiency due to longer production runs. To cite one example, prior to the formation of the CACM, a North American pharmaceutical company maintained plants in all five countries, producing small amounts of drugs and medicines for the domestic markets. With free trade in the region, this firm has found it profitable to continue operations in all five countries by producing a different line of products in each plant and then shipping throughout Central America.¹⁷

Apart from the ease in reallocation of resources, the empirical evidence presented earlier in this paper has interesting implications for the economic integration of countries with dissimilar levels of development.¹⁸ Contrary to popular assumptions, the intraregional exports of each Central American country are composed predominantly of manufactured goods. This suggests that there is little danger that the citizens of Honduras or Nicaragua are destined to remain "hewers of wood and drawers of water" as a result of their entry into the CACM. Whether this conclusion would hold for a free trade area of countries which are more dissimilar than the Central American states, and whether it would be valid under conditions of free movement of capital and labor, is a matter for further investigation.

¹⁶ Bela Balassa, in *Economic Development and Integration* (México, D.F.: Centro de Estudios Monetarios Latinoamericanos, 1965), pp. 87–107, distinguishes between "horizontal specialization," "vertical specialization," and economies of scale in the strict sense.

¹⁷ Hansen, p. 43.

¹⁸ The data presented in this paper also provide a partial answer to the charges made by Honduras and Nicaragua that their imports have become more costly since the establishment of the CACM. Trade has no doubt been diverted away from the lowest-cost producers, for very few Central American manufactures are sold outside the region. El Salvador, for example, increased the proportion of manufactures in total annual exports from 7 percent in 1961 to 28 percent in 1967, and the CACM countries provided the market for almost all of these manufactures in both years. On the other hand, El Salvador provides an important market for the manufactures of the other four countries. The economic justification for this practice is that import substitution in an integrated economy is more efficient than import substitution in five smaller economies. For a theoretical argument in favor of trade diversion away from the advanced countries, to the extent that such a policy economizes scarce foreign exchange, see Staffan Burenstam Linder, *Trade and Trade Policy for Development* (New York: Frederick A. Praeger, Inc., 1967).