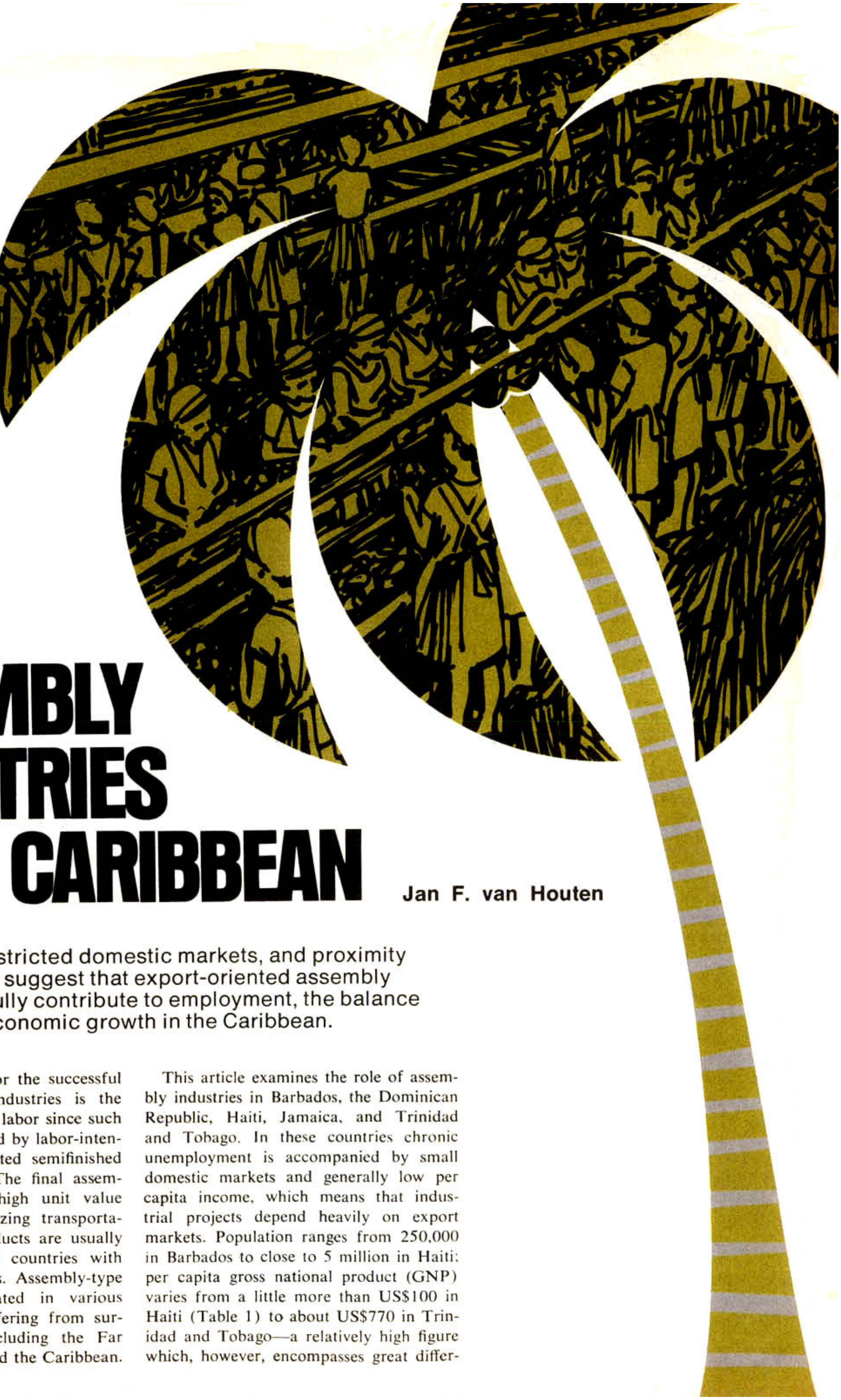


ASSEMBLY INDUSTRIES IN THE CARIBBEAN

Jan F. van Houten

Labor surpluses, restricted domestic markets, and proximity to the United States suggest that export-oriented assembly industries can usefully contribute to employment, the balance of payments, and economic growth in the Caribbean.

The prime requirement for the successful operation of assembly industries is the availability of inexpensive labor since such industries are characterized by labor-intensive operations on imported semifinished goods and components. The final assembled product combines high unit value and light weight, minimizing transportation expenses as the products are usually re-exported to developed countries with relatively high labor costs. Assembly-type industries are thus located in various regions of the world suffering from surplus labor problems, including the Far East, Central America, and the Caribbean.

This article examines the role of assembly industries in Barbados, the Dominican Republic, Haiti, Jamaica, and Trinidad and Tobago. In these countries chronic unemployment is accompanied by small domestic markets and generally low per capita income, which means that industrial projects depend heavily on export markets. Population ranges from 250,000 in Barbados to close to 5 million in Haiti; per capita gross national product (GNP) varies from a little more than US$100 in Haiti (Table 1) to about US$770 in Trinidad and Tobago—a relatively high figure which, however, encompasses great differ-

ences between the petroleum sector and the rest of the economy.

It would appear that assembly industries, being both highly labor-intensive and export-oriented, would have a considerable appeal in the Caribbean area, particularly in view of the favorable geographic location of the region near the North American mainland. The particular importance of the U. S. market for assembled products derives from special provisions in the U. S. Tariff Code, which imposed duty payments on the difference between the value of the assembled product and the value of the U. S. manufactured components. The U. S. import duty applies effectively, therefore, only to the value added in assembly plus the transportation costs.

Table 1

Basic Data for Caribbean Countries, 1970

	Barbados	Dominican Republic	Haiti	Jamaica	Trinidad & Tobago
GNP per capita *(US dollars)*	574	367	100	627	768
Population *(thousands)*	243	4,070	4,200	1,870	1,027
Labor force *(thousands)*	97	1,506	...	755	366
Employment *(thousands)*	84	...	...	645	320
Value added in manufacturing *(millions of US dollars)*	13.8[1]	157.3[1]	44.1	141.2	150.0
Of which: in assembly plants (millions of US dollars)	*1.1*	*0.1*	*2.9*	*5.1*	*1.1*
Value of exports *(millions of US dollars)*	35.0	213.5	39.6	342.1	223.9[2]
Of which: assembled products (millions of US dollars)	*3.3*	*0.2*	*8.3*	*11.1*	*4.2*

Sources: International Financial Statistics; U.S. Department of Commerce; and individual country sources.

[1] Excluding sugar manufacturing.
[2] Excluding exports of fuel and lubricants under processing agreements.

Employment and wage costs in the Caribbean

While each Caribbean country has its own characteristics that contribute to its unemployment problem, some generalizations can nevertheless be made. The economies and social structure—particularly in the English-speaking islands—were shaped historically by a colonial plantation system with a great need for unskilled agricultural labor. When the plantations fell into decline no new large-scale employment opportunities were created to absorb the surplus labor. Such statistics as are available provide a picture of widespread unemployment: for instance, in Trinidad and Tobago, the level of employment has virtually stagnated since the mid-1960s. In fact, from 1967 until 1971, neither the size of the available labor force nor the number of those employed changed significantly—largely because of increasing emigration, as the natural increase in the working population is estimated at 3 per cent. Throughout the Caribbean the natural rate of population growth in the past has generally been high, but in most instances emigration to the United Kingdom, the United States, Canada, and the Bahamas was significant enough partly to offset the natural growth rate.

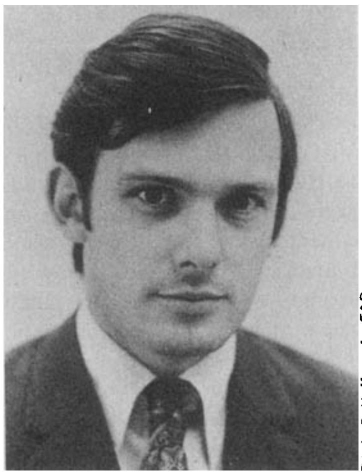
Institutional factors such as minimum wage legislation and, in some instances, strong labor unions have tended to restrict employment opportunities in the lower wage brackets, while structural problems, including lack of skills, have limited the flow of workers from low-wage traditional occupations to the export sector where wages and skills are higher.

Along with the existence of a pool of unemployed—and underemployed—labor, wage rates in the Caribbean are low relative to those prevailing in industrial countries. Hourly earnings typically are a fraction of those in the United States for workers engaged in comparable operations. Full advantage of the lower wage rates can be translated into a lower price for the final assembled product, since U. S. firms operating in the Caribbean area have experienced labor productivity approximating that of workers in the same job classifications in the United States. Even where labor was significantly less productive than in the United States, the hourly wages in the Caribbean were such that labor costs per unit of output were still substantially lower than in U. S. establishments.

Employment policies

In more recent years new employment opportunities in the Caribbean area, resulting from a good economic growth performance, have combined with continued emigration to stabilize the rate of unemployment at about 12 per cent of the labor force. However, it has been found very difficult to lower the unemployment rate below this, despite a continual search for acceptable programs of manpower utilization.

Tourism has provided a major source of employment in Jamaica, Barbados, and, to a lesser extent, Trinidad and Tobago.



Edwin G. Huffman for F&D

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In several instances, however, intensive development of tourism has been accompanied by social tensions and rising consumer imports as the domestic labor force, confronted with relatively luxurious consumption patterns, has raised its own consumption standards. Moreover, the impact on the balance of payments has not turned out to be as favorable as was expected, as imports related to tourism and profit remittances have tended to absorb a large portion of exchange earnings from tourism.

Other countries in the area, like the Dominican Republic, have relied more on government labor-intensive investment projects—including public housing, roads, and schools—to absorb unemployed manpower. Such projects have avoided some of the undesirable side effects associated with the development of tourism but their productive impact has tended to be long-term. Recently, there has been a noticeable shift toward public investment projects with a more immediate productive return and with a greater potential for export earnings.

Promotion of industry has been actively pursued by all the Caribbean countries. However, major targets have been balance of payments improvements, the build-up of capital stock, and the transfer of technology and managerial talent rather than the generation of employment and the accompanying rise in income. Industrial promotion policies have in general attracted capital-intensive manufacturing firms producing commodities for import substitution that are protected by tariffs or quota systems. While such firms may, in the short to medium term, contribute positively to the balance of payments, in the longer run continued isolation from competitive influences tends to raise production costs and adversely affect the welfare of the population. However, highly capital-intensive operations are necessary in some instances in order to mine, refine, and export domestic raw materials. Examples are the petroleum refineries in Trinidad and Tobago, the bauxite operations in Jamaica, and ferronickel production in the Dominican Republic.

Balance of payments considerations

Labor-intensive industries—of which assembly plants are the best examples—have not received as much support as they deserve. They lack the glamour of highly automated capital-intensive plants, although they combine employment generation with a favorable balance of payments impact. In Jamaica, for instance, of the 192 enterprises operating in 1970 under the general incentive laws, only 12 per cent were of the assembly type, but they accounted for 35 per cent of employment and almost 50 per cent of the value of exports of this sector.

Importing components and exporting the final assembled product provide a net gain to the trade balance equal to the value added in the assembly process. A similar improvement in the trade balance is obtained when the assembled components are sold on the domestic market as a substitute for the finished imported commodity. These favorable factors are to some extent offset by a rise in consumer imports induced by the increase in domestic purchasing power. In addition, where foreigners own assembly facilities, profit remittances would also need to be taken into account in judging the final balance of payments effect.

Incentive legislation

All the Caribbean countries included in this article have largely relied on fiscal incentive legislation to attract industry. However, the incentives do not especially favor labor-intensive operations and indeed are sometimes aimed at attracting industries with high capital/labor ratios.

The incentive laws vary in the degree of importance given to employment generation. While most contain a general reference to employment consideration, only the legislation of the Dominican Republic specifically states that tax concessions are offered in order to supply permanent sources of employment and incomes. Furthermore, employment generation is mentioned as one of the criteria for granting concessions to an industry in the Dominican Republic.

Exporting receives greater consideration. In Barbados and Jamaica manufacturing for export is accorded special treatment through separate legislation, while the general incentive legislation of the Dominican Republic and Haiti includes specific mention of export industries. In the Dominican Republic, moreover, the most generous tax benefits are reserved for export industries, including assembly plants. Haitian legislation provides no additional benefits for exporters, but does specify assembly operations as an important type of export industry for which benefits are offered. In Trinidad and Tobago, no formal legislation exists for this purpose but export-oriented industries are favored.

The tax incentives offered are usually not specifically related to the labor-intensive nature of the operation. The benefits vary considerably from country to country, but in general include duty-free importation of capital and raw materials and provide an income tax holiday. It is questionable whether the existing incentive legislation is of the right kind to stimulate labor-intensive assembly industries, and this failing may well help to explain the slow growth of such industries in some of the Caribbean countries.

The capital bias of the incentive laws is generally not explicit in the legislation. For example, an exemption from profit taxes is, in principle, not related to any particular capital/labor ratio. However, a capital bias evolves whenever the legislation provides for postponement of depreciation allowances until after the end of the tax holiday, as is so in Jamaica and Trinidad and Tobago. Also, exemption of customs duties on capital goods removes a disadvantage to capital and tends to place capital and labor on an equal footing. If, however, the exchange rate is judged to be overvalued, as is frequently the case in countries with a high tariff structure, capital imports already enjoy a comparative exchange advantage, which would be enhanced by a duty exemption.

These capital biases in the legislation are not balanced even partially by corresponding employment incentives. Even though capital is scarce and labor in surplus in the Caribbean area, low average wages often mask substantially higher wages in the capital-intensive industrial sector. These higher wages tend, in effect, to become the desired norm also in labor-intensive industries. In addition, institutional factors such as a minimum wage may maintain wages at a level somewhat above that expected from freely competitive conditions. In view of such rigidities, outright employment incentives might be appropriate.

In general, incentive legislation in capital-scarce and labor-surplus economies should encourage the establishment of techniques that increase the proportion of labor to capital but, at the same time, increase the total supply of capital. Policies embodying this principle include fiscal incentives which are neutral as to labor and capital. Examples would be an income tax holiday without provisions for postponement of depreciation, or for a slower depreciation schedule; and, where the exchange rate appears to be overvalued, the inherent capital bias of import duty exemptions on capital goods might have to be balanced by tax benefits geared to the number of employees.

It is realized that any one country might not be able to avoid granting favorable capital depreciation schedules (or

other capital-biased incentives) when such benefits are already available in neighboring countries. The danger exists that competition between area countries might lead to incentives involving unjustified sacrifices in terms of fiscal revenue. The Caribbean Free Trade Association (CARIFTA) has faced this issue through protective clauses in its Agreement which provide for some harmonization between member countries' legislation on tax concessions for manufacturing industries. In addition, no member territory may introduce more generous concessions than the most generous already existing in any of the member territories.

Any kind of fiscal incentive legislation involves a cost to the government in terms of revenue foregone. It is useful, however, to point out that in the case of fiscal benefits to assembly industries the government revenue foregone should perhaps not be included as a cost to the government as, in the competitive environment of the Caribbean, firms would not have located in a particular country without the concessions. This conclusion follows from the high mobility of assembly industry. As capital requirements are minimal, the entrepreneur enjoys a degree of freedom of location and movement not available to industries weighted down by heavy capital commitments.

Their mobility constitutes the single most important disadvantage of assembly industries. Such firms, regardless of national ownership, usually operate under contract with a foreign manufacturer, and the possiblity exists that the operations might be closed down upon short notice, either because of nonrenewal of a contract or because of a change in import restrictions in the trading country. In the absence of adequate safeguards a country may well decide to limit the number of potentially unstable sources of employment not under national control.

Caribbean experience with assembly industries

Ideally, one would like to have available country-by-country information on assembly industries. Useful data should at least include the average size of capital investment, employment generated, value added in assembly, and total sales. In practice only fragmentary information from indirect sources is available: this suggests that the absolute and relative size of the assembly sector varies considerably between Caribbean countries. On the basis of the value of exported assembled goods, Jamaica was the largest assembler in recent years. In 1971 this country exported close to US$15 million of assembled products, followed by Haiti with about US$12 million, and Barbados and Trinidad and Tobago with US$4 million each. The Dominican Republic exported less than US$1 million.

Haiti

If, however, the value of exported assembled goods is compared with the value of total exports, then assembly operations appear to have had the largest overall economic impact in Haiti. In 1971 assembled products, destined almost exclusively for the U. S. market, accounted for 25 per cent of the country's exports. Sports equipment, footwear, and garments account for the bulk of goods assembled by small firms, two thirds of which are Haitian owned with contractual relationships with U. S. companies. The remainder are Haitian-incorporated subsidiaries of U. S. enterprises. A small percentage of the firms manufacture all or part of their production in cottage industry operations, although this is limited to items of relative simplicity, such as ribbon bows.

The fast growth of assembly operations in Haiti, from US$2.3 million in export sales in 1967 to US$11.8 million in 1971, was helped by close geographic location to the U. S. market, good productivity, adequate fiscal incentives, and availability of labor at low wages—the average wage is reported to be gourdes 8 (US$1.60) for an eight-hour working day, compared with the prevailing daily minimum wage of G 5 (US$1.00). The impact on employment, particularly in and around Port-au-Prince, has been considerable: of the estimated total of 50,000 wage earners in urban centers, 10,000 are employed in assembly plants.

Dominican Republic

An entirely different situation was found in Haiti's neighboring country, the Dominican Republic. Despite an equally beneficial geographic location, generally low wages, widespread unemployment, and fiscal incentive programs ranking among the best in the Caribbean, the Dominican Republic was found to have very few assembly plants, with an insignifican impact on employment and exchange earnings. Total exports of assembled goods in 1971 amounted to no more than US$0.8 million.

Until 1968 the Government relied mainly on labor-intensive public works projects in order to provide employment opportunities, and only since then has its interest shifted toward assembly industries as a means of generating employment and contributing toward the improvement of the balance of payments. The present industrial incentive legislation, dating from 1968, includes generous benefits for assembly operations but states that such industries should be located in free port areas, none of which existed at that time. This contributed largely to the slow growth of labor-absorbing assembly industries. At the present time, 13 firms are in operation, employing 2,095 workers at two free zones. In order to give further impetus to assembly industries, the possibility is being investigated of permitting them to sell their products on the domestic market.

Barbados, Jamaica, and Trinidad and Tobago

The Caribbean Free Trade Association —to which all three countries belong— has provided the necessary market for the efficient operation of manufacturing plants.

In Barbados, with a population of only 250,000, the CARIFTA Agreement has been indispensable to the successful operation of most industries, including assembly operations geared to the free trade area. In addition, in 1971 Barbados exported to the United States assembled goods—mainly textiles and electrical apparatus—worth US$4.1 million, which accounted for 14 per cent of total exports. As a generator of employment, the assembly industries have made a substantial contribution. In 1971, 21 assembly plants were in operation employing 2,650 workers—about 20 per cent of manufacturing employment and 3 per cent of the employed labor force.

The value of assembled exports of Jamaica has risen from US$5.4 million in 1965 to US$15 million in 1971, placing Jamaica first among Caribbean exporters of assembled products. There were about 25 assembly plants employing 5,100 workers in 1971, compared with total employment of 14,000 in industries enjoying fiscal incentives. These plants use labor much more intensively than general manufacturing enterprises. While accounting on the average for only about 11 per cent of the value of total production under the incentive laws, the assembly enterprises employed 36 per cent of the workers. One should not lose sight, however, of the fact that the employed labor force in Jamaica is estimated at well over 600,000 workers, so that the assembly industries provide less than 1 per cent of total employment. They also account for only 3 per cent of total exports.

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