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Economic Bulletin for Latin America

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UNITED NATIONS

The *Economic Bulletin for Latin America*, published by the Secretariat of the Economic Commission for Latin America, appears twice yearly, in February and September. The essential purpose of this periodical is to provide a résumé of the economic situation of the region designed to supplement and bring up to date the information published in the Commission's annual economic surveys. Apart from this summary, which is to appear in every issue, special articles on different subjects related to the economy of Latin America are also included.

The ECLA Secretariat assumes entire responsibility for the *Bulletin*. Its content —intended for the information both of public officials and of the general reader— was not submitted to the Commission's member Governments before publication.

EXPLANATION OF SYMBOLS

Three dots (...) indicate that data are not available or are not separately reported.

A dash (—) indicates that the amount is nil or negligible.

A minus sign (— 300) indicates a deficit or a decrease.

A space is used to separate thousands and millions (3 123 425).

A stroke (/) indicates a crop year or a fiscal year, e.g., 1954/55.

An asterisk (*) is used to indicate partially or totally estimated figures.

"Tons" and "dollars" are metric tons and United States dollars, respectively, unless otherwise stated.

Minor discrepancies in totals and percentages are due to rounding.

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UNITED NATIONS

HEAVY INDUSTRY IN THE LATIN AMERICAN COMMON MARKET *

by JAN TINBERGEN

1. Latin America is entering upon an important phase of its development: the beginnings of a heavy industry have been created. Before the First World War, the Latin American countries were primary producers, depending entirely on imports for the satisfaction of their demand for industrial goods. The interruptions of supply caused by both world wars stimulated the establishment of a number of manufacturing industries. The great depression made it clear that diversification of production was necessary in order to spread the risks of price movements and it intensified the trend towards industrialization. Today it is generally recognized that the most natural possibility for larger areas to increase their well-being is to industrialize, and Latin America is adopting this course. Obviously, the first industries were, and in fact the great majority of those in existence at present still are, of the light type. They are either the natural extensions of primary production or handicrafts or they are the consumer goods industries whose products were most needed during the interruptions of supply.

However, conditions for the development of heavy industry are gradually improving. On the one hand, demand for capital goods, heavy chemicals and so forth, is increasing as a consequence of the general process of development. On the other hand, experience in production and self-confidence have grown. Private capital formation as well as more conscious public policies open up possibilities which did not exist before. Mineral reserves appear to be of many kinds and are substantial. A number of enterprises in the heavy industries are already in existence and further projects are in preparation.

This new phase in Latin American development is illustrated by the recently proposed implementation of the plans for regional economic integration. Proposals are under discussion which make a distinction between three types of productive activity in the countries concerned. The first type constitutes primary production, i.e. agriculture and mining, being production essentially for exports. The second type consists of the light industries already in existence and having vested interests to protect. Here integration can only proceed slowly. It can proceed more easily in the third field, that of heavy industry, for the simple reason that this type of activity has only just started and vested interests in protection of one Latin American country against the others are not numerous.

* The following brief pages were contributed by Professor Jan Tinbergen of the Netherlands Economic Institute. Professor Tinbergen visited the secretariat of the Economic Commission for Latin America in September and October 1959. During his stay in Santiago, Chile, he gave a series of lectures as part of the courses held by the Joint ECLA/TAO Economic Development Training Programme, and assisted in the preparatory work for the special study on inflation which the secretariat is undertaking. He also participated actively in the secretariat discussions on the Latin American common market studies, concentrating mainly on industrial problems.

This article brings together his comments and personal views on different problems relating to the structure and development of the heavy industries in general. The conclusions to be drawn from his analysis are of undoubted importance if they are considered in relation to the specific problems posed by the Latin American common market project and the whole is viewed against the background of United States and European experience on which Professor Tinbergen's theories are based.

2. The phase of the "take-off of heavy industry"—to coin a new phrase based on Rostow's well-known expression*—is sufficiently important to warrant special attention. Heavy industry is the most typical representative of those activities which, by their special features, challenge some well-established economic theories. Before dealing with them, it should be noted that Latin America has the advantage of entering this important phase at a time when more is known about these features and their implications. There was the case when Europe and North America were in a similar position. In other words, Latin America has the advantage, unlike Europe or North America when they started their heavy industries, of living in the age of social economic planning. The techniques of this type of planning make it possible to study a number of implications of the creation of heavy industry before embarking upon its actual establishment. Alternative possibilities can be investigated and their social and economic consequences appraised in order to choose the most attractive alternative and take the corresponding policy measures. These measures need not be measures entailing specific intervention in economic life, sometimes also indicated by the phrase "planning"; what is meant here is planning of policy in the sense of preparing it with the aid of economic research on the future development of the economies concerned.

The question will no doubt be asked whether such planning is necessary, whether the most appropriate pattern of heavy industry does not develop by itself. It may even be suggested that Europe and North America were, in fact, better off in the days before forecasting and planning became so popular.

There is, of course, the well-known tenet of what economists refer to as welfare economics, namely that the optimum situation will automatically develop if every single producer seeks to maximize his own profits. This may be called the decentralization thesis. The point is, however, that this thesis is valid only under specific conditions and it is, in fact, doubtful that the special features of heavy industry satisfy these conditions. Recent analysis of the process of development makes it more and more probable that these features cause considerable deviations between automatic and optimal development.

This article therefore deals with the two sides of the question, namely how optimum development of heavy industry probably appears and whether or not it can be obtained by complete freedom to create enterprises in these branches.

3. With the aid of economic models it is possible to determine the optimum pattern of an economy, more particular with regard to heavy industry. Such a pattern has many aspects or "dimensions"; it shows a certain distribution of productive activity over the various industries and processes; it indicates the size of the enterprises and it gives information about their location. The ingredients to be used in the calculations are, as a minimum, figures about the inputs of the processes under consideration and about transport costs. A number of general economic parameters such as demand elasticities in the widest sense and world market prices will also be needed. The data on inputs are typically non-linear, thus reflecting certain indivisibilities which are a characteristic of heavy industries in particular. Ideally some knowledge of external effects also comes into play, although present knowledge of these phenomena is still very limited. It will be concealed in the assumptions made of labour productivity, government investments for infra-structure and the like.

The models referred to above must be very complicated as they must contain details in at least the three "dimensions" mentioned. Methodology may have to be primitive for that reason, consist-

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* *Note by the Editor*: For a definition of the term used by W. W. Rostow, see the article entitled "The take-off into-self-sustained growth" in *The Economic Journal*, March 1956, pp. 25-48.

ing partly of trial and error calculations. Thus the most appropriate location of some large units may simply be attempted. The advantage of using such calculations, even if primitive, lies in the fact that it is always better to make the trial, and more particularly the error, on paper than in actual practice.

The optimum pattern referred to depends, of course, on what the main aims of economic development and economic order generally are considered to be. To begin with, one very important aim will be a high level of income for the region as a whole. This aim will already determine some vital aspects of the optimum. But various distributive aspects are important aims too. There must be a satisfactory distribution of income between countries and a satisfactory distribution between classes of the population. The distribution of income constitutes a particularly important aspect, as it relates to the topic under consideration. It goes without saying that the choice of locations for the most important enterprises exerts a considerable influence on the distribution of income between countries. It is precisely in this choice that the automatism of free enterprise may not work: this automatism may well lead to a maldistribution of heavy industry.

4. Assuming now that the optimum pattern of the heavy industries can be more or less estimated with the aid of the techniques outlined in the previous section, can it be expected that this pattern will automatically come into existence under a system perhaps with some measures of commercial policy? It would seem doubtful, for three main reasons, all of them connected with the special features of heavy industry.

The first reason for doubting the effectiveness of a régime of free entrance to these industries is the relatively long construction period of the individual projects needed. This invalidates the accuracy of the market mechanism. Suppose there is a shortage of some product of heavy industry which induces certain investors to increase the capacity of that industry. For quite some time after the project has been started it will not yet contribute to production and the scarcity will persist. Prices will therefore not reflect the future equilibrium level but only a temporary level. Before the project is finished other investors may also have been attracted by these temporary prices and have duplicated the first project. Only after the first project is finished will the market reflect its existence and then it will be too late to do anything about the second project. After both projects have been finished there may be overproduction and low prices which will alarm investors. This may continue after the time has come for further investments, causing price rises beyond the equilibrium level. Because of the length of the gestation period such prices may again continue after new projects have been started. In short: a long gestation period leads to the well-known cycles in investment and production with all their disadvantages.

The second reason to doubt the effectiveness of a régime of free investment is the existence of indivisibilities. Rather large capitals are required to establish plants of optimum size. Since these capitals are often not available, there will be a trend towards unduly small plants which will later be competed out by larger units, when capital is more plentiful. The process necessarily implies waste of capital, which is particularly harmful for countries not endowed with much capital.

The third reason to doubt the usefulness of completely free decisions concerns the important question of location. Unlike most agricultural and mining activities, industrial activities can be carried out in many places, provided only that the transportation facilities are adequate. Where to begin is a matter of relative indifference to the private entrepreneur. Once he has started, moreover, the external effects and the infrastructure created will put a premium on new investments in the same centre. These combined forces make the creation of centres of heavy industry under free enterprise a somewhat haphazard process. Some centres may in the end become too large from a

social point of view, while in other very desirable locations they may not be set up at all. Market forces are no longer a clear and unambiguous guide to what is the most desirable distribution of heavy industry over the area under consideration.

5. The arguments briefly set out above may be checked by asking whether European and North American development have in fact been marked by the deficiencies just described. It is the author's contention that this is indeed the case.

First, free development in these older industrial areas has been characterized by the well-known heavy fluctuations called business cycles, which are partly due to the type of mechanism described: fluctuations as a consequence of long gestation periods, so clear from Aftalion's works.

Secondly, it is typical of European development that there should be smaller plants than is desirable from the viewpoint of maximum productivity. What is perhaps more significant is that there are smaller plants, on the average, in Europe than in the United States, in those industries as well where the number of plants is large, i.e. that the size of the market does not limit the size of the enterprise in a direct way. The greater scarcity of capital in Europe is the most likely explanation —and, if so, this condition will make itself felt even more in the case of Latin America.

Thirdly, the question of location arises. It has long been contended that completely free enterprise does not necessarily lead to the most desirable location of industry. There was a feeling within Germany that regions too far removed from the big centres were underdeveloped and had to be helped by the well-known railway freight rates system. It is now generally admitted, in Italy, that the entire industry moved north after free movement of goods and factors became possible through the unification of the country. At the moment, with European unification near, similar problems are expected to come up and the European Investment Bank has been created for the specific purpose of helping the development of regions which might suffer from the shifts to be expected. Moreover, similar problems are now being intensively debated and investigated in the United States.

From this evidence it may be concluded that not only theoretical analysis but also practical experience call for caution. Latin America may profit from the more advanced stage of our knowledge and may try to avoid some of the less desirable consequences of a completely free-enterprise pattern of development. It might be added that for the world at large it is now recognized that a policy of positive intervention must be adopted in order to attain some more harmony in the geographical distribution of industrialization. Would it not apply, then, to the problems of a single large continent?

6. What, then, would this intervention have to amount to? Certainly, it is not necessary or even desirable to think of the other extreme: complete regimentation. Moreover, one may choose between various instruments of policy. To begin with, "planning" will be very useful, in the sense of making calculations with regard to the optimum pattern. Since the structure of the whole continent would be at stake, and because of the remarkable work already done by ECLA, the author hopes that ECLA will be requested to undertake this task. Concrete numerical estimations of this character may already give some guidance to Governments and to private business.

A second step might be an agreement between the Governments of the region that the pattern resulting from the computation just discussed should be taken as the background of their policy. An element of flexibility in such a policy may be the periodic correction of the estimates in the light of new information.

The policies of the Government may consist of indirect and direct instruments to influence private initiative. Indirect instruments may be financial assistance as well as help in the construc-

tion of infrastructure. Conceivably negative measures of this kind such as taxes can also be applied. Both can be used to induce private business to carry out the programme agreed upon. Direct instruments may be the issuing of permits to establish new enterprises, while prohibiting the setting up of such enterprise without a permit. Although such direct interference is generally not attractive, much harm will not be done in the case of heavy industry, because the number of enterprises will in any case not be very large.

Financial help may also be of an international rather than a national character. Some of the international agencies might join the Governments in an attempt to carry out the programme.

A point of some special interest is the precise shape to be given to financial help. From a theoretical point of view a subsidy proportional to the number of workers to be engaged may be the best form, better than, say, the supply of capital at reduced rates. The true problem is not, namely, to use capital, but rather to employ people. Subsidies of this kind might even make commercial policy instruments like protection superfluous. These questions will not be elaborated upon here, since they are not the subject under discussion. It may take more time to convince Governments of the superiority of these instruments.

From the above arguments, however, it will be clear, the author hopes, that there are some possibilities of giving guidance in the creation of an optimum pattern of heavy industry without resorting to detailed intervention. Such guidance, particularly in the field of heavy industry, may be of considerable importance to the well-being of the countries concerned.

THE FREE-TRADE AREA

On 18 February 1960, the Treaty establishing a Free-Trade Area among Latin American countries and instituting the Latin American Free-Trade Association was signed at Montevideo. This represented the culmination of the work begun at ECLA Headquarters in Santiago, Chile, during August 1958 and April 1959, when meetings of experts from Argentina, Brazil, Chile and Uruguay were convened to discuss ways and means of solving the various trade problems to which exchange and customs reforms were giving rise.

Furthermore, the Working Group on the Latin American Regional Market organized by the secretariat, at its sessions in Santiago, Chile (1-11 February 1958) and in Mexico City (16-27 February 1959), prepared the document entitled "Recommendations concerning the structure and basic principles of the Latin American regional market".[1] At the second session of the Trade Committee (Panama, 11-19 May 1959), it was considered that this study constituted a significant contribution to the economic integration of Latin America. The bases established in the document cited take into special account the economic aims pursued through the creation of the common market and the instruments required for its achievement. As regards the juridical form to be selected, the Working Group contemplated the establishment of a free-trade area with a view to its gradual conversion into a customs union. It is just such a free-trade area that is the formula adopted in the Montevideo Treaty, which, in essence, creates the instrument designed to eliminate the duties, charges and restrictions limiting the region's trade.

The free-trade area was initially conceived as a provisional solution for the urgent problems that had arisen in relation to the trade of countries in the southern zone of South America.

At the various meetings held in connexion with the signing of the Montevideo Treaty (Lima, July 1959; Montevideo, September 1959 and February 1960), further steps were taken towards more permanent objectives by the inclusion in the original draft of elements proper to the regional common market. In this context, particular mention should be made of the provisions in chapters III and VIII of the Treaty on expansion of trade and economic complementarity, and of the measures in favour of countries at a relatively less advanced stage of economic development. In addition, Mexico's accession dispelled the misgivings that might at one time have been felt with respect to the sub-regional character of the Latin American Free-Trade Association, since Mexico was not affected by the same sort of trade problems as the southern-zone countries. Its membership has also placed additional emphasis on the permanent objectives of the Treaty.

The Treaty establishes a Free-Trade Area based on a preferential instrument. However, the commitments entailed are restricted to the liberalization of existing trade, which involves mainly primary commodities, although the Treaty leaves the way entirely open for the Contracting Parties to use the preferential instrument in order to develop trade in other goods, particularly industrial products, through new negotiations. In this connexion, the above-mentioned document of the Working Group on the Latin American Regional Market supplements the Montevideo Treaty, since it provides the means whereby the expansion of trade can be achieved and defines the objectives to be aimed at in order to establish the common market.

Apart from this, the Treaty contains very important elements, from the introduction in which the signatory States express their determination "to persevere in their efforts to establish, gradually and progressively, a Latin American common market", to the provisions for possible amendments to the Treaty when the Contracting Parties deem this desirable (article 60) and for facilitating the accession of all the other Latin American countries (article 58).

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[1] E/CN.12/C.1/WG.2/10/Rev.1, included in *The Latin American Common Market* (E/CN.12/531), United Nations publication, Sales No.: 59.II.G.4, pp. 38-50.

TREATY ESTABLISHING A FREE-TRADE AREA AND INSTITUTING THE LATIN AMERICAN FREE-TRADE ASSOCIATION

(Montevideo Treaty)

The Governments represented at the Inter-Governmental Conference for the Establishment of a Free-Trade Area among Latin American Countries,

Persuaded that the expansion of present national markets, through the gradual elimination of barriers to intra-regional trade, is a prerequisite if the Latin American countries are to accelerate their economic development process in such a way as to ensure a higher level of living for their peoples,

Aware that economic development should be attained through the maximum utilization of available production factors and the more effective coordination of the development programmes of the different production sectors in accordance with norms which take due account of the interests of each and all and which make proper compensation, by means of appropriate measures, for the special situation of countries which are at a relatively less advanced stage of economic development,

Convinced that the strengthening of national economies will contribute to the expansion of trade within Latin America and with the rest of the world,

Sure that, by the adoption of suitable formulas, conditions can be created that will be conducive to the gradual and smooth adaptation of existing productive activities to new patterns of reciprocal trade, and that further incentives will thereby be provided for the improvement and expansion of such trade,

Certain that any action to achieve such ends must take into account the commitments arising out of the international instruments which govern their trade,

Determined to persevere in their efforts to establish, gradually and progressively, a Latin American common market and, hence, to continue collaborating with the Latin American Governments as a whole in the work already initiated for this purpose, and

Motivated by the desire to pool their efforts to achieve the progressive complementarity and integration of their national economies on the basis of an effective reciprocity of benefits, decide to establish a Free-Trade Area and, to that end, to conclude a Treaty instituting the Latin American Free-Trade Association; and have, for this purpose, appointed their plenipotentiaries who have agreed as follows:

CHAPTER I

NAME AND PURPOSE

Article 1

By this Treaty the Contracting Parties establish a Free-Trade Area and institute the Latin American Free-Trade Association (hereinafter referred to as "the Association"), with headquarters in the city of Montevideo (Eastern Republic of Uruguay).

The term "Area", when used in this Treaty, means the combined territories of the Contracting Parties.

CHAPTER II

PROGRAMME FOR TRADE LIBERALIZATION

Article 2

The Free-Trade Area, established under the terms of the present Treaty, shall be brought into full operation within not more than twelve (12) years from the date of the Treaty's entry into force.

Article 3

During the period indicated in article 2, the Contracting Parties shall gradually eliminate, in respect of substantially all their reciprocal trade, such duties, charges and restrictions as may be applied to imports of goods originating in the territory of any Contracting Party.

For the purposes of the present Treaty the term "duties and charges" means customs duties and any other charges of equivalent effect—whether fiscal, monetary or exchange—that are levied on imports.

The provisions of the present article do not apply to fees and similar charges in respect of services rendered.

Article 4

The purpose set forth in article 3 shall be achieved through negotiations to be held from time to time among the Contracting Parties with a view to drawing up:

(*a*) National Schedules specifying the annual reductions in duties, charges and other restrictions which each Contracting Party grants to the other Contracting Parties in accordance with the provisions of article 5; and

(*b*) a Common Schedule listing the products on which the Contracting Parties collectively agree to eliminate duties, charges and other restrictions completely, so far as intra-Area trade is concerned, within the period mentioned in article 2, by complying with the minimum percentages set out in article 7 and through the gradual reduction provided for in article 5.

Article 5

With a view to the preparation of the National Schedules referred to in article 4, sub-paragraph (*a*), each Contracting Party shall annually grant to the other Contracting Parties reductions in duties and charges equivalent to not less than eight (8) per cent of the weighted average applicable to third countries, until they are eliminated in respect of substantially all of its imports from the Area, in accordance with the definitions, methods of calculation, rules and procedures laid down in the Protocol.

For this purpose, duties and charges for third parties

shall be deemed to be those in force on 31 December prior to each negotiation.

When the import régime of a Contracting Party contains restrictions of such a kind that the requisite equivalence with the reductions in duties and charges granted by another Contracting Party or other Contracting Parties is unobtainable, the counterpart of these reductions shall be complemented by means of the elimination or relaxation of those restrictions.

Article 6

The National Schedules shall enter into force on 1 January of each year, except that those deriving from the initial negotiations shall enter into force on the date fixed by the Contracting Parties.

Article 7

The Common Schedule shall consist of products which, in terms of the aggregate value of the trade among the Contracting Parties, shall constitute not less than the following percentages, calculated in accordance with the provisions of the Protocol:

Twenty-five (25) per cent during the first three-year period;

Fifty (50) per cent during the second three-year period;

Seventy-five (75) per cent during the third three-year period;

Substantially all of such trade during the fourth three-year period.

Article 8

The inclusion of products in the Common Schedule shall be final and the concessions granted in respect thereof irrevocable.

Concessions granted in respect of products which appear only in the National Schedules may be withdrawn by negotiation among the Contracting Parties and on a basis of adequate compensation.

Article 9

The percentages referred to in articles 5 and 7 shall be calculated on the basis of the average annual value of trade during the three years preceding the year in which each negotiation is effected.

Article 10

The purpose of the negotiations—based on reciprocity of concessions—referred to in article 4 shall be to expand and diversify trade and to promote the progressive complementarity of the economies of the countries in the Area.

In these negotiations the situation of those Contracting Parties whose levels of duties, charges and restrictions differ substantially from those of the other Contracting Parties shall be considered with due fairness.

Article 11

If, as a result of the concessions granted, significant and persistent disadvantages are created in respect of trade between one Contracting Party and the others as a whole in the products included in the liberalization programme, the Contracting Parties shall, at the request of the Contracting Party affected, consider steps to remedy these disadvantages with a view to the adoption of suitable, non-restrictive measures designed to promote trade at the highest possible levels.

Article 12

If, as a result of circumstances other than those referred to in article 11, significant and persistent disadvantages are created in respect of trade in the products included in the liberalization programme, the Contracting Parties shall, at the request of the Contracting Party concerned, make every effort within their power to remedy these disadvantages.

Article 13

The reciprocity mentioned in article 10 refers to the expected growth in the flow of trade between each Contracting Party and the others as a whole, in the products included in the liberalization programme and those which may subsequently be added.

CHAPTER III

EXPANSION OF TRADE AND ECONOMIC COMPLEMENTARITY

Article 14

In order to ensure the continued expansion and diversification of reciprocal trade, the Contracting Parties shall take steps:

(*a*) to grant one another, while observing the principle of reciprocity, concessions which will ensure that, in the first negotiation, treatment not less favourable than that which existed before the date of entry into force of the present Treaty is accorded to imports from within the Area;

(*b*) to include in the National Schedules the largest possible number of products in which trade is carried on among the Contracting Parties; and

(*c*) to add to these Schedules an increasing number of products which are not yet included in reciprocal trade.

Article 15

In order to ensure fair competitive conditions among the Contracting Parties and to facilitate the increasing integration and complementarity of their economies, particularly with regard to industrial production, the Contracting Parties shall make every effort—in keeping with the liberalization objectives of the present Treaty—to reconcile their import and export régimes, as well as the treatment they accord to capital, goods and services from outside the Area.

Article 16

With a view to expediting the process of integration and

complementarity referred to in article 15, the Contracting Parties:

(*a*) shall endeavour to promote progressively closer co-ordination of the corresponding industrialization policies, and shall sponsor for this purpose agreements among representatives of the economic sectors concerned; and

(*b*) may negotiate mutual agreements on complementarity by industrial sectors.

Article 17

The complementarity agreements referred to in article 16, sub-paragraph (*b*), shall set forth the liberalization programme to be applied to products of the sector concerned and may contain, *inter alia*, clauses designed to reconcile the treatment accorded to raw materials and other components used in the manufacture of these products.

Any Contracting Party concerned with the complementarity programmes shall be free to participate in the negotiation of these agreements.

The results of these negotiations shall, in every case, be embodied in protocols which shall enter into force after the Contracting Parties have decided that they are consistent with the general principles and purposes of the present Treaty.

Chapter IV

MOST-FAVOURED-NATION TREATMENT

Article 18

Any advantage, benefit, franchise, immunity or privilege applied by a Contracting Party in respect of a product originating in or intended for consignment to any other country shall be immediately and unconditionally extended to the similar product originating in or intended for consignment to the territory of the other Contracting Parties.

Article 19

The most-favoured-nation treatment referred to in article 18 shall not be applicable to the advantages, benefits, franchises, immunities and privileges already granted or which may be granted by virtue of agreements among Contracting Parties or between Contracting Parties and third countries with a view to facilitating border trade.

Article 20

Capital originating in the Area shall enjoy, in the territory of each Contracting Party, treatment not less favourable than that granted to capital originating in any other country.

Chapter V

TREATMENT IN RESPECT OF INTERNAL TAXATION

Article 21

With respect to taxes, rates and other internal duties and charges, products originating in the territory of a Contracting Party shall enjoy, in the territory of another Contracting Party, treatment no less favourable than that accorded to similar national products.

Article 22

Each Contracting Party shall endeavour to ensure that the charges or other domestic measures applied to products included in the liberalization programme which are not produced, or are produced only in small quantities, in its territory, do not nullify or reduce any concession or advantage obtained by any Contracting Party during the negotiations.

If a Contracting Party considers itself injured by virtue of the measures mentioned in the previous paragraph, it may appeal to the competent organs of the Association with a view to having the matter examined and appropriate recommendations made.

Chapter VI

SAVING CLAUSES

Article 23

The Contracting Parties may, as a provisional measure and providing that the customary level of consumption in the importer country is not thereby lowered, authorize a Contracting Party to impose non-discriminatory restrictions upon imports of products included in the liberalization programme which originate in the Area, if these products are imported in such quantities or under such conditions that they have, or are liable to have, serious repercussions on specific productive activities of vital importance to the national economy.

Article 24

The Contracting Parties may likewise authorize a Contracting Party which has adopted measures to correct its unfavourable over-all balance of payments to extend these measures, provisionally and without discrimination, to intra-Area trade in the products included in the liberalization programme.

The Contracting Parties shall endeavour to ensure that the imposition of restrictions deriving from the balance-of-payments situation does not affect trade, within the Area, in the products included in the liberalization programme.

Article 25

If the situations referred to in articles 23 and 24 call for immediate action, the Contracting Party concerned

may, as an emergency arrangement to be referred to the Contracting Parties, apply the measures provided for in the said articles. The measures adopted must immediately be communicated to the Committee mentioned in article 33, which, if it deems necessary, shall convene a special session of the Conference.

Article 26

Should the measures envisaged in this chapter be prolonged for more than one year, the Committee shall propose to the Conference, referred to in article 33, either *ex officio* or at the request of any of the Contracting Parties, the immediate initiation of negotiations with a view to eliminating the restrictions adopted.

The present article does not affect the provisions of article 8.

Chapter VII

SPECIAL PROVISIONS CONCERNING AGRICULTURE

Article 27

The Contracting Parties shall seek to co-ordinate their agricultural development and agricultural commodity trade policies, with a view to securing the most efficient utilization of their natural resources, raising the standard of living of the rural population, and guaranteeing normal supplies to consumers, without disorganizing the regular productive activities of each Contracting Party.

Article 28

Providing that no lowering of its customary consumption or increase in anti-economic production is involved, a Contracting Party may apply, within the period mentioned in article 2, and in respect of trade in agricultural commodities of substantial importance to its economy that are included in the liberalization programme, appropriate non-discriminatory measures designed to:

(*a*) limit imports to the amount required to meet the deficit in internal production; and
(*b*) equalize the prices of the imported and domestic product.

The Contracting Party which decides to apply these measures shall inform the other Contracting Parties before it puts them into effect.

Article 29

During the period prescribed in article 2 an attempt shall be made to expand intra-Area trade in agricultural commodities by such means as agreements among the Contracting Parties designed to cover deficits in domestic production.

For this purpose, the Contracting Parties shall give priority, under normal competitive conditions, to products originating in the territories of the other Contracting Parties, due consideration being given to the traditional flows of intra-Area trade.

Should such agreements be concluded among two or more Contracting Parties, the other Contracting Parties shall be notified before the agreements enter into force.

Article 30

The measures provided for in this chapter shall not be applied for the purpose of incorporating, in the production of agricultural commodities, resources which imply a reduction in the average level of productivity existing on the date on which the present Treaty enters into force.

Article 31

If a Contracting Party considers itself injured by a reduction of its exports attributable to the lowering of the usual consumption level of the importer country as a result of the measures referred to in article 28 and/or an anti-economic increase in the production referred to in the previous article, it may appeal to the competent organs of the Association to study the situation and, if necessary, to make recommendations for the adoption of appropriate measures to be applied in accordance with article 12.

Chapter VIII

MEASURES IN FAVOUR OF COUNTRIES AT A RELATIVELY LESS ADVANCED STAGE OF ECONOMIC DEVELOPMENT

Article 32

The Contracting Parties, recognizing that fulfilment of the purpose of the present Treaty will be facilitated by the economic growth of the countries in the Area that are at a relatively less advanced stage of economic development, shall take steps to create conditions conducive to such growth.

To this end, the Contracting Parties may:

(*a*) authorize a Contracting Party to grant to another Contracting Party which is at a relatively less advanced stage of economic development within the Area, as long as necessary and as a temporary measure, for the purposes set out in the present article, advantages not extended to the other Contracting Parties, in order to encourage the introduction or expansion of specific productive activities;
(*b*) authorize a Cotracting Party at a relatively less advanced stage of economic development within the Area to implement the programme for the reduction of duties, charges and other restrictions under more favourable conditions, specially agreed upon;
(*c*) authorize a Contracting Party at a relatively less advanced stage of economic development within the Area to adopt appropriate measures to correct an unfavourable balance of payments, if the case arises;
(*d*) authorize a Contracting Party at a relatively less advanced stage of economic development within the Area to apply, if necessary and as a temporary measure, and providing that this does not

entail a decrease in its customary consumption, appropriate non-discriminatory measures designed to protect the domestic output of products included in the liberalization programme which are of vital importance to its economic development;

(*e*) make collective arrangements in favour of a Contracting Party at a relatively less advanced stage of economic development within the Area with respect to the support and promotion, both inside and outside the Area, of financial or technical measures designed to bring about the expansion of existing productive activities or to encourage new activities, particularly those intended for the industrialization of its raw materials; and

(*f*) promote or support, as the case may be, special technical assistance programmes for one or more Contracting Parties, intended to raise, in countries at a relatively less advanced stage of economic development within the Area, productivity levels in specific production sectors.

CHAPTER IX

ORGANS OF THE ASSOCIATION

Article 33

The organs of the Association are the Conference of the Contracting Parties (referred to in this Treaty as "the Conference") and the Standing Executive Committee (referred to in this Treaty as "the Committee").

Article 34

The Conference is the supreme organ of the Association. It shall adopt all decisions in matters requiring joint action on the part of the Contracting Parties, and it shall be empowered, *inter alia:*

(*a*) to take the necessary steps to carry out the present Treaty and to study the results of its implementation;

(*b*) to promote the negotiations provided for in article 4 and to assess the results thereof;

(*c*) to approve the Committee's annual budget and to fix the contributions of each Contracting Party;

(*d*) to lay down its own rules of procedure and to approve the Committee's rules of procedure;

(*e*) to elect a Chairman and two Vice-Chairmen for each session;

(*f*) to appoint the Executive Secretary of the Committee; and

(*g*) to deal with other business of common interest.

Article 35

The Conference shall be composed of duly accredited representatives of the Contracting Parties. Each delegation shall have one vote.

Article 36

The Conference shall hold: (*a*) a regular session once a year; and (*b*) special sessions when convened by the Committee.

At each session the Conference shall decide the place and date of the following regular session.

Article 37

The Conference may not take decisions unless at least two-thirds (2/3) of the Contracting Parties are present.

Article 38

During the first two years in which the present Treaty is in force, decisions of the Conference shall be adopted when affirmative votes are cast by at least two-thirds (2/3) of the Contracting Parties and providing that no negative vote is cast.

The Contracting Parties shall likewise determine the voting system to be adopted after this two-year period.

The affirmative vote of two-thirds (2/3) of the Contracting Parties shall be required:

(*a*) to approve the Committee's annual budget;

(*b*) to elect the Chairman and Vice-Chairmen of the Conference, as well as the Executive Secretary; and

(*c*) to fix the time and place of the sessions of the Conference.

Article 39

The Committee is the permanent organ of the Association responsible for supervising the implementation of the provisions of the present Treaty. Its duties and responsibilities shall be, *inter alia:*

(*a*) to convene the Conference;

(*b*) to submit for the approval of the Conference an annual work programme and the Committee's annual budget estimates;

(*c*) to represent the Association in dealings with third countries and international organs and entities for the purpose of considering matters of common interest. It shall also represent the Association in contracts and other instruments of public and private law;

(*d*) to undertake studies, to suggest measures and to submit to the Conference such recommendations as it deems appropriate for the effective implementation of the Treaty;

(*e*) to submit to the Conference at its regular sessions an annual report on its activities and on the results of the implementation of the present Treaty;

(*f*) to request the technical advice and the co-operation of individuals and of national and international organizations;

(*g*) to take such decisions as may be delegated to it by the Conference; and

(*h*) to undertake the work assigned to it by the Conference.

Article 40

The Committee shall consist of a Permanent Representa-

tive of each Contracting Party, who shall have a single vote.

Each Representative shall have an Alternate.

Article 41

The Committee shall have a Secretariat headed by an Executive Secretary and comprising technical and administrative personnel.

The Executive Secretary, elected by the Conference for a three-year term and re-eligible for similar periods, shall attend the plenary meetings of the Committee without the right to vote.

The Executive Secretary shall be the General Secretary of the Conference. His duties shall be, *inter alia*:

(*a*) to organize the work of the Conference and of the Committee;
(*b*) to prepare the Committee's annual budget estimates; and
(*c*) to recruit and engage the technical and administrative staff in accordance with the Committee's rules of procedure.

Article 42

In the performance of their duties, the Executive Secretary and the Secretariat staff shall not seek or receive instructions from any Government or from any other national or international entity. They shall refrain from any action which might reflect on their position as international civil servants.

The Contracting Parties undertake to respect the international character of the responsibilities of the Executive Secretary and of the Secretariat staff and shall refrain from influencing them in any way in the discharge of their responsibilities.

Article 43

In order to facilitate the study of specific problems, the Committee may set up Advisory Commissions composed of representatives of the various sectors of economic activity of each of the Contracting Parties.

Article 44

The Committee shall request, for the organs of the Association, the technical advice of the secretariat of the United Nations Economic Commission for Latin America (ECLA) and of the Inter-American Economic and Social Council (IA-ECOSOC) of the Organization of American States.

Article 45

The Committee shall be constituted sixty days from the entry into force of the present Treaty and shall have its headquarters in the city of Montevideo.

Chapter X

JURIDICAL PERSONALITY – IMMUNITIES AND PRIVILEGES

Article 46

The Latin American Free-Trade Association shall possess complete juridical personality and shall, in particular, have the power:

(*a*) to contract;
(*b*) to acquire and dispose of the movable and immovable property it needs for the achievement of its objectives;
(*c*) to institute legal proceedings; and
(*d*) to hold funds in any currency and to transfer them as necessary.

Article 47

The representatives of the Contracting Parties and the international staff and advisers of the Association shall enjoy in the Area such diplomatic and other immunities and privileges as are necessary for the exercise of their functions.

The Contracting Parties undertake to conclude, as soon as possible, an Agreement regulating the provisions of the previous paragraph in which the aforesaid privileges and immunities shall be defined.

The Association shall conclude with the Government of the Eastern Republic of Uruguay an Agreement for the purpose of specifying the privileges and immunities which the Association, its organs and its international staff and advisers shall enjoy.

Chapter XI

MISCELLANEOUS PROVISIONS

Article 48

No change introduced by a Contracting Party in its régime of import duties and charges shall imply a level of duties and charges less favourable than that in force before the change for any commodity in respect of which concessions are granted to the other Contracting Parties.

The requirement set out in the previous paragraph shall not apply to the conversion to present worth of the official base value (*aforo*) in respect of customs duties and charges, providing that such conversion corresponds exclusively to the real value of the goods. In such cases, the value shall not include the customs duties and charges levied on the goods.

Article 49

In order to facilitate the implementation of the provisions of the present Treaty, the Contracting Parties shall, as soon as possible:

(*a*) determine the criteria to be adopted for the purpose of establishing the origin of goods and for classifying them as raw materials, semi-manufactured goods or finished products;
(*b*) simplify and standardize procedures and formalities relating to reciprocal trade;
(*c*) prepare a tariff nomenclature to serve as a common basis for the presentation of statistics and for carrying out the negotiations provided for in the present Treaty;

(*d*) determine what shall be deemed to constitute border trade within the meaning of article 19;
(*e*) determine the criteria for the purpose of defining "dumping" and other unfair trade practices and the procedures relating thereto.

Article 50

The products imported from the Area by a Contracting Party may not be re-exported save by agreement between the Contracting Parties concerned.

A product shall not be deemed to be a re-export if it has been subjected in the importer country to industrial processing or manufacture, the degree of which shall be determined by the Committee.

Article 51

Products imported or exported by a Contracting Party shall enjoy freedom of transit within the Area and shall only be subject to the payment of the normal rates for services rendered.

Article 52

No Contracting Party shall promote its exports by means of subsidies or other measures likely to disrupt normal competitive conditions in the Area.

An export shall not be deemed to have been subsidized if it is exempted from duties and charges levied on the product or its components when destined for internal consumption, or if it is subject to drawback.

Article 53

No provision of the present Treaty shall be so construed as to constitute an impediment to the adoption and execution of measures relating to:

(*a*) the protection of public morality;
(*b*) the application of security laws and regulations;
(*c*) the control of imports or exports of arms, ammunition and other war equipment and, in exceptional circumstances, of all other military items, in so far as this is compatible with the terms of article 51 and of the treaties on the unrestricted freedom of transit in force among the Contracting Parties;
(*d*) the protection of human, animal and plant life and health;
(*e*) imports and exports of gold and silver bullion;
(*f*) the protection of the nation's heritage of artistic, historical and archaeological value; and
(*g*) the export, use and consumption of nuclear materials, radio-active products or any other material that may be used in the development or exploitation of nuclear energy.

Article 54

The Contracting Parties shall make every effort to direct their policies with a view to creating conditions favourable to the establishment of a Latin American common market. To that end, the Committee shall undertake studies and consider projects and plans designed to achieve this purpose, and shall endeavour to co-ordinate its work with that of other international organizations.

Chapter XII

FINAL PROVISIONS

Article 55

The present Treaty may not be signed with reservations nor shall reservations be admitted at the time of ratification or accession.

Article 56

The present Treaty shall be ratified by the signatory States at the earliest opportunity.

The instruments of ratification shall be deposited with the Government of the Eastern Republic of Uruguay, which shall communicate the date of deposit to the Governments of the signatory and successively acceding States.

Article 57

The present Treaty shall enter into force for the first three ratifying States thirty days after the third instrument of ratification has been deposited; and, for the other signatories, thirty days after the respective instrument of ratification has been deposited, and in the order in which the ratifications are deposited.

The Government of the Eastern Republic of Uruguay shall communicate the date of the entry into force of the present Treaty to the Government of each of the signatory States.

Article 58

Following its entry into force, the present Treaty shall remain open to accession by the other Latin American States, which for this purpose shall deposit the relevant instrument of accession with the Government of the Eastern Republic of Uruguay. The Treaty shall enter into force for the acceding State thirty days after the deposit of the corresponding instrument.

Acceding States shall enter into the negotiations referred to in article 4 at the session of the Conference immediately following the date of deposit of the instrument of accession.

Article 59

Each Contracting Party shall begin to benefit from the concessions already granted to one another by the other Contracting Parties as from the date of entry into force of the reductions in duties and charges and other restrictions negotiated by them on a basis of reciprocity, and after the minimum obligations referred to in article 5, accumulated during the period which has elapsed since the entry into force of the present Treaty, have been carried out.

Article 60

The Contracting Parties may present amendments to the present Treaty, which shall be set out in protocols that shall enter into force upon their ratification by all the

Contracting Parties and after the corresponding instruments have been deposited.

Article 61

On the expiry of the twelve-year term starting on the date of entry into force of the present Treaty, the Contracting Parties shall proceed to study the results of the Treaty's implementation and shall initiate the necessary collective negotiations with a view to fulfilling more effectively the purposes of the Treaty and, if desirable, to adapting it to a new stage of economic integration.

Article 62

The provisions of the present Treaty shall not affect the rights and obligations deriving from agreements signed by any of the Contracting Parties prior to the entry into force of the present Treaty.

However, each Contracting Party shall take the necessary steps to reconcile the provisions of existing agreements with the purposes of the present Treaty.

Article 63

The present Treaty shall be of unlimited duration.

Article 64

A Contracting Party wishing to withdraw from the present Treaty shall inform the other Contracting Parties of its intention at a regular session of the Conference, and shall formally submit the instrument of denunciation at the following regular session.

When the formalities of denunciation have been completed, those rights and obligations of the denouncing Government which derive from its status as a Contracting Party shall cease automatically, with the exception of those relating to reductions in duties and charges and other restrictions, received or granted under the liberalization programme, which shall remain in force for a period of five years from the date on which the denunciation becomes formally effective.

The period specified in the preceding paragraph may be shortened if there is sufficient justification, with the consent of the Conference and at the request of the Contracting Party concerned.

Article 65

The present Treaty shall be called the Montevideo Treaty.

In witness whereof the undersigned Plenipotentiaries, having deposited their full powers, found in good and due form, have signed the present Treaty on behalf of their respective Governments.

Done in the city of Montevideo, on the eighteenth day of the month of February in the year one thousand nine hundred and sixty, in one original in the Spanish and one in the Portuguese language, both texts being equally authentic. The Government of the Eastern Republic of Uruguay shall be the depositary of the present Treaty and shall transmit duly certified copies thereof to the Governments of the other signatory and acceding States.

For the Government of the Argentine Republic:

(Signed) Diógenes Taboada

For the Government of the United States of Brazil:

(Signed) Horacio Lafer

For the Government of the Republic of Chile:

(Signed) Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

(Signed) Manuel Tello

For the Government of the Republic of Paraguay:

(Signed) Raúl Sapena Pastor
Pedro Ramón Chamorro

For the Government of Peru:

(Signed) Hernán Bellido
Gonzalo L. de Aramburu

For the Government of the Eastern Republic of Uruguay:

(Signed) Horacio Martínez Montero
Mateo Magariños de Mello

Protocol No. 1

ON NORMS AND PROCEDURES FOR NEGOTIATIONS

On the occasion of the signing of the Treaty establishing a free-trade area and instituting the Latin American Free-Trade Association (Montevideo Treaty), the signatories, thereunto duly authorized by their Governments, hereby agree upon the following Protocol:

TITLE I

Calculation of weighted averages

1. For the purposes of article 5 of the Montevideo Treaty, it shall be understood that, as a result of the negotiations for the establishment of the National Schedules, the difference between the weighted average of duties and charges in force for third countries and that which shall be applicable to imports from within the area shall be not less than the product of eight per cent (8%) of the weighted average of duties and charges in force for third countries multiplied by the number of years that have elapsed since the Treaty became effective.

2. The reduction mechanism shall therefore be based on two weighted averages: one corresponding to the average of the duties and charges in force for third countries; and the other to the average of the duties and charges which shall be applicable to imports from within the Area.

3. In order to calculate each of these weighted averages, the total amount that would be represented by the duties and charges on aggregate imports of the goods under consideration shall be divided by the total value of these imports.

4. This calculation will give a percentage (or *ad valorem* figure) for each weighted average. It is the difference between the two averages that shall be not less than the product of the factor 0.08 (or eight per cent) multiplied by the number of years elapsed.

5. The foregoing formula is expressed as follows:

$$t \leqslant T \ (1\text{-}0.08n) \text{ in which}$$

$t =$ weighted average of the duties and charges that shall be applicable to imports from within the area;
$T =$ weighted average of duties and charges in force for third countries;
$n =$ number of years since the Treaty entered into force.

6. In calculating the weighted averages for each of the Contracting Parties, the following shall be taken into account:

(*a*) Products originating in the territory of the other Contracting Parties and imported from the Area during the preceding three-year period and further products included in the National Schedule concerned as a result of negotiations;
(*b*) The total value of imports, irrespective of origin, of each of the products referred to in sub-paragraph (*a*), during the three-year period preceding each negotiation; and
(*c*) The duties and charges on imports from third countries in force as on 31 December prior to the negotiations, and the duties and charges applicable to imports from within the Area entering into force on 1 January following the negotiations.

7. The Contracting Parties shall be entitled to exclude products of little value from the group referred to in sub-paragraph (*a*), provided that their aggregate value does not exceed five per cent (5%) of the value of imports from within the Area.

TITLE II

Exchange of information

8. The Contracting Parties shall provide one another, through the Standing Executive Committee, with information as complete as possible on:

(*a*) National statistics in respect of total imports and exports (value in dollars and volume, by countries both of origin and of destination), production and consumption;
(*b*) Customs legislation and regulations;
(*c*) Exchange, monetary, fiscal and administrative legislation, regulations and practices bearing on exports and imports;
(*d*) International trade treaties and agreements whose provisions relate to the Treaty;
(*e*) Systems of direct or indirect subsidies on production or exports, including minimum price systems; and
(*f*) State trading systems.

9. So far as possible, these data shall be permanently available to the Contracting Parties. They shall be specially brought up to date sufficiently in advance of the opening of the annual negotiations.

TITLE III

Negotiation of National Schedules

10. Before 30 June of each year, the Contracting Parties

shall make available to one another, through the Standing Executive Committee, the list of products in respect of which they are applying for concessions and, before 15 August of each year (with the exception of the first year, when the corresponding final date shall be 1 October), the preliminary list of items in favour of which they are prepared to grant concessions.

11. On 1 September of each year (with the exception of the first year, when the corresponding date shall be 1 November), the Contracting Parties shall initiate the negotiation of the concessions to be accorded by each to the others as a whole. The concessions shall be assessed multilaterally, although this shall not preclude the conduct of negotiations by pairs or groups of countries, in accordance with the interest attaching to specific products.

12. Upon the conclusion of this phase of the negotiations, the Standing Executive Committee shall make the calculations referred to in title I of this Protocol and shall inform each Contracting Party, at the earliest possible opportunity, of the percentage whereby its individual concessions reduce the weighted average of the duties and charges in force for imports from within the Area, in relation to the weighted average of duties and charges applicable in the case of third countries.

13. When the concessions negotiated fall short of the corresponding minimum commitment, the negotiations among the Contracting Parties shall be continued, so that the list of reductions of duties and charges and other restrictions to enter into force as from the following 1 January may be simultaneously published by each of the Contracting Parties not later than 1 November of each year.

TITLE IV

Negotiation of the Common Schedule

14. During each three-year period and not later than on 31 May of the third, sixth, ninth and twelfth years from the time of the Treaty's entry into force, the Standing Executive Committee shall supply the Contracting Parties with statistical data on the value and volume of the products traded in the Area during the preceding three-year period, indicating the proportion of aggregate trade which each individually represented.

15. Before 30 June of the third, sixth and ninth years from the time of the Treaty's entry into force, the Contracting Parties shall exchange the lists of products whose inclusion in the Common Schedule they wish to negotiate.

16. The Contracting Parties shall conduct multilateral negotiations to establish, before 30 November in the third, sixth, ninth and twelfth years, a Common Schedule comprising goods whose value meets the minimum commitments referred to in article 7 of the Treaty.

TITLE V

Special and temporary provisions

17. In the negotiations to which this Protocol refers, consideration shall be given to those cases in which varying levels of duties and charges on certain products create conditions such that producers in the Area are not competing on equitable terms.

18. To this end, steps shall be taken to ensure prior equalization of tariffs or to secure by any other suitable procedure the highest possible degree of effective reciprocity.

In witness whereof the respective representatives have signed the Protocol.

Done at the City of Montevideo, on the eighteenth day of the month of February in the year one thousand nine hundred and sixty, in one original in the Spanish and one in the Portuguese language, both texts being equally authentic.

The Government of the Eastern Republic of Uruguay shall act as depositary of the present Protocol and shall send certified true copies thereof to the Governments of the other signatory and acceding countries.

For the Government of the Argentine Republic:

Diógenes Taboada

For the Government of the Republic of the United States of Brazil:

Horacio Lafer

For the Government of the Republic of Chile:

Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

Manuel Tello

For the Government of the Republic of Paraguay:

Raúl Sapena Pastor
Pedro Ramón Chamorro

For the Government of Peru:

Hernán Bellido
Gonzalo L. de Aramburu

For the Government of the Eastern Republic of Uruguay:

Horacio Martínez Montero
Mateo Magariños de Mello

Protocol No. 2

ON THE ESTABLISHMENT OF A PROVISIONAL COMMITTEE

On the occasion of the signing of the Treaty establishing a free-trade area and instituting the Latin American Free-Trade Association (Montevideo Treaty), the signatories, thereunto duly authorized by their Governments, taking into consideration the need to adopt and coordinate measures to facilitate the entry into force of the Treaty, hereby agree as follows:

1. A Provisional Committee shall be set up, composed of one representative of each signatory State. Each representative shall have an alternate.

At its first meeting the Provisional Committee shall elect from among its members one Chairman and two Vice-Chairmen.

2. The terms of reference of the Provisional Committee shall be as follows:

(*a*) To draw up its rules of procedure;
(*b*) To prepare, within sixty days from the date of its inauguration, its work programme, and to establish its budget of expenditure and the contributions to be made by each country;
(*c*) To adopt the measures and prepare the documents necessary for the presentation of the Treaty to the Contracting Parties of the General Agreement on Tariffs and Trade (GATT);
(*d*) To convene and prepare for the first Conference of Contracting Parties;
(*e*) To assemble and prepare the data and statistics required for the first series of negotiations connected with the implementation of the liberalization programme provided for in the Treaty;
(*f*) To carry out or promote studies and research, and to adopt whatsoever measures may be necessary in the common interest during its period of office; and
(*g*) To prepare a preliminary draft agreement on the privileges and immunities referred to in article 47 of the Treaty.

3. In technical matters, the Provisional Committee shall be assisted in an advisory capacity by the United Nations Economic Commission for Latin America (ECLA) and the Inter-American Economic and Social Council (IA-ECOSOC), of the Organization of American States, in accordance with the relevant Protocol.

4. The Provisional Committee shall appoint an Administrative Secretary and other requisite staff.

5. The Provisional Committee shall be inaugurated on 1 April 1960, and its quorum shall be constituted by not less than four members. Up to that date, the Officers of the Inter-Governmental Conference for the Establishment of a Free-Trade Area among Latin American Countries shall continue to discharge their functions, for the sole purpose of establishing the Provisional Committee.

6. The Provisional Committee shall remain in office until the Standing Executive Committee, provided for in article 33 of the Treaty, has been set up.

7. The Provisional Committee shall have its headquarters in the City of Montevideo.

8. The Officers of the above-mentioned Conference are recommended to request the Government of the Eastern Republic of Uruguay to advance the necessary sums to cover the payment of staff salaries and the installation and operational expenses of the Provisional Committee during the first ninety days. These sums shall be subsequently reimbursed by the States signatories of the present Treaty.

9. The Provisional Committee shall approach the signatory Governments with a view to obtaining for the members of its constituent delegations, as well as for its international staff and advisers, such immunities and privileges as may be needful for the performance of their duties.

In witness whereof the respective representatives have signed the present Protocol.

Done at the City of Montevideo, on the eighteenth day of the month of February in the year one thousand nine hundred and sixty, in one original in the Spanish and one in the Portuguese language, both texts being equally authentic. The Government of the Eastern Republic of Uruguay shall act as the depositary of the present Protocol and shall send certified true copies thereof to the Governments of the other signatory and acceding countries.

For the Government of the Argentine Republic:

Diógenes Taboada

For the Government of the Republic of the United States of Brazil:

Horacio Lafer

For the Government of the Republic of Chile:

Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

Manuel Tello

For the Government of the Republic of Paraguay:

Raúl Sapena Pastor
Pedro Ramón Chamorro

For the Government of Peru:

Hernán Bellido
Gonzalo L. de Aramburu

For the Government of the Eastern Republic of Uruguay:

Horacio Martínez Montero
Mateo Magariños de Mello

Protocol No. 3

ON THE COLLABORATION OF THE UNITED NATIONS ECONOMIC COMMISSION FOR LATIN AMERICA (ECLA) AND OF THE INTER-AMERICAN ECONOMIC AND SOCIAL COUNCIL (IA-ECOSOC) OF THE ORGANIZATION OF AMERICAN STATES

On the occasion of the signing of the Treaty establishing a free-trade area and instituting the Latin American Free-Trade Association (Montevideo Treaty), the signatories, thereunto duly authorized by their Governments, hereby agree as follows:

1. With reference to the provisions of article 44 of the Treaty and in view of the fact that the secretariats of ECLA and of IA-ECOSOC have agreed to assist the organs of the Latin American Free-Trade Association with advice on technical matters, a representative of each of the secretariats in question shall attend the meetings of the Standing Executive Committee of the above-mentioned Association when the business to be discussed is, in the Committee's opinion, of a technical nature.

2. The appointment of the representatives referred to shall be subject to the prior approval of the members of the said Committee.

In witness whereof the respective representatives have signed the present Protocol.

Done at the City of Montevideo, on the eighteenth day of the month of February in the year one thousand nine hundred and sixty, in one original in the Spanish and one in the Portuguese language, both texts being equally authentic. The Government of the Eastern Republic of Uruguay shall act as the depositary of the present Protocol and shall send certified true copies thereof to the Governments of the other signatory and acceding countries.

For the Government of the Argentine Republic:

Diógenes Taboada

For the Government of the Republic of the United States of Brazil:

Horacio Lafer

For the Government of the Republic of Chile:

Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

Manuel Tello

For the Government of the Republic of Paraguay:

Raúl Sapena Pastor
Pedro Ramón Chamorro

For the Government of Peru:

Hernán Bellido
Gonzalo L. de Aramburu

For the Government of the Eastern Republic of Uruguay:

Horacio Martínez Montero
Mateo Magariños de Mello

Protocol No. 4

ON COMMITMENTS TO PURCHASE OR SELL PETROLEUM AND PETROLEUM DERIVATIVES

On the occasion of the signing of the Treaty establishing a free-trade area and instituting the Latin American Free-Trade Association (Montevideo Treaty), the signatories, thereunto duly authorized by their Governments, hereby agree:

To declare that the provisions of the Montevideo Treaty, signed on 18 February 1960, are not applicable to commitments to purchase or sell petroleum and petroleum derivatives resulting from agreements concluded by the signatories of the present Protocol prior to the date of signature of the above-mentioned Treaty.

In witness whereof the respective representatives have signed the present Protocol.

Done at the City of Montevideo, on the eighteenth day of the month of February in the year one thousand nine hundred and sixty, in one original in the Spanish and one in the Portuguese language, both texts being equally authentic.

The Government of the Eastern Republic of Uruguay shall act as depositary of the present Protocol and shall send certified true copies thereof to the Governments of the other signatory and acceding countries.

For the Government of the Argentine Republic:

Diógenes Taboada

For the Government of the Republic of the United States of Brazil:

Horacio Lafer

For the Government of the Republic of Chile:

Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

Manuel Tello

For the Government of the Republic of Paraguay:

Raúl Sapena Pastor
Pedro Ramón Chamorro

For the Government of Peru:

Hernán Bellido
Gonzalo L. de Aramburu

For the Government of the Eastern Republic of Uruguay:

Horacio Martínez Montero
Mateo Magariños de Mello

Protocol No. 5

ON SPECIAL TREATMENT IN FAVOUR OF BOLIVIA AND PARAGUAY

On the occasion of the signing of the Treaty establishing a free-trade area and instituting the Latin American Free-Trade Association (Montevideo Treaty), the signatories, thereunto duly authorized by their Governments hereby agree:

To declare that Bolivia and Paraguay are at present in a position to invoke in their favour the provisions in the Treaty concerning special treatment for countries at a relatively less advanced stage of economic development within the Free-Trade Area.

In witness whereof the respective representatives have signed the present Protocol.

Done at the City of Montevideo, on the eighteenth day of the month of February in the year one thousand nine hundred and sixty, in one original in the Spanish and one in the Portuguese language, both texts being equally authentic.

The Government of the Eastern Republic of Uruguay shall act as depositary of the present Protocol and shall send certified true copies thereof to the Governments of the other signatory and acceding countries.

For the Government of the Argentine Republic:

Diógenes Taboada

For the Government of the Republic of the United States of Brazil:

Horacio Lafer

For the Government of the Republic of Chile:

Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

Manuel Tello

For the Government of the Republic of Paraguay:

Raúl Sopena Pastor
Pedro Ramón Chamorro

For the Government of Peru:

Hernán Bellido
Gonzalo L. de Aramburu

For the Government of the Eastern Republic of Uruguay:

Horacio Martínez Montero
Mateo Magariños de Mello

Resolution 1

MEETINGS OF GOVERNMENTAL REPRESENTATIVES OF CENTRAL BANKS

The Inter-Governmental Conference for the Establishment of a Free-Trade Area among Latin American Countries,

In view of the report submitted to the Conference by the Meeting of Governmental Representatives of Central Banks, held at Montevideo in January 1960,

Considering the desirability of continuing the studies on payments and credits to facilitate the financing of intra-Area transactions and therefore the fulfilment of the purposes of the Treaty establishing a Free-Trade Area and instituting the Latin American Free-Trade Association,

Decides:

1. To take note of the above-mentioned report;

2. To request the Provisional Committee to convene informal meetings of governmental experts from the central banks of Argentina, Bolivia, Brazil, Chile, Mexico, Paraguay, Peru and Uruguay, which shall be organized by the secretariat of the United Nations Economic Commission for Latin America (ECLA);

3. To establish that the object of these meetings shall be the continuance of the studies on credits and pay-

ments to facilitate the financing of intra-Area transactions and therefore the fulfilment of the purposes of the aforesaid Treaty;

4. To request the United Nations Economic Commission for Latin America (ECLA), the Inter-American Economic and Central Council (IA-ECOSOC) of the Organization of American States and the International Monetary Fund for their advice and technical assistance;

5. To extend the invitation to experts from the central banks of such countries as may have acceded to the said Treaty.

Montevideo, 18 February 1960.

For the Government of the Argentine Republic:

Diógenes Taboada

For the Government of the Republic of the United States of Brazil:

Horacio Lafer

For the Government of the Republic of Chile:

Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

Manuel Tello

For the Government of the Republic of Paraguay:

Raúl Sapena Pastor
Pedro Ramón Chamorro

For the Government of Peru:

Hernán Bellido
Gonzalo L. de Aramburu

For the Government of the Eastern Republic of Uruguay:

Horacio Martínez Montero
Mateo Magariños de Mello

Resolution II

MORATORIUM GRANTED TO BOLIVIA FOR SIGNATURE OF THE TREATY

The Inter-Governmental Conference for the Establishment of a Free-Trade Area among Latin American Countries,

Considering the generous spirit of co-operation displayed by Bolivia in its participation in the negotiations for the conclusion of the Treaty establishing a Free-Trade Area and instituting the Latin American Free-Trade Association,

Mindful of the motives adduced by the delegation of Bolivia to explain why, for reasons of *force majeure*, it is unable to sign the above-mentioned Treaty on the present occasion,

Decides to grant the Government of Bolivia a moratorium of four (4) months during which it will be free to accede to the aforesaid Treaty as a signatory State.

Montevideo, 18 February 1960.

For the Government of the Argentine Republic:

Diógenes Taboada

For the Government of the Republic of the United States of Brazil:

Horacio Lafer

For the Government of the Republic of Chile:

Germán Vergara Donoso

For the Government of the Republic of the United Mexican States:

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For the Government of the Eastern Republic of Uruguay:

Horacio Martínez Montero
Mateo Magariños de Mello

ECONOMIC DEVELOPMENTS IN VENEZUELA IN THE 1950's

INTRODUCTION

Petroleum first became economically significant in the years immediately following the First World War. Up to that time, Venezuela had been a very backward country with a population of less than three million, depending mainly on exports of coffee and cacao. Now the economy is largely supported by the petroleum industry, which has made it possible to provide, for a population of nearly eight million, an average income higher than almost anywhere else in the world, outside the industrial countries. Yet the economic and social problems which remain to be solved are so serious that Venezuela must still be classified as under-developed.

The output of crude petroleum rose rapidly in the 1920's and reached a level of nearly half a million barrels a day in the years 1928-35, which provided about 50 million bolívares a year in taxes, or a quarter of Government revenue.

During this period, Venezuela became a high-cost economy. Wage rates paid by the petroleum companies affected those in other industries, even though productivity was very low in the rest of the economy. Moreover, during the depression, exports only declined slightly and Venezuela did not devalue its currency. Since other countries did devalue theirs, however, one after another, the bolívar appreciated in terms of foreign currencies: for example, the value of the United States dollar fell from 5.20 to 3.09 bolívares.[1] Consequently, it became difficult to build up industries capable of competing successfully with imports.

When the world recovered from the depression, petroleum exports resumed their rise and Government revenues from this source reached over 100 million bolívares a year, or a third of the budget. They remained at about this level until 1943, because world prices were frozen and shipping difficulties made it difficult to expand volume. Thereafter the rise in petroleum revenue was rapid: large concessions were granted in the years 1943-45 (doubling the area conceded), world prices rose, and in 1948 the "additional tax" was introduced, under which the total tax payment of any petroleum company was raised to at least 50 per cent of its net profits. Government revenues from this source climbed to over 1 000 million bolívares a year in 1948-49, ten times as much as it had been only six years earlier.

Consequently, there was no lack of funds for stimulating demand in other sectors. Moreover, Venezuela has a good pattern of resources. There is plenty of arable land and potential pasture relative to the population; there are rich deposits of minerals, especially for making cement and iron; sea communications, plains and valleys link the populated areas of the coastal regions; and the sources of energy are abundant.

During the war years, some progress had been made in developing these resources, partly because imported supplies of many products were difficult to obtain. By the end of the 1940's the output of livestock products and sugar was rising; iron mining was being developed —though mines were not yet in production; a group of manufacturing industries, including petroleum refining, textiles, cement, rubber and brewing, was being expanded; plans were being prepared for the establishment of new industries such as steel, petrochemicals and vehicle assembly; a large construction industry was emerging; and commercial activity was growing under the stimulus of the rising volume of transactions in other sectors. As a corollary of these developments, small but important nuclei of entrepreneurs and skilled workers had appeared. The decade of the 1940's may be judged by future historians as the take-off period of the Venezuelan economy.

So, when petroleum exports and revenues rose further in the 1950's, there was already a basis for general economic development, in contrast to several petroleum producers in the Middle East, which did not possess the potentialities for rapid economic development in other sectors.

Still serious weaknesses had appeared by 1950, due to unbalanced development in the previous three decades. The position of Venezuela ten years ago can be summed up by saying that the country was beset by a complex of problems of four kinds: (*i*) productive, (*ii*) geographical, (*iii*) social and (*iv*) international.[2]

(*i*) The *productive* structure of the economy was lopsided. The petroleum industry accounted for a large fraction of the domestic product and other sectors were heavily dependent, directly or indirectly, on the incomes it generated. Government services had grown by the expenditure of petroleum taxes, and the commercial and construction sectors were providing the needs of those working for the petroleum companies and the Government. The main commodity-producing industries, on the other hand, were hampered by costs which were still very high by international standards. Much land which could be cultivated was either being used only as extensive natural pasture or not at all.[3] Techniques on the remainder were backward, apart from some highly commercialized estates; so farmers found it difficult to

[1] Indeed the legal value of the bolívar in terms of gold has remained unchanged since it was established as a currency unit by an Act of 1879. The only modification has been that, since 1941, transactions other than those of the petroleum companies have been at a rate 8 per cent lower (equivalent to Bs. 3.335 to the dollar).

[2] For a fuller account of the economic position at the end of the 1940's, see International Bank for Reconstruction and Development, *Report on the Economy of Venezuela*, 1949.

[3] The 1950 census showed that only 6 per cent of the agricultural area covered was being cultivated (only one quarter of this under irrigation), and 7 per cent consisted of artificial pasture.

produce competitively for traditional export markets, or even to displace imports of foodstuffs. Although manufacturing was already on a significant scale, it was confined to a limited range of industries, mostly heavily protected. Managers and artesans were expensive at the existing foreign exchange rate, if the fact that they often lacked training and experience is borne in mind.

(*ii*) The *geographical* pattern of the economy was also distorted. The petroleum industry had attracted workers from the interior to the environs of the wells. Moreover, the Government had been spending most of the proceeds of the petroleum taxes in the coastal areas, especially Caracas. Since communications to the hinterland were too poor for demand to spread easily into the rest of the country, nearly all the industrial and commercial activity was also concentrated in this region. The economy was thus split into two quite distinct sections: about half the population was living in urban areas, near the coast, with much higher incomes, better transport and more advanced social services than the other half, who were still living in the countryside. Naturally, heavy migration was taking place into the more developed regions.

(*iii*) The *social* system simultaneously reflected the lingering stratification of the distant past, and the economic and geographical distortions of the present. In the rural areas, less than one per cent of the land holdings accounted, in 1950, for two-thirds of the total productive area; incomes were not only low but very unevenly distributed; housing was generally primitive; labour was not fully employed; more than half of the adults were illiterate; and the majority of country children were going through at the most only one grade of primary education. This state of affairs was both the cause and the effect of the technical backwardness of farming. In the cities, the average income was higher, but also showed extremes of poverty and riches. While the majority of those who had recently arrived from the country lived in shacks (ranchos) without running water or electricity, part of the construction industry was engaged in big suburban developments of luxury houses and apartments.

(*iv*) Finally, the economy was highly sensitive to *international* developments. Exports consisted almost exclusively of petroleum and its products, and costs of production of crude were higher than those of increasingly serious competitors in the Middle East, which were already capturing strong positions in the markets of the industrial countries. Again, Venezuela still depended heavily on imports. This was due in part to the fact that local farms and factories were often unable to compete against importers, especially in cases where commercial treaties prevented the protection of local producers. The heavy outlays on foreign products could also be partly ascribed to the concentration of income in the coastal areas, since from these areas the interior was usually more difficult of access than the ports of the United States and of other foreign countries. A third cause was the inequality of income distribution: the rich, especially in the cities, devoted a high proportion of their incomes to luxury imports, either because the goods were not made in Venezuela, or because foreign brands were better or more familiar.[4]

Economic expansion continued nevertheless at a brisk pace in the following decade. The value of petroleum exports doubled between 1950 and 1958, which meant a further big increase in revenues, and this was in turn converted into higher Government expenditures. Despite all the structural weaknesses and a wasteful use of public funds, activity in the rest of the economy also doubled —an indication of the response which can be made by an under-developed economy to a heavy financial injection from overseas. In some sectors the expansion was even faster: manufacturing output more than doubled and there were big increases in some of the service industries. The domestic product reached nearly 1 000 dollars per head at the end of the decade, a very high level for an unindustrialized country. Much of the rise was due to improved productivity, but the production indices climbed fast enough to enable the increment in the labour force to be mostly absorbed in employment. Real consumption rose by about 7 per cent *per capita per annum*.

This rate of growth was achieved without any noticeable trend in prices from 1951 to 1957. So prices in Venezuela became slightly less high by international standards. The explanation is largely that the dynamic impetus came from the petroleum industry in the form of increasing supplies of foreign exchange, augmented in 1956 and 1957 by the proceeds of the sale of new petroleum concessions. This made it possible to expand imports rapidly and to make good any deficiencies in domestic output. Another reason was that wages rose no faster than productivity.

Yet in some respects the spectacular economic progress was illusory. Manufacturing was on a very small scale in 1950, so a rapid relative rise meant less than it seemed: the sector was still only responsible for 12 per cent of the domestic product in 1958. In addition, part of the increase in the domestic product was absorbed by the needs of a more urbanized population since food has had to be brought farther, city transport and water supplies have had to be multiplied, etc. Furthermore the figure of 1 000 dollars a head for the domestic product must be judged in the light of the high prices prevailing.

Finally, the four basic weaknesses have continued uncorrected.

(*i*) The economy still depends very largely on petroleum. Some crops have been greatly increased, but sections of the market for foodstuffs are still supplied mainly by farmers in foreign countries, and the percentage of the domestic output originating in agriculture had fallen in 1958 to 7. A start was made in broadening the industrial base by building heavy industries, but no primary steel products were being turned out in 1959, and plants of the petrochemical projects were only operating on a limited scale. Manufacturing still consisted mainly of the traditional light consumer goods industries, such as food processing, cigarettes, beverages and textiles, and each of these was still having difficulty with foreign competition.

(*ii*) The coastal cities have grown more crowded,

[4] Since foodstuffs produced in the country and mainly consumed by wage-earners were expensive by international standards, whereas imported consumer durables were relatively cheap, the distribution of real incomes was even more unequal than would appear from figures of money incomes.

while land suitable for farming continues to lie fallow, and there has even been a labour shortage in some rural areas. Nearly half the nation's private income was received by inhabitants of Caracas in 1957, although only about a sixth of the population lived there, so income per head in the capital, as in the petroleum areas, was several times as much as in the poorer rural districts.[5]

(*iii*) Although urban wages have risen, the influx of labour into the cities has been so fast that slums have spread, and the associated problems of homeless children and of crime have become more severe.[6] Moreover the living standard of the rural worker shows little or no improvement.[7] So the fast rise in the national product has benefited mainly the urban middle and upper classes, rather than those with the greatest needs. The distribution of income may well therefore have become more, not less, unequal.[8] In 1957, those receiving less than 2 400 bolívares a year constituted 45 per cent of the total number of income receivers, but they only received 9 per cent of all income.[9] In these circumstances, a high average income for the whole nation does not convey a great deal.

(*iv*) Finally, recent events have shown that the economy has not made noticeable progress towards freeing itself from dependence on foreign markets for petroleum. Exports of oil have declined since 1957, because of the end of the shortage caused by the Suez crisis, because of growing competition from the Middle East, and because of shrinking import quotas in the United States. Since Venezuela's imports have continued to be buoyant, this fall in exports has meant a deficit in the balance of payments, which exposes the vulnerability of the economy.

It is clear that the growth process was not such as to correct these four distortions automatically, but remained essentially the same as it had been in the previous decades when the distortions emerged. Petroleum exports provided the demand needed to stimulate growth. It is demonstrated below that there was no other autonomous force of any significance. But at the same time these exports brought a rising flood of foreign exchange, enabling imports to be expanded so fast that the growth of domestic industries was checked. What was needed was a conscious manipulation of the process. Moreover, this the Government was in a position to do, since a large fraction of the proceeds of petroleum exports passed through its hands.

Over 15 000 million bolivares were collected in taxes from the petroleum industry in the ten years from 1948 to 1957, apart from 2 000 million obtained by sales of petroleum concessions in 1956 and 1957, and 8 000 million from other sources, making 25 000 millions altogether (i.e. more than 7 000 million dollars). This was greater than the whole previous total of public revenue since the colonization of the country by Spain.[10] Moreover, despite these revenues, the Government fell heavily into debt: although treasury reserves grew by 2 000 million bolívares in this period, the Government's obligations rose by over 4 000 million.

It is true that there was little effort to develop other sources of finance. The capacity of the tax system to finance development and to change the distribution of income remained unexplored until recently. Direct taxes continued without major change until December 1958, both inside the petroleum sector and outside it—the greater part of revenue from the remainder of the economy being collected as custom duties and taxes on alcohol and tobacco.[11] Furthermore, the banking system was far too inflexible to gather sufficient savings for Venezuela's needs or to channel them in the right directions, and monetary weapons were allowed to rust unused.

It is also true that revenue was wasted, because tender prices for Government contracts were often the higher for excessive profits and administrative irregularities; the techniques of construction were generally extravagant, and costs were at times further increased by rushing projects. But, during this period, the supply of finance was not a major limiting factor. What was available to the Government was enormous, by comparison with other countries in the region. Moreover, since the basic distortions were inter-related in numerous ways, all four of them would have been eased if expenditure had been concentrated on a few obvious priorities.

The greatest need facing the administration in 1950 was to develop education at all levels—primary, secondary, technical, and university. Another task for the 1950's was a considerable extension of farmland, accompanied by improvement of farming techniques and provision of rural roads. A third fundamental necessity was a co-ordinated policy to stimulate secondary industry and broaden its scope. Since there were also pressing needs for housing, health services, transport facilities,

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[5] *Memoria del Banco Central*, 1958.

[6] In an official survey of 1958 it was estimated that more than 35 per cent of the population of Caracas lived in *ranchos* and another 20 per cent in the *superbloques*, some of which had deteriorated into slums. Early in 1959, new *ranchos* were appearing at the rate of about one hundred a day. In 1958, the number of children who had been abandoned by their parents had reached about 163 000 (Venezuelan Child Welfare Board (*Consejo Venezolano de Niños, Instituciones para menores*).

[7] Professor George Hill, comparing the results of rural surveys in 1945 and in 1957-58, concludes as follows: "All the facts that we have presented in relation to their economic situation, their organization, their agriculture and their educational problems indicate clearly that agricultural workers are still living in the same state of ignorance and poverty as when we first met them. From the economic and social standpoints, we think it may even be said that their situation is worse today than formerly". (See *Revista Trimestral de Economía y Ciencias Sociales*, No. 1, Caracas, September 1958 p. 8.)

[8] It is true that the incomes of those migrating into the cities rose sharply, but allowance must be made for the fact that, as city-dwellers, they paid much higher prices.

[9] *Memoria del Banco Central*, 1958, based on the work of the Shoup Mission. It is also estimated that the average annual income of the lowest 80 per cent of rural families was 800 bolívares in 1957, or 125 bolívares *per capita*, including consumption of subsistence food (*La Vida Rural en Venezuela, op. cit.*).

[10] It was also more than three times the total of the grants and loans made by the United States Government and governmental organizations (such as the Export-Import Bank) to the twenty Latin American republics from July 1945 to June 1958 (United States Department of Commerce, *Foreign Grants and Credits*, November 1958).

[11] Indeed, since the system of taxation had serious gaps, while the development of roads in and around Caracas was a special boon to owners of private cars and heavy profits were made on Government contracts, it would be possible to argue that the fiscal system as a whole had actually become regressive by 1957, in the sense of redistributing income from the poor to the rich.

etc., it was essential to plan the strategy of development carefully.

These priorities were not in fact treated as such. The expenditure of the Ministry of Education had risen only moderately up to 1958 (from 107 million bolívares in 1948-49 to 170 million in 1957-58) and the gap between the capacity of schools and the number of children of school age continued to widen. Since the total budget more than doubled over the same period, the share for education fell. Primary education remained essentially a one-grade course, especially in the rural districts;[12] secondary, technical and university education continued to be very inadequate relative to national needs; and some teachers' training colleges were actually closed. The consequent shortage of managers, technical staff, foremen and artisans has been an increasingly serious check on development, and it has only been eased—to a limited degree—by immigration.

There was some expenditure on agricultural development over the decade 1948-57, but it did not add up to a coherent programme. A number of settlement schemes were started, but they were expensive, and relatively few people were provided with land. Official stimulus was given by subsidies, price guarantees, credit and technical advice to the producers of certain commodities, such as milk, sugar, rice and cotton, but these schemes mostly helped the large estates in a few limited areas. The total credits granted by official agricultural loan organizations of all kinds actually fell (from 163 million bolívares in 1948 and 168 million in 1949 to 49 million in 1956 and 75 million in 1957). Most of the agricultural sector benefitted little from extension services and financial help.[13] The bulk of expenditure by the Government was in the cities, not the country districts.

Electrical capacity grew fourfold as a result of Government investments; a start was made on the establishment of national steel and petrochemical industries; and plants for processing foodstuffs were financed with official help. But financial or technical assistance to other secondary industries was very limited over this period, and serious gaps remained in the tariff walls.

Looking at the picture of development as a whole, it becomes clear that development strategy was unbalanced. Because there was no proper appraisal of resources, and little effort was in fact made even to collect and tabulate the basic statistics necessary for choosing between possible programmes, projects for public investment appeared to be selected without evaluation of their economic implications, or assessment of the needs of different regions. Government development expenditure went mainly into super-highways, office buildings, hotels, apartment blocks and monuments. Nearly all this expenditure was poured into the areas already most highly developed. The petroleum was "sown" but the seed was not scattered either widely or prudently.[14]

In 1958 and 1959, however, there were important changes in policy. Attention was at last paid to the most pressing economic needs and a planning office was established. But the financial situation was now radically different, since the value of petroleum exports had declined and heavy short-term debts were outstanding. To keep public expenditure increasing in these circumstances, so as to maintain the growth of the remainder of the economy and check the emergence of unemployment put a strain on the Government's finances. In addition, the budget deficit was reflected in a decline in foreign reserves. Both problems were afforded some immediate relief by two steps. The first was the increase in rates of taxation on petroleum companies, which prevented the shrinkage in exports and profits from causing a drop in revenues (paid in foreign exchange). Secondly, loans were raised in both bolívares and foreign currencies.

This article describes in greater detail the working of the Venezuelan economy and the current situation. The first section describes changes in the world petroleum market that affected Venezuela; this is followed by a description of the way in which the rise in petroleum exports has caused an expansion in demand in the remainder of the economy; then there is a section on the way in which domestic supply and imports have responded to this stimulus, leading to a discussion of the balance of payments; the concluding pages deal with the problems now facing Venezuela, especially those created by the natural growth of population which has accelerated to over 3 ½ per cent *per annum*. It seems that provision of enough school places and sufficient employment will be difficult tasks in view of the uncertain prospects now facing the petroleum industry, which has been the main source of development finance up to now. Rapid diversification of the economy with the help of foreign loans is indicated as the way to provide further growth without chronic balance-of-payments difficulties or price inflation.

[12] In 1957-58, there were about 1.15 million children aged 7 to 14. The number attending primary school was some 745 000. Of these, 154 000 were repeating courses. The first grade accounted for 262 000 (including 75 000 who had been in the first grade in the previous year), and many of these were aged over 15, some being over 20 years old (Ministry of Education).

[13] A sample survey of rural families taken in 1957-58 showed that 88 per cent had never used any form of bank credit. The same sample showed that the great majority of families had no contact with the extension services. (*La vida rural en Venezuela*, G. W. Hill, J. A. Silva M., Olivia de Hill.)

[14] Similar conclusions could be reached about other countries in the region, but the failure to use available finance to diversify the economy was more conspicuous in Venezuela because the opportunity was greater.

I. THE MARKET FOR PETROLEUM[15]

The growth of petroleum exports was very rapid up to 1957, with large increases in both price and volume. Venezuela, the second largest producer in the world, maintained a steady share of about 15 per cent of total world production (table 1), and its place as by far the largest exporter. But it would not be correct to conclude that Venezuela's position in the market is the same as it was. The structure of the world petroleum industry has undergone radical changes during this period, so that

[15] Material on which this section of the article is based was provided by Dr. Frankel and Mr. Newton of Petroleum Economics Ltd., London.

Venezuela is now playing a role quite different from that of a decade ago. Its share of total world trade in petroleum has declined sharply, from 46 per cent in 1948 to 33 per cent in 1958.[16] Moreover the composition and direction of exports have also altered. Although it already had, in 1949, a market for crude petroleum in the United States, a large part of its exports were refined in the Netherlands colonies and then exported all over the world, the biggest single market for products being Europe (table 2). Since then, sales of products[17] to Europe and South America have not expanded, despite the great increase in petroleum trade, and the most important market for both crude and products is now the United States.

[16] There is no conflict between the statements that its share in world production stayed constant and that its share in world trade declined. A much larger proportion of petroleum output is traded internationally now.

[17] "Products" include those refined in Caribbean islands (chiefly the Netherlands Antilles) from Venezuelan crude.

Table 1

WORLD PETROLEUM PRODUCTION: DISTRIBUTION BETWEEN MAIN PRODUCERS, 1948–58

(Percentage of world output) [a]

Year	*United States*	Venezuela	Iran	Iraq	Kuwait	*Saudi Arabia*	USSR	*World total in millions of metric tons* [a]
1948	58	15	5	1	1	4	6	468
1949	53	15	6	1	3	5	7	466
1950	51	15	6	1	3	5	7	523
1951	51	15	3	1	5	6	7	593
1952	50	16	—	3	6	7	8	623
1953	48	14	—	4	7	6	8	659
1954	45	15	1	4	7	7	9	689
1955	43	15	2	4	7	6	9	773
1956	42	16	3	4	7	6	10	840
1957	40	17	4	3	7	6	11	884
1958	36	15	4	4	8	5	12	910

SOURCES: *United Nations Statistical Yearbook, 1958* and *Monthly Bulletin of Statistics.*
a Including countries not specified.

Table 2

VENEZUELA: DISPOSAL OF PETROLEUM 1949–59

(Thousands of barrels per day)

	1949	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957* [a]	*1958*	*1959 (Jan.-June)*
A. *Crude exported as such*											
North America	366	375	418	477	488	516	573	714	803	707	720
South America	20	30	31	45	50	60	101	132	149	170	160
Europe	56	67	61	74	80	112	168	236	308	241	311
Other	7	9	19	20	16	28	14	16	25	24	26
Total	*449*	*481*	529	*616*	*634*	*716*	*856*	*1 098*	*1 285*	*1 142*	*1 217*
B. *Crude refined locally*											
Venezuelan refineries	146	250	313	344	406	441	534	624	688	736	812
Other Caribbean refineries	709	758	847	835	711	732	764	807	792	742	852
Total	*855*	*1 008*	*1 160*	*1 179*	*1 117*	*1 173*	*1 298*	*1 431*	*1 480*	*1 478*	*1 664*
C. *Products exported to world markets*											
Total Caribbean product exports to:											
North America	209	351	331	362	359	391	442	500	523	650	760
South America	133	138	177	197	210	220	171	176	139	144	123
Europe	247	224	307	242	214	216	268	319	289	265	237
Other	79	90	145	177	154	139	154	177	193	158	122
Total	*668*	*803*	*960*	*978*	*937*	*966*	*1 035*	*1 172*	*1 144*	*1 217*	*1 242*
Less: Estimated amount refined from Trinidadian and other non-Venezuelan crudes	61	67	77	77	81	76	77	97	91	142	137
Exports of products refined from Venezuelan crude (Approximate)	607	736	883	901	856	890	958	1 075	1 053	1 075	1 105

SOURCE: Information provided by company sources.
a The figures for 1957, and to some extent 1956, were abnormally increased as a result of the closure of the Suez Canal and the diversion of demand to the Western Hemisphere.

These developments were the logical outcome of a process which had been under way since the 1930's. Before the Second World War, the United States was the largest exporter of petroleum, and the "posted prices" of United States petroleum traditionally set the pattern of prices in the rest of the world. The price paid by consumer countries was determined basically by the cost of petroleum at the United States ports in the Gulf of Mexico, plus an allowance for freight; and the price received by any other producer country could be found by subtracting, from the prices of United States petroleum in foreign markets, the freight costs involved in sending its own petroleum to these markets. The "posted prices" in the United States were themselves determined largely by the level of output permitted by various State and inter-State commissions.

During the war years and afterwards, consumption rose rapidly in the United States. The price of domestic petroleum also climbed after the end of the war, because costs were increasing and because the level of output was prevented from rising at a rate that would depress the market. Meanwhile cheaper sources of petroleum were being developed in other countries. The costs of production in the United States had become, by the 1940's, several times as great as those in Venezuela or the Middle East, especially the latter.

The exports of the United States dwindled and its imports rose until, in 1948, it became a net importer of crude. But Gulf prices remained the basis of the international structure of prices, even though costs of production were much lower overseas. Since freight costs were approximately the same to Southern Europe, petroleum from both the Caribbean and the Persian Gulf could compete there fairly evenly; to the westward of Italy, Venezuelan petroleum was generally cheaper. On the other hand, marginal costs were very low in the Middle East, so the companies could maximize their profits by extending Middle East output and this in fact more than doubled between 1942 and 1950. Venezuela was still the main source of imports for both hemispheres, in this first post-war phase, but its position was rapidly being challenged.

By 1950 (see table 3), the export price of Middle East petroleum and the cost of shipping it were such that it was cheaper than Venezuelan in Western Europe, and the second post-war phase began. The flow of crude between the hemispheres fell relative to total trade; the great majority of trade was now *within* each hemisphere. Petroleum from the Middle East, however, was even competitive with Venezuelan exports at the Atlantic seaboard of the United States, and Venezuela's share of United States imports also started to decline slightly. In products of petroleum, Venezuela remained competitive, because its petroleum is generally less sulphurous than that of the Middle East and thus cheaper to refine, and also because the pattern of output, yielding predominately residual fuel oils, can be obtained from relatively simple refineries which are inexpensive to build. However, Western European countries were setting up their own refineries, which checked the growth of their imports from Venezuela. Nevertheless, the total quantity exported of both crude and products was still rising, because world trade in petroleum was increasing so rapidly. The special qualities of Venezuelan petroleum give it certain market advantages: Venezuelan refineries obtain over 50 per cent of fuel oil in the final yield, and the market for this has been strong. The average growth in consumption of fuel oil was 18 per cent *per annum* in Western Europe between 1948 and 1956, as against 9 ½ per cent for gasoline and 14 per cent for diesel oil.[18]

[18] OEEC, *Europe's Need for Oil*, 1958.

Table 3

MAIN PETROLEUM EXPORTERS: PRICES OF CRUDE F.O.B., 1946–59

(Dollars per barrel)

Year	United States (Gulf ports) [a]	Venezuela [b]	Middle East		Percentage of United States Gulf		
			Persian Gulf ports [c]	East Mediterranean [d]	Venezuela [b]	Persian Gulf [c]	East Mediterranean [d]
1 January							
1946	1.29	1.17	1.05	1.94	91	81	150
1947	1.74	1.62	1.23	2.10	93	71	121
1948	2.69	2.57	1.23	2.97	95	46	110
1949	2.69	2.57	2.03	2.87	95	75	107
1950	2.69	2.57	1.75	2.26	95	65	84
1951	2.69	2.57	1.75	2.41	95	65	90
1952	2.69	2.57	1.75	2.41	95	65	90
1953	2.69	2.57	1.75	2.41	95	65	90
1954	2.94	2.82	1.97	2.39	96	67	81
1955	2.94	2.82	1.97	2.39	96	67	81
1956	2.94	2.67	1.97	2.39	91	67	81
1957	2.94 [e]	2.67 [f]	1.97	2.69	91	67	91
1958	3.19	2.99	2.12	2.59	94	66	81
1959	3.19	2.99	2.12	2.49	94	66	78
1960	3.08	2.74	1.94	2.31	89	63	75

SOURCE: Information supplied by company sources.
a West Texas Sour, 36°. (The posted price at the oilfield is 25 cents lower throughout.)
b Oficina, 32°.
c Arabian Crude, 36° at Ras Tenura.
d Arabian Crude, 36° at Sidon (Mediterranean pipeline terminal).
e This rate was changed to 3.19 on 3 January 1957.
f This rate was changed to 2.97 on 21 January 1957.

Prices showed little change in the early 1950's: the world price structure for crude remained rigidly linked to that of the United States from 1950 to 1953,[19] and this was in turn controlled by the United States Government as part of the stabilization programme during the Korean hostilities. Not until 1953 did a general increase in prices take place, of about 10 per cent.

Meanwhile, declines in shipping tariffs and in pipeline charges had increased the advantages of producers of crude outside the United States, especially the Middle East. The world petroleum market had now entered a third phase. Foreign petroleum could be delivered competively well within the United States and imports started to rise rapidly (table 4), although the rise was checked by several of the major companies voluntarily limiting their imports, in response to a national programme of conservation, and also to pressure from producers lacking overseas sources of supply.[20] Because of Middle East competition, the list price of Oficina crude was reduced by 5 per cent in 1955. Yet the expansion of world trade was so rapid that the value of Venezuelan exports and profits of companies operating there continued to climb.

The closing of the Suez Canal at the end of 1956 was a setback for Middle East producers. United States and Venezuelan list prices were raised early in 1957, and the volume exported expanded simultaneously. But this was only a brief interlude: in the second half of 1957, Middle Eastern output expanded sharply again and the previous relation between prices of United States and Middle Eastern petroleum was restored. Freight rates fell to very low levels (especially for marginal tonnage), which reduced or eliminated the geographical advantages of Western Hemisphere producers in a number of markets. The Middle East soon recovered its position as the main source of crude for Western Europe and as an increasingly important supplier of the United States.

The year 1958 was one of increasing disequilibrium. Productive capacity in the world was now rising very rapidly in response to heavy investment programmes, but sales were hampered by the mild recessions in a number of important industrial countries, by measures taken to protect West European coal interests and by the voluntary quota system in the United States.[21] Although list prices for crude, except for certain heavy varieties, generally remained constant in 1958, agreed discounts were not unusual, because competition in the markets for products became increasingly severe and refining margins narrowed.

In 1959, these tensions grew more acute, and the world market entered its fourth post-war phase, which is still current. There is now a considerable surplus capacity of petroleum production relative to demand, and in producing countries large fractions of capacity are "shut in". But some of the expansion programmes, especially in Venezuela, are in the hands of companies other than the traditional seven "majors" and these newcomers are in many cases under financial pressure to increase their sales in order to obtain a yield on their substantial investments. This weakness in the petroleum market caused two important developments. In January 1959, for the first time since the war, there was a reduction in United States list prices for crude, and bigger reductions elsewhere soon followed. The second important development in 1959 was that, because of the steadily widening gap between costs of production in the United States and those in other countries,[22] and consequently growing imports into the United States, the Administration decided to impose compulsory import quotas in March, involving significant reductions. For the first time this effectively broke the world petroleum market into two separate areas—the United States and the remainder.[23]

[19] Seven companies (or their affiliates) controlled between them 90 per cent of Middle Eastern output in 1953 and five of the same seven controlled over 80 per cent of Venezuela's output (Economic Commission for Europe, *The Price of Oil in Western Europe*, 1959). But the structure of ownership was by no means the same in the two regions.

[20] Companies with major fields in Venezuela or the Middle East own less than half of total United States refining capacity.

[21] This system was to some extent evaded by increasing imports of petrol and other products, and Venezuela benefited from this, as can be seen from table 2 above.

[22] According to a company source, in March 1959 the price of imported crude was about 2.40 dollars a barrel at East Coast refineries, while domestic crude cost well over 3.00 dollars.

[23] The decision adopted in May 1959 to admit overland supplies free of quota meant in effect that the United States market will be extended to Canada and Mexico, as pipeline facilities improve.

Table 4

UNITED STATES: USES AND SUPPLY OF PETROLEUM, 1938 AND 1949–58

(Thousands of barrels per day) a

Year	Apparent domestic consumption	Exports	Total uses	Domestic production	Imports			
					Caribbean	Middle East	Other	Total
1938	3 090	531	3 621	3 473	146	—	2	148
1949	5 795	327	6 122	5 477	533	101	11	645
1950	6 450	305	6 755	5 906	723	113	13	849
1951	7 143	422	7 565	6 720	721	103	21	845
1952	7 390	432	7 822	6 869	748	155	50	953
1953	7 743	402	8 145	7 113	732	221	79	1 032
1954	7 731	355	8 086	7 034	759	212	81	1 052
1955	8 459	368	8 827	7 579	851	275	122	1 248
1956	8 952	429	9 381	7 852	936	285	208	1 429
1957	8 989	562	9 551	7 981	1 061	244	265	1 570
1958 b.	8 895	280	9 175	7 495	1 102	353	225	1 680

SOURCE: Information provided by company sources.
a In terms of crude and natural gas liquids.
b Estimated.

Because of the barrier between these areas, formed by the United States quotas, prices in each could move independently.

This change affected Venezuela more than any other producer, since previously it had been more dependent on the United States market, and Venezuelan prices for crude had in any case been under additional pressure because of further falls in freight rates.[24] Posted prices of Venezuelan petroleum were reduced in April, and this was once more a unilateral decline. Moreover discounts from posted prices have apparently become increasingly common, especially by some of the smaller firms.

The insulation of the United States market from world competition implies that the United States price for domestic crude will no longer act as an anchor to the international structure of prices, as it has done in the past.[25] The differences in the f.o.b. prices, of Venezuelan and Persian Gulf petroleum, about 90 cents a barrel in mid-1959, corresponded to the difference between freight charges to the East coast of the United States from these two sources.[26]

The precise implications of the United States import quota system are still not clear. Quotas for products are based on historical experience, and Venezuela has in any case a fairly secure market for fuel oil in North America. But quotas for crude are based on refining capacity; in many cases the companies which receive them are unable to take delivery and therefore trade their import rights. Moreover, most of the big companies operating in Venezuela also operate oilfields in the Middle East and elsewhere, so that they have some choice in using their own quotas.[27]

Venezuelan exports to the United States were high in the first quarter of 1959, and though they declined in the second half of the year, exports to Europe increased because of the firm market for fuel oil. The volume was rather higher than in 1958, taking the year as a whole, but since prices were lower, the value of exports did not change greatly. Capacity for producing about one million barrels a day of crude is now shut in.[28]

The Venezuelan Government's policy on petroleum exports has several elements.[29] An attempt is being made to prevent the appearance of a cheap petroleum market outside the United States, and the co-operation of Middle Eastern producers is being sought to this end. The line taken is that it would be better to store petroleum than to expand exports at low prices. The Government proposes that Venezuela should have a special position, for example a national quota, within the United States import régime. It intends to play a more active role in the industry's decisions. (A Ministry commission was set up in April 1959, with the function, *inter alia*, of securing in advance changes in list prices, and the proposal that Venezuela should have a national quota in the United States market would imply machinery for allocating this quota among the companies.) Finally, the Government proposes to establish in 1960 a national production company.

24 Tanker tonnage still continued to grow for a number of reasons. Heavy orders were placed during the Suez crisis; operators wanted more economical ships; the industry expected the rapid long-run growth of consumption to be resumed; and, although there were idle tankers and tankers being deliberately run at low speeds, taking the industry as a whole, some companies experienced shortages.

25 Product prices are, for the present, still generally based on the United States Gulf Lists.

26 About 1.40 dollars for the journey from Ras Tenura as against 0.40 dollars for the journey from a Venezuelan port, taking London scale plus 14 per cent. Single-voyage charters were available, however, at much lower rates.

27 The main company producing in Venezuela has fields in the United States, the Middle East and Canada and is developing new fields in Libya. Venezuela has been responsible for only slightly over half of its total crude production.

28 It is likely that the Soviet Union has now become the second largest producer (though not of course the second largest exporter) in the world.

29 The policy was outlined in an Address by the Minister of Mines to the National Congress in May 1959.

Table 5

VENEZUELA: CURRENT RECEIPTS AND EXPENDITURES OF THE PETROLEUM SECTOR,[a] 1952–58

(Millions of bolivares)

	1952	1953	1954	1955	1956	1957	1958
A. *Receipts*							
Exports[b]	4 276	4 412	4 831	5 535	6 445	7 940	7 137
Local sales[c]	367	436	461	295	326	462	470
Change in inventories	— 7	20	7	8	2	77	22
Total	4 636	4 868	5 299	5 838	6 773	8 479	7 629
B. *Expenditures*							
Purchases of petroleum[d]	306	297	216	141	153	164	165
Other costs[e]	1 171	1 257	1 408	1 531	1 621	1 922	2 059
Depreciation[f]	528	659	717	683	755	841	852
Net profits	1 261	1 261	1 412	1 710	2 115	2 774	1 616
Current taxes[g]	1 369	1 395	1 546	1 773	2 129	2 778	2 937[h]
Total	4 636	4 868	5 299	5 838	6 773	8 479	7 629

SOURCES: *Memoria del Ministerio de Minas e Hidrocarburos, Memoria del Banco Central;* and information supplied by the Ministry and the Central Bank.

a The petroleum sector covers all operations of petroleum companies, including refining and transport, and production of natural gas.

b As shown in the balance-of-payments estimates of the Central Bank (accrual basis).

c Receipts as shown by company accounts *less* exports obtained as above. Consists of inter-company sales plus final sales to the public. (Since this is a residual it may be affected by statistical discrepancies.)

d Inter-company transactions and private royalties.

e Wages, purchases of materials and services (in Venezuela or overseas), intangibles, etc.

f Including amortization of cost of concessions being exploited (considered as depletion).

g Including some local taxes.

h Tax liabilities after allowing for changes of rates in December.

II. THE CREATION OF DEMAND

The rest of the economy has certainly grown, but largely because of the injections of income arising in the petroleum sector. Thus Government expenditure of petroleum revenues together with the wages and salaries paid by the industry (and the industry's suppliers) finance consumption by the employees concerned, and this consumption expenditure provides a further round of income and consumption, and so on. At each stage, a proportion is saved, which helps finance private investment outside the petroleum industry.

This system of income flows suggests a framework for the analysis of final demand in this section of the article. Firstly, the petroleum sector will be examined, as the mainspring of the economy; then the next stage of income creation—Government revenue and expenditure; and finally investment, exports and consumption in the remainder of the economy.

1. *The petroleum sector*

(a) *Exports*

Table 5 shows the first stage in the process by which petroleum exports create income in Venezuela. Aug-

Table 6

VENEZUELA: SOURCES AND USES OF GROSS PROFITS IN THE PETROLEUM SECTOR, 1952–58

(Millions of bolivares)

	1952	1953	1954	1955	1956	1957	1958
A. *Sources of gross profits*							
Depreciation (table 1)	528	659	717	683	755	841	852
Net profits (table 1)	1 262	1 261	1 412	1 710	2 115	2 774	1 616
Total sources	1 790	1 920	2 129	2 393	2 870	3 615	2 468
B. *Uses of gross profits*							
Fixed capital investment [a]	939	853	896	881	1 329	1 946	1 691
Concessions [b]	28	48	37	49	877	1 018	98
Change in inventories	— 7	20	7	8	2	77	22
Gross investment	960	921	940	938	2 208	3 041	1 811
Profits above what is needed to finance investment [c]	830	999	1 189	1 455	662	574	657
Total uses	1 790	1 920	2 129	2 393	2 870	3 615	2 468

SOURCES: As in table 4.

a Including some purchases of land.

b Tax payments which companies are allowed under income tax law (art. 20, chap. V) to treat as capital transactions, and (1956 and 1957 only) purchases of new concessions.

c The net difference for the whole industry obtained as a residual. (Of course some firms in particular years may have found profits inadequate to cover investment.) Moreover this is not the same thing as net outflow of capital as shown in the industry's books, since no provision is made here for dividends paid (mainly to parent companies).

Table 7

VENEZUELA: EXPENDITURE ON IMPORTS, EMPLOYMENT AND LOCAL PURCHASES BY THE PETROLEUM SECTOR, 1952–58

(Millions of bolivares)

	1952	1953	1954	1955	1956	1957	1958
A. *Expenditure*							
Current cost (table 4)	1 171	1 257	1 408	1 531	1 621	1 922	2 059
Fixed-capital investment (table 5)	939	853	896	881	1 329	1 846	1 691
Total purchases of goods and services	2 110	2 110	2 304	2 412	2 950	3 768	3 750
B. *Sales to petroleum sector*							
Imports of goods (c.i.f.) [a]	600	475	414	461	797	1 336	854
Miscellaneous services from overseas [b]	160	200	218	319	486	555	586
Wages and salaries	686	701	780	787	865	985	1 004
Other local purchases [c]	664	734	892	845	802	892	1 306
Total sales of goods and services	2 110	2 110	2 304	2 412	2 950	3 768	3 750

SOURCES: As in table 4.

a As shown in the balance-of-payments estimates of the Central Bank, including freight and insurance.

b Payments of services as shown in the balance of payments of the Central Bank. This item represents payments to foreign contractors, fees to head offices for services rendered, etc.

c The residual. Payments to local contractors, purchases of goods (including buildings and land, and very probably some goods which were originally imported). Excludes inter-company transactions in petroleum. From the construction of the table this residual incorporates any withdrawals from inventories of imported equipment; conversely, any equipment not installed in the year of importation will be a deduction. Thus for 1956 and 1957, these figures presumably understate actual purchases from the local economy, but for 1958 the figure is misleadingly high.

mented by relatively small local sales, the receipts from exports divide into three streams: costs of production; profits and depreciation; and direct taxes. Each of these streams is the source of further demand. Thus profits and depreciation finance investment in the industry (table 6), and direct taxes on petroleum are the main sources of Government revenue. The way in which costs of petroleum affect the economy is not so clear, since it is statistically impossible to allocate the various types of expenditure, such as wages and salaries, between current and capital accounts. However, the composition of current costs and fixed-capital formation, taken together, can be shown (see table 7). This brings out, firstly, that a sizable fraction of the expenditure of petroleum companies flows out of the economy as payments for imports and services, though most of the former and a substantial part of the latter are attributable to capital-account operations. Secondly, the direct payments made by this sector to the private sections of the local economy account for only a small proportion of exports: even though the bulk of wages and salaries, as well as a large part of local purchases, must be payment for work on current operations, these are in any case relatively unimportant. Taxes are clearly the most important channel through which petroleum proceeds enter the economy.[30]

Table 5 also brings out that costs rose more slowly over this period than the value of exports. This has meant that taxable profits [31] have risen at a rapid rate reflecting closely changes in the value of sales. When exports expanded moderately, from 1952 to 1955, there was a correspondingly moderate increase in profits, but in 1956 and 1957 the rise in exports evoked a big rise in profits, and both declined in 1958. The closeness of this relation is brought out by the top line in figure *A*, which shows the pre-tax profits (P) for various levels of exports (e).[32] The points for various years fall almost exactly on a straight line, indicating that at this time profits were determined by exports according to the following linear function:[33]

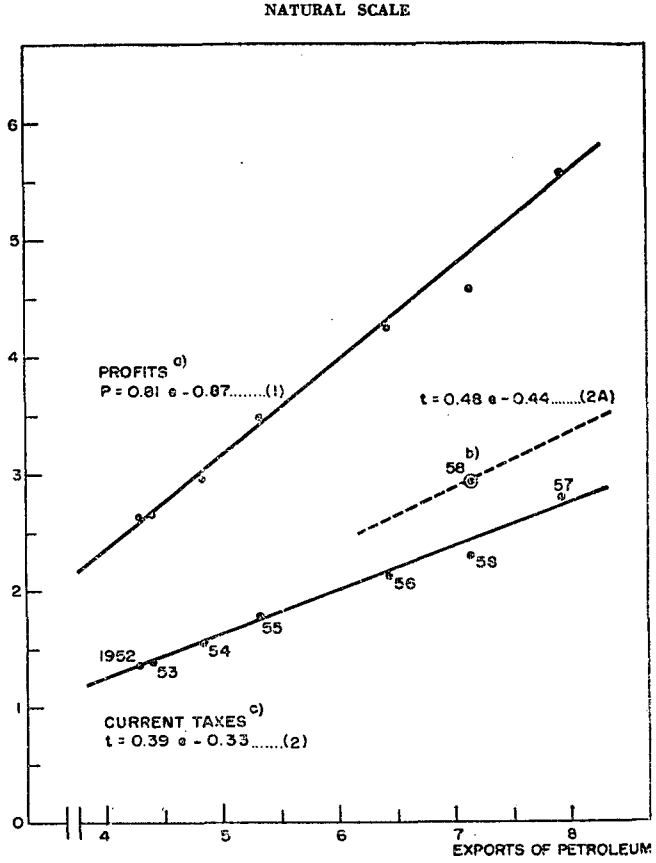
$$P = 0.80\,e - 0.87 \qquad (1)$$

Since this is the first of a number of functions, from which a simple model of the Venezuelan economy will be constructed, a word should be said here about them and their interpretation. All of them are based on the 6 years 1952 to 1957. The years 1951 and 1958 were years of adjustment, for reasons which will emerge later in this article, and have not been taken into account in the derivation of functions.[34] The functions therefore rely only on six points, and it should also be borne in mind that correlation of time series may give misleading results, particularly for an expanding economy. Nevertheless, the associations shown by these scatter diagrams

Figure A

VENEZUELA: SCATTER DIAGRAM SHOWING RELATION OF PROFITS OF PETROLEUM COMPANIES (P) AND TAX LIABILITIES (t) TO EXPORTS OF PETROLEUM (e), 1952–58

(Thousands of millions of bolivares)



a Net of depreciation.
b 1958 taxes after the tax reform. The lowest point refers to taxes according to the previous system of taxation.
c Relation before tax reform of 1958.

are close, and they form, taken together, a set of mutually consistent relations, explaining the main trends in the economy during a period when it did not change greatly. Moreover, the conclusions rest rather on other evidence than on these functions, which are introduced as supporting material, showing the rough magnitude of important coefficients, not as proofs.

The interpretation of function (1) is that costs only accounted for 20 per cent of *increases* in the value of exports in this period, leaving 80 per cent as additions to taxable profits.

(b) *Investment*

One result of the expansion of petroleum sales was the further development of the petroleum industry itself. The 1943 Hydrocarbons Act provided the basis for heavy purchases of new concessions in the following two years. It was clear that Venezuela had an important role to play in the world petroleum market as a lower cost

30 A petroleum economy is almost unique among primary producers in this respect. However, in Chile too an important segment of export proceeds passes through Government hands.

31 The sum of the last two lines in table 5.

32 Strictly speaking, profits depend on total receipts, but local sales were small and showed a similar trend, and inventory investment was relatively low, so total receipts closely reflected changes in exports. ("Local sales" in this context include intercompany transactions, which declined.)

33 All functions are in thousands of millions of bolivares.

34 Data are also less complete for these two years at the time of writing.

Table 8

VENEZUELA: INVESTMENT IN PETROLEUM SECTOR, BY ECONOMIC PURPOSE,[a] 1951–58
(Millions of bolivares)

	1951	1952	1953	1954	1955	1956	1957	1958
Production	485	697	661	652	740	949	1 329	1 052
Concessions [b]	23	28	48	37	49	877	1 018	98
Pipelines	95	109	35	48	32	87	228	323
Other transport	12	20	35	19	8	34	46	61
Refining	54	55	63	104	65	233	268	173
Miscellaneous	58	57	58	73	36	27	76	81
Total	728	967	901	933	930	2 206	2 964	1 789

SOURCE: *Memoria del Ministerio de Minas e Hidrocarburos*, and information supplied by the Ministry.
a Excluding changes in inventories.
b See notes to table 5.

producer than the United States, and with certain strategic attractions *vis-à-vis* the Middle East. However, the authorization of concessions was stopped in 1945 and the Middle East was proving highly attractive, for the reasons given above, so investment in Venezuela slowed down.

From 1951 to the end of 1955, net investment was not large, taking the industry as a whole, gross investment not being much greater than the provision for depreciation (see table 6). There were, however, quite heavy outlays on pipelines in 1951 and 1952, and also on refining capacity in 1953 and 1954. (Details of investment are shown in table 8.) The 1943 legislation had compelled producers to refine part of their output in Venezuela, and the expansion of the refineries of the Netherlands Antilles (which process Venezuelan crude almost exclusively) was subsequently halted.

In 1956 and 1957, concession rights were again offered for sale by the Government, covering half-a-million hectares. These sales took place at a favourable time: the United States market for imports showed great possibilities and political unrest in the Middle East made supplies from this area uncertain. The returns on previous investment had proved satisfactory, amounting to about 20 per cent *per annum* in 1951-54 on the outstanding value of assets, even after taxation was paid. This yield was moreover rising, reaching 25 per cent in 1955, 29 per cent in 1956 and 32 per cent in 1957. Consequently, several companies were willing to pay substantial amounts for the concessions [35] and subsequently to invest heavily in their exploitation.

This wave of investment covered many types of capital. Apart from the equipment needed to develop the new concessions, there was also a sharp rise in investment in transport facilities, especially pipelines for both natural gas [36] and liquids, and further additions were made to refining capacity. (One of the conditions applying to this set of concessions was that at least 15 per cent of the petroleum obtained had to be refined locally.) Although no more concessions were sold after 1957, heavy expenditure continued in 1958 on the exploitation of those which had been purchased in the previous two years and pipeline investment rose again. With the changed prospects of the industry, there were substantial declines in 1959 in most types of capital formation.

Deducting what was covered by depreciation allowances, the total net investment by the petroleum industry in the three years 1956-58 was about Bs. 4 500 million, or nearly 1 500 million dollars. This sum was amply covered by the heavy profits available to the

[35] In the previous wave of concessions, 1943-45, Bs. 225 million had been paid for an area several times as large.

[36] Part of the expenditure on production facilities covered an increase in expenditure on plant for the reinjection of natural gas.

Table 9

VENEZUELA: CENTRAL GOVERNMENT REVENUES FROM PETROLEUM AND OTHER SOURCES, 1951–58
(Millions of bolivares)

	1951	1952	1953	1954	1955	1956	1957	1958
Current petroleum revenue [a]	1 477	1 554	1 640	1 635	1 870	2 239	2 874	2 979
Concessions	—	—	—	—	—	976	1 140	—
All petroleum revenue	*1 477*	*1 554*	*1 640*	*1 635*	*1 870*	*3 215*	*4 014*	*2 979*
All other sources	790	854	894	996	1 128	1 160	1 382	1 706
Total revenue	*2 267*	*2 408*	*2 534*	*2 631*	*2 998*	*4 375*	*5 396*	*4 685*
Petroleum revenue as percentage of total	65	65	65	62	62	73 [b]	74 [c]	64

SOURCE: *Memoria del Banco Central, Memoria del Ministerio de Hacienda.*
a These are slightly different from the estimates published above (table 4) for current taxes, partly because the estimates here include exchange profits, and also because they are from a different source. (Basically they are from treasury accounts, instead of from company accounts, and are therefore on a cash rather than an accrual basis.)
b 66 per cent if concessions are ignored.
c 68 per cent if concessions are ignored.

companies in this period, taking the industry as a whole (see table 6).[37]

Apart from the payments for concessions, investment in this sector does not have a very great effect on internal incomes. Most of it represents outlays on imported equipment, and changes in petroleum company imports reflect changes in their fixed-capital investment (table 7).

2. *The Government's finances*

It can be seen from table 9 that in recent years the petroleum industry provided consistently almost twice as much revenue for the central Government as all other sources, even apart from the proceeds of the concessions in 1956 and 1957.[38]

There are two main types of current taxation on petroleum. First, there are the current royalties, established under the 1943 legislation, by agreement with the companies and levied at one-sixth of the gross value of crude output.[39] Secondly, profits are taxed. The basis is the ordinary income tax, but in 1948 the so-called "fifty-fifty" principle was introduced by the establishment of the "additional tax". This provided that, in cases where the total of income tax and all other types of current taxation did not reach 50 per cent of net profits (as declared for income-tax assessment), an additional tax would be levied to bring the total up to that figure. The maximum rate of income tax was 28 ½ per cent on net profits (including the 2 ½ per cent schedular tax), so the total taxation paid by many companies, including current royalties, had in any case reached or exceeded 50 per cent of assessable profits, and the additional tax was not levied on them, although the leading companies in recent years have been paying it. Since every company paid altogether at least 50 per cent of its profits in taxes and some paid more, total tax revenue paid by the whole of industry was slightly greater than half the net profits available to the companies up to 1957 (see table 4).[40]

The relation between petroleum exports (e) and current taxes on petroleum companies (t) is shown in the lower part of figure *A*, which also indicates what the 1958 revenue would have been if the old rates of taxation had remained in force. The following linear function gives a very close fit for the years 1952-57:[41]

$$t = .39\,e - .33 \qquad (2)$$

Thus taxation constantly took 39 per cent of increases in the value of petroleum exports over this period.

Government expenditure, in its turn, was closely correlated with petroleum revenue, since this was the main source of taxation and since the borrowing powers of public authorities have been limited except for the issue of promissory notes. Figure *B* brings out this correlation. Again the scatter diagram shows a close and linear relationship, with this equation:

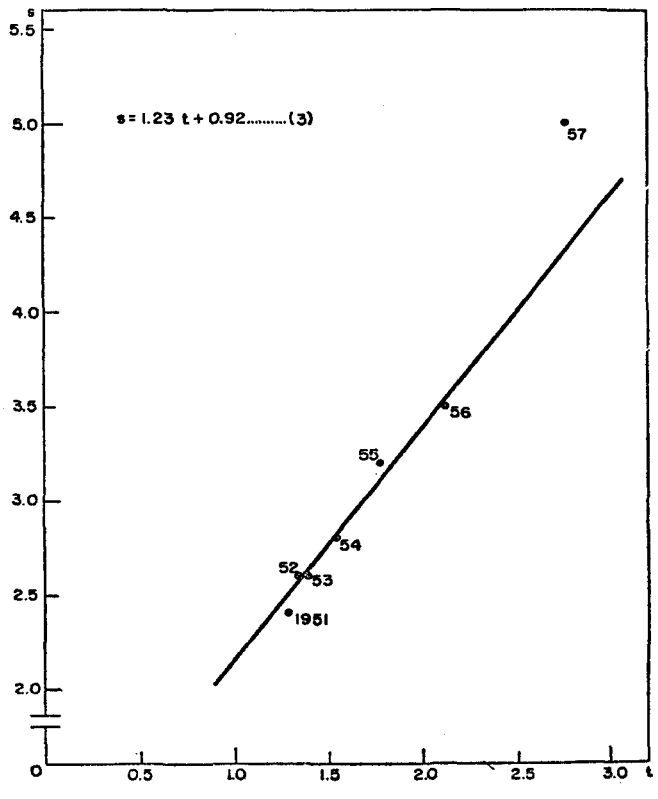
$$s = 1.23\,t + 0.92 \qquad (3)$$

Figure B

VENEZUELA: SCATTER DIAGRAM SHOWING RELATION OF TOTAL GOVERNMENT EXPENDITURE (s) TO PETROLEUM REVENUES (t), 1951–57

(Thousands of millions of bolivares)

NATURAL SCALE



[37] It should be borne in mind that the funds remaining, after investment had been financed, were not enough to cover dividends (mostly paid to head offices). From the point of view of company accounts, investments on this scale could only be made by investing more capital in Venezuela and drawing on working capital already there.

[38] Although the proceeds of selling concessions appear large, it should be noted that they are amortized in the following years as the concessions are exploited or abandoned, and income tax payments are correspondingly lower. The companies thus eventually receive back, in this way, much of their outlay on concessions, and from the Government's point of view the proceeds represent, in part, advance payments on future revenue.

[39] Including asphalt and natural gas. Higher percentages were stipulated in some of the contracts for recent concessions.

[40] It can also be argued that the exchange rate (of between Bs. 3.05 and 3.09 for each dollar) applied to petroleum companies' transactions is an extra tax, since the general rate for foreign exchange purchases is Bs. 3.33. The only significant cost, however, for the companies in this arrangement appears to be that they have to pay rather more in dollars for wages and other local purchases than would be the case if they could use the general exchange rate. But these are only relatively minor items (see table 6). Moreover their tax payments are lower (in both bolívares and dollars) than they would otherwise be. Suppose that the exchange rate on petroleum transactions were Bs. 3.33, petroleum exports would be valued at a correspondingly higher rate in bolívares, while costs in the same currency would not be so much higher, so that taxable income and tax payments (in bolívares) would rise proportionately more than the devaluation of the petroleum bolívar, and companies would need slightly more dollars than at present to pay their taxes. This would partly offset the fall (in dollars) of the wage bill and of local purchases, and the net effect would be small.

[41] The point for 1958 showing what revenues would have been on the old tax system is somewhat below what the function indicates because, while sales fell, current costs continued to climb. It may be noticed (table 6) that fees for services paid in foreign currency have grown considerably in recent years. These fees consist in part of payments to company head offices for various services rendered to local subsidiaries. (Such fees are, of course, not included in taxable income.)

where "t" represents, as before, taxes on petroleum, and "s" is total spending—current and capital—of the Government as a whole.[42]

[42] Strictly speaking, there are two gaps in the chain of explanation. Firstly, the data for taxation used in table 4 and figure *A* correspond to tax *liabilities*, whereas one would suppose that expenditure would depend mainly on tax *payments*. Secondly, virtually all the petroleum taxes go to the central Government, and total Government expenditure (including regional and municipal governments) might be expected to be affected also by the movement in receipts of other authorities. However, these discrepancies are not important and, since a high correlation is obtained, they are ignored here. Central Government expenditure is in any case more than 80 per cent of the total and the expenditure of other authorities is partly financed by grants from the central Government. In addition, 1957 has been ignored in obtaining the function for the reasons given in the next paragraph.

The point showing exports and Government expenditure in 1957 lies off the line. One reason is that expenditure was partly financed then by the sale of petroleum concessions, so that it was greater than could be explained on the basis of current petroleum taxes.[43] Moreover, for this year in particular, the actual amount of central Government expenditure is unknown, because what was financed by promissory notes is not included here. (More information on these debts is given below.)

(As will emerge later, while function (3) is of some inherent interest, it is not an integral part of the model.)

[43] In 1956, the cash reserves of the central Government rose by about the same amount as was obtained from the sale of petroleum concessions, so in this year expenditure was apparently more nearly in line with what current petroleum revenues justified.

Table 10

VENEZUELA: APPROPRIATIONS FOR CAPITAL EXPENDITURE OF CENTRAL GOVERNMENT, BY PURPOSE, 1954/55–1958/59 [a]

(Millions of bolivares)

Purpose	1954/55	1955/56	1956/57	1957/58	Total 4 years	1958/59	Total 5 years	Corrected [b] 1957/58	Corrected [b] Total 4 years	Corrected [b] 1958/59
Social services										
Housing [c]	148	150	257	345	900	294	1 194	210	949	245
Drainage, etc.	70	70	106	247	492	241	733	85	565	168
Health	...	...	...	...	176	...	...	...	176	...
Total	...	...	...	...	1 568	...	...	...	1 690	...
Military	62	56	73	56	248	...	...	—	248	...
Basic services										
Education	...	...	...	...	117	...	...	...	117	...
Roads and bridges [d]	276	240	323	754	1 595	899	2 492	469	1 755	739
Water [e]	61	34	39	21	155	41 [f]	196	21	155	41 [f]
Total	...	...	...	...	1 867	...	...	...	2 027	...
Productive industries [g]										
Agriculture	185	249	275	443	1 152	338	1 490	337	1 152	338
Mining	5	10	16	28	59	39	98	28	59	39
Steel	4	44	75	233	356	146	502	158	476	26
Petrochemicals	44	77	120	237	478	188	666	120	534	132
Railways	52	39	89	171	351	75	426	81	370	52
Airways [h]	19	24	18	42	103	4	107	5	103	4
Ports, airports, docks	43	75	92	144	357	166	523	84	386	137
Electricity [i]	52	85	119	112	366	122	488	64	411	77
Hotels, etc. [j]	23	35	98	74	230	107	337	56	235	102
Telecommunications	28	58	71	52	209	44	253	52	228	23
	455	*696*	*873*	*1 536*	*3 661*	*1 229*	*4 890*	*785*	*3 954*	*790*
Administrative and miscellaneous [k]	...	...	...	...	960	...	...	...	1 070	...
Grand total	*1 295*	*1 386*	*2 016*	*3 607*	*8 304*	*3 244*	*11 548*	*2 356*	*8 993* [l]	*2 555*

SOURCE: Derived from various tables in Ministry of Finance, *Evolución de los Gastos del Gobierno Nacional*.

a In the years 1954/55 to 1956/57, expenditure was larger than might be concluded from this table since expenditure financed by promissory notes was dobtless larger than unused appropriations. In 1957/58 and 1958/59 however, these figures are swollen by repayments as promissory notes of previous years (as well as by unspent appropriations). An attempt to correct for repayments has been made in the last two columns.

b Subtracting from the figures for 1957/58 and 1958/59, repayments of obligations in respect of work done in the previous year. (Thus the figure for 1957/58 may be too low, in so far as some of the work done then was not paid for, until the following year.) The four-year total includes all repayments made up to June 1959 in respect of work done prior to June 1958 (since much of this was done in 1955/56 and 1956/57). No correction can be made in respect of payments in 1958/59 on account of health, military, education or administration. (However, there were no debt repayments that year on buildings.) Unspent appropriations cannot be deducted from the different types of investment. These can be spent in the first six months of the year following appropriations.

c Including development of urban areas.

d Including monuments.

e Excluding irrigation (partly included in "agriculture" below).

f It is assumed that irrigation has not been included in this figure.

g In some cases these capital transfers are used to cover current operating deficits, as well as capital outlays. Subsidies of this kind totalled Bs. 34 million and 37 million in 1957 and 1958 respectively for agriculture, and Bs. 183 million and 264 million for public corporations in the same years. Data are not available for other years.

h Including small amounts for shipping in the first two years.

i Electricity projects financed by the C.V.F., and the Ministry of Public Works.

j Including development of tourist areas.

k Offices, etc.

l Including Bs. 30 million in respect of State works and Bs. 80 millions covering unspecified financial investments.

Function (3) shows that Government expenditure rose by about 31 per cent more than current petroleum taxes. This was because other types of receipts were also increasing with the growth of the remainder of the economy.

Although total Government demand for goods and services was closely associated with movements in petroleum revenue, this was not true for either the current or the capital expenditure of the Government sector, taken separately. Both rose moderately until 1954, but capital expenditure rose much more rapidly in the following three years.

An analysis of central Government capital expenditure for the past five years is given in table 10. The pattern in 1954/55, which would not be far different from that of earlier years, shows a heavy emphasis on housing and roads; investment which was designed to increase directly the production of saleable goods and services only accounted for about a third of the total. The largest item here was agriculture, including irrigation, but this represented partly expenditure on settlement projects, which turned out to be an expensive way of raising output.

The increase in capital expenditure in 1955/56 was rather low. Yet there was a marked rise in productive investment, due to various long-term projects getting under way. Investment increased in agriculture (attributable mostly to a rise of Bs. 60 million in spending on the Guárico project for irrigating pastures in the Llanos); investment in the new steel and petrochemical industries accelerated; and the Caroní hydroelectric project was started.

When drafting the budgets for 1956/57 and 1957/58, account could be taken of revenue from the sale of petroleum concessions, and appropriations on capital account climbed rapidly, especially for roads and housing. Expenditure in 1956/57 was, in fact, greater than is shown here, because contracts were being signed for which no appropriation had been made and which were financed by the issue of promissory notes. The total outstanding in January 1958 was approximately Bs. 4 300 million. While some of this referred to obligations in respect of work which had not been finished, or even started, none the less it is clear that the value of work done previously had been understated by appropriations, and this is believed to have applied particularly to 1956/57. The new régime decided to honour these debts, subject to audit, and there were heavy payments in the first half of 1958, so that appropriations for the year 1957/58 exceeded actual outlays and the same was true for 1958/59. In the last three columns of table 10, the figures have been corrected for repayments in order to provide a truer picture of actual expenditures.[44]

While data for individual years may be misleading, some idea of the pattern of expenditure during the latter years of the régime can be obtained from the four-year total for 1954/55 to 1957/58, particularly the corrected totals shown in the last column but one which include payments made in 1959/60 in respect of obligations incurred in earlier years. The concentration on roads and housing is evident from these totals, and so is the neglect of educational investment, which absorbed only just over 1 per cent of total capital outlays, and of health. Investment in tourist facilities was twice as large as investment in education.

Table 11 shows the distribution of various types of investment according to zone for the same four years. The Central and Western zones, which are the richest, received over 80 per cent of most types of capital investment, although they had only 70 per cent of the population. The only major exception is road repairs, where expenditure seems to have been more nearly proportionate to population. The distribution of educational investment was particularly bad and seemed to grow worse from 1954 to 1957 (see table 12).[45] New roads were built in order to link the cities of the two richest zones

[44] The correction is only partial, since for both years there were unspent appropriations. Moreover the data on the reasons for which debts were incurred are incomplete. On the other hand some of the debts in respect of 1957/58 (incurred before the change of régime) were not paid during the year. (See also the notes to the table.)

[45] In these four years there was no school building at all in several States (Yaracuy, Falcón, Anzoátegui, Apure, Portuguesa; Amazonas and Amacuro, some of which were very backward).

Table 11

VENEZUELA: GEOGRAPHICAL DISTRIBUTION OF APPROPRIATIONS FOR CENTRAL GOVERNMENT CAPITAL EXPENDITURE, AND OF POPULATION, 1944/45–1957/58

(Percentages)

	Distribution of population [a]	Distribution of central government investment					
		Education	Health	Road construction	Bridges	Road repairs	Military
Central zone [b]	35	47	34	50	8	35	87
Western zone [c]	35	38	48	33	85	35	4
Eastern zone [d]	16	6	5	5	1	9	1
Guayana [e]	4	1	11	2	2	4	1
Llanos [f]	10	9	1	10	3	16	7
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*

SOURCE: Ministry of Finance, *Evolución de los Gastos del Gobierno Nacional.*

a In 1958.

b Federal district, Aragua, Carabobo, Miranda and Yaracuy.

c Falcón, Lara, Mérida, Táchira, Trujillo and Zulia.

d Anzoátegui, Monagas, Nueva Esparta and Sucre.

e Bolivar and Federal Territories of Amazonas and Delta Amacuro.

f Apure, Barinas, Cojedes, Guarico and Portuguesa.

Table 12

VENEZUELA: GEOGRAPHICAL DISTRIBUTION OF NUMBER OF NEW SCHOOL PLACES PROVIDED, 1954–59 [a]
(Hundreds)

	1954	*1955*	*1956*	*1957*	*1958*	*1959 (Planned)*	*1959 (Planned per cent)*
Central zone	—	28	38	17	100	113	22
Western zone	35 [a]	22 [a]	14	15	158	209	40
Eastern zone	—	10	2	17	38	105	20
Guayana	10	—	—	—	10	30	6
Llanos	8	9	—	4	56	61	12
Total	53 [a]	69 [a]	54	53	362	518	100

SOURCE: *Memoria del Ministerio de Obras Públicas*, quoted in *Evolución de los Gastos del Gobierno Central*.
a In each of these years a small school of unknown capacity was built in the Western zone.

rather than to integrate the whole economy. Housing expenditure was highly concentrated in the Federal District and other coastal areas, and 66 per cent of all Government building took place in the Central Zone.[46] The heavy housing programme in the capital was in large part necessitated by the very fact that other public works, such as road and office building, were concentrated in the Federal District, since this drew manpower in search of work from the rural districts. Productive investment was probably somewhat more equitably distributed, because of electricity and steel development in Guayana.

It was difficult to change radically the pattern of investment for the fiscal year 1958/59, either economically or geographically. However, a comparison of the last two columns of table 10 indicates the changes which were taking place. Appropriations for public housing schemes were reduced, while policy was re-examined.[47] Appropriations for the steel plant were also cut, since heavy payments had been made in the previous year, and the whole financial status of the project was under discussion. Large outlays continued on agricultural developments, though the emphasis was on credit, especially for livestock production, rather than on settlement. Appropriations for roads actually increased: there was some decline in new construction, but surfacing continued at almost the same rate as previously, and maintenance work increased. Educational investment expanded most rapidly (see again table 12) and showed a much better balance geographically, some progress having been made in reducing the shortage of schools in rural areas. The Government's policy was to spread capital investment more evenly over the country.

As table 13 shows, the heaviest expenditure in 1954/55 on current account was that of the Ministry of Defence. Total current expenditure grew only slowly until 1956/57, the biggest increase taking place in military outlays. After that current outlays climbed rapidly for the following reasons: firstly, there was a big increase in grants to States and Municipalities; secondly, wages were raised by 35 per cent in the public service in 1958, with a corresponding increase for the armed forces; thirdly, there were large outlays, under the Emergency Plan, adopted early in 1958 to alleviate distress amongst the large number of unemployed;[48] and fourthly, there were big increases in 1958/59 in current expenditure on education and agriculture.

Because of debts incurred outside the Budget, nominal surpluses accrued in 1955/56 and 1956/57, and the Treasury's reserves rose from Bs. 291 million at the end of 1955 to 1 315 million at the end of 1956 and 2 351 million at the end of 1957. The increased payments on current account, and the need to repay debts, caused

[46] Ministry of Finance, *Evolución de los Gastos del Gobierno Central*, 1959, page 43. This figure apparently excludes schools and hospitals.

[47] The *superbloques* in Caracas provided about 17 000 apartments, but at a cost of Bs. 34 000 each (*Proyecto de Evaluación de los Superbloques*).

[48] These costs fell on the Ministries of Labour and of Health. There has been a tendency towards seasonal unemployment in the first half of the year, because the previous régime timed its public works to end before Christmas.

Table 13

VENEZUELA: APPROPRIATIONS FOR CURRENT EXPENDITURE OF CENTRAL GOVERNMENT, BY MINISTRIES, 1954/55–1958/59

	1954/55	*1955/56*	*1956/57*	*1957/58*	*1958/59*
Defence	266	282	345	474	580
Education	165	170	178	206	375
Labour	29	29	40	50	66
Health and Social Assistance	165	186	202	272	322
Agriculture	49	42	41	43	76
Communications	101	106	119	146	237
Internal Affairs [a]	380	402	416	669	817
Other [b]	426	458	520	629	773
Total	1 580	1 663	1 861	2 489	3 246

SOURCE: Ministry of Finance, *Evolución de los Gastos del Gobierno Nacional*.
a Mainly grants to local authorities.
b Foreign Affairs, Finance, Development, Public Works, Justice and Mines.

these reserves to shrink rapidly to Bs. 804 million at the end of 1958.

In December 1958, income tax on the highest bracket was raised from 28 ½ to 47 ½ per cent.[49] Since the petroleum companies were already paying a royalty on gross value, as was mentioned earlier, the total tax liabilities of the industry rose from slightly over 50 to rather more than 60 per cent of net profits, and the "additional tax" became a dead letter.

This income tax reform also introduced a change of some consequence into the mechanism by which fluctuations in petroleum income would affect the economy. Previously the total tax burden was ultimately determined, in the case of the leading companies at least, by the "additional tax", which was administered according to income tax procedures. The question of how much of the total was collected in royalties and thus the procedure used in assessing royalties were unimportant. But now that there is no such residual tax, the method of levying royalties has become economically significant. While income taxes are assessed on profits, royalties are assessed on gross sales. Moreover, whereas the petroleum prices used in assessing income taxes are those at which sales were actually made,[50] the prices used in assessing royalties are based on Texas "reference" crudes. Prices so obtained are at present higher than those being received by Venezuelan producers. It follows that, unless new price lists are established in the United States, the royalty element in petroleum revenues will not be affected at all by changes in prices actually charged.[51] On the other hand, since the royalty is deducted from net profit as assessed for income tax, any exaggeration of the royalty will be offset by the income tax being less than it would otherwise be.

If this complication is ignored and it is assumed that actual prices are used throughout for tax purposes and that petroleum profits continue to be determined by exports, as in function (1) above, the new function for petroleum taxes (t) in terms of exports (e) will be approximately:

$$t = 0.48\,e - 0.44 \qquad (2A)$$

Thus taxes will now take approximately one-half of the increases in the value of exports instead of two-fifths as hitherto.[52]

At the same time as the income tax reform, the general turnover or so-called "five per mil" tax was abolished. Apart from affecting the petroleum companies, this set of changes fundamentally altered the incidence of taxation on other sectors of the economy. Taxation had previously been largely indirect. Direct taxes on incomes, outside the petroleum and mining industry, trebled between 1956/57 and 1959/60, while indirect taxes rose only about 20 per cent in the same period.[53] This makes the tax system substantially more egalitarian.

Althoug, in the tax year 1958/59, only two of the three instalments of income tax paid by the petroleum companies were affected by the change of rates, and although exports had declined there was a big rise in

[49] The marginal rate on high incomes is 47 ½ per cent, but a large company pays nearly all its income tax at this rate.

[50] Strictly Venezuelan list prices, but those administering income tax regulations have in practice allowed trade discounts to be deducted.

[51] However, royalties are determined by agreement, not legislation. If prices actually received fall far below those on the Gulf lists, the companies may press for a renegotiation of royalty agreements, as has occurred in the past.

[52] This depends, of course, on whether costs, such as fees for services, rise rapidly compared to exports. Allowance should also be made for an increase in depletion allowances on new concessions. If exports rise only moderately, tax revenues may be more sluggish than this function indicates.

[53] *Exposición de Motivos al Proyecto de la Ley de Presupuesto, 1959/60*, page 23. These estimates take into account the rise in taxes on alcohol in the 1959/60 budget but no increases in customs duties at the end of 1959.

Table 14

VENEZUELA: CENTRAL GOVERNMENT EXPENDITURE AND REVENUE, 1956/57–1959/60

(Thousands of millions of bolivares)

	1956/57 a	1957/58 b	1958/59	1959/60 c
Investment appropriations	2.1	2.3	2.5	...
Less net unspent appropriations d	—	−0.6	−0.4	...
Investment expenditure	2.1 a	1.7	2.1	(2.5)
Current expenditure	1.8	2.5	3.2	(3.5)
Total expenditure	3.9	4.2	5.3	(6.0)
Debt repayment	— a	1.3	0.7	(0.5)
Total outlay	3.9	5.5	6.1	(6.5)
Minus revenue	−5.5 e	−4.9 f	−5.3 g	(−5.5)
Cash deficit (− = surplus)	−1.6	0.6	0.9	(1.0)

SOURCE: *Exposición de Motivos al Proyecto de la Ley de Presupuesto, 1959/60. Evolución de los Gastos del Gobierno Nacional*, and information provided by Ministry of Finance.

a No allowance is made here for debts incurred this year, thus investment expenditure was larger than appropriations. It would therefore be misleading to make any allowance for unspent appropriations.

b No allowance is made for new debts incurred before 23/1/58, unless they were paid by June 1958.

c Very preliminary estimates indicating prospective developments during the year.

d Difference between expenditures and appropriations. It is assumed that there is no such difference in current outlays, and that the whole of this item can be attributed to capital transactions.

e 1.7 attributable to petroleum concessions.

f 0.5 attributable to petroleum concessions.

g It is estimated that, but for the tax reform in December 1958, revenue would have been 4.5.

Table 15

VENEZUELA: PUBLIC AND PRIVATE CONSTRUCTION, 1951–58

(Millions of bolívares)

	1951	1952	1953	1954	1955	1956	1957	1958
Public construction	895	886	852	1 070	1 133	1 384	1 895	1 699
Private construction	319	368	333	400	481	456	560	514

SOURCE: Information supplied by the Central Bank.

revenues from this source.[54] One reason was some acceleration in the collection of unpaid taxes; moreover, tax collection from the internal economy also rose sharply. So total revenue in this year more or less covered what expenditure would have been but for debt repayment (table 14).

Revenue is likely to show little change in 1959/60. The value of petroleum exports was rather lower in 1959 than in 1958, but one of the three instalments of petroleum income tax is being levied on 1958 income, and all three are based on the new rates of tax. The continued expansion of other sectors should bring increased revenue, as should the rise in excise duties on alcoholic beverages.

No analysis is yet available of expenditure according to economic criteria, but it appears from ministerial budgets that the priorities evident in the pattern of expenditure in 1958-59 are still being stressed within an expanding total outlay. School building has continued to accelerate (see table 12).[55] Big increases have been planned for agricultural credit, settlement and extension services. Transfers to local authorities continue to rise. The military budget shows a reduction, but this is due to a decline in the burden of debt repayment, and little change is indicated in actual expenditure. A cut is also planned in the housing programme, which is now being based increasingly on assistance with credit to those wishing to build homes. Lower expenditure has been authorized for new roads, although maintenance expenditure on existing roads is being further increased.[56]

Repayment of debts is expected to decline by about Bs. 200 million, but it appears that the heavier expenditure implies another over-all deficit, not less than in the previous year.[57] On the other hand, some economies were announced in November 1959 including reductions in the salaries of the highest civil servants, and loans are to be raised both at home and overseas to prevent the exhaustion of reserves.[58]

3. *Remainder of the economy*

(a) *Capital investment*

The sources of finance here are various. In the first place, the profits of the public works contractors have been available, supplemented by profits in the rapidly-growing industries producing cement and other building materials. Such profits tended to be re-invested in the building materials industries or in residential construction, which became highly profitable in Caracas and other cities.[59] Thus public building and private construc-

[54] Tax liabilities for 1958 were slightly smaller than function (2*A*) would indicate. This was because costs had continued to rise although sales had fallen.

[55] In 1959 the new school places were approximately equal to the increase in the number of children of school age.

[56] This is attributed to the state of neglect from which Venezuela's roads suffer despite the heavy expenditure of the previous decade.

[57] While in 1958/59 the deficit was largely attributable to the repayment of debts, it will be bigger in 1959-60 than can be explained in this way.

[58] At the end of 1959, the petroleum companies provided short-term financial assistance to the Government, in the form of advance tax payments.

[59] In 1957 profits of construction firms amounted to Bs. 225 million and firms producing building materials made Bs. 64 million.

Table 16

VENEZUELA: ASSETS AND LIABILITIES OF THE CENTRAL BANK, 1948–1958

(Millions of bolívares at end of period)

	Assets			Liabilities		
	Gold and foreign currency	*Rediscounts*	*Total* [a]	*Currency notes*	*Government*	*Commercial banks*
1948	1 084	42	1 155	769	—	107
1949	1 262	27	1 328	814	195	149
1950	1 042	60	1 146	798	7	137
1951	1 142	67	1 258	871	74	202
1952	1 343	51	1 442	1 000	120	206
1953	1 470	60	1 584	1 041	209	211
1954	1 464	132	1 645	1 121	222	183
1955	1 624	63	1 765	1 154	231	233
1956	2 808	118	3 019	1 290	1 185	348
1957	4 269	87	4 476	1 591	2 101	577
1958	3 044	27	3 203	1 717	424	774

SOURCE: *Memoria* and *Boletín Mensual del Banco Central.*

a Including miscellaneous items not detailed.

tion have advanced together, reaching a peak in 1957 and falling back in 1958 (see table 15).[60] Secondly, the expenditure of petroleum workers, civil servants and building personnel created profits at various stages in the flow of income, particularly for importers, and part of these profits tended also to be drawn into similar types of investment. Thus the bias in *public* expenditure towards investment in projects of urban development led to a secondary bias in the investment of private savings, which have also been used predominantly to finance construction in the coastal cities, especially Caracas,[61] where a very large building industry was developed.

It might be expected that the banking system would have spread the finance for investment more widely, in the geographical as well as in the economic sense. But the organization of banking in Venezuela is not designed to play a very active role in financing investment. Rediscounting has been restricted (see table 16) because the Central Bank has not accepted paper on which the banks have charged a higher rate of interest than 6 per cent.[62] The Bank is also prohibited from lending to the Government or local authorities and compelled to keep at least 50 per cent of its liabilities covered by liquid reserves of gold or sight deposits in foreign banks. In addition, half of this reserve has to be gold in the Bank's own vaults. The Government was preparing new banking legislation in 1959, to relax these provisions and thus to take a step towards greater monetary autonomy.

The contribution of the banking system to development was in any case limited by restrictions on the purposes to which credit can be devoted. Loans made by banks are nearly all short-term. The Banks Act of 1940, in Title IV, prohibited commercial banks from making a loan with a term of more than two years and from discounting bills with more than a year's maturity. Besides, a growing fraction of deposits was in savings accounts, on which depositors could draw freely, although 3 per cent interest was paid, so that banks have not been anxious to lend on a long-term basis (see table 17). They have thus rarely financed mortgages, and this has partially offset the tendency implicit in other sources of finance to encourage construction.[63] The concentration on short-term assets in the banks' portfolios has also limited the participation of the banks in industrial and agricultural development, which has had therefore to rely largely on reinvestment of profits.[64]

Because of the restrictions on issue, currency in circulation only slightly more than doubled during the past decade, although the national income rose threefold (table 16). Yet the means of payment did expand rapidly. The reason was that up to 1955 the commercial banks increased loans more quickly than liquid assets (see table 17); the ratio of cash to total liabilities fell gradually, having been as high as 50 per cent at the end of 1942. Consequently banking credit expanded rapidly. This was accompanied by the creation of a number of new banks and the opening of new branches throughout the country.[65] In 1956 and 1957, the commercial banks ceased to expand loans more quickly than total assets rose. But the rise in the foreign assets of the Central Bank, though largely sterilized by a corresponding Government surplus, now permitted some increase in currency circulation, so that the means of payment continue to expand moderately. The national income was rising fast, however, and the demand for money was increased by

[60] Private construction includes some construction by or for petroleum companies which would be strictly irrelevant to this part of the analysis.

[61] Approximately three-quarters of all privately licensed construction has been taking place in Caracas.

[62] This was changed to 9 per cent in November 1959, permitting increased rediscounting. But at the same time the interest rates charged by the banks were raised, e.g. interest on bills of less than 90 days was raised from 2 per cent to 4 ½ per cent *per annum*.

[63] A special bank for mortgage credit (*Banco Hipotecario de Crédito Urbano*) was founded in 1958. This raised money by issuing 10-year bonds at 6 per cent interest.

[64] It appears that profits arising in agriculture have often been used for other purposes (e.g. property speculation in the cities) instead of being reinvested in agriculture.

[65] But this may not have changed the geographical pattern of investment. At present advances exceed deposits only in the Federal District, Falcón and Zulia. In other words, there appears to be some tendency for the system to draw capital towards the heavily capitalized areas rather than to disperse it.

Table 17

VENEZUELA: TOTAL ASSETS AND LIABILITIES OF COMMERCIAL BANKS, 1948–58

(Millions of bolivares)

End of year	Assets			Total [d]	Deposits			Cash as percentage of total liabilities
	Cash [a]	Short-term loans [b]	Other loans [c]		Government	Public (Current)	Public (Savings)	
1948	345	520	81	1 052	37	572	102	33
1949	353	621	77	1 183	—	695	127	30
1950	330	692	91	1 253	8	668	143	26
1951	443	754	110	1 448	15	795	165	31
1952	507	912	134	1 730	—	981	234	29
1953	529	1 160	187	2 108	32	1 122	321	25
1954	520	1 500	201	2 533	41	1 166	419	21
1955	603	1 773	219	2 961	62	1 356	584	20
1956	796	2 152	209	3 628	32	1 616	834	22
1957	1 226	3 068	238	5 386	50	2 313	1 393	23
1958	1 555	3 562	254	6 527	173	2 631	1 769	24

SOURCE: *Memoria* and *Boletín Mensual del Banco Central*, and information supplied by the Bank.

a Including deposits at the Central Bank.

b With duration of less than 180 days.

c Mortgages, etc.

d Including miscellaneous items not detailed.

the expansion of internal trade, for example the supply of foodstuffs to the growing cities, and by the greater use of consumer credit. Moreover the Government was making increasing use of promissory notes to finance its capital expenditure, as explained earlier, so credit became tight.

In the meantime, the banking system had become somewhat more flexible through the growth of another type of institution. Commercial banks were both unwilling and unable to refinance many of the Government's promissory notes or to exploit other lucrative opportunities created by the tightness of credit. Accordingly, investment houses (*financiadoras*) grew rapidly. These operate in some respects like banks, but are not subject to the same legal restrictions. They are often affiliated to conventional banks and act as a channel by which the banking system can indirectly help finance private investment. They also absorbed a good proportion of the Government's promissory notes up to 1958, and helped to refinance the growing amount of consumer credit. The interest rates they have been able to offer have attracted large quantities of private savings and some foreign capital, which also financed directly some of the Government's short-term paper. There are no statistics on these banking institutions, but it seems that the supply of credit for private investment has grown faster than table 17 would imply, and this credit has been available for a wider range of uses than an inspection of the banking regulations would indicate.

Moreover, there has been quite a substantial inflow of foreign capital—mainly from the United States—which rose to high levels in 1956 and 1957. Much of this was attributable to iron mining, and capital also flowed into manufacturing and other productive sectors:

FOREIGN DIRECT INVESTMENT IN SECTORS OTHER THAN PETROLEUM, 1951–58 a
(Millions of bolivares)

1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
102	281	398	184	115	483	667	192

SOURCE: *Memoria del Banco Central* and information supplied by the Bank.
a These figures include investment in mining, manufacturing, commerce, construction and services. It is believed that about one-quarter of the capital invested in commerce and manufacturing is foreign-owned. Of course, this is already partially reflected in the expansion of bank deposits.

Nevertheless, private investment has stayed at relatively low levels, considering the growth of incomes that has taken place, and has not increased very much. Private investment outside petroleum can be considered relatively insignificant as an independent cause of the expansion, particularly since much of it has been financed from profits which arise directly or indirectly out of the expenditures of the petroleum companies and the Government.

In 1958, the financial situation changed. The balance of the Government's budget swung from positive to negative, mainly because of the settlement of debts, as was explained earlier, and the Government drew heavily on its account at the Central Bank. This draught outweighed the decline in foreign reserves, so the currency issue continued to rise.[66] Since investment fell off sharply for other reasons, such as the political and economic uncertainties, banks were liquid enough to increase the cash cover for liabilities considerably. Preliminary data indicate that private investment recovered sharply in 1959, perhaps stimulated by the improvement in prospects and by the greater ease in obtaining finance.[67] Moreover, the fiscal reform at the end of 1958 had envisaged partial exoneration from taxes in respect of investments in productive activities, which will tend to provide an incentive for industry, agriculture, stock farming, transport and energy.[68]

(b) *Exports*

Table 18 shows that there has been a rather rapid rise in exports other than petroleum. These increased fourfold between 1951 and 1958, whereas petroleum exports less than doubled over the same period. Minor exports are still relatively low: petroleum, even in 1958, accounted for more than 90 per cent of the total.

It can be seen that this rise in other exports has been very largely due to the rapid growth of iron ore exports which has become Venezuela's second export commodity. Production of iron ore began in 1950, and

66 The Government also transferred deposits to commercial banks, because of the tendency for its deposits in the Central Bank to become sterilized. More than Bs. 100 million were fed into the Government's accounts with various banks in the first half of 1958. In addition, the *Banco Agrícola y Pecuario* was provided with more cash, enabling it to double its loans to farmers.

67 During 1959, the commercial banks reduced their cash cover for deposits. In November, following some speculative exports of capital, interest rates were raised on sight and time deposits, but not on savings accounts. The interest on deposits for more than 360 days became 5 per cent. Since bank loans also became dearer and harder to obtain, the financial situation had changed again.

68 In addition, those selling on credit were to be allowed to declare only the instalments received instead of the whole value in the year of sale.

Table 18

VENEZUELA: EXPORTS (OTHER THAN PETROLEUM), 1951–58
(Millions of bolivares)

	1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
Iron ore	—	49	57	121	163	247	383	391
Coffee a	65	115	158	111	124	103	115	121
Cacao	36	37	41	47	34	37	33	39
Others b	61	42	32	44	56	78	111	137
Total	*162*	*243*	*289*	*324*	*377*	*466*	*642*	*687*

SOURCE: *Memoria del Banco Central*, 1958.
a In recent years a significant part has consisted of the re-export of contraband coffee from Colombia.
b Including non-monetary gold.

exports in 1951. Output is in the hands of two United States steel companies, one being a much larger producer than the other. Since local consumption and inventory changes have been negligible, practically the entire annual output (of about 15 million tons in 1957 and 1958) has been exported. Until 1953, all the exports went to the United States, but some then went to various countries of Western Europe and Japan (accounting altogether for about 3 million tons a year in 1957 and 1958). The rapid increase in exports to the United States reflected the growing demands of that country, owing to the fact that iron ore mined locally was becoming increasingly expensive compared to that produced overseas, particularly in Venezuela, which is now the leading overseas source for the United States steel industry.[69]

There are certain obvious similarities between developments in the petroleum and iron-ore markets. United States processing firms in both industries have turned increasingly to overseas sources for their materials. But there is one notable difference: in the case of petroleum, independent domestic firms supply an important fraction of the primary product. Thus, as has been explained above, quotas have been used to protect these firms against foreign competitors. The origin of iron-ore supplies, on the other hand, is determined mainly by relative costs of extraction. Thus, the reduction in iron-ore purchases by United States steel companies in the recession of 1958 was concentrated on domestic sources and on dearer foreign sources, especially Canada, and Venezuelan exports rose again even though only slightly. In 1959, the same thing happened despite the steel strike in the United States.

The value of Venezuelan ore exports to the United States is largely a national one, since the sale is made from one department to another of the same company. The price implied appears to be rather low by comparison with United States imports from other sources. If allowance is made for the high tenor of Venezuelan ore (about 60 per cent) and the longer distances which imports from most other sources have to travel, the cheapness of Venezuelan ore is striking, although of course other factors, such as the suitability of ore for working, must also be taken into account.

The other main exports are the two tree crops, coffee and cacao. Exports of coffee appear to have been well maintained, in view of the relatively low level of international prices. But in recent years a large proportion of Venezuela's exports have been re-exports of contraband imports from Colombia.[70] The coffee-growing for export markets has been discouraged by the level of labour costs, which have become very high by international standards at the existing exchange rate,[71] and in some districts by difficulty in obtaining labour for picking.

In the case of cacao, a special exchange rate is applied to a fraction of the proceeds, the fraction depending on the export price. From 1955 to 1957 the majority of foreign exchange earned by cacao was sold at a special rate. The quantity of cacao exported has been fairly stable, at about 15 000 metric tons, and the fluctuation in value has reflected mainly changes in price.[72]

Other exports have shown an upward trend, due to various non-ferrous metals, and occasional agricultural surpluses, such as sugar. On the other hand, animals and livestock products, including hides and skins, have virtually disappeared from the list of Venezuelan exports.

Not only is the total value of all these minor exports small, as can be seen from table 18: the actual contribution to the growth of the internal economy has been less than it appears. Coffee and cacao exports have not expanded much, and in recent years part of the earnings from coffee has accrued to Colombian producers and exporters. In 1959 the exports of both tree crops fell. The volume of coffee exported shrank after the heavy crop of 1958 and the price remained low. In the case of cacao, the volume exported was the lowest for several years.

Even in the case of iron ore, the impetus to the rest of the economy has been limited. The apparently low valuation of the ore has affected profits and thus taxes. For 1957 taxes amounted to 12 per cent of the recorded value of iron-ore exports.[73] The increase in income tax rates in 1958 and an increase in valuation of exports meant a considerable rise in the contribution of this sector to revenue, but the proportion of the value of sales formed by revenue still falls far short of what it is in the case of petroleum. Even in 1958, the total foreign exchange receipts of Venezuela, allowing for wages, salaries, and local purchases of goods and services, as well as for taxation, did not greatly exceed half the recorded value of ore exports, despite development expenditures by the companies concerned.

(c) *Personal consumption*

It seems that consumption doubled between 1951 and 1957[74] (see table 19). Since the general level of prices appears, on the data available, not to have changed significantly, the improvement—amounting to about 11 per cent *per annum*—was very largely a "real" one.[75] Allowing for the increase in population, the average annual rise was about 7 per cent *per capita* over the same period. The rise was rapid in the years up to 1953, despite a relatively slow increase in petroleum revenues

[69] The average price of domestic ore in the United States was 11.60 dollars (at Lake Erie) in 1957 and 1958 compared to 8.45 dollars as the f.o.b. cost of imported ore, of a higher average ferrous content. (*Memoria del Banco Central*, 1958, p. 51.)

[70] It has been estimated that 30 to 40 per cent of Venezuelan coffee exports originate in Colombia (*Memoria del Banco Central*, 1957, p. 195).

[71] In 1948, arrangements were made by which an exchange rate of Bs. 4.80 was paid for an increasing fraction of exports as the coffee price fell below certain levels. However, in recent years, the price has only rarely been low enough to bring this scheme of export premia into operation. In January 1959, the scheme was revised by lowering the price at which the premium was paid and raising the fractions paid at the higher exchange rate for given prices. The effect is to raise and stabilize the price in bolívares received by those producing coffee or re-exporting Colombian coffee.

[72] The system of subsidizing exports through special exchange rates was also changed in 1959 in the same way as in the case of coffee.

[73] *Memoria del Banco Central*, 1958, p. 47.

[74] The estimates of consumption are residual. Their quality has been considerably improved recently in that, except for 1958, direct estimates have been made of inventory changes.

[75] Price indices naturally do not allow for the effect of urbanization. The shift of population to the cities involves increases in rents, food prices, etc. Consequently the true rise has been somewhat smaller than this.

Table 19

VENEZUELA: SOURCES OF FINAL DEMAND FOR GROSS DOMESTIC PRODUCT AND IMPORTS, 1951–58

(Thousands of millions of bolivares)

	1951	1952	1953	1954	1955	1956	1957	(Prov.) 1958
Petroleum sector								
Exports	4.0	4.3	4.4	4.8	5.5	6.4	7.9	7.1
Investment	0.7	0.9	0.9	0.9	0.9	1.3	1.9	1.7
Total, petroleum sector [a]	4.7	5.2	5.3	5.7	6.4	7.7	9.8	8.8
Government sector								
Consumption	1.4	1.4	1.5	1.5	1.6	1.6	1.9	2.9
Investment [b]	1.0	1.2	1.1	1.3	1.6	1.9	3.1	4.1 [de]
Remainder of economy								
Investment [c]	1.3	1.4	1.1	0.9	1.3	1.2	1.4	
Exports	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.7
Consumption	6.4	7.3	8.3	9.9	10.3	11.5	13.1	(14.7) [d]
Total, excluding petroleum sector	*10.4*	*11.4*	*12.2*	*13.9*	*15.2*	*16.6*	*20.1*	*22.0*
Expenditure on gross [f] domestic product and imports	*15.0*	*16.7*	*17.5*	*19.7*	*21.6*	*24.4*	*29.9*	*30.8*

SOURCE: *Memoria del Banco Central* and information supplied by the Bank.

a Excluding purchases of petroleum concessions and internal consumption of petroleum products.

b No allowance is made for capital expenditure financed out of debt. (See text.) This is believed to have been considerable in 1955 to 1957.

c This series is obtained as a residual, by deducting petroleum investment (table 8) from the total. It implicitly includes inventory investment. (See also previous footnote. For the years when Government capital expenditure was underestimated, this residual would presumably be overestimated.)

d Allowing 0.3 for additions to inventories.

e It should be noted that estimates of investment in equipment are based on imports. Since imported equipment was apparently added to inventory in 1957 and taken out of inventory in 1958, the decline in fixed-capital investment is presumably less than this figure would indicate.

f In reaching this total, no allowance has been made for errors and omissions in the balance of payments, which are attributed to imports in the *Memoria* of the Central Bank. Consequently, these figures are different from those shown in the *Memoria*. (The residual for consumption is also affected by this difference in treatment.)

from 1950 to 1953. There are usually lags involved in the adjustment of consumption to personal income, particularly when the latter is rising rapidly. Thus the value of petroleum exports had grown more than fourfold from 1945 to 1950. Consequently 1951 and 1952 may be considered years of delayed adjustment, during which consumption was catching up with the rise in income.

In recent years, judging from the data in table 19, consumption appears to have accounted for less than half of total final demand (domestic product plus imports) which is a low ratio by international standards.[76] It was particularly low in 1951 and 1952, possibly because of the time-lag mentioned above. The lowness of this ratio reflects the small participation of labour—somewhat less than 50 per cent—in the gross domestic product at factor cost,[77] due largely, in turn, to the fact that labour received a relatively low share of the value added in the petroleum industry, as can be inferred from table 6.

In 1958, there were major changes in the income structure, apparently causing a rise in consumption relative to other sources of demand. The increase in the rates of pay of Government employees was accompanied by wage rises in other sectors.[78] Moreover, the lowest wages may well have risen fastest. At the same time, there was also some increase in transfer incomes paid by the Government, such as unemployment benefits. Finally, the rate of private saving probably declined. So consumption rose[79] and probably by more than the increase in prices.[80]

Consumption apparently continued to grow in 1959, but prices also rose again.

Expenditure on domestic production and imports outside the petroleum sector

Since the main force generating demand outside the petroleum sector, Government expenditure, is determined by petroleum revenues, as was demonstrated above, there is a close connexion between revenues (t) and total demand (d) outside the petroleum sector, as is shown in figure *C*.

$$d = 5.89\,t + 4.14 \qquad (4)$$

The years 1951 to 1953 appear to show an even faster increase in demand than would be indicated by the function. This is presumably due to the lag in consumption already discussed. A period in which such a lag is

[76] Exports accounted for nearly 30 per cent each year, open investment fluctuated around 20 per cent (falling below this in the years 1953-56), and Government consumption formed a declining percentage (lower than 10 per cent).

[77] Despite the fact that estimates of labour income include not only salaries but also an allowance for the remuneration of work in entrepreneurial incomes (farmers' incomes, shopkeepers' profits, etc.).

[78] Average daily wages in the metropolitan district of Caracas rose by 15 per cent between 1957 and 1958 (*Memoria del Banco Central*, 1958, p. 320). The share of labour in the domestic product climbed abruptly from 43 to 49 per cent.

[79] Estimates of fixed-capital investment are based largely on imports, and the figure for 1958 may be too low, as capital goods were drawn from inventories. In that case, the residual estimate for consumption in 1958 would have to be revised downward.

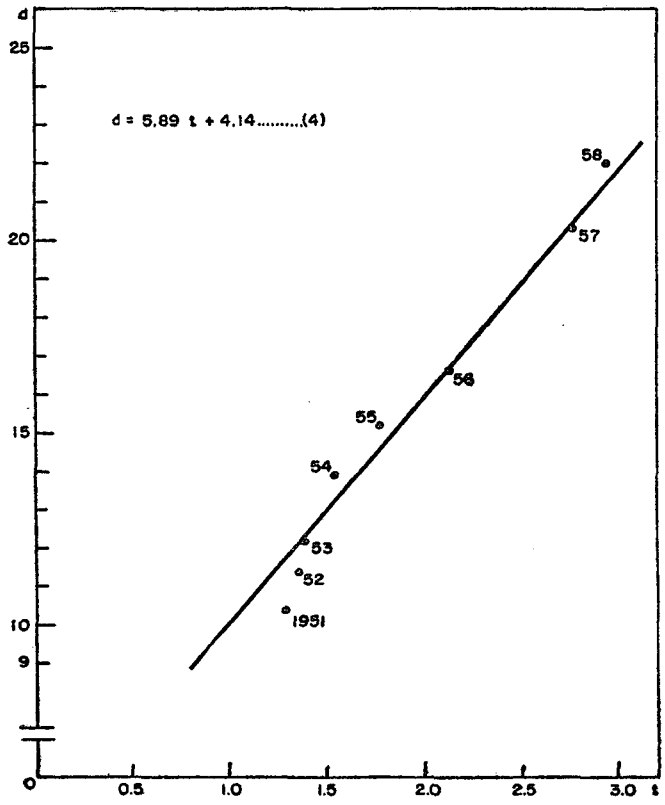
[80] Most of the occupants of the *superbloques* ceased paying rent in 1958, so the decline in the average rent actually paid may have offset partially the higher prices of goods.

Figure C

VENEZUELA: SCATTER DIAGRAM SHOWING RELATION OF FINAL DEMAND (*d*) (OUTSIDE THE PETROLEUM SECTOR) TO PETROLEUM REVENUES (*t*) 1951–58

(Thousands of millions of bolivares)

NATURAL SCALE



being reduced would be one in which the marginal propensity to save appeared to be low and the total effect of autonomous forces was correspondingly great. Conversely, the fast rise of petroleum revenues from 1954 to 1956 was accompanied by a rather flatter relation, suggesting that other types of expenditure did not have time to adjust themselves to such a vigorous stimulus.[81]

For the period as a whole, increases in petroleum taxes seem to have been multiplied more than six times during their progress through the various stages of the creation of demand. This is a very high multiplier.

[81] It would, however, be possible to interpret this flattening as an indication that there was a growing propensity to save, apart from any time-lag, so that the impulse given to the economy by each million bolívares of petroleum revenue was weakening.

It is notable that total demand in 1958 did not decline, despite the fall in petroleum exports and the obligation on the Government to pay foreign debts. The reason is that, owing to the tax reform, the revenue on petroleum exports continued to increase, and the running-down of Government reserves made it possible to increase actual Government expenditure on goods and services apart from debt repayments. Moreover, prices rose in the economy and private consumption also continued to expand for the reasons already explained. Expenditure might therefore have been expected to be greater than indicated by function (4). But the sharp decline in private investment was an offsetting factor.

In 1959, petroleum revenue liabilities may have declined somewhat because of the fall in prices, but the continuation of the rise in Government expenditure, together with the recovery in private investment, induced a further expansion in consumption so that total demand continued to grow. The point for 1959 would therefore be above the line.

It should be borne in mind that regression equations like (4) above, based on time series, have to be interpreted with caution, particularly when economic growth is continuous. Because the increase in expenditure was equivalent to 6½ times the rise in petroleum revenues, it does not follow that it was due to the expansion in the latter alone. The total increase in expenditure was the result of all the dynamic forces in the currency operating in conjunction. But the analysis above, together with the high degree of correlation, indicates that other autonomous forces were relatively weak and in many ways not very autonomous, and that petroleum revenues therefore account almost completely for the expansion of the rest of the economy.

Since tax revenues were themselves very closely determined by exports of petroleum, total demand in the economy depended ultimately on these exports. As long as the old tax system was in force, the basic function for demand was:[82]

$$d = 2.32\,e + 2.19 \qquad (4')$$

The tax reform changed the relation of revenues to exports and thus changed this function to:

$$d = 2.83\,e + 1.54 \qquad (4'A)$$

The effect of the tax reform has been to increase quite sharply the impact of changes in petroleum exports on demand and activity in the rest of the economy.

[82] This is found by using function (2) to substitute "*e*" for "*t*" in function (4). Similarly, in obtaining the function (4′*A*), use is made of function (2*A*), which indicates the likely relation between petroleum exports and the taxes on petroleum companies after the tax reform.

III. THE RESPONSE OF SUPPLY

Such a fast rise in demand created excellent conditions for the Venezuelan economy to expand. This section of the article discusses how adequately the output of the various sectors responded to this stimulus, which leads to an explanation of changes which occurred in the size and distribution of employment. It also throws light on movements in imports, since these have been, broadly speaking, the goods and services which for one reason or another Venezuela could not supply itself.

It is necessary to treat supply in the petroleum sector separately throughout. One reason is that demand for goods and services produced in that sector is determined

Table 20

VENEZUELA: ANALYSIS OF FINAL DEMAND BY SECTORS, 1951–58

(Thousands of millions of bolivares)

	1951	1952	1953	1954	1955	1956	1957	1958
Petroleum sector								
Final demand (exports and investment)	4.7	5.2	5.3	5.7	6.4	7.7	9.8	8.8
Net local sales [a]	0.1	0.1	0.2	0.2	0.3	0.2	0.3	0.3
Less imports of goods and services	— 0.5	— 0.8	— 0.7	— 0.6	— 0.8	— 1.3	— 1.9	— 1.4
Expenditure on domestic product	4.3	4.5	4.8	5.3	5.9	6.6	8.2	7.7
Other sectors								
Final demand	10.4	11.4	12.2	13.9	15.2	16.6	20.1	22.0
Less local sales petroleum [a]	— 0.1	— 0.1	— 0.2	— 0.2	— 0.3	— 0.2	— 0.3	— 0.3
Less imports of goods and services	— 2.3	— 2.3	— 2.7	— 3.3	— 3.4	— 3.7	— 5.6	— 4.9
Expenditure on domestic product	8.0	9.0	9.3	10.4	11.5	12.7	14.2	16.8
Whole economy								
Final demand	15.0	16.7	17.5	19.7	21.6	24.4	29.9	30.8
Less imports of goods and services	— 2.8	— 3.1	— 3.4	— 3.9	— 4.2	— 5.0	— 7.5	— 6.3
Expenditure on domestic product	12.2	13.6	14.1	15.8	17.4	19.4	22.4	24.5

SOURCE: See table 19.
a See table 4 (excluding inter-company sales).

almost entirely outside the economy. Again, employment in the same sector is practically independent of the level of output. In both these respects, the remainder of the economy is quite different. In table 20 imports and domestic supply are shown separately for the petroleum sector and the remainder of the economy.[83]

1. *The petroleum sector*

(a) *Production and employment*

The output of this sector nearly doubled at current prices between 1951 and 1957, its peak year. Since export prices rose nearly 15 per cent, mostly in 1953, the increase in real output was somewhat less, but it still amounted to over 60 per cent (see table 21). Production of refined products rose faster than that of crude. There was also a fairly big rise in drilling activity, though only after 1954.[84] Natural gas output rose at a pace slightly quicker than extraction of crude (gas being normally a by-product of the latter), but the recovery rate increased steadily throughout the period, and the amount of natural gas used productively rose from 3 000 million cubic metres in 1951 to 11 000 million in 1957, though even then this was not much more than a third of actual output.

In 1958, production of crude diminished for reasons explained earlier in this article and exploration activity declined, but refining and natural gas recovery continued to increase. Since output of crude fell, the proportion of gas lost fell sharply. In 1959, crude production partially made good the decline of the previous year, and the output of refined products and natural gas continued to rise, but exploration was further reduced.

One striking feature of this table is the low level of

[83] An adjustment is made for local sales of petroleum which constitute demand arising in the rest of the economy but spent on petroleum.

[84] This work, like installation of equipment, and other investment activities may not be reflected in the fixed-price estimates of the output of the petroleum-producing sector, which are the basis of the index in table 21.

Table 21

VENEZUELA: INDICATORS OF PETROLEUM ACTIVITY, 1951–58

	1951	1952	1953	1954	1955	1956	1957	1958
Total output of sector (1950 = 100)	114	122	119	127	145	167	187	177
Output of crude (1950 = 100)	114	121	118	126	144	165	185	174
Output of refined products (1950 = 100)	125	134	150	155	183	203	224	234
Total depth of wells drilled [a] (millions of metres)	...	1.95	1.84	1.65	2.29	2.94	3.32	2.69
Output of crude petroleum (millions of barrels daily)	1.70	1.80	1.76	1.89	2.16	2.47	2.78	2.60
Volume of petroleum refined (millions of barrels daily)	0.32	0.35	0.41	0.44	0.54	0.63	0.69	0.73
Output of natural gas (thousands of millions of m^3)	19.1	21.0	20.7	21.7	24.3	27.6	32.1	31.5
Loss of natural gas [b] (thousands of millions of m^3)	16.2	17.5	15.9	15.6	17.4	19.4	20.7	17.8
Employment in refineries (thousands)	6	6	6	6	6	7	7	7
Employment in exploration, new capital investment, production (thousands)	39	40	39	37	36	37	39	37

SOURCE: *Memoria del Banco Central*, 1957 and 1958, based on statistics of the Ministry of Mines.
a Including semi-exploratory drilling (i.e. all new wells, for petroleum or natural gas, other than those drilled in existing fields).
b Discharged to the atmosphere.

employment and its failure to show any significant rise. Output per head was already in 1951 about 20 000 bolívares (at 1957 prices) in refining and more than 100 000 bolívares in the rest of the sector.[85] There was a small expansion in the labour force in the refineries, yet productivity rose by over 80 per cent between 1951 and 1958. The total labour force engaged in activities other than refining actually showed a slight tendency to shrink. This was temporarily masked by the rise in investment in 1955 to 1957, but became more pronounced in 1958 and 1959, carrying employment to the lowest levels of the decade. Productivity in crude production therefore rose by over 60 per cent between 1951 and 1958 and must now be approaching 200 000 bolívares a head.

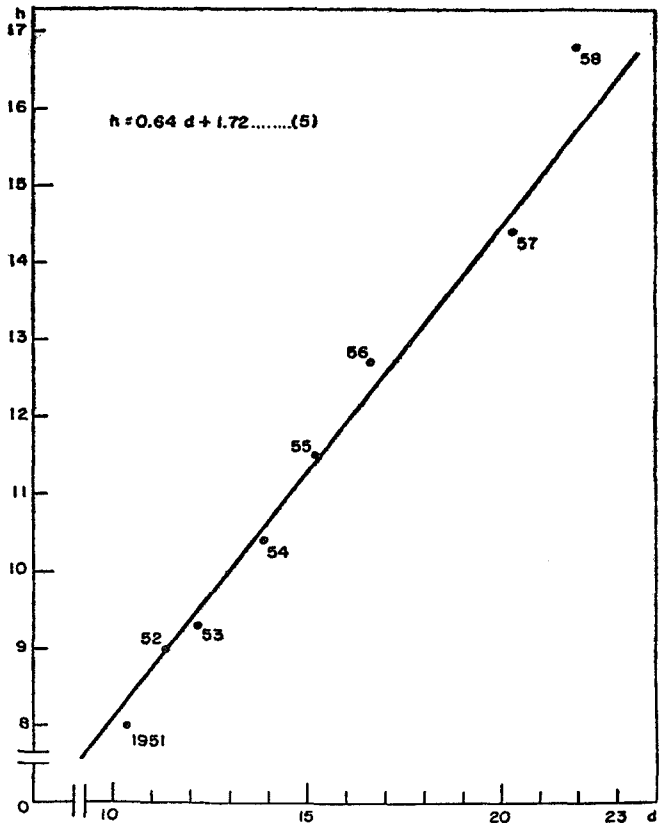
It is clear from these figures that the great majority of the labour force in both parts of the sector is an "overhead" rather than a "variable" item in cost, which is in line with the interpretation of the financial function (1) above relating exports and profits.

Figure D

VENEZUELA: SCATTER DIAGRAM SHOWING PURCHASES OF DOMESTICALLY-PRODUCED GOODS AND SERVICES (h) (IN SECTORS OTHER THAN PETROLEUM) IN RELATION TO DEMAND (d) (IN THESE SECTORS), 1951–58

(Thousands of millions of bolivares)

NATURAL SCALE



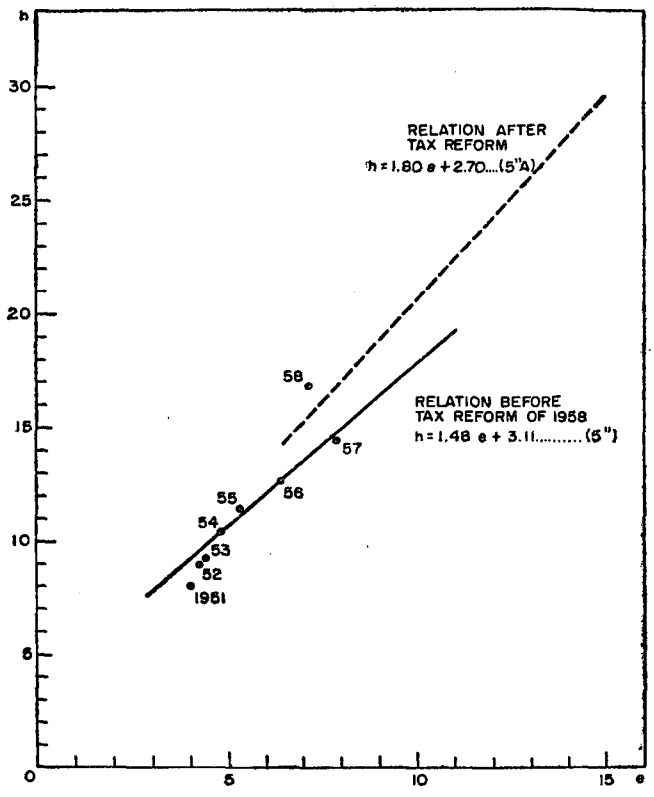
[85] It is assumed that most transport and development activities are included in the value of crude production. Productivity may in fact have been even higher.

Figure E

VENEZUELA: SCATTER DIAGRAM SHOWING RELATION BETWEEN PURCHASES OF DOMESTICALLY-PRODUCED GOODS AND SERVICES (h) (OUTSIDE THE PETROLEUM SECTOR) AND PETROLEUM EXPORTS (e), 1951–58

(Thousands of millions of bolivares)

NATURAL SCALE



(b) *Imports*

A comparison of table 20 with the previous one shows that imports of goods and services into the petroleum sector follow closely movements in gross capital investment in the sector. This is because the imports of the petroleum companies consist largely of capital goods. But the numerical similarity is somewhat spurious, since other and more stable elements are also included in both imports (e.g. materials and services) and investment (e.g. exploration activity).

2. *The remainder of the economy*

(a) *Production and employment*

Table 20 and figure *D* show that purchases of domestically-produced goods and services in the remainder of the economy (h) tended to rise throughout the decade, being closely related to final demand (d). The relationship is:

$$h = 0.64\,d + 1.72 \qquad (5)$$

substituting for d, using function (4)

$$h = 3.75\,t + 4.35 \qquad (5')$$

According to this function, the final net multiplier 3.75 indicates that the demand for the output of the rest of the economy has tended to rise by nearly four times as much as increases in petroleum revenue.

We can also relate this, by further substitution, to petroleum exports (see figure E):

$$h = 1.48\,e + 3.11 \qquad (5'')$$

Thus the net rise in demand for Venezuelan resources outside the petroleum sector was about one and a half times that of changes in exports.

Prices remained virtually unchanged outside the petroleum sector. Consequently real output in the remainder of the economy rose between 1951 and 1957 by approximately the same as did current price expenditure, namely 80 per cent. In fact, despite slight differences in definition and coverage, and although somewhat different sources of data are used, the figures for expenditure on domestic output in table 20 are almost identical with those in table 22 for production at fixed (1957) factor cost for the years before 1958, when prices started to rise. Consequently equation (5) can be considered a function for determining physical output (measured at 1957 prices).

Table 22 shows an economic structure which was, throughout the decade, a peculiar one by international standards. Compared to the situation in other countries in Latin America, the contribution of agriculture to total output in Venezuela was low (less than 20 per cent) even early in the 1950's. A figure of this sort is typical rather of industrialized countries, but there a higher fraction of the domestic product originates in manufacturing. The distinctive feature of Venezuela is that less than 30 per cent of the domestic product, excluding petroleum, originates in agriculture and manufacturing combined —in fact less than 20 per cent, if the petroleum sector is included in the domestic product. This is due to the way in which finance from the petroleum sector flows through the economy, passing first through the Government, and then out via public works and public services, creating demand for imports, and for services such as transport and commerce, before ever reaching the sectors producing food and manufactures.

Brisk progress was maintained until 1957, when there was some acceleration; but in 1958, the rate of advance noticeably slowed down in most sectors especially services. The rise in real output was again moderate in 1959, although greater than in the year before. Since demand continued to grow in 1958 and imports fell, there was a further big rise in the value of domestically-produced goods and services. But because of the climb in prices, the increase in the volume of output was only slight. In 1959, too, the higher demand was partly absorbed in price rises.

It is clear from table 22 that different sectors advanced at very different rates over this period. The increase was particularly rapid for manufacturing, electricity production, housing and mining. Output approximately doubled, more or less in line with the national product, in construction, commerce, transport and other services. It rose at a much slower pace in agriculture and Government Services. These various rates of progress are, however, broadly in line with international experience of income-elasticities of demand: a rising participation of manufacturing and electricity output may be expected as well as a declining share of agriculture as income rises, though perhaps not as fast as the decline shown here, whereas commerce, transport and other services maintain an approximately constant proportion of income. Some items show trends which are steeper than can be explained in terms of customary income-elasticities of demand. The increase in housing was faster than would normally be expected, and this is doubtless due to shifts of population involving heavy residential construction in the cities.[86] The rise in mining was also abnormal, mainly because of the development of mines producing iron ore for foreign consumption. The expansion of construction was exceptionally rapid for reasons already discussed under public finance and private investment. On the other hand, the output of the public service rose only rather moderately, because of the slowness with which Government current expenditure expanded before 1958, and thus fell relative to the total product.

Since the increase in the share of manufacturing was balanced by a decline in that of agriculture, and the

[86] "Housing" is the rental value of residential accommodation at 1957 rents. Thus this series indicates that the quantity of accommodation in this sense more than doubled between 1951 and 1958.

Table 22

VENEZUELA: GROSS DOMESTIC PRODUCT BY INDUSTRY (EXCLUDING PETROLEUM), AT FIXED PRICES, 1951–58

(Thousands of millions of bolivares at 1957 factor cost)

	1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
Agriculture	1.2	1.3	1.3	1.3	1.4	1.5	1.5	1.6
Mining	—	0.1	0.1	0.1	0.2	0.2	0.3	0.3
Manufacturing	0.9	1.1	1.3	1.5	1.7	1.9	2.2	2.4
Construction	0.7	0.7	0.6	0.7	0.9	1.0	1.2	1.2
Electricity and water	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4
Commerce	1.3	1.4	1.5	1.8	1.9	2.1	2.7	2.6
Transport	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7
Other services	1.6	1.7	1.9	2.0	2.2	2.4	2.9	3.0
Housing	0.7	0.8	0.9	1.1	1.2	1.4	1.6	1.8
Government	1.0	1.1	1.1	1.2	1.3	1.3	1.5	1.5
Gross domestic product (excluding petroleum)	*7.9*	*8.7*	*9.6*	*10.5*	*11.7*	*12.7*	*14.9*	*15.5*

SOURCE: *Memoria del Banco Central*, 1958. (Manufacturing has been defined here so as to exclude petroleum refining.)

share of construction stayed virtually the same, Venezuela continued to have predominantly a service, rather than a commodity-producing, economy.

(i) *Agriculture.* It would not be wholly correct to depict the agricultural sector as a backward enclave within a dynamic economy. The rate of increase in its output (about 5 per cent per year), while slow in comparison with that of other sectors, is fast relative to agriculture in other countries of the region. Within the sector itself there are dynamic sub-sectors, though there are also torpid ones (see table 23).

Advance has been particularly rapid in livestock output, which almost doubled between 1951 and 1958. Meat production rose about 50 per cent and that of milk nearly fourfold.[87] Imports of livestock products have remained more or less stationary at quite high levels. Domestic production has therefore expanded by enough to supply the heavier needs of the market, which were great, because of the growing population and rising incomes, but not by enough to reduce imports. With a cattle population of six to seven million, Venezuela might be expected to be self-supporting in dairy products, but the yield of milk is low (not much more than 2 litres a day for cows-in-milk) because of the shortage of specialized milk herds and of artificial pastures.

Meat imports are licensed and, since licenses are virtually unobtainable, this amounts to a ban. Moreover, a large proportion of agricultural development spending has been devoted to the livestock industry. It has obtained a sizeable fraction of the credit available; milk pasteurizing and processing plants have been built; and a subsidy of Bs. 15 paid for every 100 litres delivered for pasteurization.[88]

Imports of powdered milk are still strongly competitive, accounting for nearly half the total milk consumed in all forms. Fresh liquid milk costs nearly twice as much as powdered and presents storage problems. Domestically-produced powder costs much more than imported and the only reason that it has been sold at all is a quota system, under which dealers in imported milk have had to buy one tin of domestically-produced for each six imported.[89]

The increase in crop production was smaller absolutely and therefore relatively. Table 23 shows that trends in crops other than foodstuffs were either not very pronounced or downward. Coffee output rose at

[87] This may be somewhat exaggerated, because data are only available on milk delivered to plants, and it is believed that less milk is supplied directly off farms.

[88] Bs. 20 up to 1951. In 1958 this subsidy was extended to all forms of processed milk and graduated according to quality.

[89] The ratio was raised to one local for five imported in 1958.

Table 23

VENEZUELA: AGRICULTURAL PRODUCTION, 1951–58

(Millions of bolivares at 1957 net factor cost)

	1951	1952	1953	1954	1955	1956	1957	1958
Livestock products								
Meat	243	245	263	269	281	291	328	383
Milk	41	54	69	84	97	103	115	136
Total	284	299	332	353	378	394	443	519
Beverages (mainly for export)								
Coffee	146	182	151	181	156	196	169	209
Cocoa	36	34	34	32	32	34	33	32
Total	182	216	185	213	188	230	202	241
Materials for industry								
Cotton	14	15	14	17	14	15	15	24
Tobacco	96	94	75	46	63	74	52	45
Total	110	109	89	63	77	89	67	69
Food crops								
Sugar cane	14	21	23	30	46	63	62	50
Rice	12	15	18	31	18	14	7	6
Maize	64	70	68	66	64	71	69	73
Beans	57	57	62	53	50	66	69	68
Yuca	55	61	73	56	45	53	55	55
Potatoes	19	14	20	25	27	42	64	42
Bananas	49	52	51	53	66	66	76	61
Oilseeds [a]	14	17	23	24	26	30	34	25
Other	285	284	308	261	294	299	305	332
Total	569	591	646	599	636	704	741	712
Fish	23	21	22	18	26	24	34	33
Forest products	52	46	55	52	54	48	62	61
Total	1 220	1 282	1 329	1 298	1 359	1 489	1 549	1 635

SOURCE: Information supplied by the Central Bank. Based mainly on the 1950 census and reports from the local branches of the *Banco Agrícola y Pecuario.*

[a] Sesame, peanuts and copra.

the end of the period, owing to good harvests, after showing little change for several years. The same could be said of cotton. Because of the shortage of cotton at the start of the Korean hostilities, the Government guaranteed a price of Bs. 1 200 per ton, which was maintained until 1958 when it was raised to Bs. 1 300, and made sure that imports would be displaced by imposing a heavy tariff. The Ministry of Agriculture also provided selected seeds and technical assistance. Output rose at once in 1951 and has stayed at a high level since, at times threatening to exceed requirements. But the decline in tobacco output after good crops early in the period was numerically more important.[90]

The rise in foodstuff production was very largely attributable to sugar, oilseeds and potatoes, all of which showed a strong upward trend. Rice output climbed quickly at first and then fell back, and the main staple crops like maize, beans and yuca increased only slightly.

The Government has given special attention to sugar. Cane producers were encouraged with credits and a guaranteed price of 45 bolívares per ton; the *Corporación Venezolana de Fomento* (CVF) built four sugar factories, and gave credits for private factory construction. Duties are very high. This policy was so successful that sugar imports were eliminated, and exportable surpluses appeared in 1955, 1956 and 1957. Because of high production costs, it was difficult to market these abroad until world prices rose in 1957 after the Suez crisis. Even so, exports had to be subsidized. Guaranteed prices meanwhile had been reduced sharply to Bs. 30 a ton. In 1958 and 1959, supply was approximately in balance with demand, small quantities being imported.

The output of rice was also over-stimulated by credits, guaranteed prices and the provision of processing facilities by the CVF under the Rice Production Plan of 1949. It declined just as sharply owing to a cut in the support price,[91] to the limited scope of the policy of making the payment of this price conditional on acreage, and to the spread of the disease *hoja blanca*.[92] Imports started once more in 1958 and continued in 1959. Credits were issued to finance, in the areas affected by the disease, a shift to other crops, while new strains of rice were being tested.

Maize is another crop which has produced surpluses in the course of attempts to support the price.[93] These surpluses have accumulated in the hands of the *Banco Agrícola y Pecuario*, and exceeded 40 000 tons in 1958, despite successive reductions in the guaranteed price from 1955 to 1957. Much of this inventory has deteriorated owing to inadequate storage facilities. As can be seen from table 24, this surplus is not due to a rapid rise in output. Maize is primarily a smallholder's crop and little technical progress has been made. The explanation is that people with rising incomes, especially those moving into the cities, have switched from the traditional corncake, to wheat bread, causing a decline in maize consumption. The decline has been partially offset by the more widespread use of maize as a feed for animals, but its high cost has restricted this outlet. Indirectly the high cost of maize has meant a dear price for eggs, another important market where importers are firmly established and account for two-thirds of the egg supply.[94]

Oilseed-crushers must show that they have absorbed national output at a fixed price before they are granted import licenses, so that this is another case where in effect prices are guaranteed to producers, and output has shown a sharp upward trend.

Potato-growers are also protected by import licensing, since licenses are only given when there is a shortage.

[90] The global figures conceal the fact that the crop is now largely Virginia-style tobacco, more suitable for processing. But manufacturers were unwilling to buy large quantities in recent years, possibly because of high inventories.

[91] At times the announcement of the price was so late that it discouraged production.

[92] Bad debts have amounted to Bs. 40 million under this plan.

[93] At times the price has not been effective.

[94] In 1958, domestic eggs cost Bs. 3.95 a dozen retail, whereas imported eggs sold at Bs. 2.60, even though more than half this price is represented by duty.

Table 24

VENEZUELA: MANUFACTURING PRODUCTION,[a] 1951–58

(Millions of bolivares at 1957 net factor cost)

	1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
Food processing	190	239	272	316	389	403	424	435
Beverages	176	194	200	214	230	236	264	330
Textiles	76	90	99	119	124	139	175	191
Clothing	24	37	55	72	83	100	94	91
Non-metallic minerals	83	103	120	144	151	163	206	182
Tobacco	30	37	40	44	48	49	50	55
Rubber products	21	26	35	55	58	68	79	90
Vehicle assembly	5	7	8	9	11	11	11	13
Chemicals	52	76	104	122	146	153	191	210
Printing	51	64	77	87	126	123	130	157
Paper	10	12	15	38	31	35	47	47
Metal products	18	18	29	52	58	77	106	141
Sawmilling	23	24	30	38	47	48	50	49
Furniture	37	45	53	64	63	61	64	56
Skins, hides	11	13	15	17	19	26	28	31
Miscellaneous	63	82	101	125	148	184	237	279
Total [a]	*870*	*1 067*	*1 253*	*1 516*	*1 732*	*1 876*	*2 156*	*2 357*

SOURCE: *Memoria del Banco Central*, 1958. Based on the industrial census of 1953 and on questionnaires sent by the Bank to the main firms, covering about four-fifths of manufacturing output.

a Excluding petroleum refining.

Moreover, they have received technical help in connexion with the selection of varieties, the importation of certified seeds[95] and disease control. The last of these made it possible to expand output in the rainy season, reducing the need for seasonal imports.

Another type of activity which has become very widespread, though statistics on it are not available, is market gardening near the cities, producing fruit, flowers and vegetables.[96] The municipality has provided some warehousing and distribution facilities for perishable products in the capital.

It can thus be seen that the general rise in output is attributable to a fast increase in a few products. If allowance is made for the exceptional coffee crop of 1958, which was apparently not repeated in 1959, virtually the whole of the expansion in the sector's output can be attributed to meat, milk, sugar, potatoes, oilseeds and cotton. It may be noted that these are all cases where producers have received special assistance from the Government in one or more of the following: credit, price support, technical advice, and protection from imports. Most of them are the products of big or medium-size estates. The crops listed are mainly grown in the lowlands near the coast, and lend themselves to mechanization. (The tractor park increased from about 3 900 units in 1950 to some 10 200 in 1956, according to the agricultural surveys.) Other crops show little increase in the period. Their costs of production were too high and income-elasticities of demand too low for them to expand their markets in the absence of special inducements.[97]

The general picture therefore is that there has been rather sluggish progress in the sector as a whole, which has been remedied in a number of cases which form a separate capitalized sub-sector. But the concentration of Government aid on livestock and the crops mentioned has not tended to improve the distribution of income by size or by area.

Prices received by farmers have been, by international standards, very stable:

Table 25

PRICE INDICES
(1950 = 100)

	1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
All crops	107	102	103	118	110	110	106	104
Root crops only .	104	103	99	97	102	103	108	111

SOURCE: *Memoria del Banco Central.*

The only fluctuation of note was the sharp peak in 1954, due to high export prices for coffee and cacao. Many of the main crops have support prices, but the index for root crops suggests that free-market prices of products for home consumption tended to dip from 1951 to 1955. With the start of the upsurge in activity in 1955, prices in free domestic markets began to rise. However, since support prices for cereal products and sugar were being cut and coffee prices were falling, the dominant tendency for 1955 to 1958 was downward for the sector as a whole.

Employment in agriculture, in the sense of the number shown as gainfully occupied, rose only slightly between the censuses of 1941 and 1950. At the latter date, it was about 700 000, implying a net output of some Bs. 1 500 a head at 1957 prices. Since 1950, it appears that the labour force has continued to rise, though not as fast as output. Consequently, some increase in productivity is implied, though not a very great one. But there has been considerable under-employment in some areas, making it difficult to know what has happened to efficiency.[98]

As regards *development*, the emphasis is being put on livestock. A programme covering the period up to June 1963 involves the expenditure of Bs. 676 million, including the importation of over 200 000 head of cattle, to improve the national herd, and also investment in water supplies, pasture improvement, provision of slaughter-houses and cheap long-term credit.[99] Moreover in the Guárico project, started some years ago, irrigation and other types of investment have been undertaken to establish a colony of 100 000 hectares intended primarily for cattle raising. This project had cost Bs. 384 million up to June 1959.[100]

Special attention is also being paid to coffee and cacao. Programmes introduced in 1958 envisaged an expansion of advisory services and credits amounting to 42 million bolívares, half of which has already been disbursed, for the rehabilitation of coffee plantations, and Bs. 12 million for cacao. Exchange rates for these products were modified at the beginning of 1959 in favour of the farmers.

The long-term aim is to develop the agricultural sector as a whole. In the past, a number of special institutions, besides the Ministry, have been in charge of various development plans and these have not been co-ordinated with each other or with the development of irrigation and road systems. Research has stagnated, extension work has been limited, and credits declined up to 1957. Furthermore, the structure of land holdings, and therefore the social structure in the rural areas, remained unchanged. Settlement schemes up to 1958 amounted to only a thousand holdings (a third of them taken by foreign immigrants) and their function in agricultural development as a whole does not appear to have been carefully assessed.

It is intended to remedy these weaknesses and the Ministry's share of the budget has been increased sharply. A major element in the new programme is land reform. As outlined in the projected legislation, this is based on the principle that the criterion of land ownership is to be "social function". Land already in the

[95] Since seed potatoes, imported by the Ministry of Agriculture through the *Banco Agrícola* for farmers, are cheaper than ordinary domestic potatoes, supplies have often found their way to the market.

[96] The index of agricultural output assumes that consumption of this type of product has increased in proportion to the population. The index may for this reason have a slight downward bias.

[97] For the crop year 1959/60 the *Banco Agrícola* announced support prices for beans.

[98] If there has been a decrease in under-employment, due to migration to the cities, then the increase in efficiency, in the sense of output per hour of real working time, has been small.

[99] Decree No. 58 of 22 February 1958 outlines the principles of the programme.

[100] The bulk of irrigation expenditure during the past five years went into the Guárico project.

hands of the Government is to be made available to those willing and able to develop it productively, and, conversely, land on large estates is to be expropriated with compensation if it is not being properly used and also if public land is not available. Those receiving land are to pay for it by mortgages of 20 to 30 years beginning not less than three years after settlement. The annual payment is never to exceed 5 per cent of the value of sales off the holding. The objects of the reform are, firstly, social, to satisfy the demand for land ownership; and secondly, economic, to increase output and reduce imports. In accordance with the first aim, the intention is to settle a large number of people, even if the holdings are not always of optimum technical size. Credit will be provided as well as technical aid, including training at special centres for new settlers. Water supplies, rural roads and marketing facilities are to be developed as settlement progresses.

(ii) *Manufacturing.* The rise in output in the manufacturing sector was rapid by any standards. It continued in 1958 and 1959 and affected almost the whole sector (see table 24). There were spectacular increases in various new and highly mechanized industries, but these were still relatively small at the end of the decade. The traditional industries grew less rapidly, but this growth was nevertheless significant and they remained much the biggest in terms of employment or value of output. However, as will be seen, the fastest progress was made by industries, or trades within industries, enjoying special advantages of one kind or another.

The three major traditional industries are food processing, beverages and textiles. Food processing rather more than doubled between 1951 and 1958. The leading items are milk and sugar. Milk products are protected by quotas, and sugar mills are now organized by a single association, which assigns production quotas and sets prices thus virtually eliminating imports. The cereal milling industry has also made steady progress and by 1958 had displaced about half the imports of wheat flour, which are subject to quota; on the other hand, the sharp decline in the rice crop had caused a corresponding contraction in rice milling. Confectionery and sweet biscuit industries were expanding slowly until protection was raised in 1952 from Bs. 1.50 to Bs. 6.00 per kilo, since when imports have almost vanished. Yet imports of food products as a whole rose, although more slowly than production.

Beverage imports happened to be low in 1951, doubtless because of the use of inventories, but, taking the last ten years as a whole, there has been no conspicuous trend. Thus the increase in consumption has come out of domestic production. The rise has not been very rapid, except for soft drinks, perhaps because consumption was already high at the start of the 1950's. Still domestic output is now responsible for more than 90 per cent of consumption and for virtually the whole of soft drink consumption. This is an item which is very expensive to transport and thus enjoys natural protection.

The textile industry has grown quite rapidly, but sections have suffered from foreign competition at times despite very high duties [101] and other protective measures. Woollen cloth for example can only be imported if the importer buys twice as much cloth locally. From 1949 to 1954, there was a general system of contingent quotas, and domestic output rose rapidly, but this was modified in the latter year in favour of a system of high duties. Yet tariffs were less effective than quotas in keeping out low-cost Japanese textiles. Moreover, the cotton trade was adversely affected by having to buy expensive local cotton of rather indifferent quality. Output of textiles continued to rise, but imports increased considerably in 1956 and 1957 and inventories were accumulating, especially of cotton goods.[102] Duties were approximately doubled in May 1958 on those items, and output advanced again, although there was still surplus capacity in some sections of the industry in 1959.

Clothing imports have also been kept down by very heavy duties.[103] The footwear industry has expanded under protection by quotas and tariffs which were reinforced in 1957 by a ban on imports of leather shoes,

101 As a general rule, duties are specific in Venezuela, being levied at so much per kilogramme. In consequence, the actual protection varies according to the weight and not according to the value. Protection is therefore usually less on more expensive qualities.

102 Imports from Japan trebled between 1954 and 1956.

103 The duty on men's underclothing is, for example, equivalent to 250 per cent of the retail price of the domestic product.

Table 26

VENEZUELA: COMPOSITION OF IMPORTS (EXCLUDING THOSE OF PETROLEUM COMPANIES), 1951–58

(Millions of bolivares, f.o.b.)

	1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
Textiles	154	132	142	141	138	128	181	171
Foodstuffs [a]	421	416	434	447	484	478	511	581
Consumer durables	121	130	177	212	253	195	291	367
Raw materials [b]	560	556	667	763	833	937	1 357	1 164
Machinery	395	446	538	684	659	802	1 321	1 228
Transport equipment	138	165	183	222	269	252	473	379
Miscellaneous [c]	116	123	138	183	179	173	214	232
Total	*1 905*	*1 968*	*2 279*	*2 652*	*2 815*	*2 965*	*4 348*	*4 122*
Imports as shown in balance-of-payments estimates [d]	1 924	1 999	2 361	2 762	2 895	3 099	4 601	4 255

SOURCE: Trade statistics, reclassified by ECLA.

a Including beverages and tobacco.

b Including building materials and semi-finished products.

c Including paper and paper products, and leather products.

d These statistics are prepared by the Central Bank. They include military imports, captured contraband, etc.

because of the growing difficulties of small-scale producers. This industry has been particularly affected by smuggling across the Colombian border.

One industry which has become almost as important as the traditional ones is the industry producing non-metallic minerals, especially cement. The natural advantages of a local producer are always great for this industry, because of transport costs, and since 1950 it has enjoyed the additional protection of a tariff of Bs. 20 a ton. Output rose fourfold in the five years from 1948 to 1953, virtually eliminating imports. Thenceforth production rose more slowly, but it jumped sharply in the building boom of 1957, falling back in 1958 as construction work slowed down.

Among the slowest-growing industries has been tobacco, output of which failed to double between 1951 and 1958. Although duties made foreign brands twice as expensive as local cigarettes, imports have kept about a third of the market, in fact rather more in 1957 and 1958. Duties could not be increased further because of the Reciprocal Trade Agreement with the United States.

Spectacular growth has been made by some industries, for example, tyre production, which is protected by tariffs and quotas. Here imports have been reduced to less than 20 per cent of the supply. Assembly work is encouraged by very low duties on vehicles imported c.k.d., but most vehicles have still been imported fully assembled in recent years.

The chemical industry has also grown rapidly, especially paint making, which has attracted foreign capital, and the total index of this group has risen four times. However, the industry still produces, in the main, a rather narrow range of finished products by processes which in many cases, e.g. insecticides, consist only of mixing the basic chemicals, which are imported. Consequently imports, which are considerable, have continued to rise.

The printing and publishing trade, another industry with obvious natural advantages in relation to foreign competition, was doing three times as much work in 1958 as in 1951. There was a fast expansion in film production, especially in the early part of the period, and the output of the printing presses also increased. Production of paper products, especially of cardboard, climbed quickly, but this is another case where demand has soared, so imports have shown an upward trend.

Metal products also show a fast rise, partly because of the reactivation of a secondary steel plant in 1956, with considerable protection. Other contributory factors have been the expansion of industries making metal furniture, tin containers and aluminium products. Nevertheless, imports of steel products remain high because of the lack of capacity for primary steel and for various manufacturing lines.

It can thus be seen that in cases where protection, or natural advantages, were not very great—such as powdered milk, textiles and cigarettes—the increased demand has been partly or wholly covered by more imports.

One reason for these exceptions is the Reciprocal Trade Agreement of 1939 with the United States, which prevents duties being raised on a list of goods. In return, preferential duties are levied by the United States on petroleum from Venezuela. Since, on both sides, the advantages are passed on to other countries by most-favoured-nation clauses,[104] Venezuela is in effect prevented from mending the breaches in its tariff walls. This Agreement can be amended, as it was in 1952, when tyres and paints were removed from the list of commodities covered and other adjustments made in its scope, and negotiations were opened in 1959 for further modifications.

But the question really is why such heavy protection should be necessary. The reason is that, with current wage rates, productivity and exchange rates, labour is expensive in Venezuela. The origin of this situation was explained in the introduction to this article. The average weekly wage in manufacturing and mining in 1958 was the equivalent of 36.30 dollars. This is higher than is customary in Western Europe and much more than in the rest of Latin America. For example, the corresponding figure in Colombia was then 9.57 dollars, barely one-quarter as high. Productivity in Venezuelan industries cannot be four times greater than in Colombia, if indeed it is any better at all.

A rough comparison of the costs of a Colombian wage-earner's "basket" in the two countries suggests that the purchasing power of the two currencies would have been substantially equal in 1958 if the exchange rate had been 1.26 bolívares per Colombian peso, instead of 0.54 (0.44 on the free market).[105] In other words, the bolívar was then, on the basis of this comparison, worth less than half of what is implied by the exchange rate, official or free, *vis-à-vis* the Colombian peso.[106]

Tariff protection makes it possible for Venezuelan producers to preserve their domestic markets, despite this competitive disadvantage, but duties also force up costs still further for many manufacturers. This handicap is lessened by the practice of allowing special exemptions from duties on capital equipment and materials to individual firms on application. Often it is necessary for them to show that domestically-produced supplies are unavailable. The need to take decisions on a very large number of individual cases has, however, put a considerable strain on administrative efficiency and objectivity, and has often meant long delays with consequent uncertainty in business management. Moreover, at times these exemptions may impede the establishment or growth of domestic industries producing materials or intermediate products.[107] Another consequence of high prices in Venezuela is that smuggling and tourist excursions to neighbouring territories have been encouraged.

Prices of manufactures remained stable up to 1957, so far as can be judged from the data available. In fact there is evidence of a decline in textile prices in the face of competition from foreign producers. World prices were climbing in terms of bolívares, so the basic competitive position of Venezuelan industry must have improv-

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104 In 1957, 83 per cent of Venezuelan imports came from nations directly or indirectly benefiting from the Agreement.

105 Provisional calculations by ECLA.

106 Thus, while the nominal wage in Venezuela was, according to the above figures, nearly four times greater than in Colombia, the real wage was less than twice as high.

107 For the period 1955 to 1957, customs duties to the value of about Bs. 100 million a year were waived under exemptions of this kind, apart from exonerations granted to Government departments, banks, etc.

ed somewhat in these years. In 1957, a mild price rise started in Venezuela, receiving some support from the wage rises of 1958, and this has continued into 1959. Since world prices of manufactures, on the other hand, generally levelled off in 1957, the competitive disadvantage of Venezuelan industry has increased again somewhat in the last three years.

Judging from wages in Caracas, which rose about 30 per cent between 1951 and 1957 (or 4 ½ per cent a year), productivity must have improved considerably for prices to have remained stable. Only for a limited number of industries are there direct data on *employment* collected by the Central Bank. The numbers engaged in the tobacco industry increased by 20 per cent over this period, implying a rise in productivity of 40 per cent (or about 6 per cent a year). In brewing, output doubled while employment increased by 60 per cent, suggesting an increase in *per capita* production of about 20 per cent (or 3 per cent a year).[108] Some tentative and unpublished estimates for total employment in manufacturing suggest that this swelled by about 30 per cent in the period, allowing for the decline in artisan output.

This would imply a rise in total productivity rather faster than 4 ½ per cent a year, but comparisons of total output and total employment measure the effect not only of improvements in productivity in each industry, considered separately, but also of the increase in the proportion of the labour force employed in industries where the output per man is high. To put the same point another way, the very big expansion of this sector has increased employment only to a comparatively small extent, because the most rapid rises in output occurred in a few highly productive industries, whereas workers self-employed as artisans were often forced out of the traditional industries.

The almost complete absence so far of the main intermediate products, basic chemicals and steel, is an obvious weakness in the industrial structure of Venezuela, considering that the principal raw materials—petroleum and iron ore—are produced locally in quantity. While progress can still be made in import substitution for some other items, such as cigarettes, these new industries offer much the most promising fields for further expansion. The *development* projects for petrochemicals and steel are therefore strategically important in the economy. Still, careful planning will be necessary in order to provide Venezuelan builders and manufacturers with exactly what they require.

The petrochemical programme involved, as a first stage, four projects: a group of fertilizer plants; a factory for making chlorine and caustic soda; a petroleum refinery; and a plant for producing dynamite and other explosives. The cost of development up to the middle of 1959 was nearly 700 million bolívares, though this included 125 million for natural gas pipelines and smaller amounts for other purposes not directly related to these projects. The first three projects were in operation in 1959, although only a mixing plant was operating in the first, and this, like the second project, was functioning at a low level of capacity, partly because of the difficulties of finding markets, especially for chlorine. The next stage involves the establishment of plants for making insecticides, and synthetic rubber and derivatives would later be used to make plastics, artificial textiles, etc.

The steel plant has been designed to turn out, by 1965, 600 000 tons of finished products annually, one half of which will consist of tubes. Its construction is now well advanced, and electricity for the furnaces is already available from the Caroní project. But problems of labour and coal supply remain to be solved, and plants for the finishing stages are more nearly ready for operation than those for the earlier processes. Consequently production is beginning with the processing, on a small scale, of imported semi-finished products, and integrated output will not start until next year. The production planned for 1965 would still be less than half of anticipated consumption.[109] So imports would still be substantial at that date. The original agreement with the Italian contractors provided for further expansion in stages, the first of which would raise capacity to 1.2 million tons.

(iii) *Electricity*. The fastest increase of all has been in electricity output, which climbed at a rate of about 20 per cent a year from 666 million kWh in 1951 to 2 250 million kWh in 1958,[110] the rise being almost all in thermally-generated current, which accounted for 93 per cent of the total in the latter year.[111]

Analysis of consumption shows that the upward trend was particularly steep in domestic and commercial use, suggesting a high income-elasticity of demand.[112] The increase in consumption by manufacturing industry was also rapid, despite the fact that petroleum products predominate as a source of industrial power because of their cheapness. Output is still low in rural districts,[113] though it has been growing somewhat more quickly in the hinterland than in the coastal region. The increase in output was accompanied by only moderate increases in employment, so productivity, which was already high, rose very rapidly.

A plan has been prepared for the creation of a national network. A rather slower rate of growth of consumption is projected (15 per cent *per annum*) between 1957 and 1968. This projection consists of two parts.

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108 The expansion of the cement, rubber and vehicle-assembly industries—for which employment data are also available—was so rapid as to make productivity comparisons meaningless. For example, it is impossible to say how many were engaged at different times on tooling-up or other development activities rather than on current production.

109 See "Rolled iron and steel products in Latin America: prospective production and demand", in *Economic Bulletin for Latin America*, Vol. IV, No. 2 (Santiago, Chile, October 1959), pages 1-32. A great deal depends on the course of petroleum investment.

110 These figures exclude the electricity generated by firms (other than petroleum) for their own use.

111 In recent years natural gas has been increasingly important and is now the main fuel for power stations.

112 Despite the relatively high price of 5 cents per kWh, three times what it is in the United States and rather higher than is common in Latin America. The main source for data in this paragraph is *El Consumo y Abastecimiento de Energía en Venezuela, 1945-51; 1968* (*Corporación Venezolana de Fomento*, 1959) a study prepared under the immediate direction of Dr. José F. Olalquiaga, within the group working on the Development Programme for the South-East.

113 Consumption per head in the Eastern Region was in 1958 one-tenth of that in the Federal District, where it was estimated at 800 kWh *per capita* in 1958.

A rate of growth of 8.4 per cent is assumed for the economy (outside petroleum) and this is taken to imply a growth in electricity consumption of 12 per cent *per annum*. In addition, 1 760 million kWh are allowed for the requirements of the steel industry. Each of the six units of the Caroní hydroelectric project will be capable of producing 400 million kWh, and its output, which will be more than the national total of 1958, will be very largely absorbed by the steel industry's electric furnaces. The first unit started partial operation in 1959.

(iv) *Transport.* The increase in transport was almost wholly due to road transport. Internal air transport increased moderately, as did coastal sea traffic. But railway activity has fallen off steadily and receipts dropped by 89 per cent between 1948 and 1958. The twenty-year plan for a national rail network, which had been previously drawn up, has been temporarily shelved, while policy is reconsidered. The only substantial result of this plan is the line from Puerto Cabello to Barquisimeto, begun in 1954 and inaugurated in 1959, with considerable modern rolling-stock (10 locomotives, 8 rail cars and 208 wagons), a control system with a capacity for 70 trains a day and a railbed capable of taking a second track. However, little research was done on the revenue potential of the line and traffic turned out to be very light, for one reason because the line had not yet been connected to the docks at Puerto Cabello.

The value or receipts of omnibuses and lorries doubled over the years 1951 to 1957, though they decreased slightly in 1958. In this industry there was a noticeable rise in productivity and a decline in costs. Between 1947 and 1957 the length of surfaced roads grew from 1 200 kilometres to 8 400, and there were additions to other types of road. This shortened times of journeys and made bigger loads possible. Thus the real increase in road transport was probably larger than value figures would indicate. According to the road transport census of 1951-52, there were then 50 000 commercial vehicles in operation,[114] 5 000 being buses. By the end of 1957 there were three times as many,[115] a large proportion being heavy trucks of considerable capacity. The improvement of the road system is, of course, the main reason for the decline of the railways, especially since new roads were often built alongside railways.[116]

(v) *Other sectors.* The increase in *mining* was due almost wholly to the increased exports of iron ore described above. Iron mining now accounts for 90 per cent of the total in this sector. (Output of other minerals has fluctuated rather wildly.) However, in 1958, this industry provided employment for only 4 000 workers, less than half the total for the sector. Productivity is high and employment does not depend greatly on the level of current activity, though neither of these generalizations applies with such force to iron mining as to petroleum.

The increase in the volume of *construction* was very sharp from 1953 onwards. (It was stepped up from 1948 to 1951, after which it ran unchanged for 2 years.) Altogether output rose nearly 77 per cent from 1951 to 1957, but then dropped back slightly in 1958, both public and private construction following the same course. In this industry, the possibilities of raising productivity were limited. The increase in output was apparently accompanied by a rise in employment of nearly the same extent, and the decline in output in 1958 induced a fall in employment of only slightly greater proportion. Wages increased in this industry rather more quickly than in others and, because of the pressure of demand, profit margins may also have expanded. The total price per square metre of private construction licensed rose by 25 per cent between 1952 and 1958.

The upward movement in commerce and professional *services* was induced by the increase in total income. These sectors had, by their very nature, little to fear from foreign competition and the only limits on their expansion were difficulties in finding the clerical and administrative labour needed to extend their operations.

If domestic output is considered as a whole, it seems that there were very big increases in almost all sectors which were sheltered from the full force of foreign competition.

(vi) *The pattern of employment.* The distribution of the gainfully occupied in 1950 (some adjustments being made for statistical comparability) was approximately as follows:

	(Thousands)
Petroleum (including refinery)	43
Mining (excluding petroleum)	6
Agriculture	710
Manufacturing	170
Electricity (plus gas and water)	5
Construction	92
Transport (and communication)	55
Commerce	150
Services	340
Unemployed (outside agriculture)	144
Labour force	*1 715*

By 1958, the labour force had probably grown by more than half a million, or about a third. However, the petroleum sector absorbed very little of this growth, for reasons explained above. In the remainder of the economy, real output doubled, and, although output per man occupied rose by nearly 50 per cent, this was sufficient to absorb nearly all the increase in the labour force.

The pattern of employment has now changed for two reasons: output has increased at different rates in different sectors; and productivity experience has also varied. The improvement in productivity was rapid in manufacturing. Consequently, despite the rate of growth of this sector, employment probably increased no faster than in the rest of the economy, so that it still accounts for about 10 per cent of the total. For similar reasons there have been only moderate increases in employment in electricity and iron mining. On the other hand, agricultural output has risen only 50 per cent and, since there appears to have been some improvement in productivity, the share of this sector in total employment must have fallen. The industries which now absorb a higher share of the active population of working age are

[114] Seven thousand of these were registered in the Federal District, and 15,000 in the three main petroleum states (Zulia, Anzoategui and Falcón).

[115] *Automobile Facts and Figures, 1958* (American Automobile Manufacturers Association).

[116] The La Guaira-Caracas *autopista* is a typical example. Costs of road haulage fell sharply and the railway along the same route was closed.

construction and services, since their output approximately doubled over this time, whereas the rise in productivity appears to have been somewhat less than 50 per cent in each case.

During 1958, the increase in real output, which was lower than it had been in the earlier years of the decade, was largely attributable to improvements in productivity in the manufacturing sector. Consequently, total employment rose only moderately and unemployment grew. In 1959, there were larger increases in output and employment grew more quickly, yet unemployment continued to be a serious problem.[117]

(b) *Imports*

Since imports and production fully account for expenditure in the non-petroleum sector, the function for imports into the remainder of the economy (i) in relation to demand (d) can be obtained directly from (5), thus:

$$i = .36\,d - 1.72 \qquad (6)$$

As has already been demonstrated, the relation of domestic output to this demand was a close one (figure D), which implies that this import function was also quite a good fit. Over these years, approximately 36 per cent of increases in demand were being absorbed by imports, so that the *average* ratio of imports to demand (which was under 30 per cent) was tending to rise towards this figure.

This suggests that dependency on imports was tending to increase. However, this tendency may be in part a statistical illusion attributable to the heavy imports of 1957. (It can be seen from figure D that the years 1953-56 would give a different function for domestically-produced goods and therefore also for imports.) Again, this function (6) has been calculated from current-price data. Since prices in the rest of the world were rising, a fixed-price import function would be flatter.[118] The tendency for the import coefficient to rise must therefore be considered questionable.

The growing share of investment in final demand after 1954 would certainly, in itself, have caused a rise in the ratio of imports to expenditure. Imports of machinery and equipment increased very rapidly until 1959. On the other hand, there appears to have been a tendency for imports of consumer goods to absorb a falling proportion of total consumer demand. The agricultural and manufacturing sectors, as has been shown, managed to moderate the upward trend in competing imports, thanks to heavy protection by various devices. The value of imports of foodstuffs shows little change from 1951 to 1956 (see table 26). Import substitution for sugar was matched by an increase in imports of cereals, especially wheat, and imports of livestock products show no pronounced trend. Since import prices rose, the quantum of food imports declined somewhat, though it expanded in 1951 and 1958. Imports of some manufactures, such as building materials and rubber goods, were actually reduced in value. Textiles imports increased by about 10 per cent in value between 1951 and 1958, implying a contraction—or only a small expansion—in volume. Consequently imports of non-durables as a whole rose only moderately, as did imports of non-metallic materials, and they absorbed a declining share of demand. However, there were large increases in imports of durable consumer goods which are not made at all in Venezuela, or for which production facilities are very limited. Imports of passenger cars and electrical appliances soared, reflecting the high income-elasticity of demand for such products and possibly a growing inequality of income distribution.[119]

Another category where expenditure grew quickly was services. This was partly due to the heavier expenditure on freight and insurance, matching the rise in imports. But there were also quite sharp increases in other services, details of which are not available.

Imports of goods declined slightly in 1958, but rose again in 1959 to levels near those of 1957 despite increases in tariffs and the tightening of quotas and prohibitions.[120] In December 1959, duties were raised sharply on various non-essential consumer goods.[121]

[117] In these years there was also apparently some acceleration in the movement of population to Caracas, causing the problem to be more conspicuous.

[118] However, if import prices had not increased, the volume of imports would presumably have expanded even faster. Moreover, there was probably some relative increase in contraband trade.

[119] The number of automobiles registered rose from 41 000 at the end of 1948 to 222,000 at the end of 1957 (equivalent to about 1 for every 30 people).

[120] The Government also instructed purchasing departments to give preference to goods of Venezuelan origin.

[121] A system of licensing for the same items had been introduced the previous month.

IV. THE BALANCE OF PAYMENTS

The various influences on the balance of payments can now be seen as a whole.

Substituting in (4), as before, function (6) becomes:

$$i = 2.2\,t - 0.21 \qquad (6')$$

This suggests that changes in tax revenues from petroleum have tended to be associated, through their effect on expenditures of various types, with changes in imports over twice as large.[122]

When taxes are determined as in function (2) above, imports outside the petroleum sector can be related to petroleum exports thus:

$$i = 0.86\,e - 0.93 \qquad (6'')$$

Another form of payment, the post-tax profits of the petroleum companies (p), is also a direct function of exports, since these are total profits *minus* tax liabilities, i.e. function (1) *minus* function (2). Thus:

$$p = 0.41\,e - 0.54 \qquad (7)$$

Adding these together,

$$i + p = 1.27\,e - 1.47 \qquad (8)$$

[122] All these generalizations are subject to the qualifications stated above with respect to the interpretation of the import function (6).

This function suggests that, as exports increase, the payments for profits and imports in the rest of the economy have a tendency to grow even faster. This would be a long-run effect. In the short run, provided that the value of petroleum exports is less than about 6 000 million bolívares, the left-hand side of this function tends to be smaller than this figure. The profits of the petroleum sector plus imports of goods and services in the non-petroleum sector, therefore, account for virtually the whole of the value of petroleum. (This can be verified by a glance at table 27.)

The other items in the balance of payments are relatively small and largely offset one another. The inflow of capital through petroleum companies was not significant, because depreciation allowances normally financed the bulk of capital investment in petroleum, except for the years when concessions were sold, i.e., 1956 and 1957. Imports into the petroleum sector were covered more or less by the balance of the previous items. Profits and interest payable to foreign companies in the non-petroleum sectors offset most of the exports of these sectors, reflecting developments in iron mining. Capital inflows into sectors other than petroleum were small except in 1957, when investments by foreign companies and unrecorded inflows of capital, e.g. to refinance Government short-term paper, apparently exceeded contraband imports, unrecorded remittances of immigrants and unrecorded tourist expenditures.

Consequently Venezuela's foreign payments tended to be more or less in equilibrium during this period. This is borne out by table 27. The only large surplus occurred when special inflows of capital took place in 1956 and 1957, attributable to purchases of petroleum concessions and foreign refinancing of Government short-term debts for investment projects. During these two years foreign reserves rose sharply.

What effect did the tax reform produce? More money is now fed into the remainder of the economy, raising the level of activity for a given level of exports and thus inducing larger imports. The use of function (2*A*) above to determine what tax revenues will be yielded by exports in the new situation gives the following new functions for imports into the non-petroleum sectors and profits of petroleum companies: [123]

$$i = 1.04\,e - 1.17 \qquad (6''A)$$

$$p = 0.32\,e - 0.43 \qquad (7A)$$

Thus the fundamental balance-of-payments equation is now:

$$i + p = 1.36\,e - 1.60 \qquad (8A)$$

The last function is not very different from function (8). The increase in revenue reduces the outflow of petroleum company profits, but, by stimulating domestic activity, raises the foreign payments of the non-petroleum sector. The net effect is slightly to increase payments of foreign exchange relative to receipts. But this effect is mild,[124] and might well be offset by other measures taken in 1958 and 1959, such as increases in import duties.

There were in fact sharp declines in reserves in both 1958 and 1959, but they occurred for other reasons. One was that short-term Government debt was repaid and

[123] The symbol *A* still indicating in each case a function taking account of the tax reform.

[124] Moreover, this deterioration is largely due to the fact that in function (6) changes in imports have been shown to be approximately equal to 2.2 times the change in revenues. Part of this coefficient 2.2 must really be attributable to other autonomous forces acting on imports. But it should also be borne in mind that changes in rates of taxation affect exports and investment in the petroleum sector.

Table 27

VENEZUELA OF PAYMENTS, 1951–58 [a]

(Thousands of millions of bolivares)

	1951	1952	1953	1954	1955	1956	1957	Total 1951–57	1958
A. *The supply and uses of foreign exchange earned by petroleum*									
Petroleum exports	4.0	4.3	4.4	4.8	5.5	6.4	7.9	37.4	7.1
—Petroleum profits	−1.2	−1.3	−1.3	−1.4	−1.7	−2.1	−2.8	−11.8	−1.6
—Imports of other sectors (goods and services)	−2.3	−2.2	−2.7	−3.3	−3.4	−3.7	−5.6	−23.2	−4.9
Net balance	*0.5*	*0.7*	*0.4*	*0.1*	*0.4*	*0.6*	*−0.5*	*2.3*	*0.6*
B. *Other*									
Capital inflow (petroleum) [b]	−0.1	0.2	0.2	−0.1	−0.1	1.3	2.5	3.9	0.2
—Imports of petroleum sector (goods and services)	−0.5	−0.8	−0.7	−0.6	−0.8	−1.3	−1.9	−6.6	−1.4
Other exports	0.2	0.2	0.3	0.4	0.4	0.5	0.6	2.6	0.7
—Profits of foreign companies (outside petroleum)	−0.1	−0.1	−0.1	−0.1	−0.1	−0.3	−0.4	−1.2	−0.5
Capital inflow [c] (outside petroleum)	−0.1	—	+0.1	+0.3	+0.3	+0.4	+1.2	2.2	−0.6
Balance requiring compensatory finance [d]	—	+0.2	+0.1	—	+0.2	+1.2	+1.5	3.2	−1.2
International reserves at end of year	1.2	1.4	1.5	1.5	1.6	2.9	4.5		3.3

SOURCE: *Memoria del Banco Central* and information supplied by the Bank.

a For explanation of classification, see text.

b A balancing item in the accounts of the foreign-exchange transactions of the Central Bank with the petroleum sector, subject to residual errors, since some of the petroleum-account items are on a cash basis, others on an accrual basis.

c Including errors and omissions. This item is thus net of payments for contraband imports and other unrecorded items.

d + = Increase in reserves.

another that a speculative outflow of capital took place. But the rate of repaying Government debts declined in 1959, and the fall in reserves in that year must have been due in part to the fact that imports increased while exports decreased. It will be recalled that, in 1959, a deficit emerged in the Government's budget greater than could be accounted for by the repayment of debts. The consequence was that an extra impetus was given to economic activity, above what would be due to petroleum revenues alone even after the tax reform, and thus imports were very probably larger than the value indicated by function (6″A).

By the end of 1959, reserves were not much more than 2 000 million bolívares. So most of the gain achieved in 1956 and 1957 had been lost. This level of reserves is still, however, very high by international standards.

V. THE TASKS FACING VENEZUELA IN THE 1960's

It might appear that, in view of its profitable petroleum industry, the problems of Venezuela are definitely soluble, despite all the weaknesses in the economy, and that—in this sense—Venezuela is a rich country. But one major complication is the rapidity of population growth. During the past decade the birth rate has increased while the death rate has fallen, so that the natural rate of growth of the population, already fast, has accelerated to over 3 ½ per cent *per annum*. Since immigration was also heavy in certain years, it is likely that the total population rose by about 50 per cent in the 1950's.[125] Assuming that recent fertility rates continue,[126] that there is a further moderate decline in death rates, and that immigration is somewhat lower in the decade ahead than in the 1950's, it can be estimated that the population will grow by another 40 per cent in the 1960's, so that by the end of 1970 it will probably be over 10 million, or more than twice what it was in 1950 (see table 27). Even if these assumptions do not turn out to be quite correct, it is now inevitable that the population in 1970 will be of this order.

1. *Education*

This demographic explosion poses considerable tasks for the economy. Table 28 shows that, on the assumptions mentioned, the population of school age (5 to 14)[127] can be expected to grow from 1.2 million in 1950 to approximately 2.9 million in 1970. Its present level is about two million, but fewer than one million are actually attending school, partly because the duration of school life is considered to be seven years, and partly because many children, for various reasons, do not attend school for more than a year or two. A longer average education than seven years for each child would be a desirable target for 1970, since the skill and cultural level of the population in the remainder of the country will depend very much on the education being provided in the 1970's. The number of school places would therefore need to be more than doubled in a decade.

2. *Employment*

A similar expansion can be expected in the number of adults of working age, which is taken to be the age-group 15 to 59. Table 29 shows that these totalled 2.7 million in 1950, but will have grown to about 3.8 million in 1960, and this figure can be projected to 5.4 million in 1970. The proportion of males who were economically active was already fairly high in 1950 (92 per cent of those of working age), but only one-fifth of the females of working age were members of the labour force. Consequently, the female labour force is likely to grow at a particularly rapid rate. However, if school places are provided on the scale indicated above and if economic development is successful, there will be far fewer children and old people available for work in 1970. The net result is that the number of jobs needed in 1970 will be about 3.5 million, as compared to 1.715 million in

[125] See the Annex for a discussion of population statistics and projections.

[126] Fertility has been defined for this purpose as the births during each quinquennium per 1 000 women aged 15-40 at the beginning of the five-year period concerned.

[127] This age group is used because of the demographic convenience of working with 5-year groups. This does not imply that it is necessarily a good group for educational policy. The increase in the numbers in the age groups 6 to 15 or 7 to 16 would be very similar.

Table 28

VENEZUELA: END-YEAR POPULATION ESTIMATES AND PROJECTIONS BY AGE AND SEX, 1940, 1950, 1960 AND 1970
(Thousands)

Age	1940			1950			1960 (Projection)			1970 (Projection)		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
Under 5	295	287	582	460	442	902	714	689	1 403	945	912	1 858
5–14	517	486	1 003	629	589	1 218	1 061	1 002	2 063	1 467	1 392	2 860
15–29	531	573	1 104	686	691	1 377	975	840	1 815	1 464	1 300	2 764
30–44	326	335	661	454	419	873	695	582	1 276	936	740	1 677
45–59	177	172	349	234	219	453	361	320	681	532	446	978
Over 60	71	98	170	97	130	227	139	175	314	222	249	471
Total	*1 918*	*1 952*	*3 869*	*2 559*	*2 490*	*5 049*	*3 944*	*3 608*	*7 552*	*5 568*	*5 040*	*10 607*

SOURCE: Estimates for 1940 and 1950: the census of 1941 and 1950, adjusted. Projections for 1960 and 1970: figures based on work done by Dr. Yanes, National Planning Office (Caracas).

Table 29

VENEZUELA: END-YEAR ESTIMATES AND PROJECTIONS OF LABOUR FORCE, 1950, 1960 AND 1970

(Thousands)

	1950			*1960 (Projection)*			*1970 (Projection)*		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Population aged 15-59	1 374	1 329	2 703	2 031	1 742	3 772	2 932	2 486	5 419
Percentage economically active	92	20	57	92	25	61	92	30	64
Labour force 15-59	1 270	275	1 545	1 870	435	2 305	2 700	740	3 440
Other labour force[a]	140	30	170	210	45	255	50	10	60
Total labour force	*1 410*	*305*	*1 715*	*2 080*	*480*	*2 560*	*2 750*	*750*	*3 500*

SOURCE: Estimates for 1950: the census of 1950, adjusted. Projections for 1960 and 1970: table 27, and assumptions described in the text.
a Aged under 15 or over 60.

1950 and 2.56 millions in 1960 (see table 29). Employment will have to continue to grow at over 3 per cent a year if unemployment is not to emerge on a more serious scale, about as fast as in the 1950's. To increase employment by more than 4 per cent *per annum* would be preferable, in order to reduce the unemployment and under-employment already existing in 1960.

There are three problems to be solved if enough jobs are to be created: achieving adequate demand, finding sufficient capital and carrying out structural changes.

(a) *Adequacy of demand*

The first question is whether demand will rise at a fast enough rate. Adequate demand is not sufficient in itself, but if this requisite is fulfilled as it was during most of the 1950's then the other problems will look easier to solve. In order to assess the magnitude of the task, it will be helpful to recall what happened in the 1950's. Total demand had to increase by 9 per cent *per annum* to provide jobs for a labour force rising at a rate of nearly 4 per cent a year, since productivity was increasing on the average by 5 per cent *per annum*.[128] This it just managed to do until 1958.

Productivity may not continue to rise at quite the same pace as in the past, since this pace was induced by the rapid increase in demand in the 1950's. If expansion of demand did slow down slightly, the result would be a slower growth of output *per capita* in some sectors, such as transport and electricity. But, although much of the increase in employment will have to be provided by the service industries, as during the 1950's, the continued rise in their output depends fundamentally on the flow of goods for distribution and on incomes in commodity-producing sectors. It will be necessary for agricultural and manufacturing output to continue to grow and this implies rising productivity. Indeed, increased productivity is very necessary in these sectors to reduce costs.[129] Again, the process of growth implies that the shift of workers away from industries with a low output per head will continue: the population has come to expect and rely on such a shift.

The conclusion is, therefore, that what the economy really needs is to continue to grow by 9 per cent *per annum*. A rate of growth slower than this would imply increasing unemployment. This unemployment would, moreover, emerge in the cities. In an economy of a less advanced kind, the problem would take the form of disguised unemployment in the country districts and, although this means severe hardships, the availability of subsistence crops and the traditions of an inter-related rural society cushion its effects. But when a large proportion of the population is living in cities, when the birth rate is high, and when internal migration has acquired some momentum, serious social and political problems follow a significant decline in the rate at which national output is increasing.

What autonomous forces could raise demand by 9 per cent a year? As has been seen above, the only autonomous force of significance in the 1950's was the expansion of petroleum exports. Consequently, the starting-point is to consider what prospects there are for this expansion to continue.

While it would be possible to make, on more or less plausible assumptions, forecasts of the future exports of most countries in the region, this cannot be done by purely econometric means in the case of Venezuela. It was clear from section I of this article that the prospects of the local petroleum industry depend on political as well as economic developments in the world, and the former are even more difficult to predict than the latter.

Still, certain economic influences can be foreseen, both unfavourable and favourable. Most forecasts imply some slowing-down in world production of petroleum, partly because the rate of growth of the world economy has declined, now that the special stimulus of postwar reconstruction is played out; and partly because of the emergence of nuclear power as a new source of energy, though this will apparently take longer to become a significant competitor of petroleum than was thought likely a few years ago.

The question is what will happen to Venezuela's share of world production. Firstly, the net yield of exports of Venezuelan petroleum has fallen, from the viewpoint of the companies, because of the higher rates of taxation introduced in 1958.[130] Secondly, Venezuela now depends

[128] It should be borne in mind that a shift in the composition of the labour force from agriculture to services, such as apparently occurred, would count as increased 'productivity' in a global calculation of this sort.

[129] It would require a very great effort, however, to make Venezuelan products internationally competitive by raising productivity. If productivity in an industry rose by 4 per cent a year and wages were frozen, it would take nearly two decades to halve labour costs per unit of output.

[130] This is not to say that it was necessarily a mistake to raise taxes. Against any decline in volume, because of the reduced attraction of Venezuela as a source of supply, must be set, *inter alia*, the increased revenue for the Venezuelan Government per barrel of petroleum exported.

largely on the United States market, and the imports of this country cannot be expected to rise very quickly so long as there is a great deal of shut-in production capacity.[131] Thirdly, Western Europe is expecting increased supplies from new sources. Rapid development is planned for the Sahara's petroleum, and the French Government is deeply interested in securing outlets. This petroleum might also be given preferential treatment by fellow members of the European Common Market. Production is also expected to rise sharply in Libya; and the exports of the Soviet Union to Europe may grow. Fourthly, Venezuela's position as a supplier of South America is subject to strong competition from other Latin American and from Middle Eastern producers.

On the other hand, the special qualities of Venezuelan petroleum are likely to continue to be an important asset in the 1960's. The pattern of consumption is drawing closer to the pattern of output obtained readily from heavy crudes. In Western Europe, demand for fuel oil is still growing at a rapid pace [132] and in the United States too, there is a strong market, because it is uneconomical at prevailing prices to produce large quantities of fuel oil from domestic crudes. Moreover, the extent of shut-in capacity in Venezuela means that the marginal costs of production there will be rather low for some years. Finally, many companies have a high proportion of their capital invested in Venezuela and they need increased sales to obtain a return on the capital invested in the concessions of 1956-57 as well as to procure resources for further expansion.

The future of petroleum prices outside the United States is even more uncertain, but it would be rash to assume that a significantly upward trend will be followed in the 1960's, since there will be a potential surplus for several years. The question is rather whether downward pressures can be obtained.

Taken in conjunction, these considerations suggest that any economic programme would have to take account of the probability that increases in the value of petroleum exports will be a good deal slower than in the decade which ended in 1957. This would mean, in itself, a slowing-up of the rate of growth. However, the changes in the economy in 1958 and 1959 should also be taken into account. One of these changes was the tax reform of December 1958.

The previous function obtained above for demand for Venezuelan production (h), outside the petroleum sector, in terms of petroleum exports, was:

$$h = 1.48\,e + 3.11 \qquad (5'')$$

Now, as a result of the tax reform, this demand is more highly geared with respect to petroleum exports, thus:

$$h = 1.80\,e + 2.70 \qquad (5''A)$$

The repercussions of the tax reform on the rate of growth of demand are shown by a comparison of the two lines in figure E, since one gives the relation between petroleum exports and total domestic production before, and the other after, the tax reform. This diagram shows that expenditure on domestically-produced goods and services in 1958 was somewhat more than would have been expected in view of the level of petroleum exports, even allowing for the tax reform. Yet, as has been explained above, the expansion in demand was largely absorbed in higher prices, so that real demand increased only moderately. If wages and salaries rise, Government expenditure makes a smaller real impact on the economy. It is true that in 1958 more careful control of contracts meant greater employment for a given money outlay. On the other hand, the rise in civil service salaries had the opposite effect. Moreover, the subsequent waves of expenditure created less secondary employment because of wage increases outside the Government sector.[133]

In 1959, the level of demand corresponding to function ($5''A$) (assuming petroleum exports were 6 800 million bolívares) would have been 15 000 million bolívares. Total expenditure on domestic production must have been a good deal more than this in 1958. Petroleum revenues were supplemented by a budget deficit over and above what was needed to repay debts. Nevertheless unemployment continued to be significant.

This discussion affords a basis for projecting the level of demand needed in the future. Purely for the sake of illustrating the magnitude of the problem, let it be assumed that Venezuelan internal prices rise no further above 1960 levels in terms of dollars.[134] In 1958, demand would have needed to be about 20 000 million bolívares at 1960 prices to have provided full employment. What value would petroleum exports have to reach by 1970 to provide a total increase in the real product in the intervening period equivalent to (*i*) 7 per cent *per annum* (which would be a low rate for the country's needs), (*ii*) 8 per cent (barely adequate) and (*iii*) 9 per cent (satisfactory)? The corresponding figures would be respectively, in thousands of millions of bolívares: (*i*) 45, (*ii*) 50, (*iii*) 56. From function ($5''A$), the petroleum exports necessary to induce these demands, given current tax rates, would be equivalent to (*i*) 24 000, (*ii*) 26 000 and (*iii*) 30 000 million bolívares respectively, compared to 7.1 in 1958.

Broadly speaking, the conclusion is that such exports would have to expand in the 12 years 1958-1970, to about four times their 1958 value, i.e. a good deal more quickly than in the period 1950-58. It may be asked why petroleum exports would have to rise faster than in the 1950's to achieve the same rate of growth. The answer is partly that, in the 1950's the effects of the increase in exports was supplemented by a tax reform, which caused a sharp once-for-all rise in revenue, apart from changing the marginal relation between exports and revenues. Another reason is that prices have risen inside the economy, so that a bigger increase in export revenues is needed to produce the necessary addition to real demand. Thirdly, the level of exports in 1958 was somewhat below what would have been necessary to achieve full employment.

[131] Texan fields are currently operating 10 days a month. Unofficial estimates indicate that the shut-in capacity in the United States is greater than the total output of Venezuela.

[132] Early reports suggest that petroleum from the Sahara may be light, yielding a rather low percentage of residual fuel oil.

[133] When the autonomous force is external and exchange rates remain unchanged, the nineteenth—century economic doctrine of a "wages fund" applies in the short run with some qualifications.

[134] That is either that prices remain constant, or that price changes inside the economy are matched by changes in the exchange rate.

This conclusion depends on a number of assumptions. It is assumed that profits continue to be created by exports of petroleum as indicated by function (1) though rises in costs, attributable, for example, to recent wage increases and bigger payments for services from abroad, will probably mean that taxable profits are lower for a given level of exports. It is further assumed that tax revenues from petroleum are still subject to a high multiplier, in their total effect on demand, as in function (4), although there is some indication that the multiplier was declining. Moreover, the import function (6) is assumed to hold as before, despite the fact that after 1957 Venezuelan prices became even more expensive by international standards. Thus it seems that modification of the assumptions would lead to the conclusion that even higher levels of exports might well be needed. In any case the projections are only illustrative; the same general inference is evident from the analysis.

In the first year of this twelve-year period, exports fell, so the rise would have to be even greater in the 1960's than has been indicated above. Consequently, the next question that arises is what other autonomous forces will appear.

Iron ore is one possibility; this can certainly be expected to contribute increasing supplies of foreign exchange. But to make good in a few years a deficiency in demand amounting to several thousand million bolívares would hardly be physically feasible. Moreover, other exports will be difficult to find on a significant scale so long as costs are so high.

The banking reforms now envisaged would make possible a more independent monetary policy, a better use of private savings and, *ceteris paribus*, a faster rate of growth. Nevertheless, if the demand for imports is stimulated by these means and tends to grow as rapidly as before, a balance-of-payments problem may appear. It is possible that accelerated expansion of domestic supplies would be stimulated by import controls, tariff increases, etc. The measures taken in 1958 and 1959 to restrict imports will help promote the growth of local industry. And undoubtedly there are physical resources permitting expansion, especially in Guayana.

But the degree of import substitution indicated is considerable. So far economic growth has been determined by petroleum revenues. If these turn out to be inadequate, policy has to be such that the economy swerves off the line of progress indicated by functions calculated on the basis of the experience of the 1950's. A greater impetus will have to be derived from revenues than is indicated by function (4). And if imports are to grow no faster than exports to maintain balance-of-payments equilibrium, while the ratio of exports in the domestic product declines, imports will have to absorb a decreasing fraction of total demand. This would be a radical departure from the previous import function (6), which implied that imports would grow more quickly than demand.[135] Restriction of imports is all the more difficult to achieve, because a heavy demand for imported machinery and materials is implied by the very process of import substitution.

[135] Some temporary alleviation will be provided in two to three years' time as the steel plant supplies an increasing share of local needs.

(b) *Supply of capital*

Fixed capital has therefore to be created in the non-petroleum sector at a fast rate. Previously the combination of private savings, direct investment by foreign companies and Government development of certain industries has been adequate. There is at present a good deal of idle capital, in the form, first, of a steel plant waiting to go into operation, and, secondly, of unused capacity in industries which were modernized in the 1950's, notably construction, cement, textiles and tobacco. Still, the amount of capital will have to be increased very considerably, if employment is to rise by over 3 per cent *per annum*. The shortage of other sources of funds indicates that a large part of the investment will still have to be financed by the Government. Whether there will be sufficient resources for this depends in part on whether revenue rises fast enough, and in part on how much is left over for economic purposes after the needs for social investment and for the expansion of social services have been met; there are big demands for housing, hospitals, etc., when the population is rising so rapidly.

As was seen, petroleum revenues may not be very buoyant. Despite its rich physical resources and the size of petroleum revenues, Venezuela cannot afford to behave like a wealthy country. It is just as important, if not more so, for Venezuela as for any other country in Latin America to choose carefully between ways of spending revenue and to spend it efficiently (avoiding expensive specifications) in order to get the greatest return for its outlay. The private sector also has a contribution to make by achieving as high a level of saving as possible and using it to improve the productive and geographical balance of the economy, rather than for property speculations in the national capital or purchases of foreign securities. Indeed, the financial problems of Venezuela are in some respects more acute than those of several other countries, because the structural distortions are more severe. For example, the existence of a swollen construction labour force in the capital (continually augmented by migration from the countryside) reduces the Government's room to manoeuvre in allocating its expenditure.[136]

An inflow of capital is indicated as the means by which private savings could be supplemented to enable economic progress to be maintained and import substitution achieved without severe strains on foreign exchange reserves or price inflation. The economic potential is moreover such that loans of some size could be serviced. It would be hard to justify a very low level of foreign debts so long as the country lacks schools and has difficulty in financing agricultural and industrial investment on the scale needed.

The greater the shortage of capital to complement the employed labour force, the more important it is that investment be concentrated on directly productive projects. Factories or irrigated fields, for example, provide permanent possibilities for labour to be employed in using them to produce goods—which is not true of many Government capital projects, such as new roads.

[136] Another of the handicaps faced by the Government, as a legacy of the 1950's, is a lack of public awareness of the basic weakness of Venezuela's economic position, and of how inadequate finance is for its needs. Standards have continued to be rather high for many public investment projects.

Even so, the problem of providing enough employment with the capital available may be difficult to solve. In the case of Venezuela, there may be a bias towards investment in capital-intensive industries, and (for any particular industry) towards the use of capital-intensive techniques. At the current exchange rates, and given the existing tariff structure (including the exonerations), capital goods are cheap. Labour on the other hand is expensive at present levels of productivity, although it is in abundant supply. The economic pressures encouraging mechanization are thus at least as strong as in the United States, where the threat of chronic unemployment is less formidable.

(c) *Correction of structural weaknesses*

This is not merely a problem of finance. It would hardly be possible to repeat the developments of the past decade—increasing employment considerably but leaving the structural weaknesses uncorrected—even if it were desirable to do so. The only way of creating sufficient employment in the 1960's appears to be to make progress in solving the structural problems. Several industries, notably agriculture, will need special technical help. If employment is created in regions outside the coastal areas, the requirements for social capital in the cities will be eased. The diversion of demand from imports to domestically-produced consumer goods will be harder to achieve if the income structure remains unchanged. Arrangements to develop alternative exports, such as petrochemical and steel products, in which Venezuela has certain natural advantages, would alleviate the problem of obtaining enough foreign exchange.

One prerequisite for all these changes is a great expansion of university and technical education, to raise the proportion of professionally and technically competent people in the labour force, apart from what is necessary to make up for the deficiencies which developed in the past.[137]

3. *The longer run*

It is still more difficult to discuss the prospects for the years after 1970. A great deal depends on what progress is made during the decade ahead in solving the basic problems of structure. But there is one question that already affects the discussion of shorter-term policy: the exhaustibility of petroleum reserves. At present rates of extraction, the "proven" reserves would last 18 years. However, petroleum has been discovered more rapidly than it has been extracted, so that "proven" reserves have continued to grow (table 30). Only a small proportion of areas potentially petroliferous has yet been explored. The recent wave of concessions led to large new discoveries, and there is little doubt that the true exploitable reserves are several times as large as those "proven" so far.

There is not therefore any likelihood that the supply of petroleum will actually be exhausted in the foreseeable future. It is possible however that costs will gradually rise as petroleum becomes harder to find and extract, until they reach levels at which it is increasingly difficult to export profitably and at which Government revenue per barrel would be low.[138] The course which has been followed by the United States industry is instructive. "Proven" reserves increased rapidly at first, but when the rate of extraction rose, costs started to mount, "proven" reserves ceased to grow so fast and exporting became difficult. In Venezuela, a considerable fraction of the petroleum in the best known area, the rich basin of the eastern end of Lake Maracaibo, has already been removed.[139]

This possibility is one which should be taken into account in choosing lines of policy. It implies that there is a dilemma. On the one hand, extraction might take place too fast, not giving the economy time to become more diversified. On the other, the exportation of petroleum is still the only important source of the capital which is required to diversify the economy and to enable development to continue without the need for reliance on large petroleum exports. If exports were too low,

[137] It might be inferred that the difficulties would be lessened if immigration were prevented during this decade. However, the problem is in fact one of maintaining, if not raising, the proportion of skilled workers of all types in the labour force, since it is only possible to absorb unskilled workers if there are also skilled workers available. The correct inference, so far as purely economic considerations are concerned, is that immigration should be selective.

[138] If it were not for the Middle East and North Africa, the result would be an increase in the world price, as supplies dwindled. The reserves in other producers are so large, however, that Venezuela may enter the phase of rising costs before they do.

[139] Out of 20 000 million barrels of proven reserves in this basin which had been available for extraction, 13 000 million remained at the end of 1959 (constituting 78 per cent of the total national proven reserves). *Speech by the Minister of Mines*, October 1959.

Table 30

PETROLEUM PRODUCERS: PROVEN RESERVES OF CRUDE PETROLEUM

(Thousand millions of barrels)

	A. Venezuela					B. Selected production areas							
						United States		Venezuela		Middle East		World total	
	1925	1935	1945	1955	1958	1944	1958	1944	1958	1944	1958	1944	1958
Proven reserves (end-year)	0.5	2.9	7.0	12.4	17.2	20.1	33.0	5.6	17.2	15.5	173.9	50.7	276.4
Proven reserves divided by preceding year's output	25	20	22	16	18	12	13	22	18	11	112	20	43

SOURCES: (A) Ministry of Mines and Hydrocarbons, *Memoria*, 1958.
(B) *Petroleum Facts and Figures*, *Oil and Gas Journal* (26 January 1959).

the revenue yielded by them would be absorbed by current services, slowing down economic development.

Another question is what would be the optimum petroleum consumption in Venezuela itself. While exports yield substantial capital for development, local sales do not, at current prices. Yet both represent a drain on irreplaceable resources. Fortunately, there are abundant suplies of one petroleum product which involves no real cost, i.e., natural gas.[140] Although an increasing proportion is being reinjected or used productively, about half of the natural gas obtained as a by-product of petroleum extraction is still being discharged into the atmosphere.

Since Venezuela may not have a very long time in which to become independent of petroleum, this is an additional reason, apart from population pressure, to transform the economy as rapidly as possible. Failure to change the economy while petroleum exports are still competitive would make it impossible to continue to advance economically, or even maintain the level of activity and living standards already reached. Productivity in other sectors will have to be raised rapidly if the decline in importance of a higly productive sector like petroleum is to be offset.

Given the overriding necessity to achieve this transformation in time, a longer period is indicated as a frame for planning than is customary for other types of economy. The natural period for the broad, master plan is in fact the best estimate technically available of the time during which petroleum exports will earn significant amounts of foreign exchange (a time subject, of course, to revision as economic circumstances change). Supposing that this estimate were 40 years, then the ultimate object of economic strategy should be to make the economy economically viable in that time, in the sense of ceasing to depend on petroleum. This does not mean, of course, that detailed targets need to be adopted for such a long period ahead, but rather a framework of general projections, particularly for alternative exports, which would indicate the order of magnitude of the effort necessary in shorter periods—say, 5 years—if the task facing Venezuela is to be eventually accomplished.

[140] The successful experimental voyages of the "Methane Pioneer" shows that natural gas is a potential export, in liquid form, but it will be a long time before a significant fraction of production is sold overseas.

Annex

POPULATION PROJECTIONS [1]

The method used was that of 'cohort analysis', i.e. carrying forward the numbers in each five-year cohort of men and women and projecting their mortality and fertility on the basis of past experience.

It was first necessary to make the population statistics of the 1940's and 1950's based on registration data and the censuses of 1941 and 1950 mutually consistent. Allowance was made for under-registration of births and deaths, for the age distribution of immigrants and for the apparently incomplete coverage of the 1941 census. These adjustments made it possible to derive estimates of the population structure for 1940, 1945, 1950 and 1955. Mortality and fertility measures were then obtained which could be projected through the period from 1956 to 1970.

As a crude measure of fertility, the births in each quinquennium were divided by the number of women aged from 15 to 39 at the beginning of the period. Fertility, so defined, has been rising rapidly over the period studied, but the projections were based on the assumption that this measure remains constant at the level of the quinquennium 1951-55. Fertility was then already very high; it appears from the 1956 and 1957 birth rates to have ceased rising; and hypotheses that exaggerate the population problem should be avoided.[2] Graphical projections were made for infant mortality rates, allowing for a continuation of the recent decline but at a decelerating pace. Rough reductions were made in the age-specific mortality rates for other groups on similar general assumptions. Net immigration was assumed to be 30 000 a year in the 1960s.

On these hypotheses, it was possible to carry the end-1955 population distribution on to end-1960 and in further steps to end-1965 and end-1970. It should be understood that the estimates so obtained, which are given in table *A*, are not in any sense forecasts. They are simply the logical corollaries of the statistical assumptions and demographic hypotheses described.

Preliminary data for 1958, available after these projections were prepared, show a further fall in the birth rate. Unless

Table A

VENEZUELA: ESTIMATED BIRTH AND DEATH RATES, AND POPULATION, 1941–1957

Year	*Birth rate* [a] *(Per mil)*	*Death rate* [b] *(Per mil)*	*Rate of natural increase* [c] *(Per mil)*	*End-year population (Thousands)*
1941	37.5	18.4	19.1	3 942
1942	38.1	18.3	19.8	4 017
1943	39.0	18.2	20.8	4 097
1944	38.7	19.6	19.1	4 177
1945	39.8	17.4	22.4	4 277
1946	41.6	17.2	24.4	4 385
1947	42.5	15.8	26.7	4 514
1948	43.5	15.0	28.5	4 680
1949	45.4	13.9	31.5	4 854
1950	46.7	12.6	34.1	5 049
1951	46.3	12.7	33.6	5 251
1952	46.9	12.3	34.6	5 464
1953	48.9	11.1	37.8	5 716
1954	48.8	11.2	37.6	5 979
1955	48.3	11.0	37.3	6 262
1956	47.3	10.6	36.7	6 537
1957	45.7	10.6	35.1	6 816

a Births adjusted as described in text, expressed per mil of mid-year population.

b Deaths adjusted as described in text, expressed per mil of mid-year population.

c Birth rate minus death rate.

[1] The basic statistical work for this paper was done by Dra. Yanes of the Coordination (Caracas).

[2] Another reason for making this assumption is that the apparent rise in fertility may have been partly due to the improvement of registration with migration to the cities. Since the degree of under-registration has been assumed constant, fertility in 1951-55 may have been exaggerated by the method used. Accordingly, to assume that the apparent fertility for this period continued unchanged would still allow for some further rise in actual fertility.

registrations have become less complete for political or administrative reasons, this suggests that the fertility rate which was used may turn out to be rather too high, causing some exaggeration of the number aged under 5 in 1960 and aged under 15 in 1970. The projection of the labour force at that date does not, however, depend on the accuracy of fertility assumptions: the labour force of 1970 had been born by 1955, and the great majority of it was already covered by the 1950 census. Moreover, in view of the heavy concentration of population in the younger age groups and the high fertility and low mortality, a sharp increase is inevitable, and the 1970 population must be in the region of 10 million.

It also appears that the bulk of the population will still be concentrated in the younger age groups at that date, so that a further big rise in population in the remainder of the century is indicated, even if fertility should decline henceforward.

SOME APPLICATIONS OF THE INPUT-OUTPUT MODEL TO THE ARGENTINE ECONOMY *

I. STATISTICAL SOURCES AND METHODS USED IN THE PREPARATION OF THE INPUT-OUTPUT MODEL

1. *Background data on statistical sources and methods used in drawing up the table of transactions*

The method used to estimate the national income of Argentina is that of obtaining the sum total of the values added in each of the specified sectors of economic activity. In the case of most of these sectors, the calculation of the values added is based on estimates of gross production figures and of inputs of goods and services. In some instances, as, for example, in the personal services sector, direct procedures are used in order to estimate the remuneration of factors.

The national income team of Argentina has likewise prepared analyses of the flow of goods and services, with the aim, *inter alia,* of estimating gross fixed capital formation, the composition of consumption and the volume of goods entering trade channels.

In Argentina's case the preparation of tables of inter-sectoral transactions was, up to a point, an extension of the work of analysing and estimating national income. For the agricultural, construction and services sectors the sources of data were the studies on national income, and for the manufacturing sectors, the industrial censuses and statistics which provide, in respect of each of the 200 activities specified, detailed data on production and inputs of raw materials, fuels and electric energy. Although some inputs are grouped together in the industrial statistics published, they can be broken down by reference to the census questionnaires.

In the first studies undertaken with a view to compiling an intersectoral transactions table, the 1946 data were utilized. There is an industrial census for that year, which constituted the basic source of information on the manufacturing sectors. The table drawn up was similar to that for 1950, although not strictly comparable with it. This study is as yet unpublished.

The experience of this first compilation prompted a more ambitious study on the basis of the data for 1950. The objective established was the preparation of a table of inter-sectoral relations in which about 200 economic sectors were to be specified. Maximum use was to be made of the statistical data on production and input by industrial activities afforded by that year's census-type enumeration (the last until early 1956); these data had not yet been published, but the National Statistics Department (*Dirección Nacional de Estadística*) supplied all the relevant information.

Activities were classified by over 200 branches, which in turn were grouped in 30 major sectors. Broadly speaking, the sectoral classification coincided with the standard international classification suggested by the United Nations, although in some cases, particularly as regards industry, discrepancies may be noted.

In any event, the criterion adopted was that of following, in respect of the manufacturing sector, the classification used in the Argentine industrial census, since any change would complicate the work of drawing up the table of transactions.

A code of activities once definitively established, the next step was to trace each of the industrial input items to one of the 200 activities of origin. As the industrial censuses contain no data on inputs of services, specification by industries of origin was feasible in the initial phase only for raw materials, fuels and electric energy.

At the time when the study on the economic development of Argentina was carried out, the compilation of input and output data for the non-industrial sectors had not yet been completed, nor had the compilations already prepared for the industrial sector been checked for general consistency.

The decision was therefore taken to prepare a table with a smaller number of sectors, and it was thus that 30 major sectors, comprising rather more than 200 activities, were adopted in principle. Consequently, manufactured inputs in the 200 activities were grouped by industries of origin within the context of the more aggregative 30-sector classification. At a later stage in the process of compilation, a further reduction was felt to

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* This study was prepared by Mr. Manuel Balboa, an economist in the Economic Development Division of the Economic Commission for Latin America, for presentation at the Conference of the International Association for Research in Income and Wealth, held at Rio de Janeiro (Brazil) from 8 to 13 June 1959.

The work connected with the drawing-up of the input-output model and its application in the analysis and projections of the Argentine economy was carried out with the co-operation of Mr. Aníbal Suárez and Mr. Retórico Fretes. Mr. Luis Rojas collaborated in the actual preparation of the present study.

The statistical data were taken from the ECLA study on the economic development of Argentina (E/CN.12/429/Rev.1, United Nations publication, Sales No. 59.II.G.3, Vols. I to III) but this article includes input-output analysis so far unpublished.

The purpose of this article is to describe the sources and methods used in the compilation of a table of inter-sectoral transactions in the Argentine economy during 1950, the preparation of an input-output model and the application of this latter in the analysis of certain structural aspects of the Argentine economy. An account is also given of an application of the model for formulating production and import projections.

Conceptual questions bearing on the economic interpretation of the facts described are touched upon only incidentally, and no attempt is made to discuss the methodology of programming. In this respect, the input-output model has simply been adapted to the projections system used by ECLA in its country studies.

The article consists of three parts. Part One deals with the sources and methods used in drawing up the table of transactions, and allusion is made to various alternatives for the input-output model which was prepared with relation to the Argentine economy. The results of the application of the model in the analysis of certain structural aspects are described in Part Two, while Part Three discusses questions linked to the use of the model in production and import projections, and also indicates the results obtained.

be desirable, and the table was constructed on the basis of 23 sectors, as shown in the present report.

The 23 major economic sectors covered by the inter-sectoral transactions table, as published here, include two for agricultural production, 16 for mining and manufacturing industries, one for the construction of public works and private building activities and four representing a break-down of services.

The method to be used in drawing up the table depended, of course, essentially on the way in which the statistical data obtainable from the national income team and from industrial censuses and other sources were presented.

It was considered that the best course would be to begin construction of the table by compiling the statistical data by columns, in respect of both production activities and final demand. As has already been pointed out, inputs in the agricultural sector and in services had been consistently and systematically estimated for the purpose of preparing the gross national product series. Similarly, data on personal and Government consumption and on domestic gross investment were to a large extent already compiled from the analysis of the flows of goods, although adjustments had to be made and gaps filled in order to adapt the data in question to the inter-sectoral transactions table. To complete the columns, a compilation of exports by industries of origin had to be prepared; this was done by classifying official export statistics within the framework of the 200 activities of origin, after which grouping at the 23-sector level was effected.

The gross value added was estimated for each sector, indirect taxation being included and subsidies deducted. At the first stage, the relevant figures were taken directly from estimates of national income, except in the case of the sub-divisions of manufacturing industry, since the national income group could supply only the total figure for the manufacturing sector; a preliminary estimate for individual industries was prepared on the basis of industrial statistics and of direct research on the balances of enterprises which were asked to provide additional data. An initial compilation corresponding to the columns of the transactions table was thus obtained.

The compilations just referred to represented total flows of domestically-produced and imported goods at the prices paid by each of the purchaser sectors, while the total for each production sector column gave the value of gross production at the sector's seller's prices, and the final demand columns showed consumption, investment and export figures, at purchase prices. Hence, in order to obtain comparable totals for lines and columns and thus establish a significant checking factor, imports, classified by industries of origin, were grouped with the corresponding branch of domestic production. The distribution costs for domestically-produced and imported goods were incorporated in each column separately. The statistical data were largely derived from the compilations of the national income team.

By this means, in each column production and import values at purchaser's prices were obtained, which were comparable with the figure for the flow of goods that would be recorded in each line.

In the initial stages of compilation, the services line worked out as a residual estimate in many sectors. The second phase consisted in comparing the line totals with the column totals. Generally speaking, the column totals were considered to be the basic estimate of acceptable statistical value. All available estimates of inventory changes were entered in a special column. The next step was to add a further column in which to note statistical discrepancies, i.e., differences between line totals and column totals. Such differences are attributable to statistical discrepancies or directly due to errors in compilation.

It was decided that the best plan would be to check the statistical data every time the line totals showed a discrepancy or error amounting to more than 5 per cent of the total flow of goods. It must be noted that to a large extent, tentative amendments were made as a result of this checking. On the other hand, it was very interesting to observe that, in most of those cases in which the discrepancy in question attained significant proportions, genuine errors were discovered, usually arising from the under-estimating of inputs, and this led to a further adjustment of the services or value added line, as seemed most expedient.

To sum up, the figures in the table were considered final when line discrepancies were seen to be relatively minor and not to exceed the 5 per cent referred to.

The table of inter-sectoral transactions thus provided an estimate of the aggregate gross product slightly—although less than 5 per cent—greater than that calculated at about the same time by the national income group's traditional method. This slight discrepancy was not felt to warrant the introduction of any adjustment in the transactions table. Any such modification would necessarily be arbitrary, and, moreover, the impression prevailed that greater accuracy could be attributed to the estimates of the gross product in the table than to the more aggregative estimates of national income. Subsequent estimates of this latter by the traditional method partly corroborated this assumption.

The transactions table obtained in the manner just described registered the total sectoral flow of goods, drawing no distinction between those of domestic origin and imports. To complete the analysis, a separate table of transactions in imported goods and services was then prepared, its structure being exactly the same as that of the table of total transactions.

The compilation of transactions in imported goods and services presented complex difficulties in some respects. The basic data for this purpose were obtained from two major sources; actual industrial statistics (which registered, for each of the activities enumerated, the value of the imported raw materials purchased by each branch of activity); and foreign trade import statistics. The figures for imports of each item were grouped by industries of origin, in accordance with the classification used in the transactions table, and the amounts imported were tentatively distributed among the individual purchaser sectors. In some cases, they could be fairly assigned, as the nature of the goods left no room for doubt as to the sector of destination. In other instances, somewhat arbitrary decisions were adopted. However, these allocations were compared with the figures given by industrial statistics for each sector's imported inputs, the requisite adjustments having first been made in order to obtain homogeneous values.

Again, as much information as possible was collected

on changes in inventories of imported goods. Such data were very hard to come by, so that for many items only an idea of the direction of the changes could be formed. In the case of some industries, the work was made easier by the fact that industrial statistics specifically record imported inputs. Briefly, a table of import transactions was completed, with a column for inventory changes and for statistical discrepancies, which, in general, was considered to be fairly accurate, although relatively speaking the errors may in all probability be greater than in the total transactions table.

Two final tables of import transactions were constructed, one based on *cif* prices and the other on the purchaser's prices. The difference between the total transactions table and the table relating to imported goods gave a new table of inter-sectoral transactions, showing only the sectoral flow of goods and services of domestic origin. Total imports at *cif* prices were consolidated in one line, and the services corresponding to imported goods were incorporated in the services line. Hence the distribution services incorporated in imports for final utilization appeared in the consumption and investment columns.

2. *Basic input-output models for the Argentine economy*

Basic transactions tables for the Argentine economy display the following characteristics:

(*a*) Transactions are valued at the purchaser's prices, and, as a result, production figures incorporate all distribution costs up to the moment when goods from any one sector reach the final purchaser. It would have been more satisfactory to compile the table on the basis of the sector's seller's price, but this would have involved detailed adjustments for which insufficient data were available at the time when the studies were carried out. The varying services margins observable in Argentina's case for intermediate sales and sales to meet final demand introduce a special error in the model that can be prepared with a transactions table of this type.

(*b*) The transactions table covers all productive activity in the 23 sectors it presents, incorporating final demand and the relevant gross values added in each sector. Among these latter the partial value corresponding to remuneration of labour is given, although specific depreciation data and indirect taxation were used in the original compilations. The input-output table can therefore be said to be complemented by the important aggregates of the gross national product.

(*c*) The basic compilations are presented in 23 major groups of activities or industries, called "sectors" in this report. Tables were prepared at a higher level of aggregation (12 sectors) with a view to the construction of other models which were also used in the analysis and projections. In addition, the data were grouped at the three-sector level, mainly for didactic purposes. The aggregation was carried out simply by adding lines and columns, without eliminating the resultant intrasectoral transactions. The original 23-sector table also contains the intrasectoral transactions which are adducible by conventional methods of statistical compilation.

(*d*) Known conventional methods were adopted to calculate the sectoral input coefficients and the input-output models were constructed for 23 and for 12 sectors. Thus, for domestic input coefficients one 23-sector input-output model is available, and two 12-sector models, one with coefficients of inputs of domestically-produced goods and the other with total input coefficients.

(*e*) A rectangular matrix of transactions (21 lines and 200 columns) is available for the manufacturing sector, and constituted the basis for the transactions table appended to the present report.

(*f*) Lastly, aggregations were made at the level of seven major sectors. These are distinguished from the foregoing by the fact that industries are classified under the two broad heads of dynamic sectors and vegetative sectors, with due regard to their differing relative import content and the growth elasticity of each.

II. ANALYSIS OF THE STRUCTURE OF THE ARGENTINE ECONOMY

By means of Leontief's open model establishing the simultaneous or static relations existing between production and final demand, structural aspects of the economy can be empirically analysed. Needless to say, such an analysis relates to static structure and is deduced from statistical records for a specific period. Leontief, Rasmussen and Per Sevaldson have used the input-output model to analyse the change in such structures in respect of one and the same country. Analyses of this kind were recently made in Japan, according to reports by Chenery and Watanabe.

These two authors have just published a comparative study of the structures of production in four countries,[1] and a preliminary comparison of this type was attempted for two of the Latin American republics—Argentina and Peru—in a document presented to the Conference of the International Association for Research in Income and Wealth, held at Rio de Janeiro in June 1959.[2]

All that is available for the moment in Argentina's case is the model relating to 1950, since the 1946 model would have to be revised and adapted to make it comparable with that of 1950. Particularly important would be the expression of input coefficients in terms of constant prices. It would clearly be of great interest to use the input-output instruments for an analysis of structural change in Argentina over a period of 20 years. An industrial census similar to the 1950 statistics is available for the year 1935, as well as detailed estimates of the product by sectors; this would mean that an inter-sectoral transactions table could be constructed on a statistical basis which, although no better than that of 1950, would probably not be greatly inferior. A com-

[1] See "International Comparisons of the Structure of Production", *Econométrica*, Vol. 26, No. 4, October 1958.

[2] See Manuel Balboa (ECLA), "*Comparación de la estructura intersectorial de la producción de Argentina y Perú*", Santiago, Chile, May 1959.

parison between these two years would be highly significant, since they represent the beginning and end of a period of intensive change in the Argentine economy.

The present chapter gives an account of the ways in which the 1950 model was used in order to shed light on important aspects of Argentina's economic structure, and in which it may also be applied to some years subsequent to that date.

1. *Over-all analysis of inter-sectoral transactions*

The 23-sector table of inter-sectoral transactions, which gives total figures for goods in each row, was applied to determine an index (by rows) of the available supply of goods used to satisfy intermediate demand, and the index of total inputs of goods and services corresponding to each sector's indirect utilization of domestic and foreign factors.

Table 1 includes these indices for each of the 23 sectors, plus a few indices for similar economic sectors established by Chenery and Watanabe for Italy, Japan and the United States, in the study cited above.

Broadly speaking, the proportion of intermediate sales can be seen to be much the same in Argentina as in the other countries, although there are major differences in specific sectors. The comparisons drawn are very sweeping and are affected by the different level of aggregation in the Argentine matrix, as well as by the different system of valuation.

Notwithstanding all these reservations, it is interesting to note that the coefficient of total inputs of goods and services in relation to the aggregate figure for the total available supply of goods differs very little from the corresponding coefficients registered in the other countries. In one of the experiments made, triangulation of the 23-sector table shows that 95 per cent of the whole body of transactions falls below the main diagonal, a coefficient which is very similar to that obtained by Chenery and Watanabe for the other countries.[3] Apparently the triangulation would have been more satisfactory if the table of transactions had been based on valuations at the sector's seller's prices.

2. *The structural matrix and sectoral production requirements*

One of the basic models established for the Argentine economy is the open type calculated on the basis of the

[3] No research on the optimum triangulation was conducted; the method indicated by the two authors cited was followed.

Table 1

ARGENTINA: TRIANGULATION OF THE MATRIX OF TOTAL TRANSACTIONS AND COEFFICIENTS OF INTERMEDIATE SALES AND TOTAL INPUT, WITH INTERNATIONAL COMPARISONS

Order of sectors in "triangulated" matrix	*Code number in original matrix*	*Percentage of transaction above the diagonal*		*Coefficient or intermediate sales in relation to total supply*		*Coefficient of total input in relation to production*	
		Row	Column	Argentina	Other countries [a]	Argentina	Other countries [a]
1. Construction	19	—	—	—		0.53	
2. Housing	23	—	—	—		0.13	
3. Tobacco	5	—	—	—		0.38	
4. Leather and leather manufactures	13	3.04	—	0.22	0.37	0.67	0.66
5. Personal and financial services	22	11.33	—	0.14		0.16	
6. Food, beverages and miscellaneous products of refrigerating plants	4	1.84	0.67	0.12	0.15 [b]	0.79	0.61 [b]
7. Electric machinery and appliances	17	5.54	0.81	0.22		0.58	
8. Made-up articles	7	7.50	1.29	0.10	0.12	0.73	0.69
9. Rubber manufactures	12	38.17	0.70	0.45	0.48	0.59	0.51
10. Textiles	6	2.82	1.28	0.48	0.57	0.62	0.69
11. Stock farming	2	0.28	0.94	0.76		0.24	
12. Chemical products	10	10.37	6.12	0.46	0.69	0.60	0.60
13. Crop farming	1	0.27	4.80	0.47	0.72 [c]	0.43	0.31 [c]
14. Timber and other forest products	8	6.84	3.14	0.80	0.38	0.64	0.61
15. Stone, earths, glass and ceramics	14	2.57	6.21	0.88	0.30	0.53	0.47
16. Other industries	18	14.87	21.81	0.52		0.46	
17. Vehicles and machinery (excluding electric machinery	16	18.02	7.17	0.24	0.28 [d]	0.44	0.51 [d]
18. Metals and metal manufactures	15	4.80	5.78	0.65		0.59	
19. Transport, communications and trade	20	8.20	7.96	0.85		0.25	
20. Electricity and sanitary engineering	21	2.20	14.52	0.74	0.59 [e]	0.47	0.27 [e]
21. Fuels, lubricants and other petroleum derivatives	11	2.37	34.91	0.88	0.68	0.66	0.65
22. Deposits, quarries and mines	3	0.11	37.36	1.10		0.38	
23. Paper, board and printed matter	9	—	28.81	0.73	0.78 [f]	0.54	0.57 [f]
Total		*4.86*	*5.08*	*0.45*	*0.43*	*0.47*	*0.45*

a Average for Italy, Japan and the United States. See Chenery and Watanabe, "International Comparisons of the Structure of Production", *Econométrica*, Vol. 26, No. 4, October 1958.
b Processed foodstuffs.
c Crop and stock farming and forestry.
d Machinery (including electric machinery. Excluding transport equipment, with coefficients of 0.20 and 0.60 respectively).
e Electric energy only.
f Paper and paper products only. For printed matter, coefficients of 0.46 and 0.49.

domestic input coefficients of the sectors of production and including in the final demand sector exports, total consumption and gross capital formation. Within the framework of the hypotheses postulated for the model, of course, the inverse matrix obtained by means of domestic inputs gives in each of its columns the coefficients of requirements or of the content of sectoral production in each listed group of domestically-produced goods and services of the final demand sector. If the input coefficients of imported goods are included, the inverse matrix will give a new row in which each coefficient will show the import content in the final demand groups listed. A comparative analysis of matrices of this type relating to different periods will indicate structural changes in the system of production and in import utilization or substitution. A matrix of coefficients of total inputs and its corresponding reciprocal might therefore conceivably tend to be more stable than the matrix indicating the composition of domestic inputs and intermediate imports.

For countries in process of development, particular significance attaches to the structural analysis of imports, and this is especially true of the Argentine economy; hence the careful attention devoted to this point.

3. *Content of intermediate imports in final demand for domestically-produced goods and services*

It was explained at the outset how a matrix of transactions in imported goods had been compiled that was consistent with the inter-sectoral table for 23 sectors and the relevant input coefficients. This matrix of coefficients of imported inputs is of the order of 18 × 23 or, in other words, imports are classified by 18 sectors of origin and 23 purchaser sectors coinciding with the corresponding break-down of Argentina's economic activities.

If the inverse Leontief matrix of domestic input coefficients is pre-multiplied [4] by this matrix of imported inputs, a new matrix of the order of 18 × 23 is obtained. The elements making up each of its lines give the content and kind of intermediate imports per unit of each group of goods and services included in the final demand.

The sum by columns of the product matrix gives the total content of intermediate imports in each of the 23 final demand items. Table 2 presents the aggregate results, showing the total, the direct and the indirect content of intermediate imports. The coefficient of direct import content in each item of final demand is the input coefficient for the domestic production sector, and the coefficient of indirect content is obtained by substraction from the total coefficient.

Research reveals that the final demand sectors in which the content of intermediate imports is highest are those of fuels, timber, metals, machinery and vehicles, electricity, paper and made-up articles. Here the total content ranges from 10 to 18 per cent; that is, the input of imported intermediate goods amounts to a value of

Table 2

COEFFICIENTS OF DIRECT AND INDIRECT CONTENT OF IMPORTED INTERMEDIATE PRODUCTS IN THE 23 SECTORS OF FINAL DEMAND FOR DOMESTICALLY-PRODUCED GOODS

(Pesos, at CIF prices, per peso of domestically-produced goods)

Final demand sectors	*Direct*	*Indirect*	*Total*
1. Crop farming	0.003	0.022	0.025
2. Stock farming	a	0.009	0.009
3. Deposits, quarries and mines	0.009	0.020	0.029
4. Food, beverages and products of refrigerating plants	0.016	0.026	0.042
5. Tobacco	0.048	0.017	0.065
6. Textiles	0.036	0.029	0.065
7. Made-up articles	0.068	0.034	0.102
8. Timber and other forest products	0.110	0.047	0.157
9. Paper, board and printed matter	0.096	0.034	0.130
10. Chemical products	0.047	0.034	0.081
11. Fuels, lubricants and other petroleum derivatives	0.152	0.023	0.175
12. Rubber manufactures	0.105	0.030	0.135
13. Leather and leather manufactures	0.007	0.030	0.037
14. Stone, earths, glass and ceramics	0.038	0.030	0.068
15. Metals and metal manufactures	0.113	0.035	0.148
16. Vehicles and machinery (excluding electric machinery)	0.078	0.033	0.111
17. Electric machinery and appliances	0.097	0.033	0.130
18. Other industries	0.041	0.032	0.073
19. Construction	0.042	0.045	0.087
20. Transport, communications and trade	0.012	0.022	0.034
21. Electricity and sanitary engineering	0.072	0.052	0.124
22. Personal and financial services	0.003	0.009	0.012
23. Housing	0.006	0.013	0.019

a This coefficient amounts to less than 50 per cent of the last digit used in the table.

10 to 18 pesos, at *cif* prices, per 100 pesos of final demand for these domestically-produced goods. The sectors in which the content of intermediate imports is smallest are those comprising agricultural commodities, personal services and housing, this last being considered as a service and not as a construction activity.

Another interesting point which this research brings to light is that there are final demand items in which the indirect import content is equivalent to or even exceeds the direct input in the sector producing the goods in question. This situation arises in the case of agricultural commodities, food and beverages, leather, construction, transport and housing. It can also be seen that, if the activities listed are taken as a whole, the coefficients of indirect import content register a lower dispersion than the coefficients of direct content.

These coefficients of the content of imported intermediate goods per group of commodities can be applied to determine the total content of intermediate imports in each final demand aggregate, since the composition of these aggregates is known by industries of origin.

As will readily be understood, the global coefficient of the import content of any given aggregate would be a weighted average of the individual coefficients for each of its component items. The results of this research are shown in table 3.

It is of great importance for the study of the Argentine economy to note that its exports have a coefficient of 4 per cent of imported intermediate products, and represent the final demand item which absorbs the

[4] In ECLA inverse matrices of the order of 23 and 12 have been calculated for various models deriving from the 1950 input-output table, using in the one case the iterative procedure explained in Vol. I, No. 2, of this *Bulletin* and in the remainder the more efficient "Jordan's method".

Table 3

DIRECT AND INDIRECT CONTENT OF IMPORTED INTERMEDIATE PRODUCTS IN DOMESTICALLY-PRODUCED GOODS AND SERVICES FOR CONSUMPTION, INVESTMENT AND EXPORT IN 1950

Item	Cif value (As percentage of value of each aggregate)
Private and public consumption [a]	5.2
Fixed investment	8.9
Exports	4.0
Total [b]	5.9

a Excluding salaries and wages payable by the Government.
b Including inventory changes.

smallest relative share of imports of this type. Exports are valued at *fob* prices and imports at *cif* prices, which means that the latter do not include the additional distribution costs and duties incurred in the case of imported goods. The low coefficient cited is attributable to the fact that exports consist almost entirely of agricultural commodities in the natural state or that have undergone very little processing, and that incorporate, as previously shown, only a small import content (see again table 2).

The coefficient of direct and indirect content of imported intermediate products in the aggregate representing private and public consumption of domestically-produced goods and services tends to be higher; if salaries and wages payable by the Government are excluded, it exceeds 5 per cent. It constitutes a weighted average of items in which the import content is low, such as foodstuffs, personal services and housing, and others, like manufactured goods, in which it is substantial.

A comparison of the import content coefficients with the demand elasticity coefficients for each item under the head of consumption reveals some degree of direct correlation, as agricultural commodities, and even those partly-processed foodstuffs which carry most weight in consumption figures, register low import content coefficients and, at the same time, the smallest elasticity coefficients. On the other hand, the lines of manufacturing production with big import content coefficients also have the highest elasticity coefficients. This correlation is less marked only in the case of services, for while they show small import content coefficients, their behaviour pattern suggests that their elasticity coefficients are high.

It is in the gross domestic investment aggregate that the most substantial import content is to be found, as its component items—machinery and vehicles—are those which reflect the highest coefficients. The durable goods which go to make up fixed investment have a coefficient of almost 9 per cent, as against the 5 per cent and 4 per cent coefficients registered for consumption and exports, respectively.

4. *Total import content in final demand*

If finished imported goods are added to domestically-produced goods for final demand and the import content of intermediate and finished goods in relation to total final demand is analysed, the structure will be seen to resemble that just described, although at a higher level, as can be noted in table 4.

Re-exports are in fact virtually non-existent in Argentina. Similarly, it is estimated that consumption of imported finished goods represents only 1 per cent of total consumption, the reason being the intensive import substitution process carried out by Argentina in this field in the past, although external purchases of this type are restricted by the strict controls established some years ago. On the other hand, finished goods imported for investment purposes represented 7 per cent of total investment in 1950, and in some years the proportion was even greater.

This quantitative analysis of import content by means of the input-output model enables the dynamics of potential demand for imports to be examined, on the hypothesis that the structure of supply remains constant, or, in other words, that domestic production is not

Table 4

TOTAL IMPORT CONTENT IN FINAL DEMAND AGGREGATES

Item	Cif value (As percentage of final aggregates)		
	Imports of intermediate products	*Imports of finished goods*	*Total*
Private and public consumption [a]	5.2	1.0	6.2
Fixed gross investment	8.3	6.8	15.1
Exports	4.0	—	4.0
Total [b]	5.8	1.9	7.7

a Excluding salaries and wages payable by the Government.
b Including inventory changes.

substituted for imports. The results obtained through the model would, of course, relate only to imports of intermediate goods. Theoretically, the development process, even on the abstract assumption that no import substitution takes place, alters the structure of final demand, and in an economy like that of Argentina, which includes important manufacturing sectors, it would be feasible to expect an upward trend in the coefficient of intermediate import content in the aggregate representing consumption of domestically-produced goods. This is in fact observable in estimates prepared on the basis of consumption projections for 1962 and 1967, with due regard to the variations in elasticity coefficients, although their range is relatively narrow (from 5.2 in 1950-55 to 5.6 in 1967). In the case of gross domestic investment, the intermediate import coefficient tends to remain fairly stable (assuming, of course, that no structural changes are introduced), and in that of exports it is equally unlikely to increase unless external sales of manufactured goods expand. But this is a complex analysis, for the development of Argentina's exports—even where agricultural commodities are concerned—is dependent upon a structural change in the sector, which may alter the input content.

Throughout this analysis of import content by groups

of commodities and final demand aggregate, no calculation has been made of the imports corresponding to consumption of the fixed capital utilized in each productive activity. Capital consumption is usually measured in terms of depreciation. Consequently, the import content indices will be increased if computations of this kind are included.

An arithmetical solution of the problem is relatively easy, but it would be necessary to ascertain a coefficient of consumption of fixed capital for each sector of the economy. This coefficient would operate exactly like the input coefficient of any commodity. In addition, it would be necessary to determine the proportion of the sector's consumption of fixed capital which is supplied by domestic production and the part that has to be covered by imports.

5. *Distribution of the labour factor and its allocation to final demand*

Obviously, there is no logical impediment whatsoever to the establishment of these coefficients in physical terms in relation to production and final demand values. The man/years employed in each of the 23 sectors included in the input-output model were estimated, and coefficients per unit of production were calculated; the arithmetical procedure described in earlier paragraphs was applied and coefficients of man/years per unit of final demand were established for each of the 23 items specified under that head. The resulting figures are given in table 5.

It is highly interesting to assess the variations of what may continue to be termed the "labour content" (direct and indirect) from one item to another, and to note how in many cases the indirect exceeds the direct content. Primary activities exercise some influence here.

Needless to say, these coefficients are dependent on the conventional definitions adopted with respect to the determination of employment, as well as on the unit of measurement (man/year) used in the calculations. The units in question are sometimes rather inexact, e.g. in the case of the agricultural sector. The system of valuation and the relative prices prevalent in each sector in the base year, also play their part.

The coefficients shown in table 5 were applied to the 1950 final demand figures in order to determine the employment content in each aggregate. That is, employment in 1950, measured in terms of man/years, was assigned to each of the major groups in question, and more specifically distributed among the 23 sectors in which the goods and services composing them are grouped. The aggregate totals resulting from this research are to be found in tables 6 and 7 below.

Table 5

RELATION BETWEEN THE LABOUR FACTOR AND FINAL DEMAND

(Coefficients of man/years per million pesos of final demand for domestically-produced goods and services)

Final demand sectors	*Direct*	*Indirect*	*Total*
1. Crop farming	134	39	173
2. Stock farming	127	24	151
3. Deposits, quarries and mines	30	29	59
4. Food, beverages and products of refrigerating plants	16	96	112
5. Tobacco	13	32	45
6. Textiles	23	57	80
7. Made-up articles	40	54	94
8. Timber and other forest products	65	49	114
9. Paper, board and printed matter	26	33	59
10. Chemical products	18	50	68
11. Fuels, lubricants and other petroleum derivatives	3	39	42
12. Rubber manufactures	21	38	59
13. Leather and leather manufactures	28	60	88
14. Stone, earths, glass and ceramics	34	37	71
15. Metals and metal manufactures	29	35	64
16. Vehicles and machinery (excluding electric machinery)	50	27	77
17. Electric machinery and appliances	22	37	59
18. Other industries	33	35	68
19. Construction	44	37	81
20. Transport, communications and trade	64	17	81
21. Electricity and sanitary engineering	43	22	65
22. Personal and financial services	127	17	144
23. Housing	—	9	9

Table 6

MANPOWER CONTENT IN FINAL DEMAND FOR DOMESTICALLY-PRODUCED GOODS AND SERVICES, 1950

(Percentage of total)

Private and public consumption	74
Gross fixed investment	18
Inventory changes	— 4
Exports	12
Total	*100*

It can be seen in table 6 that 74 per cent of total manpower was absorbed in 1950 by private and public consumption (excluding direct employment by the Government); 18 per cent corresponded to gross domestic fixed investment, with a 4-per-cent adjustment for inventory changes; and exports accounted for 12 per cent.

The final demand aggregate wtih the highest manpower content per monetary unit was that of exports, because of the high coefficients registered for the agricultural and foodstuffs sectors. Clearly, particular interest attaches to this type of empirical research in relation to analyses of employment and its effects as a multiplier of consumption or investment.

Table 7

MANPOWER CONTENT IN FINAL DEMAND AGGREGATES, 1950

(Man/years per million pesos of domestically-produced goods and services) [a]

Private and public consumption	98
Fixed investment	80
Inventory changes	—
Exports	122
Total [b]	97

a Excluding direct Government employment.
b Including inventory changes.

In programming models, obviously, these coefficients, like those of imports, undergo substantial modification;

Table 8

DEPRECIATED FIXED CAPITAL AND FIXED CAPITAL–GROSS PRODUCTION COEFFICIENTS, 1950

Economic sector in which capital is allocated	Fixed capital (millions of pesos)				Coefficient in relation to value of production at purchasers' prices		
	Machinery and equipment	Construction	Total		Machinery and equipment	Construction	Total
			Value	Percentage of total			
1. Agriculture	7 984	6 614	14 598 a	7.74	0.586	0.485	1.071
2. Deposits, quarries and mines	2 450	250	2 700	1.43	2.390	0.244	2.634
3. Food, beverages and tobacco	4 015	3 287	7 302	3.87	0.258	0.212	0.470
4. Textiles, made-up articles and leather	3 440	1 466	4 906	2.60	0.271	0.116	0.387
5. Wood and construction materials	1 903	1 102	3 005	1.59	0.431	0.249	0.680
6. Paper, board and printed matter	820	364	1 184	0.63	0.342	0.152	0.494
7. Chemical products and rubber	1 683	826	2 509	1.33	0.443	0.217	0.660
8. Fuels, electricity and sanitary engineering	2 971	4 807	7 778	4.12	0.815	1.320	2.135
9. Metals and metal manufactures	2 093	915	3 008	1.59	0.483	0.211	0.694
10. Vehicles and machinery	1 666	737	2 403	1.27	0.424	0.188	0.612
11. Construction	468	52	520	0.28	0.050	0.005	0.055
12. General services	23 744	79 856	103 600	54.91	0.720	2.420	3.140
Total	*53 237*	*100 276*	*153 513*	*81.36*	*0.494*	*0.930*	*1.424*
13. Government	—	35 168	35 168	18.64	—	4.558	4.558
Grand total	*53 237*	*135 444*	*188 681*	*100.00*	*0.461*	*1.172*	*1.633*

a Excluding livestock and investment in plantations, irrigation and other land improvements.

it is this modification that constitutes the characteristic feature of the development process.

6. *Distribution of fixed capital*

The familiar method of accumulating annual investments was applied in order to estimate fixed (reproducible) capital classified by main types of durable goods. This material, together with data on fixed capital obtained from the industrial censuses taken in Argentina in 1935 and 1946, was used as a basis for preliminary estimates of the fixed capital belonging to each of twelve major economic sectors corresponding to the similar aggregation adopted in the tables of inter-sectoral transactions. These estimates related to the years 1935, 1946, 1950 and 1955. Table 8 gives the preliminary data for 1950 in relation to production values at purchaser's prices.

Estimates of fixed (reproducible) capital are presented separately in table 9, as applicable to four major sectors of the economy, under each of which two time series for capital are given. In one of these series, depreciation of capital is calculated on the basis of a constant annual proportion of the original amount of investment, valued at 1950 replacement prices; this estimate is termed the "depreciated value" of fixed capital. The other estimate was prepared in accordance with E. Domar's principle of substituting for annual depreciation the total replacement of the good concerned at the end of the useful life assigned to it. This second estimate is described as the "gross value" of capital.

Obviously, higher amounts are registered under the gross value of capital than in the column showing the depreciated value. The gross value series was relatively easy to compile, as the annual investment data that had been utilized in calculating the depreciated value were available, so that time series could be worked out to cover every year from 1935 onwards. These gross value series are the more significant as a measure of the production capacity of the equipment, in so far, of course, as there is justification for assuming that the capacity in question is maintained throughout the useful life assigned to any given good. In this context it must be pointed out, as a possible objection to such an assumption, that the periods of useful life adopted in the calculation of depreciated capital were on the lengthy side.

A question which is of special importance for the Argentine economy and which must be stressed in connexion with these capital-production coefficients is that of the relative prices of capital. By 1950, a price structure markedly different from that prevailing in the pre-war period existed in the Argentine economy; broadly speaking, while the prices implicit in the consumption aggregate had risen by 234 per cent in relation to 1935-39, prices of capital goods had increased by 603 per cent. Again, the movement of prices was not the same in the various sectors. No relative price distortion on such a scale is registered in other countries, for example, the United States.

In these circumstances, if the depreciated capital/production or gross capital/production coefficients were established at pre-war prices, they would be strikingly different from those given in table 8. In the first place, their level would be significantly lower, and, secondly, the relative position of the sectors would in all likelihood be altered (for example, the relation between the coefficients for the agricultural and foodstuffs sectors and those for manufacturing sectors).

Yet another fact of great importance for analysis and programming emerges from a comparison of the year-by-year series of gross capital values with the depreciated capital series. As a general rule, in the industrial sector the former reflect a smaller increase than the latter, especially during the last ten years, so that the increment

Table 9

ESTIMATES OF DEPRECIATED AND GROSS VALUES OF CAPITAL, 1935–55

(Millions of pesos at 1950 prices)

Year	*Agriculture* [a]		*Industry and mining*		*Services*		*Public works*		*Total*	
	Gross	Depreciated	Gross	Depreciated	Gross	Depreciated	Gross	Depreciated	Gross	Depreciated
1935	19 355	12 331	27 551	16 427	162 877	94 742	36 215	23 233	245 998	146 733
1936	19 580	12 237	28 356	16 552	164 061	93 859	38 064	24 583	250 061	147 231
1937	20 277	12 307	30 743	17 206	166 446	94 103	40 330	26 367	257 796	149 983
1938	20 933	12 592	31 209	17 780	168 741	94 926	42 922	28 454	263 805	153 752
1939	21 429	12 600	32 115	17 863	169 716	94 924	44 984	29 983	268 244	155 370
1940	21 252	12 276	32 649	17 796	168 609	94 334	46 841	31 162	269 351	155 568
1941	20 994	11 779	33 166	17 649	169 851	94 178	48 541	32 122	272 552	155 728
1942	20 640	11 229	33 594	17 395	171 493	93 774	49 965	32 802	275 692	155 200
1943	19 974	10 619	33 712	17 012	172 652	94 309	51 385	33 444	277 723	155 384
1944	19 032	10 228	33 805	16 729	173 928	93 138	53 414	34 677	280 179	154 772
1945	18 237	9 844	33 719	16 513	174 645	92 886	55 260	35 739	281 861	154 982
1946	17 597	9 717	34 227	17 023	175 241	93 957	56 838	36 627	283 903	157 324
1947	18 009	10 450	37 170	19 902	181 238	98 279	58 454	37 350	294 871	165 981
1948	18 189	11 005	39 366	22 723	184 597	101 303	61 040	39 286	303 192	174 317
1949	17 259	10 920	40 004	23 937	185 836	102 714	64 672	42 069	307 771	179 640
1950	17 192	11 084	40 994	24 934	188 757	104 465	68 177	44 569	315 120	185 052
1951	17 664	11 313	42 938	26 248	193 115	106 808	71 456	46 757	325 173	191 126
1952	18 292	11 568	44 677	26 986	197 364	108 450	73 842	47 920	334 175	194 924
1953	18 883	11 809	46 179	27 456	201 224	109 764	76 185	49 070	342 471	198 099
1954	18 973	11 824	47 766	28 143	205 058	111 742	78 719	50 756	350 516	202 465
1955	19 566	12 307	49 323	29 093	207 941	114 234	80 479	52 295	357 309	207 929

a Excluding livestock inventories and improvements in the shape of clearing, irrigation, outbuildings and housing.

indicated by the depreciated-capital/production time coefficient is greater than that shown in the gross capital series. This would lead, for example, to varying conclusions with respect to available production capacity.

Up to now, these analyses have been of a preliminary nature. However, it will in all likelihood be possible to collect reasonably satisfactory information on which to base other studies utilizing the input-output model for Argentina. At the same time attention must be called to the fact that the coefficients under discussion, especially those relating to machinery and equipment, have already been applied in the formulation of projections of investment in the Argentine economy, but in relation to the value added by economic sectors.

Table 10

COEFFICIENTS OF DIRECT AND INDIRECT CONTENT OF SALARIES AND WAGES IN FINAL DEMAND FOR DOMESTICALLY-PRODUCED GOODS

Final demand sector	*Direct*	*Indirect*	*Total*
1. Crop farming	0.156	0.207	0.363
2. Stock farming	0.119	0.112	0.231
3. Deposits, quarries and mines	0.286	0.185	0.471
4. Food, beverages and products of refrigerating plants	0.120	0.286	0.406
5. Tobacco	0.094	0.129	0.223
6. Textiles	0.208	0.252	0.460
7. Made-up articles	0.142	0.322	0.464
8. Timber and other forest products	0.199	0.257	0.456
9. Paper, board and printed matter	0.212	0.211	0.423
10. Chemical products	0.149	0.252	0.401
11. Fuels, lubricants and other petroleum derivatives	0.050	0.253	0.303
12. Rubber manufactures	0.171	0.231	0.402
13. Leather and leather manufactures	0.195	0.312	0.507
14. Stone, earths, glass and ceramics	0.232	0.236	0 468
15. Metals and metal manufactures	0.196	0.225	0.421
16. Vehicles and machinery (excluding electric machinery)	0.344	0.169	0.513
17. Electric machinery and appliances	0.197	0.231	0.428
18. Other industries	0.240	0.182	0.422
19. Construction	0.365	0.221	0.586
20. Transport, communications and trade	0.416	0.106	0.522
21. Electricity and sanitary engineering	0.346	0.153	0.499
22. Personal and financial services	0.410	0.064	0.474
23. Housing	0.027	0.056	0.083

7. *Content of salaries and wages in final demand*

Just as imports were estimated in relation to their consolidation in final demand, the various factor payments were also assigned to final demand sectors. The total result thus obtained was the costs structure of the final demand items.

Table 10 gives the coefficients measuring the value of the nominal salaries and wages incorporated in each group of goods and services of final demand. A coefficient for total content is included, together with its component parts assessing the direct and the indirect content.

These salary and wage coefficients are based on the nominal earnings of the labour factor, as the social security contributions payable by employees and employers in each economic sector are included. Final demand, as in the preceding cases, is evaluated at the prices paid by purchasers, or, in other words, at market prices. Broadly speaking, it is in agricultural commodities that the salaries and wages content is smallest; in the stock farming sector the coefficient stands at 23 per cent, and in crop farming it reaches 36 per cent. In the case of manufactures, with minor exceptions, the content referred to is more uniform, although here too some products show coefficients of varying magnitude. Construction activities register the highest coefficient of salaries and wages content. Employment density is considerable in this sector, and, moreover, the correspond-

Table 11

CONTENT OF INTERMEDIATE IMPORTS, FACTOR COSTS *ET ALIA* IN FINAL DEMAND FOR DOMESTICALLY-PRODUCED GOODS AND SERVICES, 1950

(Percentage of value of each final demand item)

Final demand sector	*Intermediate imports*	*Salaries and wages*	*Gross earnings of capital and entrepreneurs, and net indirect taxes*	*Total final demand*
1. Crop farming	2.5	36.3	61.2	100.0
2. Stock farming	0.9	23.1	76.0	100.0
3. Deposits, quarries and mines	2.8	47.1	50.1	100.0
4. Food, beverages and products of refrigerating plants	4.2	40.6	55.2	100.0
5. Tobacco	6.5	22.2	71.3	100.0
6. Textiles	6.5	46.0	47.5	100.0
7. Made-up articles	10.2	46.4	43.4	100.0
8. Timber and other forest products	15.7	45.6	38.7	100.0
9. Paper, board and printed matter	13.0	42.4	44.6	100.0
10. Chemical products	8.1	40.1	51.8	100.0
11. Fuel, lubricants and other petroleum derivatives	17.5	30.3	52.2	100.0
12. Rubber manufactures	13.5	40.2	46.3	100.0
13. Leather and leather manufactures	3.7	50.7	45.6	100.0
14. Stone, earths, glass and ceramics	6.8	46.8	46.4	100.0
15. Metals and metal manufactures	14.8	42.1	43.1	100.0
16. Vehicles and machinery (excluding electric machinery)	11.1	51.3	37.6	100.0
17. Electric machinery and appliances	13.0	42.8	44.2	100.0
18. Other industries	7.3	42.2	50.5	100.0
19. Construction	8.7	58.6	32.7	100.0
20. Transport, communications and trade	3.4	52.2	44.4	100.0
21. Electricity and sanitary engineering	12.4	49.9	37.7	100.0
22. Personal and financial services	1.2	47.4	51.4	100.0
23. Housing	1.9	8.3	89.8	100.0
Total	*5.9*	*43.2*	*50.9*	*100.0*

Table 12

CONTENT OF TOTAL IMPORTS, FACTOR COSTS *ET ALIA* IN TOTAL FINAL DEMAND, 1950

(Percentage of value of each final demand item)

Final demand sector	*Total imports* [a]	*Salaries and wages*	*Gross earnings of capital and entrepreneurs, and net indirect taxes*	*Total final demand*
1. Crop farming	4.0	35.8	60.2	100
2. Stock farming	1.3	23.0	75.7	100
3. Deposits, quarries and mines	36.2	30.9	32.9	100
4. Food, beverages and products of refrigerating plants	4.5	40.5	55.0	100
5. Tobacco	6.6	22.2	71.2	100
6. Textiles	8.5	45.1	46.4	100
7. Made-up articles	10.7	46.2	43.1	100
8. Timber and other forest products	16.2	45.3	38.5	100
9. Paper, board and printed matter	9.7	43.9	46.4	100
10. Chemical products	10.6	39.0	50.4	100
11. Fuel, lubricants and other petroleum derivatives	13.7	31.7	54.6	100
12. Rubber manufactures	13.9	40.0	46.1	100
13. Leather and leather manufactures	3.4	50.9	45.7	100
14. Stone, earths, glass and ceramics	10.6	45.0	44.4	100
15. Metals and metal manufactures	19.8	39.7	40.5	100
16. Vehicles and machinery (excluding electric machinery)	40.1	34.6	25.3	100
17. Electric machinery and appliances	17.0	40.9	42.1	100
18. Other industries	15.0	38.7	46.3	100
19. Construction	8.7	58.6	32.7	100
20. Transport, communications and trade	3.4	52.2	44.4	100
21. Electricity and sanitary engineering	12.4	49.9	37.7	100
22. Personal and financial services	1.2	47.4	51.4	100
23. Housing	1.9	8.3	89.8	100
Total	7.7	42.4	49.9	100

a Including inventory changes.

Table 13

COEFFICIENTS OF DIRECT AND INDIRECT CONTENT OF IMPORTED INTERMEDIATE PRODUCTS IN THE 23 SECTORS OF FINAL DEMAND FOR DOMESTICALLY-PRODUCED GOODS

(Percentage of value of each aggregate)

	Private and public consumption	*Gross fixed investment*	*Changes in inventories*	*Exports*	*Total*
Salaries and wages [a]	39.8	56.1	35.4	38.2	43.2
Gross earnings of capital and entrepreneurs, and net indirect taxes	54.9	35.0	60.3	57.8	50.9
Intermediate imports	5.3	8.9	4.3	4.3	5.9
Total final demand	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

a Excluding Government salaries and wages.

ing coefficient is high in the allied industries too. Public works undertaken by administrative authorities for which entrepreneurs' earnings and returns on capital are not computed, also exert some influence.

Within the services sector, transport, electricity and sanitary engineering are conspicuous for their high salaries and wages content. In the case of sanitary engineering, the upward trend of the coefficient is attributable to the fact that the services in question are rendered by the Government and their valuation therefore excludes returns on capital and entrepreneurs' earnings. It is the housing service that shows the lowest content of labour remunerations, since almost the whole of its market value is constituted by returns on capital.

8. *Imports, factor costs,* et alia, *in final demand*

It was never intended that the present analysis should go deeply into returns on capital and entrepreneurs' earnings, depreciation and taxes; all these are incorporated globally into final demand. However, a minimum supply of data of a certain statistical value is available in Argentina, on the basis of which an analysis of this type could be carried out in respect of capital depreciation as well as of indirect taxes and subsidies.

Table 11 gives the percentage coefficients showing the content of intermediate imports, salaries and gross earnings of capital and entrepreneurs plus indirect taxes, in each group of domestically-produced goods and services incorporated into final demand. Calculation of the average coefficient for each of these types of content enables a relative position to be assigned to each final demand item in accordance with the magnitude of its coefficients.

An analysis of the same kind is presented in table 12, with the inclusion of total imports. In other words, to the cumulative intermediate import content in each group of goods and services of final demand are added those imports of finished goods or those changes in import inventories which, in the 1950 final demand figures, are incorporated in the consumption and investment aggregates. The allocation of the whole of the resources absorbed by final demand is thus completed. The inclusion of inventory changes introduces a certain arbitrary factor into these coefficients, especially on account of the statistical errors it involves. Yet the table is useful as an indication of the special significance attaching to imports of finished goods in those sectors which play a direct part in capital formation (metals and machinery).

The analysis of the costs structure of domestically-produced goods and services for final demand can be presented in summarized form in respect of each final demand aggregate (see table 13).

Owing to the heavy weighting of the agricultural and foodstuffs sector, consumption and exports, viewed from the standpoint of final utilization of resources, tend to resemble each other very closely as regards their costs structure; a different structure is imparted to capital goods (including domestic fixed investment) by more intensive utilization of intermediate imports and resources from manufacturing sectors.

Table 14 includes imports of finished goods, thus intensifying the participation of imports in the investment aggregate and slightly raising this same coefficient in consumption.

Table 15 determines the percentage distribution among the four final demand aggregates of imports, factor costs, and gross returns on capital and entrepreneurs, earnings plus net indirect taxes. It supplements the preceding analysis, since it establishes a weight-

Table 14

CONTENT OF TOTAL IMPORTS, FACTOR COSTS *ET ALIA* IN TOTAL FINAL DEMAND, 1950

(Percentage of value of each aggregate)

	Private and public consumption	*Gross fixed investment*	*Changes in inventories*	*Exports*	*Total*
Salaries and wages [a]	39.4	52.3	31.0	38.2	42.4
Gross earnings of capital and entrepreneurs and net indirect taxes	54.4	32.6	53.0	57.8	49.9
Total imports	6.2	15.1	16.0	4.0	7.7
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

a Excluding Government salaries and wages.

Table 15

DISTRIBUTION OF FACTOR COSTS AND IMPORTS AMONG FINAL DEMAND AGGREGATES, 1950

	Salaries and wages [a]	*Gross earnings of capital, and entrepreneurs and net indirect taxes*	*Imports*	*Total*
A. *Final demand for domestically-produced goods and services*				
Private and public consumption	66.4	77.9	63.9	c2.1
Gross fixed investment	27.5	14.5	31.6	21.1
Changes in inventories	— 2.0	— 2.9	— 1.7	— 2.4
Exports	8.1	10.5	6.2	9.2
Total	*100.0*	*100.0*	*100.0*	*100.0*
B. *Total final demand*				
Private and public consumption	66.4	77.9	57.5 [b]	71.5
Gross fixed investment	27.5	14.5	43.4 [b]	22.2
Changes in inventories	— 2.0	— 2.9	— 5 6 [b]	— 2.7
Exports	8.1	10.5	4.7 [b]	9.0
Total	*100.0*	*100.0*	*100.0*	*100.0*

a Excluding Government salaries and wages.
b Intermediate imports.

ing for each of the coefficients of content. It further indicates that in 1950, despite the low coefficient of intermediate and even total imports, private and public consumption directly and indirectly absorbed 64 per cent of imports of intermediate products and 57 per cent of total imports; only 5 per cent of total imports found their way into the export sector.

9. *Sectoral product and imports in final demand*

The preceding section's analysis of the final destination of resources through costs can be supplemented by another which uses factor costs as a means of showing the final utilization of the resources of each production sector.

For this purpose, the gross values of salaries and wages, returns on capital and entrepreneurs' earnings were taken, with the inclusion of indirect taxes after deduction of subsidies. These gross values added at market prices give a quantitative indication of the sectoral participation, but it would have been useful if another comparison at factor costs had been available in order to eliminate the differing participation of indirect taxes in each sector.

Nevertheless, these preliminary analyses, which are being applied to the Argentine economy for the first time, provide data of great importance for analytical purposes. As can be seen in table 16, where sectoral product is broken down under three major heads, on the basis of calculations made at the 12-sector level, the content of agricultural product is highest in the consumption and exports aggregates; the 27-per-cent coefficient representing the industrial product incorporated in exports is largely determined by exports of meat, by-products of the livestock industry and other secondary products obtained in the refrigerating plants, an activity which in the transactions table is registered under the industrial sector. A preponderant influence is also exerted by exports of vegetable oils, which are classified under the head of chemical products. Much the same is true of the private consumption aggregate. Among the interesting data presented in this table is the substantial

Table 16

DESTINATION OF SECTORAL RESOURCES IN FINAL DEMAND AGGREGATES, 1950

(Percentage of value of each aggregate)

Gross sectoral product	*Public and private consumption*	*Gross fixed investment*	*Total* [a]	*Exports*	*Grand total* [a]
1. Agriculture	16.7	0.5	12.1	37.9	14.4
2. Industry	29.6	0.4	37.4	27.0	36.5
3. General services [b]	47.5	24.0	42.4	31.0	41.4
Total	93.8	84.9	91.9	95.9	92.3
4. Imports	6.2	15.1	8.1	4.1	7.7
1) Intermediate goods	(5.2)	(8.3)	(6.0)	(4.1)	(5.8)
2) Finished goods	(1.0)	(6.8)	(2.1)	(—)	(1.9)
Grand total	100.0	100.0	100.0	100.0	100.0

a Including inventory changes.
b Excluding Government services.

Table 17

PERCENTAGE DISTRIBUTION OF SECTORAL PRODUCT AND IMPORTS AMONG FINAL DEMAND AGGREGATES, 1950

Gross sectoral product	Public and private consumption	Gross fixed investment	Changes in inventories	Total	Exports	Grand total
1. Agriculture	83.1	0.8	— 7.6	76.3	23.7	100.0
2. Industry	57.9	36.8	— 1.4	93.3	6.7	100.0
3. General services	82.0	12.9	— 1.7	93.2	6.8	100.0
Total	*72.6*	*20.5*	*— 2.5*	*90.6*	*9.4*	*100.0*
4. Imports	57.1	43.5	— 5.4	95.2	4.8	100.0
a) Intermediate goods	63.5	31.7	— 1.5	93.7	6.3	100.0
b) Finished goods	37.6	79.9	—17.5	100.0	—	100.0
Grand total	71.5	22.2	— 2.7	91.0	9.0	100.0

participation of services in exports, a point which is often overlooked. That of imports of intermediate and finished goods was remarked upon at an earlier stage.

Certain data of great interest for analytical purposes are also to be noted in connexion with the percentage distribution of sectoral product among the different final demand aggregates, as established in table 17.

It is important to note that about one-fifth of agricultural product is absorbed by the exports aggregate and four-fifths by domestic consumption. In accordance with the conventional classification adopted in the matrix, 58 per cent of the resources of the industrial sector falls to consumption, 37 per cent to investment and a little over 6 per cent to exports.

10. *International comparison of global structure of costs of resources*

Quantitative research on the final destination of resources has been carried out for other countries within the conventional framework of the input-output model. Needless to say, its findings are not strictly comparable with those of the analyses based on the input-output model for Argentina; nevertheless, it is useful to draw such a comparison in very general terms, since, notwithstanding all reservations, certain conclusions can be deduced.

Table 18 reproduces the findings of research on the final destination of resources carried out by the United Nations Economic Commission for Europe. The data can be compared, on very general lines, with those given for Argentina in table 17.

It will be seen that in 1950 the Federal Republic of Western Germany, France, Italy and the United Kingdom earmarked less than 10 per cent of the output of agriculture, forestry and the fishing industry for exports, while in Argentina the corresponding proportion was 20 per cent; in other countries, such as the Netherlands, Norway and Sweden, the share of the primary sector's resources which was allocated to exports was larger than in Argentina, although the structure of output was not the same. Another differentiating feature which emerges, rough as these approximations are, is the distribution of imports. All the countries referred to assigned a bigger proportion of their imports to the export sector than did Argentina, and, although the relevant estimate is not available, the import content in (per unit) exported goods was probably higher in all of them than in Argentina's case. There were noteworthy differences among the European countries themselves as regards the distribution of imports and of other resources among the final demand aggregates.

Another general comparison can be drawn with Australia, since an analysis of the type under discussion is available for that country. A figure to which attention may usefully be called is that of the import content in exports. In the case of Argentina it was 4 per cent, whereas in that of Australia it is 5.9 per cent (see table 19). Clearly, some influence may have been exerted by discrepancies between the conventional principles followed in compiling the matrix, for example, the method of differentiating between current costs and capital formation. It seems obvious, however, that Australia's agricultural sector has a bigger direct input of imported goods. No well-founded conclusions can be drawn from a comparison of the coefficients of the content of sectoral resources in the exports of Argentina and Australia, unless the sectoral classification of the two matrices is more searchingly analysed.

For the time being the principal aim of these comparisons is to show how widespread the application of this methodology of analysis is becoming and to indicate the possibilities it affords. The problems arising in connexion with comparisons of this type are already familiar, and to them must be added here the significant effects of differences in the criteria adopted for the construction of input-output models.

11. *Influence of changes in final demand*

Given a specific structure of production, final demand determines the level and structure of supply. The open static input-output model does not explain the economic process whereby demand, production and income operate within the economic system; but it is useful, always provided that due allowance is made for the hypotheses on which the model is based, as a pointer to the composition of supply satisfying a specific final demand. It is therefore worth while to determine how, given the current structure of the Argentine economy, the components of final demand influence each of the sectors of production. This phenomenon, which in the last analysis reduces itself to a question of balance between produc-

Table 18

FINAL DESTINATION OF RESOURCES IN WESTERN EUROPE IN 1950

(Percentages)

	Net output of					Net output of				
	Agriculture, forestry fishing	*Industry*	*Transport, trade and services*	*Imports*	*Total resources* [a]	*Agriculture, forestry fishing*	*Industry*	*Transport, trade and services*	*Imports*	*Total resources* [a]
	OEEC MEMBER COUNTRIES COMBINED [b]					FRANCE				
Private consumption	91	48	61	65	60	86	41	62	59	60
Public consumption		6	28	6	14	1	4	26	3	11
Gross fixed investment	1	30	5	16	15	1	28	6	17	14
Change in stocks	4	1	—	1	1	4	5	1	4	3
Exports	4	15	6	12	10	8	22	5	17	12
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
	FEDERAL REPUBLIC OF GERMANY					ITALY				
Private consumption	81	37	61	64	54	87	48	57	60	62
Public consumption	1	8	28	5	14	—	4	29	4	10
Gross fixed investment	4	31	6	15	17	1	34	4	24	16
Change in stocks	7	4	1	4	3	6	—	—	— 3	1
Exports	7	20	4	12	12	6	14	10	15	11
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
	NETHERLANDS					NORWAY				
Private consumption	58	40	48	39	43	57	34	48	38	42
Public consumption	—	8	23	4	11	1	4	15	2	7
Gross fixed investment	6	18	4	18	13	7	37	8	36	24
Change in stocks	2	6	1	10	5	—	—	—	1	—
Exports	34	28	24	29	28	35	25	29	23	27
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
	SWEDEN					UNITED KINGDOM				
Private consumption	63	32	61	60	50	94	44	58	70	57
Public consumption	—	4	22	3	9	—	8	26	7	14
Gross fixed investment	7	43	7	23	24	—	23	4	7	12
Change in stocks	—	— 1	—	—	—	1	— 2	—	— 5	— 2
Exports	30	22	10	14	17	5	27	12	21	19
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*

SOURCE: *Economic Survey of Europe in 1957*, Chapter III, table 3, p. 8.
a At factor cost.
b Both imports and exports exclude intra-OEEC trade.

tion, imports and final demand, is studied in the abstract below, a 10-per-cent increase over absolute 1950 levels being postulated for each of the final demand aggregates. In the case of private and public consumption this 10-per-cent increment was broken down by industrial sectors of origin in accordance with the corresponding consumption-elasticity coefficients, while it was introduced into investment and exports item by item.

Table 19

AUSTRALIA: CONTENT OF SECTORAL RESOURCES AND IMPORTS IN EXPORTS, 1953–54

Economic sector	*Percentage of total*
Agriculture	50.11
Industry	11.24
Others	11.91
General services	20.94
Imports	5.90
Total	*100.00*

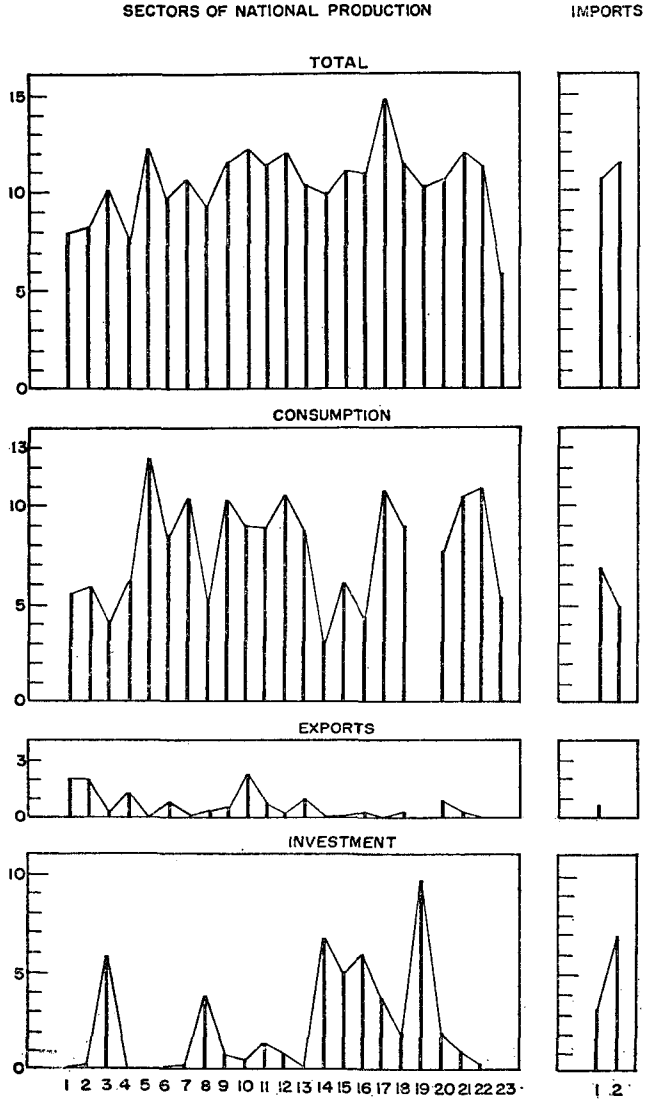
SOURCE: "Australia's Industrial Structure", *The Economic Record*, December 1958, table IV, p. 365.

Table 20 and figure I show the magnitude of the change that would be registered in each sector of production and imports. The growth of demand for the durable goods which go to make up gross domestic investment naturally has special repercussions on the industries producing capital goods, but it also exerts some influence, as a result of induced demand, on other activities, such as, for example, those producing construction materials (mining products, stone and glass), metal manufactures and wood, which would register increments of 7 per cent, 5 per cent and 4 per cent respectively. It is interesting to note that the output of fuels and lubricants would probably rise by 1.5 per cent and that of rubber manufactures by just under 1 per cent. Imports in the aggregate would be likely to expand by a little over 4

Figure I

ARGENTINA: PERCENTAGE INCREMENTS IN PRODUCTION AND IMPORTS DETERMINED BY A 10-PER-CENT INCREASE IN FINAL DEMAND

NATURAL SCALE



Sectors of national production

1. Crop farming
2. Stock farming
3. Deposits, quarries and mines
4. Food, beverages and by-products of refrigerating plants
5. Tobacco
6. Textiles
7. Made-up articles
8. Timber and other forest products
9. Paper, board and printed matter
10. Chemical products
11. Fuels, lubricants and other petroleum derivatives
12. Rubber manufactures
13. Leather and leather manufactures
14. Stone, earths, glass and ceramics
15. Metals and metal manufactures
16. Vehicles and machinery (excluding electric machinery)
17. Electric machinery and appliances
18. Other industries
19. Construction
20. Transport, communications and trade
21. Electricity and sanitary engineering
22. Personal and financial services
23. Housing

Imports

1. Intermediate goods
2. Final goods

per cent, while the increase in imports of finished goods would be about 7 per cent. All these proportions are established in relation to each sector's absolute levels of production in 1950.

The incidence of exports on the domestic production sectors is considerably less than that of domestic consumption, although in computing the latter the consumption-elasticity of each commodity was taken into account, so that for those production sectors which also supply goods for export, the increase in consumption is much smaller than that of 10 per cent assumed to take place in consumption as a whole. The influence of exports is particularly strong in the case of five sectors of production, resulting in an expansion of over 2 per cent in crop farming, stock farming and chemical products, and of over 1 per cent in foodstuffs and leather manufactures. The inclusion of vegetable oils accounts for the reaction of the chemical products sector. This research also shows the relatively significant effect of exports on the services sector; on the other hand, their influence on import demand is strikingly-less than that of the other aggregates. Consumption of fixed capital was not computed in this analysis.

Private and public consumption—taken together—carry, of course, the heaviest weight, although some sectors are more powerfully affected by demand for durable goods for capital formation purposes. Differences observable in the increments shown in the table are determined by a different elasticity coefficient, as well as by derived demand.

The analysis under discussion also reveals a special characteristic of the Argentine economy which distinguishes it, up to a point, from that of other Latin American countries. As has already been stated, Argentina's staple lines of production for export are at the same time the items which carry most weight in private consumption. Cases in point are the agricultural and foodstuffs sectors, together with textiles (woollens) and chemical products (oils), which thus have to meet the claims of two competing uses, i.e., direct private consumption and exportation.

It is possible to study the trends registered in the Argentine economy during the last few years and see how, given a specific rate of increase of supply, the larger the increment in private consumption the smaller have been the exportable surpluses, and *vice versa.*

Another very interesting by-product of this research is the conclusion that demand for imports is greater when consumption expands than when an equivalent change takes place in demand for capital goods. In the former case the increase in total imports reaches 6.4 per cent, whereas in the latter it is only 4.1 per cent; and this despite the fact that investment registers a bigger import content, the reason being the higher absolute value of consumption.

Table 20

INCREMENTS IN PRODUCTION AND IMPORTS DETERMINED BY A 10-PER-CENT INCREASE IN FINAL DEMAND

Sector of origin of goods services	Total level in 1950 a	Government and personal consumption		Gross investment		Exports		Total	
		Production	Percentage increment	Production	Percentage increment	Production	Percentage increment	Production	Percentage increment
I. *Sectors of domestic production*									
1. Crop farming	8 346.1	474.5	5.69	4.0	0.05	188.0	2.25	666.5	7.99
2. Stock farming	6 312.6	378.2	5.99	3.3	0.05	140.9	2.23	522.4	8.28
3. Deposits, quarries and mines	1 148.8	46.0	4.00	68.9	6.00	5.1	0.44	120.0	10.45
4. Food, beverages and products of refrigerating plants	14 618.3	880.0	6.02	5.0	0.03	218.9	1.50	1 103.9	7.55
5. Tobacco	859.6	109.0	12.68	—	—	0.1	0.01	109.1	12.69
6. Textiles	6 471.8	539.8	8.34	14.3	0.22	59.6	0.92	613.7	9.48
7. Made-up articles	4 278.4	441.5	10.32	8.6	0.20	8.0	0.19	458.1	10.71
8. Timber and other forest products	2 512.0	120.5	4.80	102.0	4.06	13.3	0.53	235.8	9.39
9. Paper, board and printed matter	2 559.5	264.8	10.35	21.4	0.84	15.1	0.59	301.3	11.77
10. Chemical products	3 632.3	337.7	9.30	20.2	0.56	90.6	2.49	448.5	12.35
11. Fuels, lubricants and other petroleum derivatives	2 522.6	225.6	8.94	38.9	1.54	20.9	0.83	285.4	11.31
12. Rubber manufactures	519.8	55.9	10.75	4.6	0.88	2.4	0.46	62.9	12.10
13. Leather and leather manufactures	1 696.2	149.9	8.84	3.8	0.22	19.2	1.13	172.9	10.19
14. Stone, earths, glass and ceramics	2 213.4	58.3	2.63	154.9	7.00	4.9	0.22	218.1	9.85
15. Metals and metal manufactures	4 133.9	264.2	6.39	197.6	4.78	8.2	0.20	470.0	11.37
16. Vehicles and machinery (excluding electric machinery)	2 685.3	113.9	4.24	168.4	6.27	8.9	0.33	291.2	10.84
17. Electric machinery and appliances	1 319.6	144.5	10.95	49.7	3.77	0.4	0.03	194.6	14.75
18. Other industries	905.8	83.6	9.23	16.8	1.85	3.4	0.38	103.8	11.46
19. Construction	9 452.0	—	—	945.2	10.00	—	—	945.2	10.00
20. Transport, communications and trade	21 684.7	1 712.2	7.90	394.5	1.82	217.4	1.00	2 324.1	10.72
21. Electricity and sanitary engineering	1 248.3	132.5	10.61	12.5	1.00	5.8	0.46	150.8	12.08
22. Personal and financial services	7 092.1	781.2	11.02	22.0	0.31	9.4	0.13	812.6	11.46
23. Housing	3 920.0	211.7	5.40	—	—	—	—	211.7	5.40
Total	*110 133.1*	*7 525.5*	*6.83*	*2 256.6*	*2.05*	*1 040.5*	*0.94*	*10 822.6*	*9.83*
II. *Imports*									
1. Inputs of intermediate goods	3 681.5	258.7	7.03	114.9	3.12	22.8	0.62	396.4	10.77
2. Finished goods	1 390.5	66.8	4.80	94.5	6.80	—	—	161.3	11.60
Total	*5 072.0*	*325.5*	*6.42*	*209.4*	*4.13*	*22.8*	*0.45*	*557.7*	*11.00*

a Figures adjusted to eliminate inventory changes.

III. APPLICATION OF THE INPUT-OUTPUT MODEL IN PROJECTIONS FOR THE ARGENTINE ECONOMY

1. *Aggregate projections*

In outline, the essential bases of the programming methodology applied by ECLA are two mutually compatible systems of projection of the national accounts aggregates, as follows:

(a) Projections of the definitional or balance equation, which establishes that the gross national product and imports constitute the supply or availability of goods and services to satisfy final demand, of which the components are private and public consumption, gross investment and exports;

(b) Projection of the capacity to import or of the balance of payments, which establishes the probable volume of imports incorporated in the preceding equation.

A first approach to the problem bases the projection of the gross product on the past growth rate, present conditions and future prospects of the economy. The outlook for exports is of particular importance, and so is the probable inflow of capital, whether through direct private investment or through loans from official bodies.

Gross investment is dependent upon the expansion of the product where net investment is concerned, and

initially determined in accordance with an average or marginal product-capital coefficient. In addition, depreciation is established on the basis of replacement requirements in consonance with the stock of capital, although in practice a depreciation coefficient is generally adopted.

Exports are usually treated as a typical autonomous variable, the changes in which depend not so much upon the country's available supplies of resources as on the outlook for external demand. The probable evolution of this latter is established for the period under analysis, often on the basis of a hypothesis as to the growth of income in purchaser countries and of supply prospects in competing countries.

Once a hypothesis has been formulated as to the probable gross inflow of capital and the corresponding financial services determined, the import quantum consistent with a balanced over-all development programme can be established.

Private and public consumption are determined residually. In the study of aggregate projections of this type, various factors are taken into account. Two of these are usually of special importance, namely, the ratio between consumption and the product and the ratio between imports and the product in the preliminary programme. The point is that consumption should be kept within economically reasonable proportions, although specific increases are sometimes determined by considerations of social policy. The import coefficient is used to indicate the specific amount of import substitution that will need to be undertaken. A comparison is drawn with the country's own past experience, with the size of the corresponding coefficient in other countries, etc. This preliminary analysis leads to the examination of several alternative hypotheses, and is supplemented by projections of the active population, a common practice being to adopt two or three hypotheses—maximum, minimum and average—on the basis of which to continue the analysis for programming purposes.

2. *Inclusion of the input-output model in aggregate projections*

The next important step is to ascertain what the working hypothesis selected will imply with respect to the change or modification in the supply of goods that will be entailed by the final demand objectives established. It is obviously desirable that the method of operation used should be compatible with the basic equation constituting the point of departure for the analysis, or at least that the relations between the successive steps of the analysis and the original equation should be ascertained.

The final demand aggregates constituted by consumption, investment and exports can be broken down by goods or homogeneous groups of goods, in such a way that for each of the commodities in question a balance equation exists. This equation shows that the total available supply of goods "*i*", made up of domestic production and imports, furnishes—after deduction of the quantities absorbed by the sectors of production during the period under analysis—the amounts of each of the goods "*i*" used for the satisfaction of final demand. Consequently, the first term of the sum of all these equations—covering the whole of the "*n*" sectors or goods which form or flow into the system—represents total gross domestic production and imports minus total inputs of domestically-produced and imported goods in each of the production activities; while the second term of the aggregate equation gives the total for consumption, investment and exports. Thus the definitional equation of supply and final demand is obtained.

Sales of production sectors, in accordance with the conventional input-output technique, are expressed in terms of a linear function of production levels. The input coefficients or parameters relate to the quantities of goods "*i*" both domestically produced and imported, which constitute the input per unit of production in sector "*j*".

Thus, for each of the lines showing the flow of goods an equation can be formulated to establish that domestic production plus imports minus intermediate uses, expressed in terms of the linear function with the input coefficients as parameters, equals final demand. On these bases is constructed a static open Leontief model which provides the vector of sectoral domestic production values through pre-multiplication of a final demand vector (from which total imports have been deducted) by an inverse matrix $(I-A)$ in which the "A" components represent coefficients of total input.

By means of this variant of the open Leontief model, a direct link can be established between the basic definitional equation and its aggregate projections, on the one hand, and, on the other hand, a set of sectoral projections, the determination of which is the end in view. The relation can be grasped at once if it is borne in mind that the total imports resulting from the aggregate model will now be specifically classified under each sector of origin, so that the various branches of domestic production will fluctuate (given a certain final demand and a technological structure defined by the matrix of input coefficients) in accordance with the sectoral distribution of the said volume of imports.

The matrix of input coefficients for the period covered by the projections differs in principle from the base period matrix.

Although this model has certain features which are very useful as a means of demonstrating the production and import substitution processes, it is not easy to handle. Thus, for example, the aggregate programme sufficed to determine the possible amount of imports on the basis of the capacity for external payments and of other considerations connected with the growth of consumption and of the product and the expansion of the substitution process, but as to the sectoral distribution of these imports an infinite number of assumptions exists, and the levels of production are unknown, since they will depend upon the import hypothesis adopted. Likewise the import budget hypotheses may also lead to new lines of production. In addition, some quantitative basis is indispensable, with the help of which import hypotheses for the period covered by the projection can be formulated.

A method often used by ECLA to obtain fuller information for discussion of this point is that called "projection without import substitution", which consists in projecting production without postulating any change in the base year import coefficients. It offers a formula whereby production levels and absolute import figures can be

deduced from the model, provided that during the period covered by the projection the structure of the system in operation remains exactly the same as during the base period in respect of the sources of the sectoral supply of goods and services. The amount of imports thus obtained would represent what might properly be termed the potential demand for imports to meet the consumption, investment and export objectives established in the overall programme.

These are the findings known as "projections of production and imports without import substitution".

The inter-sectoral analysis also provides other background data on which to base discussion of import substitution, such as a table specifying import utilization in each sector of production and in final demand, by goods or groups of goods, for the years covered by the projection. All these data do not in themselves afford a solution of the basic problem of deciding which imported goods, and what quantity of each, it is desirable to replace by domestic production. This decision depends mainly upon criteria which, strictly speaking, do not derive from models of this type. The input-output model provides the quantitative bases for determining the elements of the substitutions that would be necessary from the balance-of-payments standpoint, and in addition, for demonstrating how the domestic production sectors would be affected by the alternative substitution hypotheses formulated.

The programme, composition and relative scales of import substitution are decided upon independently of the model, in which they are then included with a view to determination of the structural changes that must take place in the supply of domestically-produced goods as a result of the substitution processes in question. The model enables various substitution programmes to be discussed from the point of view of their implications with respect to production and factor requirements. These new projections are termed "projections of production and imports with import substitution".

3. *Alternatives for treatment of imports in input-output models*

Imports and services may be dealt with in different ways in tables of transactions and in input-output models. The study of imports is vital for development programmes, and a brief review of the relations and equivalences of these variants of the input-output model will be useful, especially since in some instances statistical data are insufficient to permit the compilation of the ideal models needed in each case.[5]

(a) *Competitive and non-competitive imports*

Leontief had already drawn a distinction between competitive and non-competitive imports. Those in the competitive category are grouped with domestically-produced goods, and are included in the table as an input in the sector producing domestic goods of a similar nature. Non-competitive imports are assigned directly to the consumer sectors.

The composition of the lines in the table of inter-sectoral transactions varies with respect to the domestic or foreign origin of goods. Some lines reflect flows of domestic and imported goods (competitive), others domestically-produced goods only, and a third set the flow of goods from external sources (non-competitive). The significance of input coefficients would therefore be of these three kinds. If a further hypothesis is added to those conventionally adopted in input-output models—namely, the assumption that the relation between competitive imports in each line and domestic production of the same goods is constant—the model constructed makes it possible to calculate production and import requirements for the satisfaction of specific estimates of final demand.

Another way of presenting the model, however, is to establish input coefficients in relation to domestic production values, even in sectors where competitive imports enter into the question. In some models an alternative procedure is followed, which consists in establishing total flows and estimating coefficients in relation to these, so that for the sectors concerned the model has projected a combined group of domestically-produced and imported items which are sorted out in accordance with the new conventional hypothesis.

(b) *Matrix of total flow of goods*

Each line of this matrix registers the flow of domestically-produced and imported goods. Imports are incorporated in the sectors of domestic production of identical or similar goods. Thus no precise distinction is drawn between competitive and non-competitive imports. However, the composition of the lines may conceivably vary; some may include nothing but domestically-produced items, others imports only, and the majority combined flows. Obviously, in so far as the level of aggregation rises and the number of sectors in the matrix is reduced, imports will tend to appear in combination with domestic production in almost all the rows.

There are two possible ways of presenting this table of transactions, which may be called the total flow table. One would include an additional line showing imports as if they were inputs in the sectors of domestic production, with the result that the total for reach column would represent the total supply of domestic and imported goods. The other method consists in maintaining the total domestic production figure in the columns without including a special line for imports, which are distributed over the individual sectoral lines.

The first variant of this table of total flow of goods provides an input-output model which projects the total available supply of goods that must exist in each sector in order to satisfy a given final demand, without distinction between domestic production and imports. But these sectoral availabilities may then be broken down by their domestically-produced and imported components, if it is assumed that the contribution of imports in each sector will remain constant and homogeneous. The input coefficients in this model are obtained by relating each sector's total inputs (domestically-produced and imported) to the total flow of production and imports.

[5] Modlin and Rosenbluth have established the analytical equivalence of models using alternative methods of treating imports and services.

The second variant of the total flow matrix also enables another variant of the input-output model to be constructed. In this case the coefficients are obtained by relating inputs (domestically-produced and imported) to domestic production, total imports being shown with a minus sign under final demand. This model furnishes estimates of domestic production given a specific final demand and an import hypothesis predetermined on the assumption that production and imports can be substituted for one another indiscriminately. This was the model which was used for the discussion of consistency between the aggregate and the sectoral projections.

(c) *Matrix flow of domestically-produced goods*

In this model available supplies of goods are broken down by the following two major sectors: (*i*) domestically-produced goods, and (*ii*) imported goods. In a preliminary simplified version, imports are grouped in one single line, while domestically-produced goods are classified by their sectors of origin. Imports of finished goods are assigned to the final demand sectors, and each of the sectors of production is allotted the appropriate inputs of imported goods, whether it purchases them abroad or on the domestic market.

As has been pointed out, imported goods are not shown in each individual line of the domestic goods sector, so that the total distributed represents sectoral domestic production, like the column totals in the table of transactions. Input coefficients are therefore determined by relating inputs of domestically-produced goods to the value of domestic production. The input-output model constructed on these bases affords estimates of domestic output to cover the final demand for domestically-produced goods. In this case the model enables intermediate imports to be estimated by sectors of utilization and industries of origin, if the break-down of the coefficients of inputs of imported goods is available. It is this type of model that ECLA has applied in its studies, listed in chronological order, on Colombia, Argentina and Peru.

The domestic-transactions model has the advantage of enabling projections of domestic production to be formulated without the risk of errors deriving from the grouping of imports. The transactions matrix for Argentina was analysed with a view to evaluating the assumption that each of its lines was homogeneous as regards composition by domestic or external origin of inputs in each of the sectors of production and in the final demand sectors; and it was seen that the proportion represented by imports varied very greatly. That is, the error in the projection of domestic production on the basis of a matrix of total coefficients may be sizeable. However, no experimental computation has as yet been made in order to assess its magnitude.

The model based on the matrix of coefficients of total input in relation to production has unquestionably useful features for the purposes of analysis; such a matrix is relatively more stable and is better adapted to certain aspects of linear programming. A model of this type was constructed with the total-transactions matrix for Argentina, but has so far been applied for purely experimental ends.

4. *Alternative systems for valuation and treatment of services*

Those services which are generally grouped together under the head of goods distribution services—such as trade and transport—can be incorporated into the inter-sectoral transactions table by alternative procedures which in some respects resemble those discussed in connexion with the allocation of the flow of imported goods. Clearly, this similarity is purely formal, since in the inter-sectoral analysis imports cannot be identified with services; suffice it to bear in mind that imports constitute primary factors, whereas services have their origin in a domestic activity that is included in the matrix itself.

(a) *Valuation at purchasers' prices*

One way of assigning services to their place in the transactions table consists in grouping them under that production sector which will subsequently incorporate them into the distribution process through the costs which are gradually added on until the output concerned reaches the hands of the final purchasers. This means that purchases both for intermediate and for the final utilization are valued at the prices paid by the buyers; and, in fact, this is called the "purchasers' prices" system. The value of the flow of goods from a particular sector is here constituted by the value at sales prices in the sector, or at entry into the country in the case of imports, plus the value of all distribution costs. The table of inter-sectoral transactions is completed by grouping such distribution costs in the services line as if they were inputs in the sector, so that the figures obtained in the columns represent output value at purchaser's prices, coinciding exactly with the total value of the goods distributed in the corresponding sector line.

The model which is constructed on the basis of this table of transactions presupposes that the distribution services are homogeneously incorporated all along the distribution line. This assumption is simply a generalization of the hypothesis adopted in the input-output model, which postulates stability in process structure and homogeneity within each branch of production. In reality, such uniformity in the utilization of distribution services is hardly likely to be achieved. Even in the special case of a single article obtained by application of a stable technology, while the homogeneous incorporation of a given input "*i*" must necessarily be assumed, whatever the use to which the article may be put, the same is not true of the services needed for its distribution. These may differ—sometimes to a significant extent—according to the purchasing sectors. Thus, for example, distribution costs for one and the same commodity are higher in the case of sales to final demand sectors than in that of sales to the sectors of production, owing to the differing proportions in which the two groups of sectors make purchases directly from the factory, to the additional services involved in retail trade, to special taxes, and so forth.

To take the case of a sector producing goods for both intermediate and final utilization, and having wider margins for the final utilization sectors, a production increment required to satisfy intermediate or final demand is bound to give rise to an induced demand for services,

the scale of which is determined by the average input coefficient registered in the appropriate column. Thus, the magnitude of the service as calculated in the model may exceed or fall short of effective demand.

Transactions tables valued by the purchasers' prices system are in practice easier to compile, since, as is common knowledge, all the census data or inter-census statistics that are usually available on the inputs or purchases of the various sectors are as a general rule expressed in values based on the expenditure actually effected. In contrast, statistics of production values are commonly presented at sector sales prices.

A point worth noting, however, is that if a total transactions table is to be drawn up, it is essential to obtain estimates of the services which must be incorporated into the flow of goods from each sector; in other words, although the table of transactions is compiled in accordance with the purchasers' prices system of valuation, determination of the distribution margins for each flow of goods is unavoidable. In these circumstances, it may be considered that in so far as statistics provide the requisite data for the construction of a total-transactions table at purchasers' prices, almost all the information is available that is needed in order to make adjustments and work out the transactions table with values at sector sales prices.

Certain special difficulties arise in connexion with the assignation of services relating to imported goods to their place in the table. In the transactions table for Argentina, these services are recorded under the following two heads: (*a*) as inputs in the sectors of production, in the case of those which are incorporated into intermediate products; and (*b*) as purchases made by the final demand sectors in the case of those which are incorporated into final goods; at the same time, the imports line is valued at *cif* prices on entry into the country. Consequently, the sum of the items registered in the individual columns represents in this instance the value of domestic production at purchasers' prices.

In the table based on the total flow of goods—which is another of the input-output models prepared for Argentina—there are various possibilities for assigning a place to the services linked with imports. If transactions are valued at purchasers' prices and the system of maintaining the domestic production value in the columns is adopted, it is more satisfactory to deduct imports (also valued at purchasers' prices) in the final demand sector. In this case the services they entail are also excluded from the model, and one way of incorporating them in the projections would be to compute them as a final demand item. This was the procedure adopted in experimental calculations using the input-output model which had been prepared for Argentina on the basis of total input coefficients.

If, on the other hand, the model is constructed in accordance with the system of determining imports by means of a coefficient in the structural matrix, it will be impossible to ascertain the probable future level of imports for given final demand figures, and the foregoing method of computing the services required for the distribution of this flow of goods cannot be applied. In this case, recourse may be had to the formula consisting in assigning these services as inputs in each of the sectors of production, with due regard to the coefficient of imports in relation to the available supply of goods in each of the flow lines. Clearly, this method presupposes that both the proportional margin of services in relation to imports and the coefficient of the flow of imports in relation to domestic production of the same kinds of goods will remain constant.

The transactions tables for Argentina and the related models are constructed on the basis of purchasers' prices; the models for Colombia and Peru, on the other hand, which deal chiefly with the industrial sector, are based on a mixed system of valuation, whereby output is valued at factory sales prices and inputs at the prices paid by the sectors concerned.

(b) *Valuation by producers' sales prices*

The other alternative system for the valuation of transactions is that of applying sales prices in each sector of origin; this is called the "producers' prices" system. In this instance, the distribution costs incorporated in the prices of goods are computed separately, as if the production or final demand sector performed two different operations when buying a commodity: the purchase of the commodity itself, valued at producers' prices, and a separate purchase of services, also valued at producers' prices. In other words, the input coefficient of the preceding system is now broken down into two partial coefficients.

It is evident that the compilation of a table of this type calls for minutely detailed information on marketing and transport margins, etc., for each of the goods or groups of goods purchased by each sector. Statistical data on inputs or purchases must be adjusted in their entirety in order to express them in terms of producers' prices, in the case of both the production and the final demand sectors. A good deal of this information may be already compiled in the national income offices which carry out quantitative analyses of the flow of goods, although in all likelihood the data available will prove insufficient.

Input-output models based on tables of transactions valued at producers' prices have certain significant advantages over those previously described. It can be seen at once that they may be applied without the need to assume that services represent a constant proportion of the flow of goods lines; that they are easier to handle and interpret, especially for purposes of theoretical discussion; and, in addition, that they facilitate more accurate analysis of price structure. Broadly speaking, there is at the present time a definite tendency to construct transactions tables in accordance with this system of valuation.

Moreover, the system referred to by-passes the difficulties of assigning services connected with imported goods to their proper place in tables valued at purchasers' prices, since for the economic sectors which buy imported goods the corresponding inputs of services are shown as a separate entry, in line with the conventional procedure for inputs of services relating to domestically-produced goods. The same criterion is followed with respect to the final demand sectors.

However, as already pointed out, this system necessitates more statistical data, and rather more processing of these, than the method based on purchasers' prices. Furthermore, application of the model entails prepar-

atory work on the final demand estimates, with a view to the revaluation of each group of commodities at producers' prices. This model consequently affords an opportunity of modifying, should it prove necessary, the distribution margins for final demand goods.

5. *Intra-sectoral transactions*

The input-output models usually discussed exclude intra-sectoral transactions. This practice derives from the conventional hypothesis that the sectors of production and utilization under consideration comprise homogeneous goods which can therefore be represented by a single commodity. Consequently, it is logical to assume that the sector producing this single or elemental item has no reason to use its own output as inputs.

As soons as this assumption is related to the real facts of the case it is seen to be unduly arbitrary, since a statistical unit is constituted as a rule by an establishment producing a non-homogeneous commodity or a group of commodities, and it loses all validity when work is based on the models that can in practice be constructed, as each sector is an aggregate made up of numerous heterogeneous establishments or even of different kinds of goods.

The aggregation of establishments or commodities gives rise to intra-sectoral transactions, or, in other words, to the absorption of goods produced by establishments or activities included in any one sector as inputs in other establishments or activities grouped in the same sector. From these intra-sectoral transactions spring two concepts of production, which Leontief terms "gross output" and "net output", respectively. Gross output represents the sum of the items produced by all the establishments included in any one sector, and net output represents that part of gross output which is sold outside the sector itself. In practice, the measurement of these two concepts is somewhat inexact, and is dependent on the degree of integration of the establishments concerned and on the system of compiling statistical data.

From the standpoint of empirical analysis, the models including intra-sectoral transactions furnish fuller information, although those excluding them are easier to handle. The model for Argentina, like those for Colombia and Peru, presents intra-sectoral transactions.

It should be noted that when the model includes flows of goods from external sources, it is important that these intra-sectoral transactions should still be shown, since otherwise the total amount of imports would not be obtained, and additional computations would have to be made later. The same is true of the need for full data to be available on inputs of domestically-produced goods.

From the standpoint of numerical computation, it is worth while to recall that by virtue of the conventional hypothesis adopted in input-output models based on the stability of input coefficients, direct equivalences can be established between the two models, so that switching from the one set of results to the other involves only simple adjustments.

6. *Level of sectoral aggregation*

The grouping of the various lines of production in the 23 sectors of the Argentine matrix depended largely, and sometimes almost entirely, on the method of presentation of the statistical data. This applies particularly to the aggregation of manufacturing activities. A detailed analysis of each line of production in order to decide whereabouts it might be placed most suitably from the standpoint of the utilization of the model for output projections was beyond the bounds of practical and technical possibility. Thus no opinion can be formed as to how far an analysis of the input structure, for example, of each of the 200 manufacturing activities would have produced an aggregation pattern different from that used in the country's industrial statistics and taken as a basis for the construction of the table.

It has already been stated that three models were prepared, one with 23 sectors, one with 12 and, lastly, one with 3 sectors for explanatory purposes. Some experiments were conducted to determine the aggregation error. The following was the procedure adopted. The final demand projected for 1962-67 in 23 sectors was reclassified in 12 and then in 3 sectors. Sectoral projections were established by the application of M 23, M 12 and M 3. For purposes of comparison of the results obtained, the sectoral projections based on M 23 were regrouped in 12 and in 3 sectors, respectively. The aggregation errors in M 12 were shown to be virtually negligible; their magnitude apparently tends to increase —although never more than slightly—with the expansion of final demand.

Another aggregation experiment was also carried out, in which the results obtained with M 3 and with M 23 were compared. The percentage relation is shown in table 21.

Table 21

EMPIRICAL ANALYSIS OF THE AGGREGATION ERROR IN M3 AS COMPARED WITH M23 IN A 1962 PROJECTION

(Percentage relationship)

Domestic production sectors and sectors of origin of imports	*Gross output at purchasers' prices*	*Output for intermediate use*	*Imported inputs*	*Gross value added at market prices*
1. Agriculture	104.6	109.4	107.4	106.5
2. Industry.	101.3	104.1	92.5	98.9
3. General services . .	99.3	98.8	88.2	99.6
Total.	*101.2*	*102.7*	*93.3*	*100.4*

It is interesting to note that in M 3 intermediate sectoral outputs would show aggregation errors amounting to 9.4 per cent, 4.1 per cent and 1 per cent. The error is much smaller in the case of gross output, but this is of no significance, since by virtue of the criterion adopted there is no error in the share of gross output which is earmarked for final demand. In estimates of imported intermediate products the inaccuracies are somewhat greater, but it must be pointed out that the biggest discrepancy is found in the case of the smallest absolute figure.

The following conclusions, applicable, in principle, to this projection for 1962, emerge from the foregoing experiments.

If the sole object had been to obtain estimates of production and imports classified under 12 sectors, it

would have been enough to use the M 12 model and thus save time and effort, with the single reservation, in principle, that final demand would have had to be projected in greater detail (23 sectors). If, again, a break-down by 3 economic sectors had been all that was wanted, it would have been possible to work with a model of this kind that would have made computation very easy, provided that an error of not more than 10 per cent in relation to production and intermediate imports was considered admissible for the problem in question.

Had a projection for the agricultural sector been wanted, an error of less than 10 per cent would have been incorporated in the intermediate production figure, if instead of a 12-sector matrix, one of three sectors retaining the break-down of the agricultural sector had been used.

It is worth noting that the results of these experiments seem consistent with those of similar tests carried out in other countries. A case in point is constituted by the experiments conducted at Princeton University. They related to the effects produced on specific sectors by different levels of aggregation of the rest of the economy. The conclusion seemed to be that the aggregation errors were not great enough to evade the errors inherent in the basic data; the relative discrepancies were substantial, but affected the smaller coefficients in particular.

Nevertheless, in evaluating these experiments it should be borne in mind that a 23-sector matrix for the Argentine economy already represents a high level of aggregation, and that, moreover, the results are dependent on the relative change undergone in this specific case by each of the 23 final demand items.

7. *Testing the input-output model*

The original plan was to check the results of the model against the statistical data for a period other than the base year. It proved impossible to carry out such a test in reasonably satisfactory conditions, because all the necessary information was not available. Furthermore, the data to hand on production and final demand did not represent independent estimates, since final demand was calculated by the flow-of-goods method.

Steps were therefore taken to conduct an experiment relating to intermediate imports, which was the most independent practical test that could be made, on the assumption that between 1950 and 1955 little or no overall import substitution took place. Apparently, the theoretical result was fairly close to the statistical data for imports in 1955, adjusted in accordance with the inventory changes that had probably taken place in actual fact, but the deflation of imports to express them in terms of 1950 prices, as well as the figure for inventory changes, may have been affected by an error of considerable magnitude in the experiment concerned. Other general tests were applied to output in specific sectors and to final demand, given values being assumed for sectoral production; but, as already pointed out, these experiments did not, strictly speaking, constitute tests of the model so much as more accurate variants of one and the same method of estimating final demand.

8. *Projections based on the input-output model*

The input-output model was used in the study on the economic development of Argentina to determine the production and imports implications deriving from several growth hypotheses for 1962 and 1967. These projections of production for the different sectors then afforded a basis for checking and adjusting estimates of gross investment and for making the final analysis of sectoral employment and productivity. A detailed break-down by sectors of the implications of three growth hypotheses followed. Two were selected as a basis for discussion of the development programme, and, finally, the study of the Argentine economy was based on one of them.

As already stated, two sets of projections were formulated on the basis of one projection of final demand. In the first place, sectoral production and imports were projected on the assumption that the various branches of final demand were satisfied by a supply of goods in which the proportions of domestic production and imports remained constant at the figure registered in the base year (1950). Secondly, another set of projections was prepared after consideration of the structural changes that would have to be incorporated in the matrix. Two fundamental aspects were borne in mind, namely, (*a*) changes in the coefficients of input of domestically-produced goods and (*b*) other changes likely to result from the development process, particularly in the agricultural and services sectors. Each of the intermediate and final demand purchases was analysed in order to determine in which sectors import substitution programmes should be developed. Lastly, on the basis of specific studies of activities and principal lines of production, detailed projections were formulated for activities or products which are grouped together in the broad sectors of the model, as well as for new activities implying structural changes.

(a) *Projections without import substitution*

The projections of final demand will be dealt with now. Private consumption was projected up to 1962 and 1967 on the basis of consumption-elasticity coefficients, which were determined for a large group of goods. These coefficients were deduced from Argentina's experience, the time series obtained from the analysis of the flow of goods being utilized, although in some cases the coefficients established for similar economies were taken. Coefficients were not available for every one of the many commodities making up each of the 23 final demand groups, but in each sector it was possible to select more or less homogeneous products which represented almost the whole of the value of each sector.

In the estimates of public consumption, salaries and wages were kept separate from expenditure on goods and services, in accordance with the aggregate projections of the initial programme. The break-down of expenditure on consumer goods by industries of origin was in the nature of an approximate estimate. But the importance of such goods is very slight *vis-à-vis* the other final demand aggregates.

Gross domestic investment was worked out from the aggregate projections of the product, and was relatively easy to break down by industries of origin, given the

high level of aggregation characterizing the matrix. Moreover, as early as the aggregate projections stage the projections for the whole of the public sector and for housing had already been formulated. These projections were subsequently revised and modified, although the changes introduced were not substantial.

Exports were estimated on the basis of demand for traditional commodities in the leading markets and supply prospects in competing countries. For this calculation a special study prepared by the Economic Commission for Europe was available. Allowance was also made for some probable development of industrial exports (mainly manufactures already existing in Argentina).

Table 24 presents the cumulative annual growth rates resulting from final demand projections. The projections of sectoral production and of imports (without import substitution) were based on the input-output model obtained from the coefficients of inputs of domestic goods. Consequently, total final demand had to be specifically broken down by domestic and imported goods.

Consumption was broken down by domestic production and imports in accordance with the proportions existing in 1950; exports were regarded as of domestic origin in their entirety, since re-exports are virtually non-existent in Argentina; and in the case of gross domestic investment, the import coefficient registered in the last few years and the assumed capacity of domestic capital goods industries to help satisfy this branch of final demand were taken into account.

The results obtained from application of the input-output model are recorded in table 22 for a 12-sector level of aggregation; these projections are compared with the absolute figures for 1950 and 1955.

The comparison shows what ought to be the structure of supply in order to meet the varying growth requirements of final demand. The sector where the rate of growth is lowest is seen to be agriculture, despite the substantial expansion of exports projected. The most intensive increase is shown in industrial activities, where the consumption-elasticity of production is higher, another determinant being the fact that investment is assumed to expand more rapidly than the other aggregates. The object of these projections is to indicate what resources would be needed to satisfy specific objectives established by the various branches of final demand, in accordance with a given production technology and on the assumption that the same relative proportions of domestic production and imports would be maintained. A basis of operation is thus provided for the analysis of import requirements. But these projections do not really constitute a programme, since balance-of-payments equilibrium would be difficult to attain in view of the intensive expansion of imports.

(b) *Changes in input structure and projections with import substitution*

The next step was to incorporate a change in input coefficients in the input-output model, to allow for import substitution programmes which were separately determined for specific groups of goods, the sectors in which substitution would take place being indicated. It was possible to include other significant structural modifications as well, in services and in the agricultural sector, for example. Furthermore, the sectoral studies showed structural changes in respect of activities which in the matrix were as a general rule grouped with others in broad sectors. This led to a new stage in the formulation of the projections.

Table 22

DOMESTIC PRODUCTION AND IMPORTS IN 1950–55 AND PROJECTIONS FOR 1962–67. HYPOTHESIS A: WITHOUT IMPORT SUBSTITUTION

Sector of origin of goods and services	*Millions of pesos at 1950 prices*				*Percentage changes in relation to 1955*	
	1950	*1955*	*1962*	*1967*	*1962*	*1967*
I. *Domestic production*	107 839	118 970	165 704	204 433	39.3	71.8
1. Agriculture	13 631	17 040	23 018	26 699	35.1	56.7
2. Deposits, quarries and mines	1 025	1 297	1 718	2 180	32.5	68.1
3. Food, beverages and tobacco	15 532	16 721	21 415	24 700	28.1	47.7
4. Textiles, made-up articles and leather	12 681	11 310	15 531	18 609	37.3	64.5
5. Wood and construction materials	4 420	4 158	5 932	7 751	42.7	86.4
6. Paper, board and printed matter	2 397	2 444	3 627	4 650	48.4	90.3
7. Chemical products and rubber	3 801	4 713	6 914	8 684	46.7	84.3
8. Fuels, electricity and sanitary engineering	3 643	4 534	6 655	8 290	46.8	82.8
9. Metals and metal manufactures	4 332	5 094	7 500	9 525	47.2	87.0
10. Vehicles and machinery	3 925	5 808	10 310	13 323	77.5	129.4
11. Construction	9 452	8 950	11 102	15 603	24.0	74.3
12. General services	33 000	36 901	51 983	64 420	40.9	74.6
II. *Imports*	4 821	5 186	9 362	11 531	80.5	122.3
1. Intermediate goods	3 638	4 034	5 829	7 368	44.5	82.6
2. Final consumer goods	445	503	717	1 000	42.5	98.8
3. Capital goods	945	850	2 816	3 163	231.3	272.1
4. Inventory changes	— 208	— 201	—	—	—	—

Several substitution programmes were analysed for each of the hypotheses to which detailed consideration was given. Table 23 presents the production and imports figures which resulted from the application of the import substitution programme to the same hypothesis on which the projections in the preceding table were based.

These projections for 12 sectors proved insufficient for the analysis of Argentina's economic programme, since each sector includes key activities which in a model of this type are not differentiated from the others making up the sector. Again, the different sectors of the economy were studied individually by special teams of technical experts who projected production and import requirements by activities and by staple goods. In these projections use was made of the final demand data which constituted fractional final demand figures in the 12-sector input-output model. Production estimates were worked out from the sectoral projections corresponding to the 12-sector matrix or on other bases, such as, for example, a ratio with the growth of the product. From some points of view, this stage of the work might be regarded as a kind of break-down of the 12-sector projections, although in the main an independent criterion was followed, except where the utilization of the matrix projections was concerned. Special attention was devoted to the study of those activities which might be regarded as new, and which, in principle, implied structural changes in the input coefficient matrix, although at the 12-sector level of aggregation such changes are dependent upon the importance of the new activity in relation to those already existing, and this is relatively slight *vis-à-vis* the 12 sectors as a whole, whatever its possible significance in relation to the similar lines of production making up the sector in question. A set of projections much more detailed than those afforded by M 12 was thus obtained.

These break-down projections and the M 12 projections were checked against one another for consistency. Direct comparison was possible in the case of some sectors. This was true, for instance, of agriculture; the sum of the individual projections, item by item, coincided to a surprising extent with the aggregate projections provided by the matrix for the agricultural sector. It is of course always conceivable that such nearly identical results are attributable to compensation of errors in opposite directions, but it is also possible that their close correspondence may have been due to the ease with which, in the case of agricultural production, intermediate consumption items can be identified, and to the fact that the amount of final demand was the same in both projections. Individual projections for activities or stable products of the industrial, energy and transport sectors could not be directly compared, owing to the high level of aggregation of the M 12 model. In some sectors, however, it was easy to show that the partial projections were approximately consistent with the totals for the broader sectors comprising them. There were others for which this checking process proved to be more difficult. Nevertheless, this table of more detailed projections—which can be seen in the Argentina study published by ECLA—was subjected to consistency tests of a general nature in respect of the aggregate programme, especially as regards the total product, requirements of intermediate goods and, in particular, imports, which constituted one of the variables of most importance in the discussion of the programme. It was in this way that a table of requirements of imports and intermediate goods was prepared which differed in some respects from the over-all table deriving from the 12-sector projec-

Table 23

DOMESTIC PRODUCTION AND IMPORTS IN 1950–55 AND PROJECTIONS FOR 1962–67.
HYPOTHESIS A: WITH IMPORT SUBSTITUTION

Sector of origin of goods and services	*Millions of pesos at 1950 prices*				*Percentage changes in relation to 1955*	
	1955	*1962*	*1967*	*1950*	*1962*	*1967*
I. *Domestic production*	*107 839*	*118 970*	*174 173*	*220 374*	*46.4*	*85.2*
1. Agriculture	13 631	17 040	23 093	26 899	35.5	57.9
2. Deposits, quarries and mines	1 025	1 297	2 571	3 719	98.2	186.7
3. Food, beverages and tobacco	15 532	16 721	21 463	24 823	28.4	48.5
4. Textiles, made-up articles and leather	12 681	11 310	15 590	18 739	37.8	65.7
5. Wood and construction materials	4 420	4 158	6 371	8 888	53.2	113.8
6. Paper, board and printed matter	2 397	2 444	4 060	5 523	66.1	126.0
7. Chemical products and rubber	3 801	4 713	7 660	10 852	62.5	130.3
8. Fuels, electricity and sanitary engineering	3 643	4 534	7 347	9 710	62.0	114.2
9. Metals and metal manufactures	4 332	5 094	9 807	14 067	92.5	176.1
10. Vehicles and machinery	3 925	5 808	12 274	15 342	111.3	164.2
11. Construction	9 452	8 950	11 102	15 603	24.0	74.3
12. General services	33 000	36 901	52 836	66 208	43.2	79.4
II. *Imports*	*4 821*	*5 186*	*6 701*	*6 831*	*29.2*	*31.7*
1. Intermediate goods	3 638	4 034	4 168	3 668	3.3	— 9.1
2. Final consumer goods	445	503	717	1 000	42.5	98.8
3. Capital goods	945	850	1 816	2 163	113.6	154.5
4. Inventory changes	— 208	— 201	—	...	...	...

tions. Obviously, this more detailed set of projections, and, in particular, the incorporation of such requirements of resources as were generated by new activities, implies a new structural matrix.

9. *Changes in sectoral production and imports compared with the growth of the gross national product*

Table 24 presents a comparison of the cumulative sectoral production and import growth rates with the rate of growth of the product, with a view to the determination of a coefficient which is known as the "aggregate elasticity coefficient" and which helped to indicate the sectors with the highest and lowest rates of expansion. The former would seem to be deposits, quarries and mines; metals; and vehicles and machinery. Here, as in the paper, chemical products and rubber sectors, a marked influence is exerted by the import substitution process. The sectors with the lowest rate of growth are agriculture, foodstuffs and textiles, which are affected mainly by the

Table 24

RATES OF GROWTH AND ELASTICITY COEFFICIENTS OF PRODUCTION, IMPORTS AND FINAL DEMAND
HYPOTHESIS A: WITH IMPORT SUBSTITUTION

Economic Sector	Annual cumulative growth rate				Aggregate elasticity coefficient of production in relation to the gross national product	
	Production		Final demand for goods and services			
	1955–62	1955–67	1955–62	1955–67	1955–62	1955–67
I. *Domestically-produced goods and services*						
1. Agriculture	4.44	3.88	4.93	4.08	0.88	0.82
2. Deposits, quarries and mines	10.27	9.17	—	—6.59	2.04	1.95
3. Food, beverages and tobacco	3.64	3.35	3.49	3.20	0.72	0.71
4. Textiles, made-up articles and leather	4.69	4.30	4.72	4.28	0.93	0.91
5. Wood and construction materials	6.28	6.54	11.68	8.51	1.25	1.39
6. Paper, board and printed matter	7.51	7.03	7.48	7.15	1.49	1.49
7. Chemical products and rubber	7.18	7.20	5.88	5.45	1.43	1.53
8. Fuels, electricity and sanitary engineering	7.14	6.55	7.11	6.18	1.42	1.39
9. Metals and metal manufactures	9.81	8.83	5.99	5.18	1.95	1.87
10. Vehicles and machinery	11.28	8.43	12.40	9.04	2.24	1.79
11. Construction	3.12	4.74	3.12	4.74	0.62	1.01
12. General services	5.26	4.93	4.96	4.89	1.05	1.05

II. *Imported goods and services*

Imports	Annual cumulative growth rate		Aggregate elasticity coefficient in relation to gross national product		Percentage coefficient in relation to gross national product			
	1955–65	*1955–67*	*1955–62*	*1955–67*	*1950*	*1955*	*1962*	*1967*
Total	*3.73*	*2.32*	*0.74*	*0.49*	*7.67*	*7.39*	*6.75*	*5.56*
1. Intermediate goods	1.20	—0.38	0.24	—0.08	5.46	5.46	4.20	2.98
2. Finished goods	9.37	7.33	1.86	1.56	2.21	1.93	2.55	2.58

Table 25

BREAK-DOWN OF AVAILABLE SUPPLIES OF INDUSTRIAL GOODS IN 1950–55 BY DOMESTIC PRODUCTION (GROSS OUTPUT) AND IMPORTS, AND PROJECTIONS FOR 1962–67 HYPOTHESIS A: WITH IMPORT SUBSTITUTION
(*Quantum indices. Base: 1950 = 100*)

Industrial sector of origin of domestically-produced and imported goods and services	Year	*Gross output and imports*			*Direct sectoral inputs*		
		Gross output	*Imports*	*Total*	Domestic production	*Imports*	*Total*
Grand total	1955	106.7	107.9	106.8	105.4	110.1	105.8
	1962	164.0	144.0	162.5	162.1	132.7	159.8
	1967	208.6	148.9	204.1	209.5	124.1	202.8
3. Vegetative industries	1955	99.4	96.4	99.3	100.2	95.4	100.0
	1962	131.3	134.2	131.4	132.3	122.7	131.9
	1967	154.4	168.8	154.7	155.6	139.1	154.9
4. Dynamic industries	1955	117.7	110.0	116.6	116.6	117.6	116.8
	1962	212.8	145.8	203.0	226.1	137.8	212.9
	1967	289.7	145.3	268.5	325.2	116.4	294.0
a) Mainly intermediate products and raw materials	1955	109.8	113.3	110.2	110.0	109.6	109.9
	1962	186.6	119.3	178.3	203.7	111.1	190.4
	1967	263.1	93.6	242.1	303.7	81.2	271.6
b) Mainly machinery and vehicles	1955	148.0	103.7	138.1	148.0	147.9	148.0
	1962	312.7	195.3	286.5	331.0	239.2	315.2
	1967	390.9	242.1	357.7	426.1	249.7	395.6

Table 26

BREAK-DOWN OF TOTAL AVAILABLE SUPPLIES OF DOMESTICALLY-PRODUCED GOODS AND SERVICES IN 1950 BY DOMESTIC PRODUCTION (GROSS OUTPUT) AND IMPORTS, AND PROJECTIONS FOR 1952–67
HYPOTHESIS A: WITH IMPORT SUBSTITUTION
(Quantum indices. Base: 1950 = 100)

Sector of origin of domestically-produced and imported goods and services	Year	Gross output and imports			Direct sectoral inputs		
		Gross output	Imports	Total	Domestic production	Imports	Total
Grand total	1962	161.5	139.0	160.6	164.2	114.6	160.6
	1967	204.4	141.7	201.7	214.2	100.8	206.0
1. Agriculture	1962	169.4	160.6	169.2	176.4	135.7	176.2
	1967	197.3	197.8	197.4	219.8	157.1	219.4
2. Deposits, quarries and mines	1962	251.1	90.7	212.8	252.9	200.0	251.7
	1967	363.2	62.6	291.4	368.1	222.2	364.7
3. Vegetative industries	1962	131.3	134.2	131.4	132.3	122.7	131.9
	1967	154.4	168.8	154.7	155.6	139.1	154.9
4. Dynamic industries	1962	212.8	145.8	203.0	226.1	137.8	212.9
	1967	289.6	145.3	268.5	325.2	116.4	294.0
a) Mainly intermediate products and raw materials	1962	186.6	119.3	178.3	203.7	111.1	190.4
	1967	263.1	93.6	242.1	303.6	81.2	271.6
b) Mainly machinery and vehicles	1962	312.7	195.3	286.5	331.0	239.2	315.2
	1967	390.9	242.1	357.6	426.1	249.7	395.6
5. Fuels, electricity and sanitary engineering	1962	201.6	101.6	193.8	253.8	79.3	217.5
	1967	266.4	65.3	250.6	361.6	43.1	295.2
6. Construction	1962	117.5	—	117.5	123.1	57.8	117.8
	1967	165.1	—	165.1	176.3	45.3	165.8
7. General services	1962	160.1	161.5	160.1	164.5	96.2	161.3
	1967	200.6	219.2	200.7	209.4	70.2	202.9

low elasticity of demand for these commodities and by the fact that import substitution is non-existent or takes place on a much smaller scale. Another very significant index of what is implied by the growth targets established in the hypothesis under consideration is the import coefficient, which falls from 7.67 to 5.56.

In tables 25 and 26, a comparison is drawn between the changes in the quantum of production and imports that would occur up to 1967 in each of the major economic sectors.

IV. CONCLUSIONS

The input-output model was applied in the case of the Argentine economy with two fundamental purposes in view: (*a*) to analyse the existing inter-sectoral structure; and (*b*) to analyse the implications of various programmes expressed through projections of final demand.

The study of the economy was based on measurement of the flow of goods and services among the various production and final demand sectors, supplemented by a quantitative analysis of certain aspects of the final destination of factor costs. The input-output model was particularly useful in connexion with the dynamics of demand for imports. With respect to those studies of structure, certain useful international comparisons are suggested. Another point of interest was the quantitative assessment of the reaction of the various sectors to changes in final demand.

In relation to projections, the open input-output model revealed itself as a useful instrument for breaking down aggregate projections by sectors and for more thorough investigation of the implications, from the standpoint of requirements of resources, of the over-all objectives established in the development programme. In this respect, however, it was supplemented by sectoral studies in order to separate key sectors which were grouped with others in the model and to take into account specific structural changes, especially where new activities were concerned.

To sum up, the following were the results achieved in the projections for the Argentine economy:

(*a*) Consistent projections of domestic production and imports were obtained for 23 and 12 sectors, and showed how the structure of production should be modified in order to adapt itself to the changes in final demand that were bound to result from consumption trends and from the targets set up for exports and for domestic investment;

(*b*) Basic material was obtained which could be used to determine labour and capital requirements and to show the presumable structure of distribution of such resources; and

(*c*) The integration of independent sectoral projections was facilitated.

Annex

ARGENTINA: INTER-SECTORAL TRANSACTIONS IN DOMESTICALLY-PRODUCED AND IMPORTED GOODS, 1950

(Millions of Argentine pesos)

Sectors of origin of goods and services and primary factors	I. Inputs of goods and services and factor utilization in sectors of production											
	Crop farming	Stock farming	Deposits, quarries and mines	Food, beverages and products of refrigerating-plants	Tobacco	Textiles	Made-up articles	Timber and other forest products	Paper board and printed matter	Chemical products	Fuels lubricants and other petroleum derivatives	Rubber manufactures
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I. *Sectors of domestic production*												
1. Crop farming	311.7	287.5	—	2 282.2	83.5	249.4	—	4.5	7.4	197.6	—	—
2. Stock farming	—	—	—	3 790.2	—	570.9	2.3	—	0.2	4.2	—	—
3. Deposits, quarries and mines	—	—	4.9	6.0	—	—	—	—	1.2	19.3	350.2	0.4
4. Food, beverages and products of refrigerating plants	—	—	—	889.6	—	27.8	0.6	—	7.6	144.4	—	0.3
5. Tobacco	—	—	—	—	—	—	—	—	—	—	—	—
6. Textiles	15.8	—	0.6	20.9	—	1 481.3	1 214.5	10.6	6.4	7.4	—	56.4
7. Made-up articles	248.3	10.4	6.2	41.1	—	3.2	46.6	—	1.0	8.0	—	—
8. Timber and other forest products	212.1	9.6	1.8	97.3	0.3	0.4	6.1	434.8	6.0	63.0	61.0	9.9
9. Paper, board and printed matter	0.8	—	3.1	214.4	49.1	51.6	36.4	12.5	365.4	101.3	13.3	8.9
10. Chemical products	21.6	47.4	7.5	225.8	6.1	247.7	4.9	21.6	45.7	238.1	22.3	18.2
11. Fuels, lubricants and other petroleum derivatives	96.1	34.1	30.2	237.5	3.7	51.0	10.5	14.0	24.7	60.9	32.9	5.1
12. Rubber manufactures	6.0	4.0	1.6	12.0	0.8	7.6	3.9	2.0	1.6	7.6	1.6	1.7
13. Leather and leather manufactures	1.0	2.0	—	—	—	—	20.4	9.8	1.9	—	—	—
14. Stone, earths, glass and ceramics	—	—	1.0	163.5	—	—	—	11.2	—	64.7	—	—
15. Metals and metal manufactures	7.0	2.0	3.8	120.3	10.1	2.8	8.3	50.1	11.1	59.9	12.0	7.4
16. Vehicles and machinery (excluding electric machinery)	4.9	2.1	7.7	49.8	3.0	17.1	9.5	7.1	6.8	9.9	5.6	1.4
17. Electric machinery and appliances	—	—	—	1.8	0.1	0.7	0.4	0.3	0.3	0.4	0.2	0.1
18. Other industries	—	0.9	0.7	17.7	—	33.9	50.7	29.4	15.4	42.4	0.6	6.4
19. Construction	—	—	—	—	—	—	—	—	—	—	—	—
20. Transport, communications and trade	2 259.4	956.9	303.0	3 015.3	86.6	1 079.8	1 366.8	573.7	530.7	741.1	716.8	128.8
21. Electricity and sanitary engineering	—	—	4.0	51.9	1.1	55.3	6.1	9.3	21.2	21.6	2.0	7.3
22. Personal and financial services	58.2	39.5	4.8	98.8	7.9	45.4	28.0	20.5	20.2	26.6	16.1	3.3
23. Housing	—	—	—	—	—	—	—	—	—	—	—	—
Total: Inputs of domestically-produced goods and services, and final demand for same, respectively	3 249.9	1 396.3	381.3	11 336.1	252.4	3 925.8	2 816.2	1 211.4	1 075.0	1 818.7	1 234.7	255.6
II. *Imports and factors of production*												
1. Imports	26.5	1.6	9.4	235.1	41.0	241.5	289.6	250.1	229.7	153.3	365.8	55.7
Total: Inputs of domestically-produced and imported goods and services, and final demand for same, respectively	3 269.4	1 398.0	390.7	11 571.3	293.4	4 167.3	3 105.8	1 461.4	1 304.7	1 972.0	1 600.5	311.3
2. Gross value added at market prices	4 404.3	4 559.4	633.7	3 100.9	566.3	2 538.8	1 170.3	816.6	1 091.8	1 297.1	806.9	220.5
a) Nominal salaries and wages	1 200.0	707.3	293.0	1 754.5	80.8	1 392.9	608.0	454.0	507.0	486.2	119.2	90.8
b) Gross earnings of capital and entrepreneurs, and indirect taxes, net of subsidies	3 204.3	3 852.0	340.7	1 346.4	485.5	1 145.8	562.2	362.6	584.8	810.9	687.7	129.7
III. Grand *total:* production and final demand, respectively, at purchasers' prices	7 673.6	5 957.3	1 024.4	14 672.2	859.7	6 706.1	4 276.1	2 278.0	2 396.5	3 269.2	2 407.4	531.8

ARGENTINA: INTER-SECTORAL TRANSACTIONS IN DOMESTICALLY-PRODUCED AND IMPORTED GOODS, 1950

(Millions of Argentine pesos)

Sectors of origin of goods and services and primary factors	I. Inputs of goods and services and factor utilization in sectors of production (Continued)											II. Final demand						III
												Domestic						
	Leather and leather manufactures	Stone earths, glass and ceramics	Metals and metal manufactures	Vehicles and machinery (excluding electric machinery)	Electric machinery and appliances	Other industries	Construction	Transport, communications and trade	Electricity and sanitary engineering	Personal and financial services	Housing	Total	Private and public consumption	Gross fixed investment	Inventory changes and statistical discrepancies	Total	Exports	Total	Grand total
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)								
I. Sectors																			
1. . .	—	3.3	—	—	—	6.0	—	0.6	—	145.0	—	3 578.6	3 400.0	—	— 621.2	2 778.8	1 316.2	4 095.0	7 673.6
2. . .	16.2	—	—	0.3	—	12.0	—	—	—	111.2	—	4 507.5	1 050.0	—	— 387.0	663.0	786.8	1 449.8	5 957.3
3. . .	4.3	133.8	62.7	0.9	—	6.6	500	—	9.5	—	17.2	1 117.1	—	—	— 102.4	— 102.4	9.8	— 92.6	1 024.4
4. . .	267.1	—	—	4.6	—	45.0	—	40.7	0.6	365.4	—	1 793.8	10 834.2	—	+ 72.1	10 906.3	1 972.1	12 878.4	14 672.2
5. . .	—	—	—	—	—	—	—	—	—	—	—	—	858.6	—	—	858.6	1.1	859.7	859.7
6. . .	17.8	10.2	3.4	7.7	6.5	7.2	—	134.4	—	10.0	—	3 011.3	3 060.0	32.9	+ 190.1	3 283.0	411.8	3 694.8	6 706.1
7. . .	3.2	35.5	0.2	1.2	—	—	—	10.8	—	5.4	—	421.2	3 776.8	50.0	+ 22.8	3 849.6	5.3	3 854.9	4 276.1
8. . .	1.6	13.8	9.8	16.5	15.7	15.3	660.0	30.2	—	6.6	37.7	1 709.5	608.5	107.6	— 157.9	558.2	10.3	568.5	2 278.0
9. . .	24.2	18.9	38.1	19.5	13.1	18.3	11.3	488.9	30.7	127.8	—	1 647.9	860.0	—	— 113.1	746.9	1.8	748.7	2 396.5
10. . .	43.4	32.8	62.8	13.7	9.0	44.4	74.2	13.2	26.2	44.8	52.8	1 324.7	1 530.0	—	— 331.1	1 198.9	745.5	1 944.4	2 269.2
11. . .	8.7	113.6	62.1	28.4	6.8	25.1	14.2	920.6	231.6	29.1	12.0	2 053.2	416.6	—	— 63.2	553.4	0.8	354.3	2 407.4
12. . .	5.7	2.0	3.3	15.0	2.8	1.1	3.0	141.1	2.1	7.0	—	233.7	280.0	—	+ 18.1	298.1	*	298.1	531.8
13. . .	314.5	—	—	0.4	—	3.6	—	6.8	—	—	—	360.5	1 157.0	23.8	+ 3.7	1 184.5	153.7	1 338.2	1 698.6
14. . .	0.3	96.0	6.4	1.5	6.3	0.4	1 439.0	12.9	34.9	3.8	42.7	1 884.6	300.0	16.8	— 60.1	256.6	1.1	257.7	2 142.3
15. . .	16.9	3.6	528.5	332.6	87.7	26.7	1 133.0	95.1	30.2	6.6	36.4	2 592.1	1 242.2	285.0	+ 210.4	1 737.6	2.2	1 739.9	4 332.0
16. . .	4.2	5.8	24.3	5.2	4.3	2.7	27.8	664.4	4.7	8.4	—	876.9	287.0	1 500.0	151.0	1 636.0	2.7	1 638.7	2 515.7
17. . .	0.2	0.2	3.1	15.5	51.8	0.5	58.8	20.3	21.8	9.0	1.6	187.3	734.1	400.0	+ 87.6	1 221.6	0.2	1 221.8	1 409.1
18. . .	27.7	20.7	80.0	35.1	62.0	26.2	20.2	1.5	—	—	—	471.4	400.0	23.0	— 67.0	356.0	6.0	362.0	833.4
19. . .	—	—	—	—	—	—	—	—	—	—	—	—	—	9 452.0	—	9 452.0	—	9 452.0	9 452.0
20. . .	349.3	537.7	1 102.4	379.4	390.7	84.4	525.3	1 715.1	48.8	107.3	14.4	17 013.6	2 979.2	1 026.0	— 38.8	3 966.6	197.0	4 163.6	21 177.2
21. . .	6.1	17.4	28.5	14.6	6.8	14.3	10.0	295.1	37.7	86.0	222.0	918.5	317.7	—	—	317.7	—	317.7	1 236.3
22. . .	14.0	17.3	33.3	24.5	11.4	8.2	83.0	335.6	8.9	51.3	32.5	989.5	6 080.2	—	—	6 080.2	—	6 080.2	7 069.8
23. . .	—	—	—	—	—	—	—	—	—	—	—	—	3 920.0	—	—	3 920.0	—	3 920.0	3 920.0
Total:	1 125.6	1 062.7	2 049.1	916.7	675.1	347.9	4 559.9	4 927.5	487.9	1 124.7	469.3	46 692.9	44 092.3	12 917.3	—1 488.0	55 521.5	5 624.4	61 145.9	107 838.9
I. Import.																			
1. . .	11.6	80.6	488.0	195.2	136.4	34.2	399.7	262.1	88.7	19.1	23.1	3 638.3	445.1	945.4	— 207.8	1 182.8	—	1 182.8	4 821.1
Subtotal	1 137.2	1 143.3	2 537.1	1 112.0	811.5	382.2	4 959.6	5 189.7	576.6	1 143.7	492.4	50 331.3	44 537.4	13 862.7	—1 695.9	56 704.3	5 624.4	62 328.7	112.660.0
2. . .	561.4	999.0	1 794.9	1 403.7	597.6	451.2	4 492.4	15 987.5	659.7	5 926.1	3 427.6	57 507.6	5 332.0	—	—	5 332.0	—	5 332.0	62 839.6
a) .	331.0	498.0	848.3	865.6	277.5	200.2	3 446.0	8 815.3	428.2	2 897.0	104.0	26 405.0	5 332.0	—	—	5 332.0	—	5 332.0	31 737.0
b) .	230.4	501.0	946.6	538.0	320.1	251.1	1 046.4	7 172.2	231.4	3 029.1	3 323.6	31 102.7	—	—	—	—	—	—	31 102.7
III. Grand total:	1 698.6	2 142.3	4 332.0	2 515.7	1 409.1	833.4	9 452.0	21 177.2	1 236.3	7 069.8	3 920.0	107 838.9	49 869.4	13 862.7	—1 695.9	62 036.3	5 624.4	67 660.7	

NOTE: The lines in this table show values, at market prices, of the flows of goods and services and of factors deriving from each of the sectors listed and used in each of the production activities or final demand aggregates specified in the column headings. Values are expressed in terms of the prices paid by the sectors purchasing the goods, services or factors in question. An asterisk (*) is used to indicate transactions amounting to less than 50 000 pesos, and a dash (—) for those which in statical records appear as nil, although, in some cases, they may have a relatively negligible value.

STATISTICAL SUPPLEMENT

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INTRODUCTION

This is the fourth issue of the *Economic Bulletin* presenting the principal series which are maintained by ECLA and used directly or indirectly in its economic studies. So far as possible, quarterly series relating to foreign exchange, reserves, balance of payments, trade, prices and costs of living up to and including the third quarter of 1959 are brought up to date. Annual data on manufacturing production, which were first given in Volume IV, No. 1, have been extended to include the year 1958—likewise, series for the quantities and values of the chief products exported by Latin America according to principal destinations. Tables are now given for the values of imports into Latin America at current prices, classified according to the nine main groups which ECLA uses in its analytical work. These data are strictly comparable with those shown in Volume IV, No. 2, which were expressed in terms of 1955 prices.

A new feature is the inclusion of tables relating to the production of agricultural commodities in Latin America. These series cover the period 1948 to 1958, with each main producing country shown separately. Because of the difficulty in compiling such data on a regional basis, the reader is referred to the Explanatory Notes which summarize the way in which the series have been assembled in order to obtain regional aggregates.

It is stressed once again that these series should in no way be regarded as a substitute for official statistics published by any of the countries concerned or by the United Nations Statistical Office. It should also be noted that the data for the last year are to be considered as provisional and in some cases consist of estimates based on fragmentary information.

More details in this respect are given in the Explanatory Notes to both the present and to previous issues in which the respective series were published.

Table 1

LATIN AMERICA: SELECTED SHORT-TERM ECONOMIC INDICATORS (QUARTERLY)

Series	Unit	1957				1958				1959		
		I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*	*I*	*II*	*III*
Production												
1. Mining	1955 = 100	121	126	124	121	116	114	119	123	126	123	122
2. Manufacturing	1955 = 100	104	110	115	114	108	115	119	118	109	120	...
International trade [a]												
3. Total imports: value	Millions of dollars	2 090	2 318	2 384	2 521	2 057	2 175	2 121	2 135	1 744	...	...
4. Total exports: value	„	2 279	2 164	2 090	2 108	2 019	2 019	1 985	2 153	2 107	...	...
5. Exports as percentage of imports	Per cent	109	93	88	84	98	93	94	101	121		
6. Imports from the United States	Millions of dollars	1 037	1 124	1 110	1 296	1 040	1 017	972	1 021	843	898	879
7. Exports to the United States	„	1 030	900	882	957	929	908	817	936	976	915	874
8. Imports from Western Europe [b]	„	544	548	584	678	573	552	582	658	526	574	593
9. Exports to Western Europe [b]	„	743	761	698	628	621	622	603	612	596	666	647
10. Total exports: quantum index	1955 = 100	114	108	107	112	108	106	110	122	123	...	...
11. Total exports: unit value index	1955 = 100	100	101	98	94	94	95	90	89	86	...	...
Prices and finance												
12. Exported foodstuffs and raw materials: price index												
(a) Total	1955 = 100	104	102	98	97	95	93	92	90	86	84	84
(b) Total, excluding petroleum	1955 = 100	104	100	95	93	90	88	85	83	79	78	78

SOURCES AND METHODS: See *Explanatory Notes*, Vol. III, No. 2.
a Data are shown on a *fob* basis except for total imports (item 3).
b Excluding Spain, Finland and Yugoslavia.

Table 2

GOLD AND FOREIGN EXCHANGE RESERVES [a]

(Millions of dollars)

Country	Gold					Foreign Exchange				
	1958		1959			1958		1959		
	September	December	March	June	September	September	December	March	June	September
Argentina	114	60	67	57	57	71	70	86	104	195
Bolivia	1	1	1	1	1	4	6	5	9	8
Brazil	325	325	326	326	326	152	140	152	114	160
Colombia	70	72	73	74	69	68	89	108	119	108
Chile	40	40	40	40	41	9	19	29	60	108
Ecuador	22	22	22	20	20	15	14	13	14	18
Peru	20	19	19	19	19	8	12	10	10	28
Uruguay	180	180	180	180	180	—	—	—	—	—
Venezuela	720	720	720	720	720	355	331	336	321	162
Total	*1 493*	*1 440*	*1 438*	*1 437*	*1 433*	*687*	*684*	*744*	*751*	*787*
Costa Rica	2	2	2	2	2	14	17	22	22	17
Cuba	135	80	76	75	75	275	293	306	297	238
El Salvador	31	31	31	31	30	6	6	7	13	4
Guatemala	27	27	27	25	24	28	21	22	23	12
Honduras	—	—	—	—	—	10	8	11	18	16
Mexico	147	143	142	160	166	195	229	233	235	219
Nicaragua	1	1	1	1	1	11	6	15	20	12
Panama	—	—	—	—	—	42	48	52	46	46
Dominican Republic	11	12	12	12	12	32	33	33	36	29
Total	*354*	*296*	*292*	*308*	*310*	*613*	*661*	*701*	*710*	*593*
Grand total: Latin America	*1 845*	*1 735*	*1 730*	*1 745*	*1 743*	*1 300*	*1 345*	*1 445*	*1 460*	*1 380*

SOURCE: *International Financial Statistics.*
a End of month indicated.

Table 3

LATIN AMERICA: BALANCE OF PAYMENTS WITH THE UNITED STATES (QUARTERLY)

(Millions of dollars)

Item	1958				1959			
	I	II	III	IV	I	II	III	IV
A. Goods and services: total balance	— 224	— 241	— 281	— 223	— 27	— 135	— 144	— 188
Goods: Balance	— 93	— 88	— 132	— 68	159	29	2	— 16
Exports to the United States	964	952	861	972	1 009	944	897	877
Imports from the United States	—1 057	—1 040	— 993	—1 040	— 850	— 915	— 895	— 893
Services: Balance	— 131	— 153	— 149	— 155	— 186	— 164	— 146	— 172
Exports to the United States	259	258	289	282	216	215	250	235
Imports from the United States	— 390	— 411	— 438	— 437	— 402	— 379	— 396	— 407
Including: Income on investments	— 174	— 180	— 197	— 216	— 208	— 173	— 160	— 200
B. Movements of private United States capital and other (total)	153	228	15	135	31	172	38	149
Private United States capital	143	216	5	124	20	160	28	138
Private donations	10	12	10	11	11	12	10	11
C. Surplus or deficit on goods and services, private donations and private United States capital (A + B)	— 71	— 13	— 266	— 88	4	37	— 104	— 39
D. United States Government loans and other (total)	95	76	250	179	110	80	92	95
Loans	58	40	222	151	80	46	65	70
Grants	37	36	28	28	30	34	27	25
E. Changes in foreign holdings of gold and foreign assets (total)	64	—	211	— 86	— 111	— 34	213	50
Change in long-term assets	3	52	6	— 2	— 10	— 2	— 4	— 13
Change in short-term balances	61	— 52	194	— 142	— 100	— 11	240	— 2
Purchases or sales of gold	—	—	11	58	— 1	— 21	— 23	65
F. Errors, omissions and inter-regional transfers of dollars	— 88	— 63	— 195	— 5	— 3	— 83	— 199	— 106

SOURCE: *Survey of Current Business.*
NOTE: Data exclude military transfers.

Table 4

PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES
(Quantities)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					WHEAT *(thousands of tons)*						
Argentina	6 500	5 200	5 144	5 796	2 100	7 634	6 200	7 690	5 250	7 100	5 810
Chile	1 026	975	854	884	900	935	928	1 029	1 040	988	1 214
Uruguay	424	518	452	435	478	463	819	854	833	589	598
Brazil	405	438	532	424	690	772	871	1 101	855	781	589
Mexico	477	503	587	590	512	671	840	850	1 242	1 376	1 150
Others [a]	...	313	295	343	357	368	364	360	330	304	392
Total	...	*7 947*	*7 864*	*8 772*	*5 037*	*10 843*	*10 022*	*11 884*	*9 550*	*11 138*	*9 753*
					MAIZE *(thousands of tons)*						
Argentina	5 200	3 450	836	2 670	2 040	3 550	4 450	2 546	3 870	2 698	4 806
Uruguay	137	85	89	279	117	208	212	192	209	168	276
Brazil	5 608	5 449	6 024	6 218	5 907	5 984	6 789	6 690	6 999	7 763	7 370
Colombia	635	738	620	845	928	890	850	770	790	746	852
Peru	244	252	266	299	321	319	304	397	265	271	271
Venezuela	224	323	310	313	343	335	324	317	350	340	358
Guatemala	...	378	443	493	433	412	368	365	450	429	469
Honduras	176	196	210	223	222	219	184	210	235	246	261
Cuba	223	252	278	181	197	210	235	178	185	190	147
Mexico	2 832	2 871	3 122	3 424	3 202	3 722	4 488	4 490	4 382	4 500	5 150
Others [b]	672	773	763	887	828	835	760	898	951	873	...
Total	...	*14 767*	*12 961*	*15 832*	*14 538*	*16 684*	*18 964*	*17 053*	*18 686*	*18 224*	...
					RICE *(thousands of tons)*						
Argentina	116	121	131	141	174	194	212	172	164	193	217
Brazil	2 554	2 720	3 218	3 182	2 931	3 072	3 367	3 738	3 489	4 072	3 829
Colombia	181	225	219	297	266	272	295	320	343	350	390
Ecuador	135	170	133	125	160	160	85	115	119	144	116
Peru	207	162	113	207	265	277	259	249	243	246	251
Cuba	125	101	127	183	197	274	287	288	287	294	223
Mexico	258	293	296	285	240	241	270	333	373	381	401
Others [c]	...	552	598	597	638	733	701	682	635	688	...
Total	...	*4 344*	*4 835*	*5 017*	*4 871*	*5 223*	*5 476*	*5 897*	*5 653*	*6 368*	...
					OATS *(thousands of tons)*						
Argentina	224	733	540	733	438	1 269	991	890	723	1 140	995
Chile	79	80	75	77	88	89	99	100	99	112	131
Mexico	18	59	59	50	51	50	61	70	71	78	84
Others [d]	48	60	69	42	42	51	72	50	56	72	70
Total	969	932	*743*	902	*624*	*1 459*	*1 223*	*1 110*	949	*1 402*	*1 280*
					BARLEY *(thousands of tons)*						
Argentina	804	613	395	763	336	1 175	894	1 112	951	1 364	1 010
Chile	91	75	72	78	78	82	61	78	101	98	103
Peru	190	213	218	202	217	226	226	208	159	166	174
Mexico	149	160	162	164	164	165	167	192	197	174	179
Others [e]	99	167	126	145	165	181	193	206	205	195	190
Total	*1 333*	*1 228*	973	*1 352*	960	*1 829*	*1 541*	*1 796*	*1 613*	*1 997*	*1 656*

See notes at end of table.

Table 4 *(Continued)*

PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES
(Quantities)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					RYE *(thousands of tons)*						
Argentina	471	305	277	631	81	1 335	607	844	654	880	630
Others [f]	23	30	28	28	29	24	27	29	28	28	29
Total	494	335	305	659	110	1 359	634	873	682	908	659
					POTATOES *(thousands of tons)*						
Argentina	1 063	1 063	1 167	1 559	1 043	1 376	1 671	1 375	1 548	1 311	1 374
Chile	329	469	452	405	452	508	579	605	696	636	782
Brazil	585	748	707	722	735	815	815	898	1 003	999	1 017
Colombia	487	538	360	550	600	610	650	665	545	540	700
Peru	1 077	1 115	1 364	1 326	1 315	1 385	1 453	1 389	1 013	1 046	1 034
Venezuela	16	27	29	32	24	34	40	45	70	106	70
Cuba	60	84	90	118	135	93	84	126	120	125	120
Mexico	128	130	135	138	139	150	150	167	180	197	210
Others [g]	...	157	174	200	206	239	254	266	269	252	...
Total	...	4 331	4 478	5 050	4 649	5 210	5 696	5 536	5 444	5 212	...
					MANIOC *(thousands of tons)*						
Argentina	450	448	339	334	246	303	299	310	248	287	259
Paraguay	666	864	870	890	899	990	950	940	950	973	995
Brazil	12 455	12 616	12 533	11 918	12 809	13 441	14 493	14 863	15 316	15 443	15 380
Colombia	465	841	768	870	870	870	870	674	700	700	700
Peru	277	300	307	330	218	215	201	228	279	275	255
Venezuela	135	214	206	282	290	370	259	267	282	301	316
Total	14 452	15 283	15 023	14 624	15 382	16 189	17 072	17 282	17 775	17 979	17 905
					SWEET POTATOES *(thousands of tons)*						
Argentina	381	358	344	314	249	322	358	284	303	375	316
Brazil	934	923	833	823	831	896	958	1 042	1 043	1 086	1 052
Cuba	264	250	295	299	294	315	310	...	...	...	...
Dominican Republic	88	100	82	80	75	41	84	78	88	80	
Others [h]	305	313	302	333	323	300	295	298	275	300	307
Total	1 972	1 944	1 856	1 849	1 772	1 874	2 005	...	...	...	...
					KIDNEY BEANS *(thousands of tons)*						
Chile	75	72	66	68	72	79	82	76	75	82	91
Brazil	1 133	1 257	1 248	1 238	1 152	1 387	1 544	1 475	1 379	1 582	1 454
Mexico	210	231	250	240	244	299	400	449	432	410	532
Others [i]	...	350	328	363	348	375	355	383	398	387	...
Total	...	1 910	1 892	1 909	1 816	2 140	2 381	2 383	2 284	2 461	...
					CHICK PEAS (thousands of tons)						
Mexico	111	97	84	83	84	87	92	94	102	106	108
Others [j]	13	10	6	8	8	10	11	14	8	10	10
Total	124	107	90	91	92	97	103	108	110	116	118

See Notes at end of table.

Table 4 *(Continued)*

PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES

(Quantities)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					LIMA BEANS *(thousands of tons)*						
Argentina	5	5	5	4	4	4	5	5	5	5	5
Brazil	38	37	36	33	29	39	41	38	38	40	41
Mexico	19	19	19	22	22	21	23	28	31	28	28
Total	62	61	60	59	55	64	69	71	74	73	74
					LENTILS *(thousands of tons)*						
Argentina	13	13	26	33	23	29	34	14	13	6	9
Chile	18	14	13	14	15	16	16	14	19	12	16
Mexico	2	2	2	2	2	3	3	3	3	3	3
Total	33	29	41	49	40	48	53	31	35	21	28
					PEAS *(thousands of tons)*						
Argentina	17	22	26	31	6	11	40	30	20	8	13
Chile	18	17	18	16	17	17	15	11	9	10	13
Dominican Republic	16	16	15	14	17	16	18	18	18	20	20
Mexico	4	4	4	4	4	4	4	5	5	6	6
Others [k]	7	15	10	5	6	7	6	6	4	5	4
Total	62	74	73	70	50	55	83	70	56	49	56
					COTTONSEED *(thousands of tons)*						
Argentina	173	190	262	187	239	238	258	221	222	201	325
Brazil	630	780	774	620	942	695	742	813	762	744	743
Peru	100	113	119	128	147	146	185	174	181	170	179
Mexico	199	346	443	485	448	469	661	871	751	807	866
Others [l]	52	70	80	101	112	135	210	192	213	253	...
Total	1 154	1 499	1 678	1 521	1 888	1 683	2 056	2 271	2 129	2 175	...
					SUNFLOWER SEEDS *(thousands of tons)*						
Argentina	930	1 088	712	1 021	692	428	345	283	754	625	759
Chile	32	44	69	68	65	56	75	68	64	47	55
Uruguay	37	58	42	118	109	92	81	85	80	79	131
Total	999	1 190	823	1 207	866	576	501	436	898	751	945
					GROUNDNUTS *(thousands of tons)*						
Argentina	105	85	61	93	155	204	170	118	216	318	290
Brazil	139	136	118	151	145	147	168	186	181	192	308
Mexico	35	38	64	68	70	73	78	81	84	81	85
Others [m]	49	57	51	44	34	38	44	48	52	81	83
Total	328	316	294	356	404	462	460	433	533	672	766
					CACAO *(thousands of tons)*						
Brazil	97	133	153	121	114	137	163	158	161	165	164
Ecuador	21	19	30	28	27	26	34	28	33	32	27
Dominican Republic	30	26	33	31	32	30	30	34	27	35	31
Others [n]	...	42	42	41	49	47	50	53	52	55	56
Total	...	220	258	221	222	240	277	273	273	287	278

See Notes at end of table.

Table 4 *(Continued)*

PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES

(Quantities)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					SESAME SEEDS *(thousands of tons)*						
Colombia	5	8	11	8	5	6	8	11	13	15	21
Venezuela	6	8	5	2	2	7	9	13	13	21	20
Mexico	73	70	80	87	91	88	91	91	100	113	117
Others [o]	...	14	15	23	21	16	14	11	7	8	6
Total	...	*100*	*111*	*120*	*119*	*117*	*122*	*126*	*133*	*157*	*164*
					SUGAR *(thousands of tons)*						
Argentina	566	549	613	651	560	710	778	584	729	657	1 014
Brazil	1 410	1 391	1 403	1 607	1 785	2 002	2 118	2 073	2 268	2 714	3 004
Peru	472	470	427	464	470	602	612	650	690	681	685
Cuba	6 055	5 228	5 558	5 759	7 224	5 159	4 890	4 528	4 740	5 672	5 779
Dominican Republic	428	477	474	540	588	630	634	613	651	786	925
Mexico	612	654	590	652	691	779	830	910	744	1 078	1 117
Others [p]	328	390	440	486	495	540	606	671	779	766	809
Total	*9 871*	*9 159*	*9 505*	*10 159*	*11 813*	*11 422*	*10 468*	*10 029*	*10 601*	*12 354*	*13 333*
					BANANAS *(thousands of stems)*						
Brazil	136 291	147 696	162 874	169 632	185 167	185 062	198 200	204 275	224 035	233 270	229 753
Ecuador	11 457	15 868	27 221	29 249	41 190	43 408	61 988	68 824	71 758	60 171	63 800
Costa Rica	9 643	14 801	15 744	15 732	17 460	16 243	16 457	18 205	14 725	15 900	16 700
El Salvador	...	7 856	7 537	7 642	7 950	8 023	8 885	8 130	8 447	8 700	9 500
Guatemala	...	6 039	6 786	5 469	3 942	7 394	6 515	5 310	4 181	4 240	5 554
Honduras	14 993	20 466	20 370	16 294	20 741	19 229	19 441	15 082	21 189	19 600	20 100
Nicaragua	7 407	6 263	6 333	6 440	6 533	6 697	7 018	7 130	7 105	7 200	7 400
Mexico	10 169	10 160	8 708	6 344	6 922	6 888	6 956	7 001	8 347	9 166	7 797
Others [q]	...	51 432	48 207	47 607	47 136	52 217	55 414	54 479	...	...	...
Total	...	280 581	303 780	304 409	337 041	345 161	380 874	388 436	...	...	...
					COFFEE *(thousands of tons)*						
Brazil	1 038	1 068	1 071	1 080	1 125	1 111	1 037	1 370	979	1 409	1 696
Colombia	433	461	422	378	503	480	504	471	419	456	586
Venezuela	53	51	34	43	54	45	53	46	58	50	62
Costa Rica	28	24	20	21	33	23	34	24	34	46	52
El Salvador	79	74	72	59	78	60	76	75	90	87	93
Guatemala	42	52	58	67	62	64	69	73	78	91	81
Mexico	53	59	66	61	86	83	85	86	95	102	120
Others [r]	134	139	157	164	162	176	186	189	187	221	182
Total	*1 860*	*1 928*	*1 900*	*1 873*	*2 103*	*2 042*	*2 044*	*2 334*	*1 940*	*2 462*	*2 872*
					TOBACCO *(thousands of tons)*						
Argentina	21	29	27	38	36	39	33	32	41	45	28
Brazil	118	115	108	118	106	132	147	148	144	140	144
Cuba	26	24	42	36	33	35	41	36	42	42	42
Mexico	35	34	34	35	36	36	38	53	54	70	71
Others [s]	...	66	63	63	63	63	64	74	77	79	76
Total	...	*268*	*274*	*290*	*274*	*305*	*323*	*343*	*358*	*376*	*361*

PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES
(Quantities)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					Maté (thousands of tons)						
Argentina	112	117	103	101	137	128	110	115	92	110	120
Paraguay	14	13	12	12	11	12	13	14	14	15	9
Brazil	66	74	60	65	60	57	66	67	71	81	70
Total	*192*	*204*	*175*	*178*	*208*	*197*	*189*	*196*	*177*	*206*	*199*
					Castor seed (thousands of tons)						
Brazil	231	201	184	177	158	161	170	164	161	200	173
Others [t]	6	4	6	7	6	6	6	5	5	...	...
Total	237	205	190	184	164	167	176	169	*166*	...	...
					Linseed (thousands of tons)						
Argentina	901	433	676	559	313	584	410	405	238	620	630
Uruguay	98	117	75	90	142	109	65	63	50	72	73
Others [u]	53	56	57	64	63	55	22	22	19	20	17
Total	*1 052*	*606*	*808*	*713*	*518*	*798*	*797*	*490*	*307*	*712*	*720*
					Cotton fibre (thousands of tons)						
Argentina	90	99	142	102	125	123	138	114	123	105	171
Brazil	320	396	393	349	515	375	395	429	400	397	377
Peru	61	67	74	84	96	97	114	109	114	104	105
El Salvador	5	7	6	10	11	13	20	31	32	36	41
Nicaragua	6	7	5	17	12	19	47	32	34	53	59
Mexico	120	208	260	288	264	274	391	508	404	471	529
Others [v]	22	28	32	29	42	46	61	58	59	58	71
Total	*624*	*812*	*912*	*879*	*1 065*	*947*	*1 166*	*1 281*	*1 166*	*1 224*	*1 353*
					Sisal (thousands of tons)						
Brazil	26	29	53	55	64	66	66	90	102	102	105
Haiti	26	30	33	31	26	20	24	31	25	...	...
Mexico	123	105	101	95	97	91	105	110	111	119	123
Others [w]	...	...	17	19	15	17	15	15	16	...	...
Total	...	...	*204*	*200*	*202*	*194*	*210*	*246*	*254*	...	...
					Abaca (thousands of tons)						
Guatemala	5	4	4	4	5	4	3	2	1	3	2
Others [x]	14	11	8	6	11	9	6	6	...	...	...
Total	19	*15*	*12*	*10*	*16*	*13*	9	*8*	...	...	...
					Wine (millions of litres)						
Argentina	1 162	1 040	1 250	1 150	1 079	1 300	1 069	1 767	1 333	862	1 410
Chile	348	314	342	329	220	355	353	358	395	358	389
Brazil	144	141	138	147	141	141	160	160	165	150	155
Total	*1 654*	*1 495*	*1 730*	*1 626*	*1 440*	*1 796*	*1 582*	*2 285*	*1 893*	*1 370*	*1 954*
					Cattle (thousands of head)						
Argentina	9 203	9 480	9 898	8 978	8 786	7 896	8 133	10 004	11 664	11 962	12 236
Uruguay	952	1 381	1 628	1 563	1 444	1 537	1 271	1 152	1 223	1 263	1 280
Brazil	5 829	6 023	5 965	6 452	6 003	6 245	6 171	6 031	6 574	7 033	7 857
Colombia	1 372	1 338	1 397	1 431	1 414	1 336	1 313	1 354	1 550	1 677	1 621
Mexico *	1 371	1 310	1 408	1 482	1 653	1 566	1 589	1 709	1 773	2 152	2 403
Others [y]	...	2 918	3 386	3 294	3 401	3 816	3 794	3 911	3 928	...	...
Total	...	*22 450*	*23 682*	*23 200*	*22 701*	*22 396*	*22 271*	*24 161*	*26 712*	...	...

See Notes at end of table.

Table 4 (Continued)

PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES

(Quantities)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					SHEEP (thousands of head)						
Argentina	12 675	11 237	9 150	8 024	9 970	11 169	11 105	10 573	10 691	9 631	8 947
Chile	1 823	1 891	2 274	2 165	2 013	2 073	1 826	1 558	1 786	1 697	1 670
Uruguay	3 338	3 738	3 575	2 906	3 607	3 651	3 437	3 818	3 748	3 282	3 300
Brazil	1 293	1 192	1 284	1 229	1 581	1 666	1 516	1 562	1 488	1 421	1 491
Mexico	368	508	434	418	439	467	522	503	472	511	530
Others [z]	100	124	64	114	128	140	134	128	133	146	141
Total	*19 597*	*18 690*	*16 781*	*14 856*	*17 738*	*19 166*	*18 540*	*18 142*	*18 318*	*16 688*	*16 079*
					HOGS (thousands of head)						
Argentina	1 869	2 118	2 079	1 712	1 722	1 991	2 025	2 013	2 515	2 643	2 159
Chile	320	329	611	542	508	525	539	591	534	559	561
Uruguay	241	193	238	208	228	228	248	266	239	244	250
Brazil	5 094	5 073	5 408	5 986	6 140	6 207	6 328	6 474	6 831	7 167	7 480
Colombia	624	638	664	576	613	700	790	834	789	727	797
Cuba	560	580	592	604	605	651	643	641	648	654	...
Mexico	884	911	1 034	909	923	1 388	1 503	1 653	1 767	1 899	2 007
Others [aa]	...	1 341	1 346	1 188	1 341	1 447	1 442	1 376	...	...	...
Total	...	*11 183*	*11 972*	*11 725*	*12 080*	*13 137*	*13 518*	*13 848*	...	...	...
					GREASY WOOL (thousands of tons)						
Argentina	205	190	187	189	174	189	192	185	170	175	182
Chile	15	15	21	19	19	20	19	21	22	22	22
Uruguay	68	65	74	77	85	86	92	90	89	86	91
Brazil	18	18	20	21	21	24	25	28	28	28	32
Others [bb]	...	...	13	14	14	12	14	14	15	...	...
Total	...	...	*315*	*320*	*313*	*331*	*342*	*338*	*324*	...	...

a Paraguay, Colombia, Ecuador, Peru, Venezuela, El Salvador, Guatemala and Honduras.
b Chile, Paraguay, Ecuador, Costa Rica, El Salvador, Nicaragua, Dominican Republic and Panama.
c Chile, Paraguay, Uruguay, Venezuela, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Haiti, Dominican Republic and Panama.
d Uruguay and Brazil.
e Uruguay, Brazil, Colombia and Ecuador.
f Chile, Brazil and Ecuador.
g Paraguay, Uruguay, Ecuador, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Dominican Republic and Panama.
h Paraguay, Uruguay, Peru and Mexico.
i Argentina, Paraguay, Uruguay, Colombia, Peru, Venezuela, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Cuba, Haiti and Panama.
j Argentina and Chile.
k Uruguay and Venezuela.
l Paraguay, Colombia, Ecuador, Venezuela, El Salvador, Guatemala, Honduras, Nicaragua and Haiti.
m Paraguay, Uruguay, Venezuela, Cuba and Dominican Republic.
n Colombia, Venezuela, Costa Rica, Guatemala, Honduras, Haiti, Panama and Mexico.
o El Salvador, Guatemala, Honduras and Nicaragua.
p Paraguay, Colombia, Ecuador, Venezuela, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Haiti and Panama.
q Paraguay, Colombia, Cuba, Haiti, Dominican Republic and Panama.
r Ecuador, Peru, Honduras, Nicaragua, Cuba, Haiti, Dominican Republic and Panama.
s Paraguay, Chile, Colombia, El Salvador, Guatemala, Honduras, Nicaragua and Dominican Republic.
t Haiti and Mexico.
u Chile and Mexico.
v Paraguay, Colombia, Ecuador, Guatemala, Honduras and Haiti.
w El Salvador, Guatemala, Honduras, Nicaragua and Cuba.
x Costa Rica, Honduras and Panama.
y Chile, Paraguay, Peru, Venezuela, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Cuba, Haiti, Dominican Republic and Panama.
z Colombia and Venezuela.
aa Venezuela, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Haiti, Dominican Republic and Panama.

Table 5

LATIN AMERICA: AGRICULTURAL COMMODITY PRODUCTION INDEX AT CONSTANT PRICES IN 1948 DOLLARS
(1950 = 100)

Commodity	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
Grains [a]	117	106	100	114	90	134	133	140	131	144	141
Roots and tubers [b]	92	99	100	106	103	112	121	119	119	118	124
Dried leguminous products [c]	106	110	100	101	95	111	124	123	119	127	127
Oleaginous products [d]	106	102	100	108	99	98	95	95	103	121	133
Saccharinous products [e]	104	97	100	107	123	109	110	105	111	129	139
Fruit [f]	82	89	100	100	110	113	124	127	134	136	137
Beverages (non-alcoholic) [g]	94	99	100	97	107	105	107	121	104	132	151
Fibres [h]	77	90	100	97	112	103	121	130	122	127	139
Meat [i]	92	96	100	98	97	98	98	106	115	119	125
Others [j]	96	93	100	99	92	109	105	130	119	105	123
Total crop and stock products	97	98	100	103	102	111	114	121	119	128	135
Total crop products	99	98	100	105	104	114	119	125	120	131	139
Total stock products	93	96	100	98	97	99	99	106	114	118	123

a Wheat, maize, rice, oats, barley and rye.
b Potatoes, manioc and sweet potatoes.
c Kidney beans, chick peas, lima beans, lentils and peas.
d Sesame seed, cottonseed, sunflower seed, linseed, groundnuts, castor seed and tungseed.
e Sugar and *panela*.
f Bananas and pineapples.
g Coffee, cocoa, tea and maté.
h Greasy wool, cotton, sisal and abaca.
i Cattle, sheep and hogs.
j Fresh and dried chili, tomatoes, tobacco and wine.

Table 6

LATIN AMERICA: VOLUME OF MANUFACTURING PRODUCTION
Regional average of national indices weighted by values added
(Quarterly indices: 1955 = 100)

Group of industries	*ISIC group*	*1957*				*1958*				*1959*	
		I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*	*I*	*II*
Total manufacturing	2–3	*104*	*110*	*115*	*114*	*108*	*115*	*119*	*118*	*109*	*120*
Including:											
Food, beverages, tobacco	20–22	106	109	114	115	109	116	122	118	108	117
Textiles	23	94	100	103	96	87	98	103	98	92	103
Paper and paper products	27	123	117	132	124	123	127	134	139	130	137
Chemicals and petroleum [a]	31–32	117	124	130	126	126	132	138	135	136	146
Non-metallic mineral products	33	108	114	117	119	106	114	119	116	114	117
Basic metals	34	105	118	118	126	120	124	128	129	129	133

SOURCE: United Nations, *Monthly Bulletin of Statistics*.
a Including coal products.

Table 7

LATIN AMERICA: MANUFACTURING PRODUCTION IN SELECTED COUNTRIES

(Indices: 1955 = 100)

Group	1950	1951	1952	1953	1954	1955	1956	1957	1958
				ARGENTINA					
Foodstuffs	91	87	90	95	96	100	117	111	118
Beverages	85	88	84	82	85	100	96	94	116
Tobacco	91	94	100	99	95	100	98	97	101
Textiles	110	109	90	89	95	100	102	95	90
Wearing apparel	106	100	89	93	84	100	97	90	84
Wood and furniture	115	115	99	104	106	100	99	105	105
Paper and paperboard	78	86	74	65	85	100	111	114	128
Printing and publishing	121	103	74	79	90	100	104	126	129
Leather and leather products [a]	123	119	101	99	96	100	99	99	91
Rubber products	58	82	85	70	86	100	97	102	104
Chemical products	88	91	82	81	88	100	102	111	114
Petroleum refining	78	78	84	88	94	100	103	125	135
Cement, glass, china earthenware and pottery	98	96	87	85	91	100	107	115	117
Basic metal products	90	93	69	69	87	100	98	103	131
Metal products (excluding machinery)	76	83	72	76	80	100	90	108	114
Vehicles and machinery	78	83	83	79	85	100	83	104	106
Electrical machinery and appliances	62	69	78	75	79	100	98	110	100
Ship building and repairing	60	80	103	95	92	100	57	50	66
Miscellaneous	94	105	106	91	104	100	92	83	80
General index	91	93	86	84	90	100	99	102	106
				GUATEMALA					
Foodstuffs	100	100	100	96	77	100	106	131	128
Beverages	98	99	104	102	107	100	111	118	119
Tobacco	95	100	103	97	104	100	107	106	107
Textiles	104	82	106	95	105	100	111	121	140
Wearing apparel	87	76	86	91	88	100	106	137	215
Wood	73	71	63	58	69	100	130	117	108
Skins and hides	111	119	115	109	122	100	117	107	121
Chemical industries	91	93	99	104	96	100	104	130	156
Total index [b]	94	92	97	95	95	100	109	121	132
				VENEZUELA					
Foodstuffs	50	49	62	70	81	100	103	109	112
Beverages	62	77	84	87	93	100	103	115	143
Tobacco	58	63	77	84	92	100	103	106	115
Textiles	43	62	73	80	96	100	112	142	154
Wearing apparel	25	28	44	66	87	100	121	113	109
Wood	44	49	52	64	81	100	102	107	104
Furniture	55	59	71	84	101	100	97	102	89
Paper and paperboard	19	32	38	48	121	100	112	151	151
Printing and publishing	35	40	51	61	69	100	98	103	124
Skins and hides	50	56	70	78	88	100	137	146	159
Rubber products	33	36	45	60	93	100	116	135	154
Chemical and pharmaceutical products	33	36	52	71	84	100	105	131	144
Petroleum refining	47	60	66	77	82	100	114	128	139
Construction materials	50		68	79	95	100	108	137	122
Metallurgical industry	27	31	31	50	89	100	133	181	242
Miscellaneous	43	41	54	68	84	100	124	162	191
General index	45	52	63	73	87	100	107	122	132

Table 7 *(Continued)*

LATIN AMERICA: MANUFACTURING PRODUCTION IN SELECTED COUNTRIES

(Indices: 1955 = 100)

Group	1953	1955	1957	1958	1959	1958				1959			
						I	II	III	IV	I	II	III	IV
					CHILE								
Foodstuffs	98	100	101	97	104	106	97	82	102	108	108	96	105
Beverages	94	100	109	161	184	152	121	160	209	185	135	178	238
Tobacco	96	100	83	92	102	89	75	94	110	88	101	111	109
Textiles	88	100	81	81	94	67	85	81	92	79	96	98	101
Footwear, wearing apparel and articles made from textiles	69	100	80	85	95	72	90	87	90	78	99	101	97
Furniture and accessories	102	100	78	72	82	71	75	70	74	64	78	90	95
Paper and paper products	83	100	98	128	155	108	122	125	160	157	138	143	183
Printing and publishing	94	100	85	88	82	87	87	90	87	78	80	84	84
Leather and leather products	88	100	90	90	90	83	92	86	100	82	98	99	82
Rubber products	80	100	74	79	107	74	92	68	82	93	121	105	108
Chemical substances and products	89	100	99	108	108	91	105	106	114	103	106	108	113
Petroleum and fuel derivatives	103	100	102	118	123	102	124	116	129	123	116	130	122
Non-metallic mineral products	92	100	84	90	112	76	84	91	110	103	104	111	130
Basic metal products	89	100	109	108	130	104	81	108	138	118	125	135	143
Basic metal products, excluding machinery and transport equipment	73	100	86	90	109	83	91	89	98	90	109	115	122
Electrical machinery, appliances, accessories and articles	74	100	83	90	103	78	93	93	98	86	95	112	117
Miscellaneous manufacturing industries	82	100	93	101	129	75	86	97	147	89	98	131	200
General index	88	100	92	96	109	90	93	93	108	99	107	110	118

SOURCES AND METHODS: See *Explanatory Notes.*

a Including leather footwear.

b Including the group of non-metallic minerals and excluding electricity.

Table 8

PRODUCTION OF SELECTED MANUFACTURES AND SEMI-MANUFACTURES
(Thousands of tons)

Country	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
				CEMENT					
Argentina	1 568	1 543	1 539	1 659	1 707	1 869	2 029	2 340	2 444
Brazil	1 386	1 456	1 619	2 030	2 477	2 720	3 267	3 357	3 746
Colombia	580	648	700	873	962	1 046	1 220	1 211	1 213
Cuba	316	382	419	405	420	463	613	667	729
Chile	513	698	818	762	775	804	771	725	727
Ecuador	58	79	89	91	95	145	152	155	160
Mexico	1 388	1 535	1 640	1 672	1 766	2 086	2 277	2 519	2 496
Peru	329	360	371	449	483	545	555	547	612
Dominican Republic	72	104	137	130	160	234	263	280	270
Uruguay	300	293	287	294	295	292	348	424	440
Venezuela	501	621	840	982	1 213	1 282	1 451	1 747	1 616
Other countries	154	196	226	251	280	323	371	396	428
Total	*7 165*	*7 915*	*8 685*	*9 598*	*10 633*	*11 809*	*13 317*	*14 368*	*14 881*
				PIG IRON					
Argentina	18	19	32	36	40	35	35	34	29
Brazil	729	775	812	880	1 089	1 069	1 152	1 252	1 340
Colombia	—	—	—	—	—	99	116	126	149
Chile	110	240	270	286	305	256	367	382	304
Mexico	227	254	304	242	252	328	408	429	496
Total	*1 084*	*1 288*	*1 418*	*1 444*	*1 686*	*1 787*	*2 078*	*2 223*	*2 318*
				STEEL INGOTS					
Argentina	130	132	126	174	186	218	203	221	244
Brazil	789	843	893	1 016	1 148	1 156	1 375	1 475	1 590
Colombia	—	—	—	—	—	77	100	125	135
Chile	68	187	260	333	342	310	401	412	373
Mexico	391	473	544	537	591	725	888	1 050	1 115
Uruguay	—	—	—	—	—	—	13	13	13
Total	*1 378*	*1 635*	*1 823*	*2 060*	*2 267*	*2 486*	*2 980*	*3 296*	*3 470*
				FINISHED STEEL					
Argentina	268	302	301	286	538	677	631	703	878
Brazil	623	697	719	841	971	1 030	1 142	1 245	1 360
Colombia	—	—	—	—	—	35	83	105	101
Cuba	—	—	—	—	—	—	15	15	15
Chile	57	139	188	217	238	236	285	270	234
Mexico	383	465	526	431	503	586	710	880	916
Peru	—	—	—	—	—	—	—	4	25
Uruguay	...	32	...	...	26	32	30	36*	40
Total	...	*1 635*	*1 734**	*1 775**	*2 276*	*2 596*	*2 896*	*3 258*	*3 569*
				SULPHURIC ACID					
Argentina	77.2	64.5	60.4	56.6	54.0	100.0	122.5	117.6	105.6
Brazil	121.8	107.7	150.4	96.5	...	121.0	185.0*	...	...
Colombia	6.5	6.5	6.5	8.2	8.0	8.2	10.1	12.5	...
Cuba	25.3	26.9	24.3	26.0	31.9	27.5	32.2	32.2	...

Table 8 *(Continued)*

PRODUCTION OF SELECTED MANUFACTURES AND SEMI-MANUFACTURES

(Thousands of tons)

Country	1950	1951	1952	1953	1954	1955	1956	1957	1958
				SULPHURIC ACID *(Continued)*					
Chile	13.0	16.0	17.5	17.5	20.0	40.0	45.0	45.0	...
Mexico	43.4	56.7	92.2	102.5	110.0	126.5	158.8	181.6	205.0
Peru	10.7	12.4	13.1	13.1	15.1	14.8	13.2	20.2	21.5
Uruguay	3.4	4.4	5.3	6.3	6.0	8.3	8.0	8.5	...
Venezuela	—	—	—	—	5.0	3.0	4.0	4.0	...
Total	*301.3*	*295.1*	*369.7*	*326.7*	...	*451.1*	*579.2*	*720.8*	...
				CAUSTIC SODA					
Argentina	8.7 [a]			11.1	12.2	28.0	31.0	32.0	30.1
Brazil	15.0			15.0	15.0	23.0	30.0	41.0	...
Colombia	0.2			7.0	10.0	10.2	12.1	13.4	16.2
Chile	5.4			3.7	4.0	4.0	3.8	3.5	...
Mexico	5.4			13.5	16.6	23.8	25.8	34.2	39.5
Peru	0.9			1.0	1.0	1.3	1.4	1.4	1.5
Total	*35.6*			*51.3*	*58.8*	*92.1*	*109.0*	*127.3*	...
				SODIUM CARBONATE					
Colombia	—			6.6	11.0	12.4	14.5	16.9	16.5
Chile	9.8			9.3	11.1	17.2	17.5	17.5	...
Mexico	2.0			—	—	30.4	30.2	31.0	46.7
Total	*11.8*			*15.9*	*22.1*	*61.9*	*61.9*	*65.4*	...
				WOOD-PULP					
Argentina	38	42	37	39	53	56	61	66	...
Brazil	152	163	175	180	175	188	209	221	...
Chile	15	16	17	15	19	20	20	24	...
Mexico	60	68	73	74	82	94	135	158	163*
Peru	5	7	8	10	12	13	18	17	...
Total	*270*	*296*	*310*	*318*	*341*	*377*	*451*	*494*	...
				NEWSPRINT					
Argentina	2.8	3.0	0.6	7.6	22.1	21.6	17.2	12.0	12.0
Brazil	37.9	41 1	43.2	41.5	30.6	39.5	39.4	49.0	50.0
Chile	11.0	11.0	12.0	9.0	12.0	11.5	11.2	20.2	44.0
Total	*51.7*	*55.1*	*55.8*	*58.1*	*64.7*	*72.6*	*67.8*	*81.2*	*106.0*
				OTHER PAPER					
Argentina	208.2	227.6	199.4	166.8	222.7	262.0	290.3	290.6	300.0
Brazil	268.4	283.7	285.5	322.1	368.9	386.9	446.7	419.4	485.0
Chile	30.0	32.0	41.0	37.0	36.0	55.8	55.0	50.6	48.7
Mexico	179.6	190.0	184.8	192.7	207.2	228.6	254.9	307.0	330.0
Peru	14.9	22.3	21.5	23.9	26.9	26.7	33.8	36.3	36.0
Venezuela	8.4	8.6	8.9	9.3	10.4	12.3	14.9	18.9	21.0
Total	*709.5*	*764.2*	*741.1*	*751.8*	*872.1*	*1 077.6*	*1 208.3*	*1 252.3*	*1 220.7*

SOURCES AND METHODS: See *Explanatory Notes.*

a Only surpluses for sale.

Table 9

VALUE OF EXPORTS AND IMPORTS (QUARTERLY)

(Millions of dollars)

Country	1957				1958				1959		
	I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*	*I*	*II*	*III*
					(a) Exports fob						
Argentina	279.6	243.4	215.2	236.6	242.8	254.3	223.8	273.0	226.0	264.2	254.9
Bolivia	20.1	27.7	21.4	26.8	14.9	18.2	16.5	14.5	16.8	...	...
Brazil	345.3	270.1	359.5	416.7	270.8	303.8	312.7	355.7	333.4	243.6	402.6
Colombia	140.1	108.2	138.2	124.1	105.7	94.3	134.3	119.7	99.9	116.1	139.9
Chile	125.9	118.5	104.3	110.6	103.0	66.4	95.6	124.4	120.7	122.6	...
Ecuador	20.1	21.0	32.0	25.6	19.6	20.1	33.1	23.6	19.7	24.0	29.3
Paraguay	6.2	8.6	10.3	7.8	5.2	9.1	10.2	9.6	4.9	10.2	9.0
Peru	71.1	80.8	76.9	92.6	61.2	65.6	78.8	84.4	59.5	73.8	86.3
Uruguay	57.3	29.4	24.9	16.6	44.6	28.7	27.2	38.1	38.5	27.5	21.5
Venezuela	597.6	614.2	588.8	566.0	567.9	560.5	567.6	625.4	634.8	...	...
Total	*1 663.3*	*1 521.9*	*1 571.5*	*1 623.4*	*1 435.7*	*1 421.0*	*1 499.8*	*1 668.4*	*1 554.2*	...	...
Costa Rica [a]	29.6	20.6	13.1	19.0	25.6	28.0	14.4	22.8	27.4	21.7	14.4
Cuba [a]	201.0	288.7	224.1	130.9	198.7	233.0	180.7	150.6	131.2	204.0	202.4
El Salvador	65.6	38.2	14.7	20.0	40.2	30.2	18.7	26.9	44.8	38.9	9.7
Guatemala [a]	39.2	24.5	16.6	33.9	34.6	30.1	17.3	25.4	33.0	32.0	10.5
Haiti	10.9	8.0	6.4	9.0	17.6	10.4	4.9	6.5	8.3	5.6	2.5
Honduras [a]	15.9	24.0	12.3	11.7	16.9	25.1	15.6	15.4	20.1	25.2	18.0
Mexico [a]	181.1	151.0	185.8	208.5	183.9	165.1	189.0	194.4	216.2	176.2	184.1
Nicaragua	21.9	26.9	7.9	7.0	24.0	21.9	8.1	9.8	25.8	30.3	7.2
Panama [a]	7.6	8.9	8.3	8.6	8.4	8.8	6.7	7.0	8.8	9.0	8.2
Dominican Republic	42.8	51.3	29.1	36.5	33.0	45.7	30.2	25.6	37.2	40.1	22.3
Total	*615.6*	*642.1*	*518.3*	*485.1*	*582.9*	*598.3*	*485.6*	*484.4*	*552.8*	*583.0*	*479.3*
Grand total: Latin America	*2 278.9*	*2 164.0*	*2 089.8*	*2 108.5*	*2 018.6*	*2 019.3*	*1 985.4*	*2 152.8*	*2 107.0*	...	...

See Notes at end of table.

Table 9 *(Continued)*

VALUE OF EXPORTS AND IMPORTS (QUARTERLY)

(Millions of dollars)

Country	1957				1958				1959		
	I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*	*I*	*II*	*III*
					(b) IMPORTS *cif*						
Argentina	305.6	333.5	328.7	342.6	288.7	312.7	316.5	314.7	139.7	223.7	329.0
Bolivia	12.9	25.0	23.9	30.3	20.9	24.7	20.5	13.5	...	...	...
Brazil	320.0	382.7	400.3	385.4	205.8	372.4	401.1	373.6	330.5	381.8	323.4
Colombia	91.5	98.2	138.9	148.0	120.9	99.4	89.3	90.4	83.2	119.2	111.7
Chile	106.9	105.9	112.7	117.0	122.0	105.4	91.0	97.1	93.9	83.9	...
Ecuador [b]	24.2	25.9	28.0	32.2	27.6	22.8	28.6	25.6	24.3	27.1	26.3
Paraguay [b]	5.9	8.6	10.0	7.2	10.3	11.3	8.7	7.5	6.3	7.5	8.1
Peru	86.9	113.3	98.2	101.0	91.7	85.8	84.1	72.6	71.7	71.5	74.6
Uruguay	58.4	60.0	56.3	51.7	22.9	24.0	31.4	56.3	30.1	44.9	67.9
Venezuela [b c]	380.1	435.3	478.4	574.3	426.8	388.9	371.3	412.1	372.5	...	...
Total	*1 392.4*	*1 588.4*	*1 675.4*	*1 789.7*	*1 337.6*	*1 447.4*	*1 442.5*	*1 463.4*	*1 172.1**	...	...
Costa Rica	21.9	27.4	25.9	27.6	24.4	25.3	24.3	25.3	22.7	27.3	25.3
Cuba [b]	231.2	228.3	209.1	225.6	233.0	213.2	197.5	211.3	128.2	165.0	...
El Salvador	30.0	28.8	28.2	28.0	27.4	26.6	27.4	26.7	24.5	25.8	25.0
Guatemala [b]	38.3	37.9	37.4	33.7	37.9	38.2	37.1	36.5	33.0	34.0	29.0
Haiti	11.5	8.5	8.0	11.5	11.7	11.3	10.7	9.6	8.0	6.8	6.5
Honduras [b]	18.8	20.2	19.4	20.6	17.5	18.9	19.2	21.2	14.4	16.1	...
Mexico	270.4	299.4	296.1	289.3	288.6	316.0	272.2	251.8	227.9 [d]	257.9	253.3
Nicaragua [b]	16.5	18.6	25.6	20.1	15.8	17.5	24.4	20.2	15.8	16.4	17.0
Panama	26.3	28.6	26.9	35.2	28.0	25.1	26.0	29.6	24.2	27.8	30.0
Dominican Republic [b]	32.5	32.4	31.6	39.5	34.8	35.2	39.3	39.4	37.1	35.1	34.1
Total	*697.4*	*730.1*	*708.2*	*731.1*	*719.1*	*727.3*	*678.1*	*671.6*	*571.8*	*612.2*	...
Grand total: Latin America	*2 089.8*	*2 318.5*	*2 383.6*	*2 520.8*	*2 056.7*	*2 174.7*	*2 120.6*	*2 135.0*	*1 743.9*	...	...

SOURCES AND METHODS: See *Explanatory Notes.*

a Adjustments have been made in the case of goods originally valued at nominal or arbitrary prices.

b *Fob* values were adjusted so as to approximate to *cif* values.

c Including gold.

d Including imports from free zone at the frontier.

Table 10

QUARTERLY EXPORT INDICES
(1955 = 100)

Country	(a) Quantum							(b) Unit value						
	1958				1959			1958				1959		
	I	II	III	IV	I	II	III	I	II	III	IV	I	II	III
Argentina	124	128	114	148	121	149	126	84	85	84	80	81	76	87
Bolivia	65	80	85	66	71	...	...	92	91	78	87	94	...	...
Brazil	76	90	97	117	121	93	157	100	95	90	85	77	74	72
Colombia	85	75	118	108	93	112	134	85	86	78	76	74	71	72
Chile	116	76	108	134	123	117	...	75	74	75	78	83	88	...
Ecuador	95	97	176	123	102	119	155	93	94	85	87	87	92	85
Paraguay	84	136	148	145	79	156	132	70	76	78	76	71	74	78
Peru	106	115	134	146	100	128	...	86	85	87	86	88	86	...
Uruguay	120	77	76	115	125	88	70	81	81	78	72	67	68	67
Venezuela	121	118	122	134	...	...	...	98	99	98	98	...	...	...
Total	*105*	*103*	*113*	*128*	*121**	...	...	91	92	89	87	86*	...	...
Costa Rica	136	160	82	143	170	131	87	94	89	86	77	80	83	82
Cuba	105	118	115	92	86	131	130	120	125	115	114	100	102	102
El Salvador	166	129	85	134	237	208	59	90	88	83	75	71	70	62
Guatemala	146	127	77	121	171	164	54	89	89	85	79	73	73	72
Haiti	233	146	70	94	138	50		84	79	78	77	66	124	
Honduras	154	248	137	132	200	254		91	84	95	97	84	83	
Mexico	99	90	110	106	123	99	120	95	93	88	93	90	91	78
Nicaragua	147	137	52	68	214	246	56	89	87	84	75	67	69	72
Panama	115	118	92	96	125	128	120	88	89	87	89	85	84	83
Dominican Republic	108	151	96	87	139	148	76	107	104	110	103	94	95	103
Total	*115*	*116*	*104*	*104*	*129*	*131*	...	*102*	*104*	*94*	*94*	*86*	*90*	
Grand total: Latin America	*108*	*106*	*110*	*122*	*123*	...	...	*94*	*95*	*90*	*89*	*86*	...	...

SOURCES AND METHODS: See *Explanatory Notes*, Vol. III, No. 2, Vol. IV, No. 1 and notes to table 9.

Table 11

IMPORTS OF FUELS

(Millions of dollars at current prices)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Argentina	187.4 [a]	131.3 [a]	124.0 [a]	230.4	256.4	196.3	184.2	207.4	255.6	320.7	261.8
Bolivia	5.8	4.9	3.3	5.2	5.6	7.2	5.2	3.1	2.1	2.8	2.1
Brazil	138.9	129.8	148.3	234.6	265.8	244.5	266.4	273.4	294.1	281.5	307.3
Colombia	10.1	9.4	10.2	16.6	19.3	25.6	29.8	24.7	23.2	19.1	9.8
Chile	40.5	32.9	25.8	43.8	43.6	42.9	52.6	51.9	38.2	43.6	37.4
Peru	2.3	4.0	3.5	6.4	4.6	4.8	6.5	9.3	12.1	15.3	11.1
Uruguay	16.3	18.9	13.4	30.0	31.4	21.7	37.1	26.6	31.8	15.9	26.6
Venezuela	9.6	8.6	8.9	12.0	11.8	11.9	15.4	13.9	15.0	17.6	18.3
Total [b]	*414.2*	*343.2*	*340.1*	*582.5*	*642.6*	*558.9*	*603.4*	*615.7*	*677.0*	*722.0*	*680.0*
Costa Rica	3.1	2.5	3.0	3.5	4.0	4.0	5.1	4.9	5.5	6.6	6.4
Cuba	35.2	29.6	35.7	41.3	43.2	43.9	45.9	54.3	61.6	86.1	89.8
El Salvador	2.2	2.5	2.7	3.6	4.6	4.9	5.4	5.4	6.5	7.4	7.2
Guatemala	6.4	5.2	5.2	6.1	5.7	6.6	7.0	8.3	10.3	10.6	11.2
Haiti	1.4	1.5	1.4	1.8	2.0	2.6	2.4	1.8	2.3	2.3	...
Honduras	3.2	3.0	3.0	3.4	4.1	4.2	3.8	4.1	4.8	6.0	6.6
Mexico	23.7	23.3	24.7	26.2	35.9	47.8	60.3	69.8	81.5	88.9	61.9
Nicaragua	1.8	2.0	2.0	2.8	3.3	3.6	4.2	5.0	5.6	6.4	7.4
Panama	4.5	4.0	4.9	5.8	6.9	6.9	7.0	8.6	8.1	10.2	11.0
Dominican Republic	4.0	3.3	3.2	4.4	6.5	6.7	6.6	9.3	10.4	11.9	12.2
Total	*85.5*	*76.9*	*85.8*	*98.9*	*116.2*	*131.2*	*147.7*	*171.5*	*196.6*	*236.4*	*215.7* [c]
Grand total: Latin America [b]	*499.7*	*420.1*	*425.9*	*681.4*	*758.8*	*690.1*	*751.1*	*787.2*	*873.6*	*958.4*	*895.7* [c]

SOURCES AND METHODS: See *Explanatory Notes*, Vol. III, No. 2 and Vol. IV, No. 1.

a Provisional data.

b Including estimates for Ecuador and Paraguay.

c Including estimates for Haiti.

Table 12

IMPORTS OF CONSUMER GOODS

(Millions of dollars at current prices)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					(a) *Non-durable*						
Argentina	156.5 [a]	104.4 [a]	85.1 [a]	81.2	56.7	44.6	61.5	73.3	73.2	53.2	64.1
Bolivia	24.4	24.8	22.3	32.7	31.2	23.3	20.9	19.6	17.3	24.3	17.6
Brazil	112.4	111.7	102.5	148.2	145.8	104.8	113.3	96.1	86.9	95.3	54.3
Colombia	51.6	32.0	47.9	49.2	42.4	53.3	83.3	67.2	56.0	41.5	41.6
Chile	32.9	30.0	24.4	32.9	34.6	24.6	29.0	39.2	33.6	40.4	52.8
Peru	33.0	27.7	38.6	52.0	58.0	48.0	47.8	56.9	61.3	72.1	63.1
Uruguay	32.7	40.0	35.9	34.9	29.8	21.2	29.9	26.1	18.9	25.2	13.9
Venezuela	205.3	187.8	174.9	180.9	181.0	182.3	191.4	201.2	201.7	251.5	272.8
Total [b]	672.6	582.2	551.2	637.1	608.5	530.7	621.5	619.1	583.9	643.2	620.0
Costa Rica	...	...	...	...	...	21.5	23.3	22.3	25.5	26.3	24.3
Cuba	235.8	214.0	236.6	278.1	245.6	224.1	212.1	196.2	213.4	242.9	229.6
El Salvador	...	...	...	...	...	24.9	27.9	27.8	30.8	35.1	33.2
Guatemala	...	...	...	...	...	27.5	29.0	31.8	34.8	36.3	37.9
Haiti	...	...	...	...	...	20.2	24.6	18.5	20.9	...	...
Honduras	...	...	...	...	...	19.4	21.0	21.0	19.9	25.6	23.5
Mexico	59.0	46.9	53.3	65.1	85.1	89.7	67.7	61.6	73.2	66.0	72.8
Nicaragua	...	...	...	...	...	12.1	13.8	14.5	13.0	15.4	14.7
Dominican Republic	...	...	...	...	...	24.9	25.2	26.5	29.6	32.6	29.0
Total	...	...	...	...	...	*502.7*	*482.3*	*456.1*	*499.4*	*545.7*	*528.9*
Grand total: Latin America [b]	...	...	...	...	...	*1 033.4*	*1 103.8*	*1 075.2*	*1 083.3*	*1 188.9*	*1 148.9*
					(b) *Durable*						
Argentina	103.1 [a]	53.6 [a]	41.6 [a]	78.8	40.2	16.5	20.8	34.0	50.7	69.0	65.3
Bolivia	4.2	4.8	3.7	6.0	8.7	3.7	2.6	4.5	5.5	6.6	8.6
Brazil	112.8	89.0	65.1	177.8	129.5	32.0	38.5	23.2	20.7	28.7	30.2
Colombia	26.2	11.1	28.2	24.9	31.9	51.7	60.8	47.6	24.5	11.7	13.5*
Chile	7.4	11.8	5.6	14.5	11.9	8.3	5.7	10.4	11.6	14.9	13.3
Peru	7.1	7.3	11.2	26.2	22.1	22.6	12.7	21.8	30.7	31.1	27.0*
Uruguay	11.1	10.5	12.9	18.3	12.6	8.1	12.8	10.4	5.7	9.9	2.6
Venezuela	41.8	45.7	36.1	38.4	42.6	52.4	59.3	71.3	58.2	98.6	114.3
Total [b]	*324.3*	*244.6*	*213.1*	*396.1*	*312.6*	*207.9*	*232.6*	*240.4*	*222.8*	*287.8*	*292.3*
Costa Rica	...	...	...	...	..	7.3	8.2	7.7	8.1	9.7	10.2
Cuba	52.7	43.7	56.8	71.3	79.0	55.2	55.2	72.0	75.4	86.4	81.9
El Salvador	...	...	...	...	...	8.2	9.1	11.6	12.3	13.4	12.7
Guatemala	...	...	...	...	...	8.7	10.8	13.8	16.9	20.1	20.7
Haiti	...	...	...	...	...	2.3	2.8	2.7	3.2	...	...
Honduras	...	...	...	...	...	5.4	6.3	7.1	6.7	7.5	7.6
Mexico	42.0	31.7	44.7	63.1	64.7	67.3	64.4	74.6	77.8	77.6	73.6
Nicaragua	...	...	...	...	...	4.5	6.0	7.8	7.0	7.7	7.4
Dominican Republic	...	...	...	...	...	14.5	13.0	16.6	16.3	17.3	19.2
Total [c]	...	...	...	...	...	*181.6*	*184.4*	*224.6*	*235.2*	*256.2*	*249.1*
Grand total: Latin America [bc]	...	...	...	...	...	*389.5*	*417.0*	*465.0*	*458.0*	*544.0*	*541.4*

SOURCES AND METHODS: See *Explanatory Notes*, Vol. III, No. 2 and Vol. IV, No. 1.

a Provisional data.

b Including estimates for Ecuador and Paraguay.

c Including estimates for Panama, and in 1957 and 1958 for Haiti.

Table 13

IMPORTS OF RAW MATERIALS AND INTERMEDIATE PRODUCTS

(Millions of dollars at current prices)

Country	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
					(a) *Metallic*						
Argentina	163.3 [a]	138.4 [a]	121.1 [a]	242.1	152.6	77.3	160.6	209.3	195.0	208.2	248.2
Bolivia	2.5	2.5	1.9	2.7	3.2	2.1	1.8	2.3	2.6	3.0	2.4
Brazil	54.2	61.9	60.0	134.4	129.7	87.3	139.4	82.6	94.4	108.8	66.5
Colombia	13.3	10.6	14.5	19.4	18.4	23.5	27.5	28.2	39.1	32.2	17.1
Chile	15.3	20.5	12.8	14.5	14.2	15.9	9.3	12.9	13.7	13.8	13.7
Peru	6.7	9.5	6.2	11.1	11.8	12.3	12.0	14.3	19.5	18.4	15.5
Uruguay	11.3	10.6	12.1	16.8	14.1	14.2	17.3	13.1	17.3	20.7	11.9
Venezuela	35.8	34.7	29.6	30.6	35.4	40.9	49.3	44.7	68.4	89.8	80.7
Total [b]	305.3	291.5	260.6	474.6	382.9	277.1	423.0	412.5	454.5	500.1	461.1
Costa Rica	...	...	...	...	...	2.2	1.8	1.7	1.8	2.2	2.2
Cuba	29.9	18.0	21.7	34.6	35.3	21.5	21.5	26.6	38.8	41.0	39.0
El Salvador	...	...	...	...	...	1.5	1.7	2.0	2.5	2.6	2.5
Guatemala	...	...	...	...	...	2.2	2.1	3.0	4.5	6.7	4.1
Haiti	...	...	...	...	...	4.7	6.1	3.5	4.5	...	...
Honduras	...	...	...	...	...	1.2	1.2	1.2	1.4	1.7	1.7
Mexico	56.6	60.5	65.7	100.8	114.1	91.6	80.9	92.0	143.9	138.8	129.0
Nicaragua	...	...	...	...	...	1.9	2.4	2.0	2.7	2.8	2.8
Dominican Republic	...	...	...	...	...	4.2	4.2	6.0	5.3	7.6	6.9
Total	...	...	...	...	...	132.3	123.6	139.5	207.4	209.5	194.4
Grand total: Latin America [b]	...	...	...	...	...	409.4	546.6	552.0	661.9	709.6	655.5
					(b) *Non-metallic*						
Argentina	368.1 [a]	366.7 [a]	302.2 [a]	519.8	390.2	239.4	323.4	376.0	268.2	349.6	340.8
Bolivia	23.1	28.7	18.5	30.2	31.3	24.9	24.0	26.0	22.8	21.8	15.6
Brazil	325.7	310.4	309.2	529.3	466.9	326.9	472.1	411.0	381.6	393.3	355.2
Colombia	92.8	79.2	116.0	140.6	122.9	135.3	166.4	182.0	190.5	180.8	139.9
Chile	93.4	88.9	94.9	118.1	153.7	123.0	150.3	140.7	112.2	123.0	113.6
Peru	60.6	44.7	48.2	64.6	71.2	69.2	63.2	76.0	80.3	88.4	80.9
Uruguay	55.9	49.0	61.2	95.0	68.8	69.6	85.4	79.8	77.6	87.9	54.4
Venezuela	91.8	78.4	100.1	117.9	120.3	135.5	153.5	162.8	165.3	201.3	188.9
Total [b]	1 130.9	1 065.8	1 066.3	1 636.2	1 449.2	1 147.0	1 474.0	1 485.9	1 326.5	1 477.9	1 321.5
Costa Rica	...	...	...	...	...	16.3	18.5	21.9	22.3	24.2	25.9
Cuba	135.6	104.0	128.6	156.4	157.3	108.1	107.3	155.9	171.7	186.0	176.0
El Salvador	...	...	...	...	...	16.0	21.0	20.6	25.3	26.0	25.7
Guatemala	...	...	...	...	...	18.2	20.6	21.3	24.5	28.9	31.2
Haiti	...	...	...	...	...	6.4	7.5	7.4	6.4	...	...
Honduras	...	...	...	...	...	11.8	12.8	14.1	17.1	16.8	15.8
Mexico	141.4	133.4	166.4	239.7	214.0	215.4	216.1	237.0	268.5	310.0	316.6
Nicaragua	...	...	...	...	...	10.8	15.9	18.9	18.8	21.7	22.6
Dominican Republic	...	...	...	...	...	17.4	17.7	19.6	23.1	23.7	20.9
Total [c]	...	...	...	...	...	431.6	449.1	529.9	592.1	660.2	657.5
Grand total: Latin America [bc]	...	...	...	...	...	1 578.6	1 923.1	2 015.8	1 918.6	2 138.1	1 979.0

SOURCES AND METHODS: See *Explanatory Notes*, Vol. III, No. 2 and Vol. IV, No. 1.

a Provisional data.

b Including estimates for Ecuador and Paraguay.

c Including estimates for Panama; for Haiti, years 1957 and 1958.

Table 14

IMPORTS OF CAPITAL GOODS

(Millions of dollars at current prices)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					(a) *Construction materials*						
Argentina	108.0 [a]	93.2 [a]	75.6 [a]	78.9	60.8	25.6	45.1	48.5	23.6	24.0	30.0
Bolivia	2.9	6.4	3.9	3.6	4.3	2.5	3.3	4.7	4.1	5.5	7.5
Brazil	35.9	45.7	35.3	75.2	94.2	67.6	72.1	42.9	21.1	32.9	27.3
Colombia	26.9	20.2	25.0	26.9	27.8	43.9	52.5	51.9	56.6	39.9	34.5
Chile	11.5	22.2	16.6	14.9	16.0	19.1	8.8	13.1	14.8	21.6	20.6
Peru	7.9	9.3	8.5	14.6	17.5	23.1	16.4	20.7	26.2	23.6	17.1
Uruguay	12.1	10.4	10.9	13.5	10.7	7.6	12.6	8.4	7.9	9.4	2.8
Venezuela	64.0	67.6	39.2	55.4	58.6	66.9	70.9	82.8	102.6	147.7	114.8
Total [b]	*273.0*	*278.9*	*218.1*	*287.1*	*294.6*	*260.9*	*288.8*	*279.4*	*262.5*	*311.0*	*261.0*
Costa Rica	...	...	...	...	...	7.3	7.4	8.7	9.6	11.2	10.9
Cuba	16.1	17.7	16.3	29.2	22.8	20.6	21.3	31.4	35.6	35.5	33.7
El Salvador	...	...	...	...	...	5.7	6.4	9.1	9.2	9.6	8.2
Guatemala	...	...	...	...	...	4.1	4.0	5.4	10.4	11.5	11.1
Haiti	...	...	...	...	...	0.7	0.5	0.1	0.1	...	...
Honduras	...	...	...	...	...	5.0	3.7	3.6	4.0	4.3	4.5
Mexico	38.2	34.1	40.5	62.3	59.8	48.4	43.0	52.4	66.5	72.4	71.4
Nicaragua	...	...	...	...	...	3.2	4.1	4.2	4.3	6.0	4.7
Dominican Republic	...	...	...	...	...	6.6	6.9	10.2	10.6	11.8	9.9
Total	...	...	...	...	...	*105.7*	*102.0*	*130.7*	*158.0*	*171.1*	*162.8*
Grand total: Latin America [b]	...	...	...	...	...	*366.6*	*390.8*	*410.1*	*420.5*	*482.1*	*423.8*
					(b) *Agricultural equipment and machinery*						
Argentina	36.8 [a]	18.3 [a]	31.0 [a]	35.2	40.0	47.6	21.8	43.4	49.3	27.3	38.4
Bolivia	0.7	0.9	0.5	0.8	0.9	1.0	0.7	2.4	5.4	1.1	1.1
Brazil	24.7	46.9	68.4	79.4	71.1	46.4	98.4	42.5	38.8	67.3	51.6
Colombia	10.7	14.7	16.7	15.0	15.4	19.0	32.3	37.5	31.0	14.8	20.6
Chile	6.6	7.7	3.2	9.2	8.2	10.1	14.5	17.6	10.1	12.9	7.7
Peru	5.7	9.9	7.1	10.8	13.3	14.9	11.0	13.3	13.7	16.8	15.4
Uruguay	5.0	2.6	3.7	7.7	4.2	2.9	4.5	3.1	2.2	3.3	0.4
Venezuela	19.6	16.8	18.6	24.4	20.1	24.9	34.9	33.3	25.3	33.7	32.5
Total [b]	*112.1*	*120.1*	*151.0*	*184.9*	*176.0*	*169.6*	*222.4*	*196.9*	*179.2*	*181.1*	*171.5*
Costa Rica	...	...	...	...	...	2.9	2.2	2.6	3.4	4.5	3.7
Cuba	8.4	9.6	11.0	14.7	8.0	8.1	10.6	10.9	11.7	16.3	15.3
El Salvador	...	...	...	...	...	1.8	1.6	2.2	2.3	2.7	2.1
Guatemala	...	...	...	...	...	2.4	2.8	4.5	9.9	7.8	5.9
Haiti [d]	...	...	...	...	...	...	...	...	...	...	...
Honduras	...	...	...	...	...	2.9	2.4	2.3	2.9	3.8	3.2
Mexico	22.8	20.1	24.4	36.3	25.8	24.7	28.8	44.2	41.1	36.3	37.6
Nicaragua	...	...	...	...	...	3.9	7.0	4.7	1.8	2.0	3.0
Dominican Republic	...	...	...	...	...	1.3	1.4	1.1	1.5	1.1	1.4
Total	...	...	...	...	...	*48.0*	*56.8*	*72.5*	*74.6*	*74.5*	*72.2*
Grand total: Latin America [b]	...	...	...	...	...	217.6	279.2	269.4	253.8	255.6	243.7

See Notes at end of table.

Table 14 *(Continued)*

IMPORTS OF CAPITAL GOODS

(Millions of dollars at current prices)

Country	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
					(c) *Industrial equipment and machinery*						
Argentina	273.1 [a]	182.6 [a]	126.6 [a]	126.1	105.1	64.2	104.0	111.1	117.4	103.8	63.5
Bolivia	10.0	12.0	6.6	10.5	12.9	9.6	10.3	13.3	15.3	20.3	16.6
Brazil	180.2	209.0	207.1	366.5	423.2	257.6	283.2	204.4	174.8	262.9	243.7
Colombia	78.1	67.1	65.8	82.8	94.4	138.9	143.1	149.7	161.5	110.2	89.0
Chile	39.5	60.4	48.1	58.4	62.6	65.4	46.3	55.0	68.4	102.2	107.2
Peru	32.6	38.1	30.2	47.9	62.9	68.7	55.0	63.3	84.4	91.4	73.2
Uruguay	39.8	28.1	35.2	58.4	39.2	34.3	52.5	43.9	27.8	37.3	14.7
Venezuela	227.0	239.8	145.6	196.0	256.9	253.7	273.0	286.5	417.0	761.9	556.3
Total [b]	*891.7*	*848.4*	*674.6*	*958.7*	*1 071.1*	*906.2*	*989.0*	*946.4*	*1 083.7*	*1 509.4*	*1 183.6*
Costa Rica	...	...	...	...	...	7.9	10.6	14.4	11.6	11.1	11.0
Cuba	44.9	38.6	35.6	47.1	52.1	34.6	40.4	66.8	86.5	128.2	121.7
El Salvador	...	...	...	...	...	5.9	7.9	7.7	9.7	10.9	9.9
Guatemala	...	...	...	...	...	7.5	6.7	10.4	16.6	17.5	18.7
Haiti	...	...	...	...	...	0.1	0.1	0.1	0.1	...	...
Honduras	...	...	...	...	...	6.0	5.4	4.9	6.9	9.3	10.2
Mexico	140.0	107.8	116.8	178.2	168.2	171.2	183.9	200.5	263.7	306.3	287.5
Nicaragua	...	...	...	...	...	8.0	8.8	8.1	10.2	13.0	10.8
Dominican Republic	...	...	...	...	...	12.3	12.6	16.0	19.2	18.6	20.0
Total	...	...	...	...	...	*259.0*	*282.0*	*335.1*	*412.8*	*524.5*	*499.1*
Grand total: Latin America [b]	...	...	...	...	...	*1 165.2*	*1 271.0*	*1 281.5*	*1 496.5*	*2 033.9*	*1 682.7*
					(d) *Transport equipment and machinery*						
Argentina	167.2 [a]	76.2 [a]	52.6 [a]	76.6	72.6	81.4	54.3	65.8	90.8	152.0	112.3
Bolivia	5.0	4.6	3.2	6.2	7.7	3.5	3.8	6.0	8.4	6.4	7.3
Brazil	144.9	107.4	98.0	258.6	277.8	145.3	139.6	124.4	116.7	214.3	214.0
Colombia	24.9	18.9	38.6	38.6	40.7	52.4	71.5	76.1	70.7	26.6	31.1
Chile	22.1	29.5	15.8	22.4	25.2	25.2	26.4	35.3	50.4	68.5	47.6
Peru	10.9	15.6	21.3	26.6	24.4	27.4	23.3	21.9	33.2	39.6	28.5
Uruguay	14.1	9.5	14.0	33.4	24.0	12.5	19.2	12.1	15.3	15.3	6.2
Venezuela	60.1	58.3	48.1	49.4	62.0	62.2	74.1	86.0	88.0	171.0	121.7
Total [b]	*456.5*	*327.3*	*297.8*	*519.7*	*543.5*	*419.0*	*426.5*	*440.3*	*484.7*	*706.5*	*581.3*
Costa Rica	...	...	...	...	...	3.4	2.9	3.0	3.1	6.5	1.1
Cuba	8.8	9.9	11.2	16.9	16.2	11.5	10.8	16.7	16.5	24.4	23.0
El Salvador	...	...	...	...	...	3.2	4.1	5.1	5.5	6.6	5.3
Guatemala	...	...	...	...	...	2.2	3.1	4.8	9.6	7.7	8.5
Haiti	...	...	...	...	...	1.1	1.1	0.9	1.4	...	...
Honduras	...	...	...	...	...	2.9	2.3	2.2	2.8	3.6	3.3
Mexico	14.1	14.9	15.9	43.7	37.0	48.7	40.3	50.0	53.8	57.5	76.6
Nicaragua	...	...	...	...	...	2.5	5.7	3.3	2.7	2.6	2.1
Dominican Republic	...	...	...	...	...	9.3	5.1	5.0	7.2	8.2	9.7
Total [c]	...	...	...	...	...	*87.2*	*78.2*	*93.4*	*106.2*	*122.5*	*134.8*
Grand total: Latin America [bc]	...	...	...	...	...	506.2	504.7	533.7	590.9	829.0	716.1

SOURCES AND METHODS: See *Explanatory Notes*, Vol. III, No. 2 and Vol. IV, No. 1.

a Provisional data.

b Including estimates for Ecuador and Paraguay.

c Including estimates for Panama; for Haiti, years 1957 and 1958.

d The figures of agricultural equipment and machinery are included in "industrial equipment and machinery".

Table 15

EXPORTS OF PRINCIPAL COMMODITIES (QUARTERLY)

Country	1958				1959		1958				1959	
	I	II	III	IV	I	II	I	II	III	IV	I	II
	Quantities in thousands of tons						Values in millions of dollars					
Tropical commodities												
BANANAS												
Brazil	66.6	78.6	57.7	68.6	61.7	56.3	3.5	3.4	2.4	1.6	1.3	1.4
Colombia	58.1	55.0	22.1	53.8	64.9	73.1	2.3	2.3	1.2	1.9	3.2	3.7
Costa Rica	81.3	82.3	76.3	62.6	61.1	52.5	7.2	7.2	6.7	5.4	6.4	5.5
Ecuador	175.4	146.5	198.7	222.0	201.6	216.6	8.9	7.0	8.7	10.7	10.2	11.2
Guatemala	43.2	42.5	11.5	15.7	39.4	52.1	4.5	5.3	1.4	1.9	2.9	3.9
Honduras	76.3	155.2	82.5	84.2	89.1	128.3	7.6	13.7	8.1	8.3	8.6	12.0
Panama	81.6	76.4	56.3	55.4	75.1	71.5	6.9	6.4	4.8	4.7	6.3	6.0
Total	*582.5*	*636.5*	*505.1*	*562.3*	*592.9*	*650.4*	*40.9*	*45.3*	*33.3*	*34.5*	*38.9*	*43.7*
SUGAR												
Brazil	218.2	134.0	163.0	243.0	189.5	125.5	17.1	10.1	12.1	18.1	14.3	8.7
Cuba	1 455.4	1 734.4	1 425.6	922.9	812.0	1 283.4	148.5	174.6	146.5	100.0	87.2	125.8*
Peru	107.5	88.6	67.2	147.4	123.7	100.1	8.5	7.0	5.5	13.2	10.1	7.0
Dominican Republic	153.7	256.9	162.0	96.3	232.5	240.6	13.4	19.8	14.1	9.3	17.8	15.6
Total	*1 934.8*	*2 213.9*	*1 817.8*	*1 409.6*	*1 357.7*	*1 749.6*	*187.5*	*211.5*	*178.2*	*140.6*	*129.4*	*157.1*
COFFEE												
Brazil	144	203.6	194.5	230.5	253.9	193.6	143.9	190.7	172.3	180.6	183.1	136.4
Colombia	70.2	60.4	103.3	92.6	70.2	95.4	80.5	68.8	111.1	94.2	75.1	88.7
Costa Rica	12.3	16.2	4.4	13.2	17.5	12.0	15.2	18.5	4.7	12.2	16.2	11.6
Ecuador	3.5	2.1	18.2	6.4	2.6	0.9	3.0	1.8	16.3	5.2	1.7	0.6
El Salvador	27.2	21.1	12.6	19.6	36.4	26.9	31.1	22.9	12.5	17.7	32.0	23.5
Guatemala	21.8	18.0	10.8	20.6	25.4	21.5	25.6	20.2	11.7	20.1	22.3	20.4
Haiti	15.7	8.8	3.5	4.9	7.2	...	14.5	7.7	2.9	4.0	5.4	...
Honduras	4.4	5.8	0.8	0.3	5.9	8.2	4.4	5.5	0.8	0.2	4.5	6.3
Mexico	22.4	29.5	12.8	14.0	38.8	18.8	24.0	30.0	12.6	12.6	32.3	15.9
Nicaragua	12.1	6.8	1.0	3.0	8.4	5.9	13.6	7.6	0.6	2.5	6.9	5.1
Peru	2.5	2.6	6.7	5.5	1.6	2.2	2.4	2.4	6.2	4.6	1.2	1.7
Dominican Republic	7.8	8.0	2.9	7.0	9.2	2.1	7.9	7.3	2.5	6.1	7.2	1.7
Venezuela	13.9	9.2	4.9	7.5	10.6	10.3	14.9	9.8	4.6	6.7	9.0	9.1
Total	*358.2*	*392.1*	*376.4*	*425.1*	*487.7*	...	*381.0*	*393.2*	*358.8*	*366.7*	*396.9*	...
CACAO												
Brazil	18.6	16.1	27.6	41.2	22.1	11.7	15.0	14.7	25.7	34.0	17.7	8.8
Costa Rica	1.8	2.6	0.9	2.3	2.5	3.2	1.5	2.1	0.7	1.6	1.6	2.0
Ecuador	6.0	8.1	3.7	4.6	7.2	11.2	5.5	7.5	3.5	4.1	5.6	8.7
Dominican Republic	5.6	12.1	4.4	2.0	2.7	10.7	4.6	10.5	3.9	1.6	1.9	7.6
Venezuela	5.4	5.6	1.1	1.6	5.6	3.1	4.5	5.1	0.6	1.3	4.3	2.4
Total	*37.4*	*44.5*	*37.7*	*51.7*	*40.1*	*39.9*	*31.1*	*39.9*	*34.4*	*42.6*	*31.1*	*29.5*

See Notes at end of table.

Table 15 *(Continued)*

EXPORTS OF PRINCIPAL COMMODITIES (QUARTERLY)

Country	1958				1959		1958				1959	
	I	*II*	*III*	*IV*	*I*	*II*	*I*	*II*	*III*	*IV*	*I*	*II*
	Quantities in thousands of tons						*Values in millions of dollars*					
					COTTON							
Brazil	17.2	7.8	12.5	2.7	0.6	20.4	11.8	4.3	7.4	1.4	0.3	9.2
El Salvador	9.7	6.1	3.9	10.0	16.7	21.5	6.1	4.0	2.3	5.5	8.9	11.1
Mexico	65.4	27.4	148.1	100.1	81.5	56.4	39.0	15.7	82.4	53.2	39.9	28.1
Nicaragua	10.4	16.6	8.4	7.3	24.3	35.2	6.3	9.7	4.9	4.0	11.5	16.8
Paraguay	0.3	3.6	3.2	1.1	0.5	5.2	0.1	1.7	1.4	0.5	0.1	1.8
Peru	13.1	22.5	36.6	30.9	16.6	26.4	9.8	16.2	25.7	21.2	10.2	15.8
Total	*116.1*	*84.0*	*212.7*	*152.1*	*140.2*	*165.1*	*73.1*	*51.6*	*124.1*	*85.8*	*70.9*	*82.8*
Other agricultural commodities												
					MEAT							
Argentina	108.7	99.8	73.0	100.2	66.6	95.9	35.3	36.0	28.8	40.8	28.7	37.5
Uruguay	9.9	10.6	8.6	4.5	12.5	...	4.2	4.5	3.9	2.0	6.1	...
Total	*118.6*	*110.4*	*81.6*	*104.7*	*79.1*	...	*39.5*	*40.5*	*32.7*	*42.8*	*34.8*	...
					WHEAT							
Argentina	321.2	572.3	473.8	745.3	617.6	930.7	19.2	34.5	29.2	43.2	35.3	49.4
Uruguay	64.0	99.2	67.9	34.0	39.3	—	3.5	5.2	4.1	2.1	2.1	—
Total	*385.2*	*671.5*	*541.7*	*779.3*	*656.9*	*930.7*	*22.7*	*39.7*	*33.3*	*45.3*	*37.4*	*49.4*
					MAIZE							
Argentina	150.0	377.2	613.1	538.4	564.1	395.2	8.0	18.9	29.5	25.0	26.3	16.9
					HIDES							
Argentina	52.9	34.3	41.5	52.0	32.0	44.5	14.1	8.7	11.9	14.9	10.1	12.5
Brazil	5.2	4.8	4.8	4.0	6.0	11.1	2.1	0.4	1.1	0.8	1.3	2.5
Paraguay	1.6	2.1	2.7	3.6	3.0	3.8	0.3	0.4	0.5	0.7	0.6	1.0
Uruguay	7.2	2.9	3.3	8.3	6.5	5.0	3.1	1.2	1.3	3.3	2.8	2.8
Total	*66.9*	*44.1*	*52.3*	*67.9*	*47.5*	*64.4*	*19.6*	*10.7*	*14.8*	*19.7*	*14.8*	*18.8*
					QUEBRACHO							
Argentina	30.2	26.7	23.1	25.9	24.4	25.9	5.6	4.9	4.1	4.4	4.6	4.5
Paraguay	6.7	4.1	6.5	10.2	5.4	5.5	0.9	0.5	0.8	1.2	0.7	0.7
Total	*36.9*	*30.8*	*29.6*	*36.1*	*29.8*	*31.4*	*6.5*	*5.4*	*4.9*	*5.6*	*5.3*	*5.2*
					WOOL							
Argentina	24.8	13.8	16.9	50.1	37.9	53.9	27.3	15.8	15.7	40.1	30.7	42.5
Uruguay	23.3	8.4	7.5	19.6	20.2	8.6	27.4	9.3	7.8	19.0	18.7	8.8
Total	*48.1*	*22.2*	*24.4*	*69.7*	*58.1*	*62.5*	*54.7*	*25.1*	*23.5*	*59.1*	*49.4*	*51.3*
					LINSEED OIL							
Argentina	67.5	42.5	28.9	22.8	40.5	85.0	16.3	10.1	7.1	5.3	7.9	14.6
Uruguay	0.3	7.2	6.3	3.8	1.4	0.7	0.1	1.7	1.5	0.9	0.3	0.2
Total	*67.8*	*49.7*	*35.2*	*26.6*	*41.9*	*85.7*	*16.4*	*11.8*	*8.6*	*6.2*	*8.2*	*14.8*

See Notes at end of table.

Table 15 *(Continued)*

EXPORTS OF PRINCIPAL COMMODITIES (QUARTERLY)

Country	1958 I	1958 II	1958 III	1958 IV	1959 I	1959 II	1958 I	1958 II	1958 III	1958 IV	1959 I	1959 II
	Quantities in thousands of tons						Values in millions of dollars					
Minerals												
NITRATE												
Chile	336.6	301.0	236.0	253.4	300.3	...	12.0	10.6	8.4	8.5	10.7	...
IRON ORE												
Brazil	801.0	571.0	686.0	765.0	640.0	825.0	11.5	7.9	9.5	10.5	7.7	9.5
Chile	726.0	686.0	1 271.0	955.0	1 019.0	...	4.8	4.3	8.8	6.1	6.5	...
Peru	436.0	352.0	396.0	338.0	371.0	...	4.7	4.1	4.4	3.3	3.0	...
Total	*1 963.0*	*1 609.0*	*2 353.0*	*2 058.0*	*2 030.0*	...	*21.0*	*16.3*	*22.7*	*19.9*	*17.2*	...
COPPER												
Chile	124.9	75.7	109.1	132.6	119.9	...	63.6	35.4	57.1	75.3	72.0	...
Mexico	11.8	14.8	8.8	13.0	12.0	12.2	7.0	8.6	5.5	9.0	8.2	8.3
Peru	14.7	16.2	9.6	13.3	9.3	...	5.1	5.7	4.8	6.4	4.4	...
Total	*151.4*	*106.7*	*127.5*	*158.9*	*141.2*	...	*75.7*	*49.7*	*67.4*	*90.7*	*84.6*	...
LEAD												
Mexico	38.3	42.8	46.5	24.8	34.4	45.5	9.5	9.8	9.8	6.1	8.2	9.4
Peru	39.4	36.2	31.3	29.5	25.4	32.3	7.7	6.8	5.2	4.9	4.6	5.8
Total	*77.7*	*79.0*	*77.8*	*54.3*	*59.8*	*77.8*	*17.2*	*16.6*	*15.0*	*11.0*	*12.8*	*15.2*
ZINC												
Mexico	40.9	46.9	38.4	55.6	53.0	54.3	4.6	4.9	4.6	6.1	6.2	6.2
Peru	43.6	31.6	30.6	38.2	29.5	43.3	3.3	2.6	2.4	3.0	2.6	3.9
Total	*84.5*	*78.5*	*69.0*	*93.8*	*82.5*	*97.6*	*7.9*	*7.5*	*7.0*	*9.1*	*8.8*	*10.1*
TIN												
Bolivia	4.4	5.2	4.5	4.0	5.0	6.5	8.7	10.5	9.0	8.2	10.9	14.1
PETROLEUM [a]												
Colombia	799.0	841.0	834.0	940.0	890.0	989.0	15.4	16.2	16.5	18.5	16.4	17.7
Ecuador	18.0	41.0	25.0	13.0	—	12.0	0.2	0.2	0.2	0.1	...	...
Mexico	11.4	28.3	38.1	36.7	8.0*	8.0*	0.2	0.5	0.3	0.4	0.1*	0.1*
Peru	63.0	100.0	104.0	54.0	51.0	83.0	1.3	1.4	2.2	1.2	1.0	1.7
Venezuela	30 815.0	30 466.0	31 647.0	34 764.0	37 490.0	32 770.0	513.3	510.4	525.8	564.9	...	...
Total	*31 706.4*	*31 476.3*	*32 648.1*	*35 807.7*	*38 439.0*	*33 862.0*	*530.4*	*528.7*	*545.0*	*585.1*	...	...

SOURCES AND METHODS: See *Explanatory Notes*, Vol. III, No. 2.
a Derivatives are included only for Venezuela.

Table 16

LATIN AMERICA: EXPORTS OF PRINCIPAL COMMODITIES BY DESTINATION

Destination	1954	1955	1956	1957	1958	1954	1955	1956	1957	1958
	Quantities in thousands of tons					Values in millions of dollars				
				SUGAR						
Latin America	334	417	415	349	343	25.6	31.4	31.1	39.4	26.2
United States	2 454	2 671	2 879	2 916	3 353	271.6	285.4	240.2	340.2	398.5
Western Europe	1 695	1 375	1 699	2 169	1 784	81.7	100.3	194.6	265.1	138.2
Belgium	48	12	27	40	24	3.6	0.9	5.3	3.5	1.9
Netherlands	108	226	133	221	246	8.6	16.8	16.5	27.4	19.1
United Kingdom	626	484	822	1 053	1 003	43.4	33.4	108.0	128.0	77.8
Federal Republic of Germany	21	210	671	524	49	88.7	16.2	37.5	66.1	3.7
Switzerland	104	122	120	9	16	7.1	8.5	16.7	1.1	1.2
Eastern Europe	9	480	217	365	195	0.8	40.3	28.4	48.6	15.1
Japan	532	541	751	628	758	39.5	41.7	53.4	78.9	59.1
World total	*5 236*	*6 304*	*6 604*	*7 048*	*7 426*	*483.5*	*527.4*	*584.0*	*849.5*	*731.2*
				COFFEE						
Latin America	43	42	36	43	49	62.5	40.1	32.2	41.7	43.4
United States	884	1 030	1 100	1 011	909	1 286.5	1 151.0	1 256.8	1 122.7	883.5
Western Europe	345	441	438	383	496	482.8	460.7	512.2	441.1	474.7
Belgium	16	25	50	20	20	13.4	28.3	62.8	23.9	22.0
Denmark	21	24	27	28	28	32.2	28.3	30.5	28.3	26.2
Finland	28	30	37	29	25	41.3	30.0	37.1	30.6	21.5
France	46	42	46	37	34	55.4	38.1	41.8	36.2	28.3
Italy	21	35	35	31	33	30.3	37.2	38.3	32.0	29.6
Netherlands	30	32	45	28	26	41.8	36.0	55.1	14.7	29.0
Sweden	40	40	33	55	57	65.6	62.4	33.8	60.3	57.4
Federal Republic of Germany	88	109	117	122	149	139.1	135.8	158.4	155.2	158.2
Eastern Europe	3	5	8	8	10	5.2	6.3	9.4	8.7	9.3
World total	*1 308*	*1 530*	*1 648*	*1 502*	*1 519*	*1 897.3*	*1 750.0*	*1 877.6*	*1 672.1*	*1 458.7*
				CACAO						
Latin America	16.3	17.8	16.4	17.9	15.6	19.7	13.4	9.6	11.2	13.8
United States	85.8	117.1	111.2	44.1	95.4	91.3	81.8	58.7	62.3	80.5
Western Europe	84.1	41.7	48.0	47.6	41.6	13.8	32.7	27.2	30.9	36.3
Italy	6.9	5.9	5.2	4.4	2.6	7.8	4.7	3.0	3.4	2.3
Netherlands	8.9	7.2	18.3	16.8	14.2	9.4	5.4	10.3	10.4	12.3
Federal Republic of Germany	48.2	20.0	17.1	20.1	20.0	54.7	15.9	9.9	13.3	17.6
Eastern Europe	2.5	11.1	13.9	11.8	14.1	3.0	8.8	7.7	7.4	13.1
Japan	1.8	3.1	2.7	2.0	1.1	2.0	2.7	1.6	1.1	0.9
World total	*196.6*	*195.2*	*197.8*	*182.5*	*170.9*	*215.5*	*142.7*	*108.1*	*115.7*	*147.7*
				COTTON						
Latin America	25.4	33.6	25.1	8.2	29.7	19.4	25.9	18.2	6.8	19.3
United States	189.1	250.3	279.7	198.6	224.8	110.6	134.4	124.8	78.9	126.7
Western Europe	323.2	208.5	228.8	139.6	187.2	229.7	148.1	144.8	87.4	117.1
Belgium	31.5	24.0	27.5	20.4	29.8	22.1	16.9	18.8	14.3	19.7
France	35.0	13.4	29.5	...	17.7	...	...	...	...	12.2
Italy	24.9	16.8	10.2	8.8	12.8	18.7	12.0	6.7	5.6	8.7
Netherlands	40.0	27.6	21.6	15.7	23.6	25.8	16.7	12.8	8.5	14.5
United Kingdom	81.2	35.9	57.8	30.8	31.0	57.1	24.1	35.0	19.0	19.0
Federal Republic of Germany	77.1	65.2	60.6	21.5	51.3	52.5	43.7	44.0	12.9	30.3

Table 16 *(Continued)*

LATIN AMERICA: EXPORTS OF PRINCIPAL COMMODITIES BY DESTINATION

Destination	1954	1955	1956	1957	1958	1954	1955	1956	1957	1958
	Quantities in thousands of tons					Values in millions of dollars				
				COTON (Continued)						
Sweden	5.1	4.4	3.8	1.8	1.9	3.9	2.9	2.3	5.6	1.1
Eastern Europe	2.3	2.3	6.4	7.7	0.3	2.0	2.0	4.8	5.9	0.2
Japan	127.1	128.6	143.7	92.9	103.2	85.9	82.8	79.7	48.6	59.0
World total	*712.8*	*672.1*	*740.1*	*469.6*	*567.3*	*477.5*	*427.4*	*407.9*	*240.6*	*334.2*
				RAW TOBACCO						
Latin America	3.80	2.16	2.83	1.77	1.75	3.0	2.3	3.1	1.7	0.2
United States	12.05	13.92	12.00	14.38	15.89	27.0	28.0	25.6	28.8	31.0
Western Europe	37.84	40.52	42.66	38.43	46.97	22.7	23.0	25.0	22.5	24.2
Denmark	2.35	2.67	2.46	1.97	2.22	2.1	2.7	2.5	1.9	1.6
Netherlands	4.29	7.25	9.66	7.71	12.27	2.5	4.2	5.9	5.0	6.2
Federal Republic of Germany	10.64	7.52	9.05	8.49	8.37	6.2	4.2	5.1	4.5	4.2
World total	*60.84*	*65.44*	*65.51*	*68.05*	*71.00*	*57.8*	*58.8*	*60.1*	*60.3*	*60.3*
				CHILLED AND FROZEN MEAT						
Latin America	17.2	11.8	8.5	8.0	5.1	9.3	5.5	3.0	2.5	1.8
United States	11.8	7.1	5.4	9.4	30.1	3.3	1.9	1.1	2.1	11.7
Western Europe	177.6	255.6	453.8	467.7	430.3	88.4	112.2	153.5	155.0	159.7
Italy	3.0	2.0	19.2	37.6	39.2	1.0	0.5	3.3	13.8	14.5
Netherlands	2.6	1.0	2.1	5.2	8.8	1.3	0.3	0.7	2.1	3.3
United Kingdom	152.7	247.3	334.2	363.0	296.7	69.4	108.0	115.3	121.1	110.3
Federal Republic of Germany	14.0	4.0	82.1	40.3	31.4	8.5	2.8	29.1	9.2	11.8
Eastern Europe	60.0	29.7	5.7	11.5	6.2	25.1	8.0	2.1	4.4	2.4
World total	*268.8*	*306.4*	*428.3*	*506.0*	*477.7*	*124.0*	*130.0*	*165.6*	*166.7*	*177.8*
				WHEAT						
Latin America	1 278	1 691	1 205	1 297	1 316	101.9	121.9	77.0	77.9	80.1
Western Europe	1 329	1 759	1 611	1 097	1 037	79.9	117.6	95.6	54.0	59.4
Belgium	132	146	24	46	47	7.9	10.8	1.3	3.8	2.7
Italy	107	568	385	134	13	6.7	37.2	24.6	10.0	1.0
Netherlands	144	181	269	211	143	8.4	11.7	15.9	12.2	8.2
United Kingdom	301	323	282	353	432	17.8	20.1	15.9	20.2	24.2
Federal Republic of Germany	535	256	378	335	295	32.6	18.2	20.6	20.1	17.3
Eastern Europe	98	267	40	—	—	5.9	16.0	2.2	—	—
Japan	228	71	42	—	—	17.6	4.3	2.3	—	—
World total	*3 104*	*4 028*	*2 960*	*2 796*	*2 378*	*215.8*	*271.9*	*180.7*	*166.8*	*141.0*
				MAIZE						
Latin America	4	7	...	24	5	0.2	0.4	...	1.5	0.3
Western Europe	1 867	350	998	623	1 442	100.1	22.4	59.4	37.3	70.1
France	228	57	231	11	2	13.0	3.8	14.0	0.6	0.1
Italy	94	73	124	243	406	5.0	4.7	7.8	13.7	19.9
Netherlands	309	20	130	219	448	16.5	1.2	7.6	12.3	21.6
United Kingdom	421	37	132	3	181	22.0	2.2	8.0	0.2	8.6
Federal Republic of Germany	430	25	118	—	162	22.2	1.5	10.1	—	8.0
Japan	102	—	66	—	180	5.4	—	3.8	—	*8.6*
World total	*2 185*	*362*	*1 065*	*789*	*1 679*	*117.3*	*23.3*	*63.3*	*44.6*	*81.5*

Table 16 (Continued)

LATIN AMERICA: EXPORTS OF PRINCIPAL COMMODITIES BY DESTINATION

Destination	1954	1955	1956	1957	1958	1954	1955	1956	1957	1958
	Quantities in thousands of tons					Values in millions of dollars				
				HIDES						
Latin America	10.2	11.4	4.0	8.9	1.6	7.3	5.9	1.7	3.3	0.9
United States	5.4	8.2	9.7	9.4	6.9	3.7	3.8	6.0	2.1	5.1
Western Europe	119.9	117.8	122.0	468.7	88.7	62.3	57.8	42.5	152.6	28.4
France	17.2	16.8	24.2	1.2	10.4	13.7	13.4	13.9	0.4	5.0
Italy	14.6	11.8	16.8	36.6	15.1	6.2	3.2	5.0	13.4	4.5
Netherlands	22.7	21.1	12.5	5.2	30.9	10.4	7.7	3.6	2.1	9.3
United Kingdom	21.4	16.6	15.5	362.5	3.6	10.0	9.3	4.8	120.8	0.9
Federal Republic of Germany	19.0	17.2	18.2	57.7	14.7	10.0	8.0	5.1	13.4	4.0
Eastern Europe	63.5	69.6	60.6	9.9	44.2	40.3	36.6	20.2	3.8	12.4
Japan	1.1	4.5	9.1	—	5.2	0.6	1.5	1.9	—	0.8
World total	*207.1*	*217.5*	*259.2*	*223.9*	*246.9*	*118.7*	*113.9*	*90.8*	*70.4*	*76.2*
				QUEBRACHO						
Latin America	20.5	19.6	22.8	22.2	16.5	4.8	4.5	5.5	4.8	3.2
United States	55.9	59.4	61.5	32.0	56.2	11.3	11.6	12.0	6.3	8.6
Western Europe	41.3	39.0	34.0	40.9	31.8	8.8	7.8	7.1	9.3	5.5
France	9.5	9.7	9.4	7.7	5.7	2.0	2.0	2.9	1.6	1.1
United Kingdom	9.2	6.9	4.7	5.5	3.8	1.9	1.5	1.6	1.1	0.6
Eastern Europe	10.1	6.8	16.5	4.8	22.8	2.2	1.4	3.2	1.0	4.1
Japan	3.0	8.8	7.8	0.7	3.7	0.7	1.9	1.7	0.1	0.7
World total	*155.2*	*150.3*	*154.0*	*121.8*	*133.5*	*33.3*	*31.1*	*32.9*	*24.8*	*22.5*
				GREASY AND SEMI-WASHED WOOL						
Latin America	1.3	0.9	1.3	0.3	0.1	3.6	2.4	2.5	0.5	0.2
United States	54.9	50.9	49.9	34.4	29.2	64.7	60.8	56.8	40.0	25.4
Western Europe	77.5	89.7	104.3	71.2	53.1	110.6	103.8	127.0	99.4	53.8
Belgium	3.7	5.7	4.9	3.9	0.1	4.1	5.2	5.1	5.0	0.1
France	13.9	12.5	20.4	13.8	3.1	18.4	14.3	23.2	19.2	3.2
Italy	13.1	3.6	6.9	8.5	0.9	4.9	4.6	8.9	11.9	0.9
Netherlands	9.0	15.6	23.4	13.5	3.5	13.9	21.5	31.3	19.5	3.8
United Kingdom	29.8	33.8	31.9	21.4	33.3	42.5	35.5	35.5	27.4	32.6
Federal Republic of Germany	15.5	12.2	7.4	5.4	7.1	22.2	12.9	8.9	7.6	6.8
Eastern Europe	5.0	6.3	0.3	7.3	21.5	8.5	7.9	0.5	17.6	22.3
Japan	17.8	10.4	22.0	6.4	0.2	30.9	17.9	29.8	12.0	0.2
World total	*159.2*	*165.1*	*186.3*	*127.1*	*144.3*	*222.9*	*202.9*	*228.9*	*179.2*	*138.6*
				WOOLLEN YARNS						
Latin America	1.25	1.04	0.79	0.22	0.38	6.0	5.7	3.6	6.1	0.02
Western Europe	9.13	10.41	13.11	4.80	0.06	25.6	25.2	30.0	13.1	0.28
Italy	0.56	0.90	1.97	0.90	—	1.7	2.3	4.6	2.5	—
Netherlands	4.96	7.34	8.27	3.72	—	13.5	17.6	18.8	10.0	—
Switzerland	1.19	1.16	1.46	0.01	—	3.3	2.8	3.5	—	—
Eastern Europe	—	0.63	0.55	0.08	0.16	—	1.6	1.2	0.3	0.53
World total	*12.12*	*13.45*	*16.26*	*7.43*	*0.60*	*36.7*	*36.1*	*39.3*	*48.4*	*0.83*

Table 16 *(Continued)*

LATIN AMERICA: EXPORTS OF PRINCIPAL COMMODITIES BY DESTINATION

Destination	1954	1955	1956	1957	1958	1954	1955	1956	1957	1958
	Quantities in thousands of tons					Values in millions of dollars				
				NITRATE						
Latin America	113	142	127	140	131	5.2	6.9	5.2	5.1	4.7
United States	674	589	471	562	438	28.9	27.6	18.7	19.9	15.6
Western Europe	542	464	453	453	449	23.5	19.2	19.8	15.5	18.5
Spain	115	137	160	110	119	5.0	5.8	6.5	3.8	6.9
France	133	84	95	99	106	5.8	3.7	4.0	3.4	3.7
Federal Republic of Germany	65	122	90	90	45	3.0	5.2	3.7	3.1	1.6
Egypt	112	23	95	50	42	4.6	0.9	3.9	1.7	1.5
World total	*1 575*	*1 322*	*1 217*	*1 252*	*1 106*	*67.7*	*56.3*	*48.6*	*44.3*	*41.9*
				IRON ORE						
United States	3.36	9.51	12.39	9.89	16.86	21.7	63.8	91.0	86.9	129.9
Western Europe	0.87	1.69	3.02	4.47	4.36	10.4	16.0	27.1	42.0	38.8
Italy	0.02	0.12	0.22	0.74	0.57	0.2	1.0	1.7	6.1	4.2
Netherlands	0.03	0.21	0.37	0.09	0.52	0.4	1.5	2.7	1.2	4.3
United Kingdom	0.46	0.69	1.28	2.08	1.87	5.8	7.1	12.0	19.6	16.8
Federal Republic of Germany	0.31	0.63	1.12	1.51	1.27	3.5	6.0	10.3	14.5	12.3
Japan	—	0.01	0.48	0.52	0.18	—	0.1	3.2	4.6	1.6
Panama Canal Zone	8.72	1.70	2.34	3.31	2.25	5.7	8.0	12.8	20.3	14.8
World total	*5.33*	*13.29*	*18.39*	*18.72*	*24.54*	*42.4*	*92.6*	*136.2*	*161.6*	*196.2*
				COPPER *(ore, blister, electrolytic, sheet, bars and ingots)*						
Latin America	8.8	13.0	8.2	—	2.54	5.7	11.0	8.4	—	1.5
United States	336.9	329.6	372.5	89.5	213.86	185.6	219.3	287.8	46.9	88.5
Western Europe	173.4	213.3	206.0	14.1	213.21	100.1	165.4	181.6	7.2	113.8
Belgium	2.6	3.0	1.2	—	2.12	1.7	2.2	1.0	—	1.1
France	0.9	0.3	3.0	—	—	0.5	0.2	3.1	—	—
Italy	46.6	32.3	22.7	0.1	17.12	12.8	25.3	19.8	0.1	9.4
Netherlands	16.3	31.9	50.0	5.7	46.89	10.8	24.0	39.6	2.7	27.0
United Kingdom	76.9	95.1	89.7	4.3	66.10	50.3	75.5	80.0	2.3	35.2
Federal Republic of Germany	25.2	44.6	50.5	2.8	54.99	16.4	32.8	30.7	1.5	29.4
Eastern Europe	...	...	...	...	...	...	...	...	...	...
Japan	14.5	2.3	9.3	8.4	9.26	1.2	0.2	1.3	1.2	1.3
World total	*544.1*	*553.9*	*596.7*	*112.6*	*439.96*	*325.0*	*397.8*	*479.8*	*55.6*	*205.4*
				LEAD *(including refined lead)*						
Latin America	4.8	2.2	3.3	6.4		1.2	0.6	1.1	2.0	
United States	195.0	239.7	252.8	275.1		40.2	53.6	57.8	61.3	
Canada	4.8	—	9.7	8.5		0.6	—	1.5	1.2	
Western Europe	170.2	133.0	111.5	85.2		44.7	35.6	29.9	23.6	
Belgium	14.5	11.1	11.2	10.2		3.3	2.8	4.3	3.0	
Federal Republic of Germany	15.1	25.7	19.9	11.1		3.3	6.2	5.3	2.9	
Japan	15.0	8.9	8.5	15.0		2.8	1.5	2.1	2.6	
World total	391.9	384.0	386.3	421.0		90.1	92.1	94.8	91.9	

Table 16 *(Continued)*

LATIN AMERICA: EXPORTS OF PRINCIPAL COMMODITIES BY DESTINATION

Destination	1954	1955	1956	1957	1958	1954	1955	1956	1957	1958
	Quantities in thousands of tons					*Values in millions of dollars*				
	ZINC (ore and refined zinc)									
Latin America	9.1	5.4	5.3	3.2	3.9	1.6	1.3	1.4	0.7	0.7
United States	508.7	517.1	556.0	557.5	481.3	20.1	28.3	36.9	36.8	19.6
Canada	0.3	—	2.9	0.3	15.9	—	—	0.1	—	0.7
Western Europe	58.0	148.2	111.1	71.6	58.4	6.3	13.0	9.6	7.1	6.5
Belgium	25.0	102.3	90.1	49.7	21.5	1.3	5.7	5.6	3.1	1.1
France	3.0	0.2	1.0	—	6.4	0.2	—	—	—	0.1
Federal Republic of Germany	—	18.9	4.5	2.3	2.1	—	0.7	0.4	0.2	0.4
Japan	—	1.6	7.1	4.4	—	—	—	0.4	0.2	—
World total	577.0	672.6	684.0	638.7	559.5	28.1	42.7	48.8	45.2	27.5
	TIN									
Latin America	0.33	0.23	0.69	0.51		0.6	0.4	0.8	0.6	
United States	33.83	32.60	26.34	2.39		22.0	23.5	17.0	1.9	
Western Europe	38.93	42.17	48.83	24.62		32.4	33.5	41.4	54.8	
United Kingdom	38.93	40.09	45.50	66.28		32.4	32.6	39.9	51.6	
Federal Republic of Germany	—	2.08	2.98	7.28		—	0.9	1.2	8.9	
World total	*73.09*	*75.00*	*71.86*	*77.53*		*54.9*	*57.3*	*59.2*	*57.4*	
	PETROLEUM (*Quantities in thousands of millions of tons*)									
Latin America	7.25	9.28	11.37	13.77	15.69	146.2	173.2	239.8	254.7	283.2
United States	36.29	24.84	47.13	53.47	52.40	609.6	440.8	784.0	886.1	895.3
Canada	1.96	9.48	2.59	2.45	2.53	32.7	173.9	48.2	46.7	48.3
Western Europe	7.36	7.65	17.93	23.59	19.59	136.1	139.2	303.2	386.8	355.7
Belgium	0.55	0.19	0.63	0.59	0.67	11.5	3.7	28.3	26.6	12.9
Denmark	0.08	—	—	0.14	0.14	2.5	—	—	3.8	4.1
France	0.88	0.52	1.16	2.55	1.92	15.5	9.5	17.3	44.5	33.1
Netherlands	1.70	2.89	3.86	3.29	2.45	32.2	56.2	58.3	51.7	41.2
United Kingdom	2.08	2.23	7.12	10.87	7.75	40.6	42.6	142.5	131.6	141.5
Federal Republic of Germany	0.46	0.50	0.63	1.05	2.50	7.6	8.1	10.6	17.0	45.6
Sweden	0.81	0.13	1.48	1.63	1.41	18.9	4.1	33.1	29.0	29.5
Aruba	22.38	24.22	25.50	23.23	22.14	375.4	446.1	372.1	323.7	320.2
Curacao	16.16	15.52	18.08	16.98	14.77	242.8	280.0	268.4	232.1	221.8
World total	*102.51*	*114.64*	*131.38*	*142.76*	*133.40*	*1 718.5*	*2 059.1*	*2 134.8*	*2 320.3*	*2 238.4*

Table 17

WORLD MARKET PRICES FOR PRINCIPAL LATIN AMERICAN EXPORTS
(Indices: 1955 = 100)

Commodity	Weighting 1955	1958				1959			
		I	II	III	IV	I	II	III	IV
A. *Tropical commodities*									
Bananas	184	100	103	100	100	100	104	978	...
Sugar [a]	405	105	108	109	111	103	105	111	110
[b]	437	110	107	107	108	97	89	88	93
Coffee [c]	1 821	95	88	80	76	69	65	63	63
[d]	1 052	85	84	80	75	71	70	70	69
Cacao	231	117	125	125	112	100	103	97	91
Cotton [e]	337	94	90	83	80	76	76	75	78
[f]	238	...	78	76	...	...	...	70	...
[g]	123	103	84	77	73	68	71	75	...
Group *total*	4 828	96	93	88	84	78	76	75	75
B. *Other agricultural commodities*									
Meat	185	80	92	102	93	103	102	104	90
Wheat	356	93	93	94	91	91	89	91	93
Maize	122	82	81	80	81	83	81	79	80
Quebracho	53	85	85	85	85	85	84	84	84
Wool	320	90	82	79	73	74	93	102	95
Linseed oil	55	106	107	112	104	89	96	103	110
Group *total*	1 091	89	88	90	85	87	91	95	92
C. *Non-ferrous metals*									
Copper	631	48	52	58	66	68	67	65	71
Lead	126	70	69	67	70	67	66	67	68
Zinc	60	69	69	70	80	82	84	92	103
Tin	93	99	99	98	102	104	106	107	107
Group *total*	910	57	60	64	71	72	72	71	76
D. *Non-metallic minerals*									
Nitrate	69	97	97	97	90	88	89	94	94
Crude petroleum	3 102	106	106	106	106	103	98	98	98
Total excluding petroleum	6 898	90	88	85	83	79	78	78	78
Total 17 commodities	10 000	95	93	92	90	86	84	84	84

SOURCES AND METHODS: See *Explanatory Notes*, Vol. IV, No. 1.
a Exports to the United States.
b Excluding exports to the United States.
c Santos.
d Manizales.
e Mexican.
f Brazilian.
g Peruvian.

Table 18

WHOLESALE PRICES IN SELECTED COUNTRIES
(Indices: 1955 = 100)

Country	1958				1959		
	March	June	September	December	March	June	September
Brazil	139	144	157	173	192	199	221
Colombia	152	159	162	165	168	176	176
Costa Rica	99	103	103	100	101	102	99
Chile	278	288	313	315	355	391	...
Ecuador	104	102	101	101	102	101	...
Guatemala	98	103	101	101	100	101	103
Mexico	114	115	113	116	116	115	114
Paraguay	171	172	180	181	194	200	220
Peru	118	121	125	129	134	140	160
Dominican Republic	114	112	105	100	101	102	102
Venezuela	97	99	100	98	96	100	...

SOURCES: Official publication of each country, and United Nations, *Monthly Bulletin of Statistics.*

Table 19

COST-OF-LIVING INDEX
(Indices: 1955 = 100)

Country	1958				1959		
	March	June	September	December	March	June	September
Argentina	157	182	201	235	325	412	449
Bolivia	605	598	602	696	726	737	...
Brazil	158	164	171	187	213	222	242
Colombia	136	144	141	143	150	153	149
Costa Rica	106	107	106	107	107	107	105
Chile	231	247	262	279	316	345	373
Ecuador	99	97	97	97	98	98	98
El Salvador	102	101	105	103	102	102	102
Guatemala	97	103	100	100	100	100	100
Haiti	106	...	107	...	...	...	...
Honduras	96	99	98	96	99	100	97
Mexico	122	122	124	127	125	127	126
Nicaragua [a]	91	98	93	91	91	97	91
Panama	99	100	100	100	100	100	100
Paraguay	154	148	151	153	159	163	165
Peru	120	122	125	126	130	135	146
Dominican Republic	101	105	102	102	101	106	105
Uruguay	137	141	148	158	182	202	219
Venezuela	101	104	105	104	107	107	110

SOURCES: Official statistics of each country and United Nations, *Monthly Bulletin of Statistics.*
NOTE: In general, indices refer to the capital city in each country, except for Brazil (São Paulo).
a June-December 1955 = 100.

EXPLANATORY NOTES

With the exception of statistics relating to agricultural production, the following tables are a continuation of series presented in Volume III, No. 2, and Volume IV, Nos. 1 and 2, of the *Economic Bulletin*. The Explanatory Notes given in each of those issues still apply, the only additions and modifications being as follows:

AGRICULTURAL PRODUCTION

(Tables 4 and 5)

Table 4 includes the basic series on volumes of production and comprises a total of thirty crop and four livestock products, components of the regional production index drawn up by ECLA. For each commodity, the leading producer countries or those playing an important part in trade are indicated. Output of an item of little absolute value is sometimes recorded because of its economic significance for the country concerned; cases in point are those of beans in Chile. For reasons of space on the one hand and relative importance on the other, the sum of the volumes registered for other countries is included under the heading "Others".

Production phase

With due regard to the fact that these series constitute the point of departure for the production index, every endeavour has been made to ensure that the figures represent products in the primary phase of transformation, or, in other words, at farm level. In certain cases, commodities which have undergone some processing without reaching the final phase are included either for want of available data on the primary commodity or else because they are more strictly computed at the transformation stage for market research purposes or through the fiscal machinery of taxation. Examples of this are sugar extracted from the cane and wine obtained from the grape.

In order to ensure maximum comparability of series, conversion coefficients are applied in instances where national statistics register the production of a commodity in a different form from the majority (an example is afforded by hulled rice), or in other units of measurement for which only approximate equivalences can be obtained (this applies, for instance, to pineapples and bananas). An interesting case in point is that of cotton. Some producer countries publish the series for fibre and seed and others for raw cotton, which means that the item has to be broken down under two heads by application of the seed-fibre relationship established by research for the country in question, allowance being made for a percentage of waste.

Exclusions

While the series presented give a fairly comprehensive picture of the structure of Latin American agricultural production, no attempt has been made to compute figures for some items which are of local importance—such as tomatoes, onions and certain fruit, including the citrus varieties, peaches, pears, apples, etc.—but on which there is not enough statistical information available, so that recourse to foreign trade data becomes necessary for the study of the pertinent changes and development. The agricultural production of Bolivia is also excluded for want of data.

Livestock production

The livestock sector included at the end of the table is represented by the items "Beef cattle", "Sheep" and "Hogs", expressed in terms of cattle-on-the-hoof and wool production. The following concept of domestic production of cattle-on-the-hoof may be adopted:

No. of head slaughtered + export of cattle-on-the-hoof − imports of cattle-on-the-hoof = domestic production.

Owing to the lack of relevant data, changes in livestock in ventories cannot be taken into account for most of the countries of the region. The total number of head slaughtered is established on the basis of the slaughtering carried out in each country's public and private slaughterhouses, plus that performed *in situ* (i.e. in the countryside; this is usually unregistered). Argentina, Brazil and Uruguay present their detailed livestock series with estimates of the numbers of cattle slaughtered on the farms. For the rest of the countries of the area adjustments were made in this connexion, direct information having been requested by ECLA from the specialized agencies in each country. This deficiency becomes more acute in the case of sheep and hogs. Here the data available are insufficient to provide a basis for estimates of unregistered slaughtering, which for some countries, in the opinion of the technical experts on stock farming, may equal and even exceed that registered in the official statistics. In any event, the series presented are indicators of the changes that have taken place in this important sector.

Sources

Official publications have been used as the primary source of figures adopted by ECLA. In the absence of published data, information obtained directly from the responsible governmental office in the country concerned is used. In certain cases, particularly for the most recent years, information supplied by correspondents or obtained from other unofficial sources has been used, pending receipt of official figures.

Time period to which regional data refer

While for livestock production, statistics generally relate to a specific calendar year, this is not necessarily so in the case of crops. Because of climatic factors, the harvesting of crops occurs at varying dates within the region and even within the same country of the region. In the compilation of production figures, national practices vary considerably, and an agricultural or statical year is generally chosen which aims to cover in their entirety the harvest periods of the more important crops. In many cases, since the end of the calendar year occurs in peak harvest periods, the statistical year is accordingly a non-calendar one. Furthermore, because of the difficulty in covering the production of all crops, exceptions are often made and production a few months either side of the agricultural year may be included in that year's figures.

In arranging data so as to provide regional aggregates, international offices are therefore faced with the problem of combining figures which relate to diverging time-periods—both as between countries and as between crops. Further problems arise in relating agricultural series to other statistics such as trade,

consumption, national income, etc. Taking such factors into consideration, ECLA has so far as possible endeavoured to arrange its series in such a way as to assign data to the calendar year in which the greater part of a country's production took place. In the case of countries with production data published on a calendar year basis, these figures are included unchanged in ECLA's tables. For countries in the temperate zone where production reaches a peak in the period December-March, data published by a country on a non-calendar year basis have been related by ECLA to the second of the two years concerned. For tropical countries, the peak harvest periods generally occur earlier, and data published on a non-calendar year basis have therefore been related by ECLA to the first of the two years concerned.

The following table sets out the periods covered by national statistics and indicates the way in which those data have been arranged for the series shown in tables 4 and 5.

CROP YEARS FOR COUNTRIES INCLUDED IN ECLA SERIES

(a) *Countries publishing data for calendar years* (related by ECLA to the same calendar year)

Brazil [1]	Haiti	Peru
Colombia [2]	Mexico [3]	Dominican Republic
Ecuador	Panama [4]	

(b) *Temperate-zone countries publishing data for non-calendar years* (related by ECLA to the second of the two years concerned)

Argentina (July/June)	Chile (May/April)
Paraguay (July/June)	Uruguay (October/September) [5]

(c) *Tropical countries publishing data for non-calendar years* (related by ECLA to the first of the two years concerned)

Costa Rica (March/Feb.)	Venezuela (April/March)
El Salvador (May/April)	Cuba (July/June)
Honduras (15 March/14 March)	Guatemala (May/April)
	Nicaragua (15 May/14 May)

It may be noted that ECLA's method of combining data for various crops years differs appreciably from that adopted by FAO. The latter allocates harvest in Latin America which occur mainly between July and December to the same calendar year and between January and June to the previous calendar year. Hence FAO often relates production data to a calendar year which is one year earlier than that used by ECLA. Thus, where production for Argentina relates to the year 1957/58, FAO will include the data in world and regional totals for the first of the two years concerned, i.e. 1957. ECLA, on the other hand, adopts the method outlined above and relates the data to the second of the two years concerned, i.e. 1958. Similarly for, say, Brazil, if a crop is harvested mainly between Jannuary and June, FAO will publish the figures in series which relate to the previous calendar year. (ECLA however retains the figures within the same calendar year as that shown in Brazilian statistics.) Discussions are proceeding between the two organizations with a view to reaching agreement on a common methodology. When such has been developed, ECLA will no doubt make any modifications necessary in the arrangement of its present series so as to ensure the maximum degree of international comparability. Meantime, the reader is cautioned that, in many cases, while the same basic statistics are used by ECLA and by other organizations, the manner in which they are combined on a regional basis may result in different absolute levels for particular years and different annual trends.

[1] For many crops, harvests overlap the previous or the following years.

[2] Coffee: year ending September.

[3] For certain products, notably coffee, chick peas and sugar cane, annual figures include harvests during the latter part of the previous year.

[4] For maize, rice, beans, coffee, manioc, bananas: year beginning April.

[5] Certain "summer" crops–notably maize, rice, cotton, sugar cane, sunflower seed and groundnuts—are shown on a calendar year basis.

INDEX OF AGRICULTURAL PRODUCTION

(Table 5)

For the series shown, the annual production data given in table 4 were summated regionally, and weights which approximate the average regional price in dollars in the year 1948 were applied to the total for each product. The results were then combined into groups and into over-all aggregates which, when compared with corresponding aggregates in the base year, yield indices of the Laspeyres type:

$$ {}_oQ_n = \frac{\Sigma\, p_o\, q_n}{\Sigma\, p_o\, q_o} $$

where Q = the index of production
o = the base year
n = any given year
p = the price per unit for each product
q = the quantity of each product

The use of price weights inevitably presents problems of comparability and uniformity. In the first place, for any given product a wide variety of levels usually exist in each country, depending on the quality of the item concerned, the nature or location of the markets, and the degree to which the levels are affected by governmental policy (e.g. subsidies given for export production). In addition, in most countries available data refer to wholesale transactions and do not reflect prices received by producers. Further difficulties arise in determining average prices for the region, since neither official nor free-market exchange rates can be satisfactorily used to convert national prices to a common basis.

The method adopted by ECLA assumes that a given product is of equal importance whichever be the country of production (a commodity like potatoes thus having the same weight, whether produced in, for example, Mexico or Argentina). Alternative methods exist whereby items produced within a country are valued at national rather than regional prices prevailing in the base year. When national aggregates have been converted into a common currency in order to yield regional totals and regional indices, the results obtained by using this latter method implicitly assume that each product has a variable importance, depending on the price prevailing in the country where it has been produced (potatoes thus being of greater importance in the index when produced by Mexico rather than by Argentina, if they commanded a higher dollar price in the former country). Alternative methods of weighting are also used by other international offices, such as FAO, and it should me emphasized that ECLA's series are at present only provisional, pending the results of further work in this field.

It must also be emphasized that, as indicated above, the arrangement of data by calendar year is an arbitrary one; and for this reason (as well as because of different price weights) ECLA indices may at times show movements different from series published by other organizations.

MANUFACTURING PRODUCTION

(Table 7)

The index for Chile, referred to in Volume IV, No. 1, table 9, has been replaced by a new series calculated to the base year 1953 and supplied by the National Statistics Service *(Servicio Nacional de Estadistica)*. In addition to providing a more recent base period, the series reflect an improved system of weighting, wider coverage, and the use of more representative production data both at the group or sub-group level and for total manufacturing. The series are now presented for such years as are available together with quarterly figures for 1958 and 1959.

INTERNATIONAL TRADE

Imports by selected groups

(Tables 11 to 14)

In the previous issue of the *Economic Bulletin,* series were given for important groups of imports expressed in terms of 1955 prices, the base year adopted by ECLA for analyses relating to recent periods. In this issue, similar data are given according to the prices ruling in each year—strictly comparable series thus being provided in both current and constant prices for each commodity group and for each country for which data have so far been tabulated by ECLA.

It should be recognised that, while figures are given for 100 per cent of a country's imports, data for each group are in all cases based on a selection of commodities which cover on the average 80 per cent of the total value of that group. Adjustment for incomplete coverage has been made (both in constant and in current prices) on the assumption that in each year the percentage distribution of items not included in the selection of commodities was the same as in the base year (see Volume IV, No. 1, Explanatory Notes, pp. 72 *et seq.*).

A description of the classification adopted by ECLA for the groups shown in tables 11 to 14 given in the Explanatory Notes in Volume III, No. 2.

PRINCIPAL EXPORTS BY COUNTRY OF DESTINATION

(Table 16)

Table 16 provides export statistics for the same products as were included in Volume IV, No. 1, with the exception of tin and lead which have been omitted as no new information was available for countries of export.