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SOVIET POSTWAR INDUSTRIAL PRODUCTION

Edward Ames

Economic analysis of the Soviet Union involves two distinct problems. First, it is necessary to reconstruct, on the basis of scattered official statements, the statistical information available to the Soviet Government. Second, it is necessary to interpret this information in a way which will be meaningful to those accustomed to the statistics of other countries.

This paper presents a reconstruction of the index of Soviet industrial output by quarters for the period 1946-1950, and illuminates some of the difficulties of the Soviet economy in the period of postwar reconversion. Soviet industrial output in 1946 was less than in 1945 and did not begin to rise until 1947. but from that time on, it has showed substantial increases. In percentage terms, the increases reached a peak in the first quarter of 1948, and have leveled off since then. Although there has been some indication that capital construction programs have recently been curtailed, the absolute increase in industrial production does not yet seem to have been reduced.

The Soviet index of industrial production cannot, however, be used directly in comparing the course of Soviet industrial production with the course of American production in the same interval since it is prepared in quite a different way from American production indices. The system of weights used in the Soviet Union, which has been subject to criticism by American economists for some years, gives a greater importance to increases in capital goods and armaments production than do current American indices. For this reason, caution must be used in interpreting the index, since it seems to be more valid as an index of military potential than as an index of production within the definitions in use in the United States.

The index of postwar Soviet industrial production

Table 1 presents a reconstruction of the Soviet industrial production index, by quarters, for the period 1946-1950. It is characteristic that Soviet output during the second and third quarters of each year remains at about the first quarter level, or even tends to decline slightly. However, a sharp rise occurs in the fourth quarter and is continued into the first quarter of the following year. No adjustment has been made for secular trend. If it were, there would be a clear downward seasonal index in the second and third quarters.

Table 1
Gross Soviet Industrial Output by Quarters, 1946-1950[1/]
(In billions of 1926/27 rubles)

Year	Quarter I	II	III	IV	Quarterly Average	Yearly Total
1940					34.6	138.5
1946	26.6	27.2	25.5	25.7	26.3	105.0
1947	29.8	32.1	32.1	34.1	32.0	128.1
1948	39.3	39.8	39.5	44.8	40.9	163.4
1949	48.3	47.8	46.2	53.0	48.8	195.3
1950	59.0	57.8	57.3	66.4	60.0	240.0

It is a common complaint by writers on Soviet industrial management that factories operate unevenly in meeting output plans. During the first part of the planning period output will be low, management inefficient, workers listless and in the last half, or even quarter of the period, the plant becomes the scene of feverish activity, overtime work appears, and the plan is fulfilled on the last day of the period in a burst of excitement. The Russian name for the practice is "shturmovshchina", meaning roughly "storming the heights".

Certain industries are of a seasonal character, notably sugar, alcohol, and other branches of the food industry. Output reaches a peak in the fall, with the completion of the harvest, and continues at a high level into the first quarter. In the lumber industry, there seems to be two peaks: one during the summer and one in winter, with low points during the spring and fall when transportation is difficult because of mud.

Certain other factors tend to produce this seasonal pattern. Output may be held down in the early part of the year to some extent as a result of lack of transportation facilities in winter. In the third quarter there is some movement of casual labor out of industry into agriculture, and, more particularly, construction. The increase in output in the fall and early winter could be explained in terms of the completion of new factories. Owing to the extreme climatic conditions in most parts of the country, there may be a particular need to complete construction projects in the third quarter of the year. If so, new capacity would come into operation in the fall, and hence output could be expected to increase during the winter months.

1/ The derivation of this table is explained in the Appendix to this note.

The hypothesis that increases in industrial output during the winter months are primarily the result of seasonal increases in completions of new plant capacity is not inconsistent with Soviet statements to the effect that prior to 1947, output had tended to decline in the first quarter, by an amount of up to 12 percent from the level of the fourth quarter of the previous year,1/ but that in the first quarter of 1948, a contra-seasonal increase took place. From the context of these statements, it would seem that they refer to output within given plants. rather than to total industrial output.

Comments on the index.

Table 1 indicates that Soviet industrial output in the winter of 1946-1947 did not rise as it did in later postwar years.2/ Since the table is "synthetic", being derived by devious means, some doubt might be cast upon its reliability. An examination of Soviet statements concerning this period, however, provides some interesting clues as to the process of postwar reconversion.

There was a period from 1945 lasting into 1947 when decreases in armaments production more than offset increases in civilian production. Total industrial output in 1946 seems actually to have been less than in 1945 despite a 20 percent increase in civilian production.3/ In the first quarter of 1947, total industrial output rose 12 percent over the first quarter of 1946, but civilian output was 20 percent higher.4/

Within the field of civilian industry itself, a number of basic industries experienced difficulties. According to the 1947 Plan5/ output of coal, consumer goods, electrical equipment,

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1/ Planovoe Knozyaistvo, No. 5, 1948, editorial

2/ Fourth quarter, 1946 output was below first quarter output. The increase from first quarter, 1946 to first quarter, 1947, was much less than the corresponding increases in later years.

3/ Kuzminov, Bolshevik 14, 1948, states that the 1946-1950 plan called for an average annual increase of 15.6 billion rubles in output; subtracting five times 15.6 (equals 78.0) from the planned 1950 level of output of 205 billion rubles. we obtain 1945 output of 127 billion rubles, compared to 105 billion in 1946.

4/ Bolshevik No. 7, 1947.

5/ O Gosudarstvennom Plane Vosstanovleniya i Razvitiya Narodnogo Khozyaistva SSSR na 1947 god. Moscow, 1947, pp. 4-5.

agricultural machinery, tractors, rails, railroad wheels, pipe, sheet metal, and building materials were listed as inadequate in 1946. In 1946, the plan for industrial output as a whole was completed only 96 percent;1/ a "certain decline" in the productivity of labor which had begun in the second half of 1945 was arrested only in the second half of the year,2/ and increases in output in civilian industry could be achieved only by a reallocation of resources from defense industry rather than by any absolute increase in the performance of civilian industry.3/

It is not easy to arrive at any statement of the basic reasons for these difficulties. In 1946 and 1947, it was customary to ascribe the difficulties of the economy to the 1946 drought and to the difficulties of the rehabilitation program in the devastated areas. It would seem, however, that the international situation had something to do with the problem. Malenkov hinted at this in his address at the formation of the Cominform in late 1947. Another cautious statement to the same effect ran as follows: "As Comrade Malenkov noted in his report at the meeting of representatives of several Communist Parties, the Soviet Government cannot count on receiving any appreciable quantity of equipment from abroad and must in even greater degree depend on its own forces. The Soviet Union was forced to make additional efforts to begin production of appropriate types of equipment within the country, which could not but be reflected in the conditions under which the plan for completing new productive capacity and the capital construction were fulfilled . . ."4/ More directly, the Soviet Government had counted upon being able to obtain foreign credits after the war and when in 1946 it decided that this would be impossible, it was forced to expand its construction program in order to manufacture certain items which it would have liked to import. This increase in construction affected the current output program.

1/ Kuzminov, op. cit.

2/ Braginski, Voprosy Ekonomiki, No. 3, 1948.

3/ Kurski, Bolshevik No. 9, 1948.

4/ Sukharevski, Planovoe Khozyaistvo, No. 1, 1948, reprinted in amplified form in Narodnoe Khozyaistvo SSSR, Sbornik No. 2, Moscow 1948.

These difficulties began to be overcome in 1947, as construction projects began to be finished, and as labor productivity improved under the impact of a new method of determining piecework wage rates. In 1948, with the abolition of rationing and a considerable improvement in living conditions, industrial output further improved. Percentage increases in output in the winter of 1947-1948 (on a quarter to quarter-of-previous-year basis) were higher during the winter of 1947-48 than at any other time in the postwar period (see Table 2), and it may be concluded that the particular problems of postwar reconversion were completed at that time.

There have been indications, in terms of budget appropriations for capital construction, propaganda activity in the press, etc., that in 1950 a decrease in capital construction in industry began, perhaps reflecting an increase in armaments production. The Central Statistical Administration, in its report published May 8, 1951 on the first quarter of 1951, gives an increase of 18 percent in industrial output in the first quarter of 1951 over the corresponding period of 1950, i.e. an output of 69.6 billion rubles. This increase compares with first quarter to first quarter increases 22 percent in 1950, 23 percent in 1949, 32 percent in 1948, and 12 percent in 1947. Thus there is evidence of a slowing down in the rate of industrial expansion. The question to be raised, however, concerns the amount of industrial expansion. So far, however, there is no indication of a slowdown in the rate of absolute increase in industrial production as a whole. In 1950, industrial output was 45 billion rubles over 1949; previous annual increases had been of 32 billion in 1949, 35 billion in 1948, and 23 billion in 1947. Likewise, increases on a quarterly basis have not slowed down. For the first quarter of 1951, output was 10.6 billion over the first quarter of 1950. For 1950, the increases over the corresponding quarter of 1949 were; first quarter 10.7 billion, second quarter 10.0 billion, third quarter 11.1 billion, and fourth quarter 13.4 billion. It is therefore not possible at present to assert that the absolute rate of increase in the index of Soviet industrial output is slowing down. It is, of course, true that within industry there may be slowing down of increases or even decreases in certain types of output, but if there has been a decrease in the capital construction program, it has not as yet affected the absolute increase in industrial output.

The interpretation of the Soviet output index.

Although scholars are agreed that the Soviet industrial production index means "something", in the sense that it is based on genuine reports, rather than being of purely propagandist origin, there is less than perfect agreement as to what it means. The peculiarities of the index are these:

> First, the index represents gross value of industrial output rather than value added. Second, the index is subject to an inflationary bias on two main counts: (1) prices

> of the base year 1926-27 were unduly high for many newly produced industrial goods which continued to be valued at these inflated prices even after more efficient production methods had brought their prices more in line with the overall price structure of the economy; had a later year been used as a base-weight year the resulting index would have revealed a smaller rise than the existing index does; (2) the so-called constant prices of 1926-27 include an increasing number of prices for later years so that, under conditions of rising prices, an artificial inflation of the index results.1/

Thus the index will record as a change in output a change in the degree of vertical integration in industry, even if output of component plants is unchanged. In addition, it is claimed that 1) the types of production which showed the greatest increases after 1926-27 were the machinery industries; 2) these industries were high-cost in 1926-27 compared to other industries as of that date;2/ 3) in the period after 1926-27, the costs of machinery production declined relative to the costs of other types of goods; but 4) nevertheless, the absolute costs of machinery production increased. For these reasons, there is alleged to be an inflationary bias in the index as a whole. It may be pointed out that assertions (2), (3), and (4) have not yet been proved in any very satisfactory fashion. If this argument were accepted, it might be that the decrease in output shown from 1945 to 1946 is a "purely statistical phenomenon" resulting from a shift in types of output rather than an actual change in output, as measured by an "unbiased" system of weights. Likewise the increases in 1950 over 1949 may reflect simply a conversion to armaments output rather than a "true" measure of increase.

The choice of a weighting system for a production index depends clearly upon the purpose for which the index is constructed. A system which weighted industrial output according to physical weight might be more useful in transportation analysis than one using value added or gross value. As soon as a choice of weight has been made, the index acquires certain peculiarities. Any two indices with different weighting systems are non-comparable in that equal percentage changes in components lead to different percentage changes in the index. The only way, therefore, that the Soviet industrial production index could be made comparable with an American production index would

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1/ Donald R. Hodgman, "A New Production Index for Soviet Industry", Review of Economics and Statistics, November 1950, p. 329.

2/ This argument involves some "purchasing power parity" concept, taking world market relative prices as "normal".

be to give the two indices the same set of weights.1/

The principal intuitive argument in favor of the theory that the Soviet industrial index has incorrect weights is the fact that whereas total industrial output increased 6.5 times, and machinery output 12 times from 1928 to 1940, output of basic industrial materials such as coal and steel increased only about 4 times. In order to overcome this objection, one may assert that metal was diverted from output of rails and roofing iron to the production of machinery, and that the "degree of fabrication" to which raw materials were subjected in general increased. However, even this assertion does not resolve the problem, for an output index can, in theory, be constructed only with reference to a comparable set of commodities, while in 1940, Soviet industrial output included many types of machinery not produced in 1926-27. This difficulty, of course, is not peculiar to the Soviet production index, and if accepted literally would make it impossible to construct any output index over an extended period of time. The concept of "degree of fabrication" does, however, seem to be an important one, not only with respect to the Soviet Union but also with respect to any underdeveloped country with an extensive development program.

The Soviet industrial output index a) is obviously not comparable to the industrial indices of other countries, such as the United States, and b) has a weighting system such as to emphasize the effect of increased output in certain types of production to a far greater extent than would production indices in other countries, and c) would not be of much use to the governments of other countries in their planning operations. Under these circumstances, it is reasonable to ask why the index was retained for so long. It is difficult to see why the Soviet government should have used it for over twenty years if its use were to lead to manifest absurdities, as is implied in American literature. The suggestion is made that it is used for "propaganda purposes"; in such a case, one may wonder why it is necessary to set armies of book-keepers to work doing what

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1/ Hodgman, who has revised the Soviet production index, has chosen Soviet salary and wage payments in 1934 as the basis of his weighting system. His argument is that in the United States, wage and salary payments are very closely correlated to value added, and that Soviet wage and salary payments are a better index than American value-added weights. His procedure, therefore, would be to substitute for one set of non-comparable weights another set. The effect of this change is to scale downward the extent to which "production" increased between 1928 and 1937.

a few public relations officials could do equally well.1/

The answer to this question can only be given in a very tentative way. The concepts "development", "economic strength", etc., as used by the Soviet Government, are largely based on heavy industrial output. According to Soviet views, a) an increase in the output of heavy industry increases "industrial production" more than a proportional increase in the output of light industry; b) a marginal allocation of labor to the manufacture of heavy industrial goods stimulates "industrial development" more than the same allocation to the manufacture of light industrial goods; c) current costs and prices between 1926/27 and 1949 may not have been meaningful as weights since they have a different function from costs and prices in a capitalist economy and reflect the bargaining power of the government as compared to that of the population. For somewhat fortuitous reasons (in 1926-27, there were still elements of a market economy in the Soviet Union, and prices of capital goods were kept high by the large government demand while output was restricted by the aftereffects of revolution and civil war) the price structure of 1926-27 may have reflected the "utility" of various goods to the government rather better than later price structures may have done. The Soviet industrial output index based on 1926-27 prices might therefore have seemed for a long time more meaningful, in terms of Soviet policy, than would an index constructed on some other basis. In particular if this policy be summed up as "increasing military potential", the index might be considered meaningful as a rough index of military potential.

1/ There is, in fact, question about the current status of this index; a different set of weights has in operation since 1949. In any case, whatever the system now in existence, it is clear that it is of the same type. i.e. weights are based upon "sales" rather than "value added", and that prices of some base year are used (presumably 1949 prices). Moreover, knowledge of the current Soviet economy is derived from a knowledge of 1940, which in turn is based upon a knowledge of earlier periods, from which advances are made by computing percentage changes. Finally, the only years in which detailed information was published were years in which the 1926-27 ruble was used. The issue is therefore still of a certain practical importance to students of the Soviet economy.

Appendix: The computation of the index

The derivation of Table 1 was a somewhat complicated matter, involving the piecing together of scattered statements of the Soviet Government and Soviet economists. Since the Table is basic to this analysis, it is useful to present its derivation in some detail.

Certain statements relating output in a given period to output in 1940 were used, namely:

1. In the fourth quarter of 1949, industrial output was 153 percent of the average quarterly output level in 1940. (Manevich, Voprosy Ekonomiki No. 2, 1950)

2. In the third quarter of 1948, industrial output was 114 percent of the average quarterly output level in 1940. (Sukharevski, Planovoe Khozyaistvo, 1, 1948, reprinted and amplified in Narodnoe Khozyaistvo SSSR, Sbornik 2, Moscow 1949).

3. In 1948 industrial output was 118 percent of 1940, and in 1949 141 percent of 1940. (Central Statistical Administration).

The Soviet Central Statistical Administration has, since 1947, published reports giving total industrial output for each of the first three quarters, for the first nine months of the year, and for the entire year as a percentage of the corresponding period of the preceding year. These data are reproduced in Table 2.

Table 2
Soviet Industrial Output
(In percent of the corresponding period of the previous year)

	First Quarter	Second Quarter	Third Quarter	First 9 Months	Year
1947	112	118	126	118	122
1948	132	124	123	127	127
1949	123	120	117	120	120
1950	122	121	124	122	123

It is then possible to calculate directly from Table 2 the annual, 9-month, fourth quarter and third quarter output data. A simple set of equations in two unknowns can then be solved to obtain output for the first two quarters of any two years; and the indices can be extended to the corresponding quarters of other years by means of Table 2.

May 22, 1951

LATIN AMERICA'S POST-WAR FOREIGN TRADE

Lawrence Bostow

The last twelve years have witnessed significant changes in certain aspects of Latin America's trade relations with the world. In large part, these changes have been due to the economic and political effects of World War II and to the high level of economic activity that was achieved in industrial nations during the post-war period. To some extent, they have been the result of forces acting to re-establish equilibrium. Of greater significance for the long-run, however, has been the shift in certain equilibrium positions resulting largely from Europe's economic prostration during much of the period.

The most important changes have been in the direction and the terms of Latin America's foreign trade. Their magnitude is reflected in the fact that the U. S. share in the area's trade increased by almost 50 per cent between 1938 and the outbreak of the Korean war, and that Latin America's terms of trade with the U. S. improved by roughly 70 per cent during the same period.

This paper is devoted to a description and analysis of these and other important changes that have occurred in Latin America's foreign trade since 1938. Some estimates are included on the present and probable future effects of economic forces set in motion by the outbreak of the Korean war, and certain policy implications related to Latin America's terms of trade are discussed in the last section.

Changes in Latin America's trade balance 1/

A summary of the changes that have occurred in the trade balance of the Latin American Republics since 1938, exclusive of the war years, is presented in Chart 1. In spite of severe fluctuations in the direction and value of trade, the chart indicates that throughout the period the area was able to maintain an export surplus with the world as a whole. For example, the peak deficit of 1.7 billion dollars 2/ on trade account with the U. S. in 1947 was more than offset by a surplus with other areas during the same period.

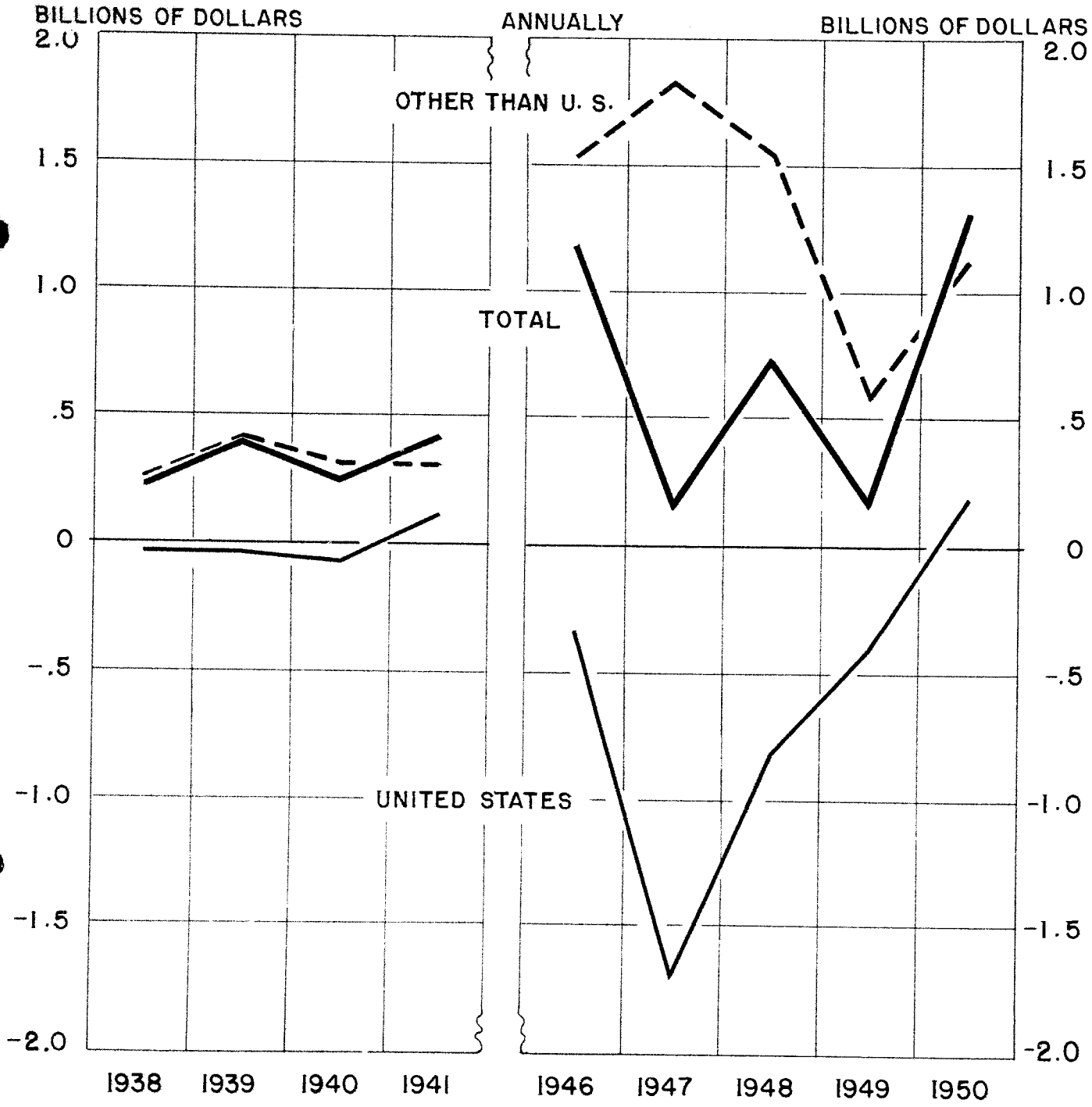
The changes in Latin America's exports and imports, which caused the shifts in the area's balance-of-trade position, are summarized in Charts 2 and 3. These charts emphasize the temporary dislocations in the direction of trade which resulted from the wartime impairment of Europe's capacity to export and the subsequent revival of her export trade. Of greater

1/ The trade figures of Latin American Republics are not adjusted for differences in c.i.f.-f.o.b. reporting.

2/ U. S. figures.

CHART I

LATIN AMERICAN REPUBLICS—TRADE BALANCE WITH THE WORLD AS A WHOLE AND WITH U.S.
INCLUDING INTER-LATIN AMERICAN TRADE



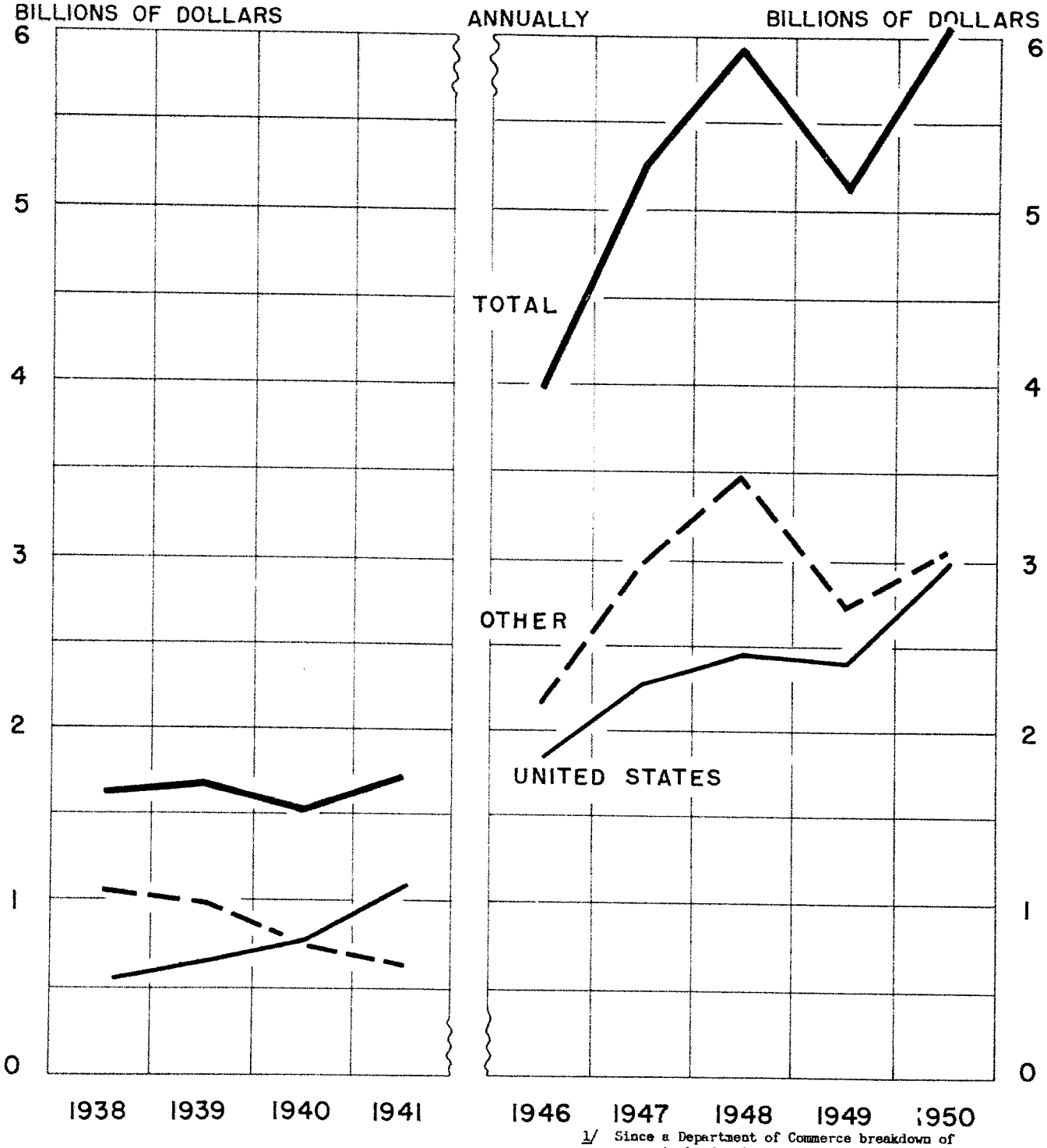
Source: Data published by Department of Commerce (See footnote)

1/ Latin America's trade balance is the U. S. figure with sign reversed, and the balance with the rest of the world is calculated as a residual.
The U. S. trade balance with Latin America is partially estimated for the last half of 1950 so as to include U. S. special category exports.
The 1950 trade balance with the world as a whole is estimated on the basis of incomplete data.

CHART 2

LATIN AMERICA - EXPORTS TO U.S. AND OTHER AREAS

EXCLUDING INTER-LATIN AMERICAN TRADE



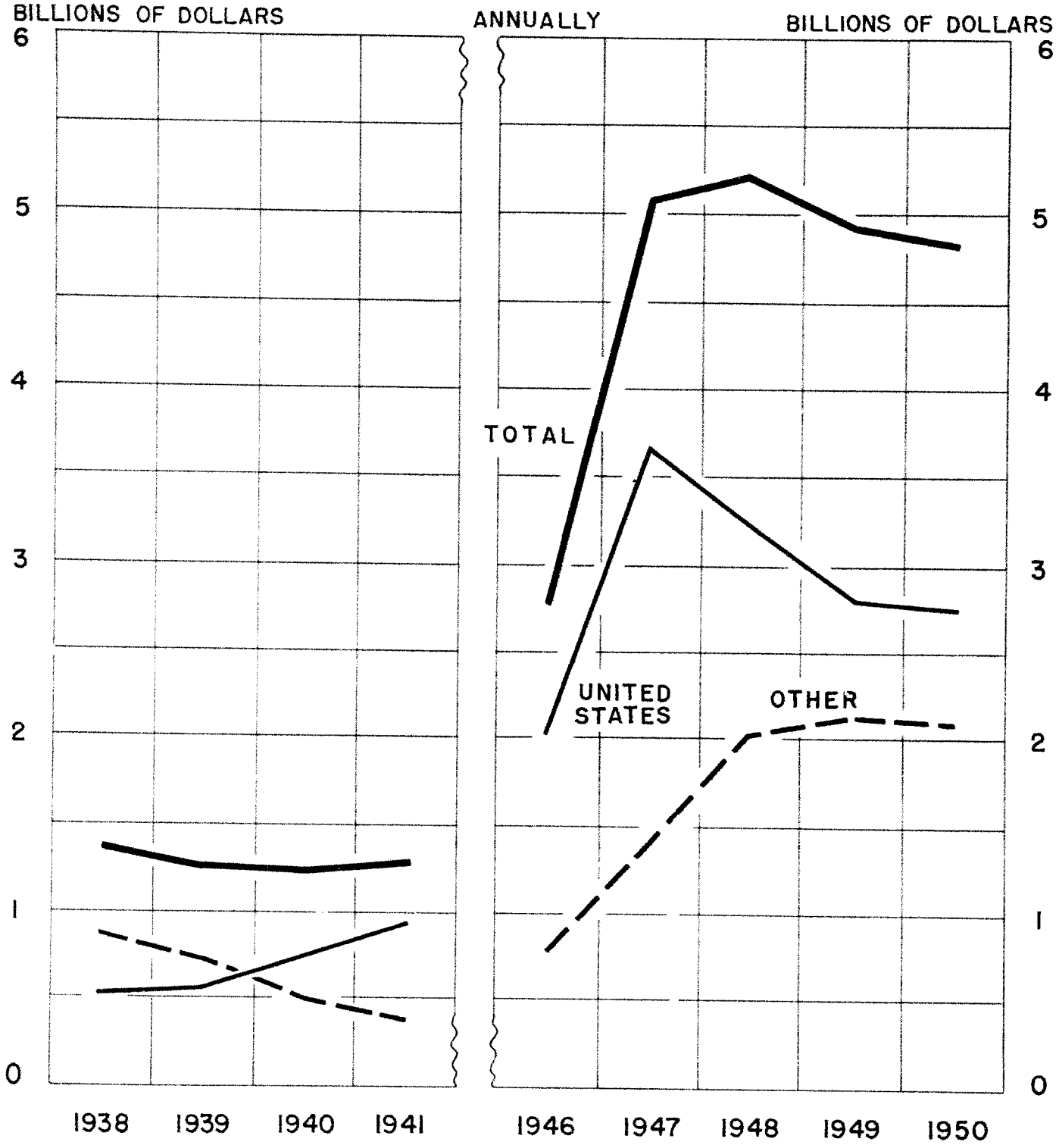
Source: Data published by Department of Commerce (See footnote)

1/ Since a Department of Commerce breakdown of exports by destination is not available for 1948 through 1950, the figure for total exports was reduced by 10% for 1948 and by 9.6% for 1949 and 1950 to approximately eliminate inter-Latin American trade. Exports to the U. S. for these years are estimated on the basis of U. S. import figures. 1950 total export figures are estimated on the basis of incomplete data.

CHART 3

LATIN AMERICA—IMPORTS FROM U.S. AND OTHER AREAS

EXCLUDING INTER-LATIN AMERICAN TRADE



Source: Data published by Department of Commerce (See footnote)

1/ Total import figure was reduced by 11% for 1948 and by 10.3% for 1949 and 1950 to approximately eliminate inter-Latin American trade. Imports from the U. S. for these years estimated on the basis of U. S. export figures.
1950 total import figures are estimated on the basis of incomplete data.

significance for the long-run, however, is the continued growth in both relative and absolute terms of Latin America's exports to the United States.

The exceptional volume of Latin America's trade during the early post-war period is accounted for by the need for inventory replenishment both in Europe and in Latin America, as well as by the extraordinary demand for goods for immediate consumption throughout the world. During this period, Latin America served as a major source of supply for Europe, but had to turn to the United States as the only source for most of her imports. This resulted in a huge accumulation of soft currency reserves in Latin America at the same time as the area was experiencing a severe drain in its dollar reserves.

As inventories became partially replenished and exchange difficulties worsened during 1947 and 1948, import controls were tightened both in Europe and in Latin America, and the volume of Latin America's trade declined. The area's total imports were reduced because of self-imposed controls, and exports declined because of the tightening of trade controls by European countries. In spite of the import restrictions that were imposed by Latin America, however, the area's imports from Europe continued to grow. To the extent these restrictions were discriminatory, they favored Europe as a source of supply because of the abundance of soft currency reserves. To the extent that they merely set limits to the total volume of imports, the results reflected Europe's increasing ability to compete in the export market.

The mild recession in 1949 accounts for the slight reduction in Latin America's exports to the United States in that year and undoubtedly contributed to the reduction in demand for Latin American products by other areas. The subsequent improvement in business outlook throughout the world resulted in the upward movement in the value of the area's exports which began during the first half of 1950, and this movement was greatly accelerated following the outbreak of the Korean war. The resulting additions to Latin America's foreign exchange holdings, coupled with expectations that a shortage of goods for export from the U. S. market would soon develop, resulted in a rapid relaxation of import controls by the area during the last half of the year.

Assuming that import controls will continue to be relaxed as the area's foreign exchange position improves, the probable level of Latin America's trade balance will depend on the role of other items in a consolidated balance of payments for the area. While meaningful pre-war information is not available, figures published by the International Monetary Fund on compensatory official financing indicate that a "break even" point in Latin America's balance of payments with the rest of the world would have been reached in 1947 and 1948 with an over-all trade surplus of approximately $600 million.

The two most important variables that determine what trade balance is consistent with stability in Latin America's foreign exchange reserves are the rate of long-term capital inflow and the rate of investment-income payments. The magnitude of these variables is not accurately reflected in balance-of-payments data because much of the direct investment made in Latin America takes the form of investment of unremitted earnings from foreign equity capital. Nevertheless, there is little doubt that an increasingly larger trade surplus will be needed to achieve stability in foreign exchange reserves, even if foreign investment (including reinvested earnings of foreign-owned companies) does not decline. The earnings on foreign-owned equity capital depend largely on the value of Latin America's exports, and can be expected to rise as exports increase. Moreover, the decreasing availability of investment goods in the United States for non-defense purposes probably will result in a decline of direct investment in Latin America in 1951.

Based on the preceding observations, and assuming that restrictions on income payments to foreign investors will be relaxed along with import controls as the value of Latin American exports increase, it is estimated that, barring speculative capital movements, a trade surplus of about $800 million will be required in 1951 to achieve stability in foreign exchange reserves. In view of last year's trade surplus of about $1.3 billion, this estimate indicates that there is considerable leeway for further relaxation of import controls by Latin America.

Shifts in Latin America's trade patterns

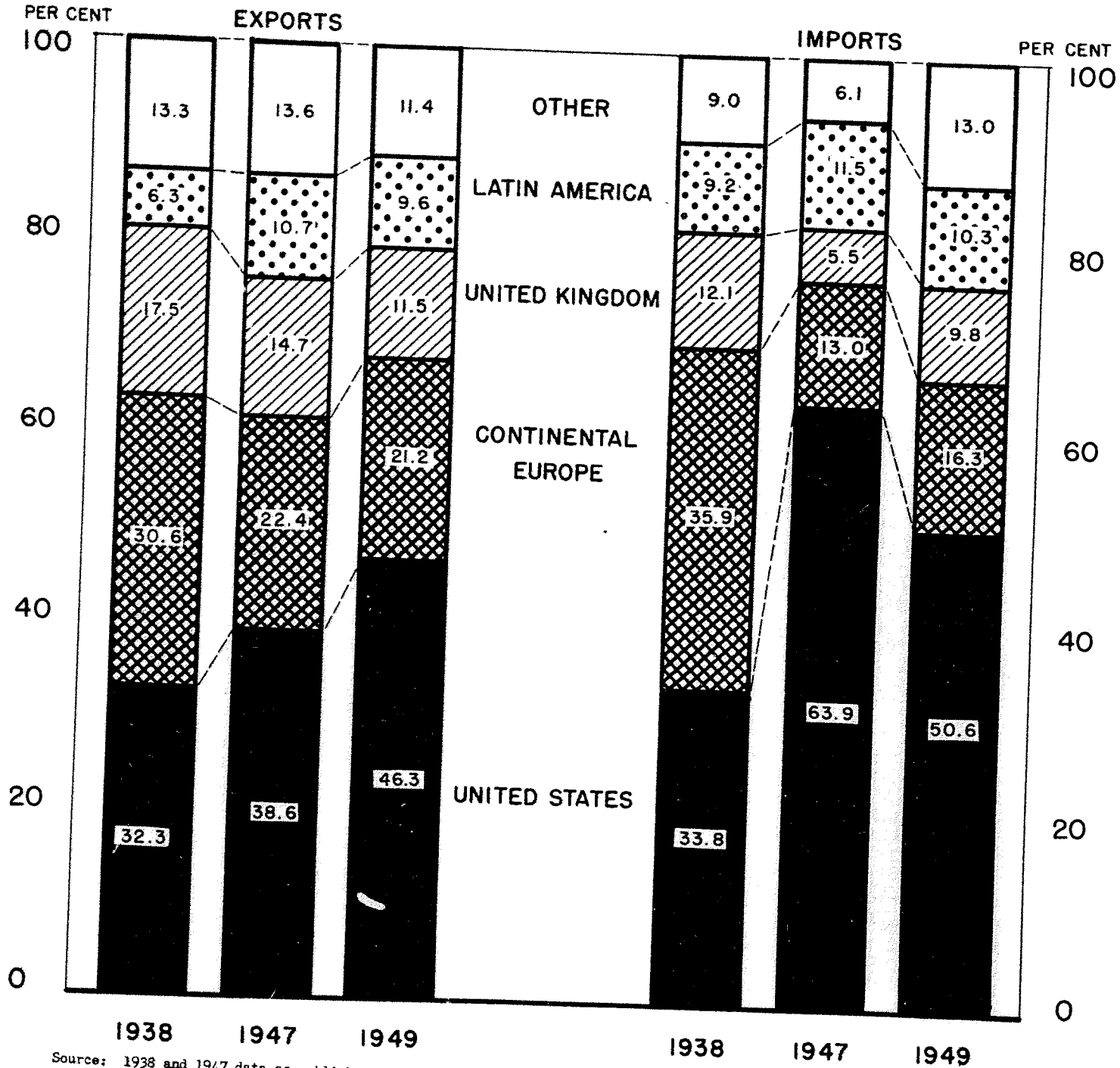
Aside from the transitory dislocations in Latin American trade which were a direct result of the effects of World War II, there appears to have been a more permanent rechanneling of both the exports and imports of the area toward the United States.

As shown in Chart 4, the United States took 46.3 per cent of Latin America's exports in 1949 as compared with 32.3 per cent in 1938, and furnished 50.6 per cent of the area's imports as compared with 33.8 per cent in 1938. Preliminary and incomplete data for 1950 (not shown on the chart) indicate that the U. S. share in the area's exports increased slightly over 1949, while its relative role as a supplier of Latin America's imports remained about the same as in 1949.

The permanent aspect of the shift which has been occurring in trade channels is particularly evident in the growth of the U. S. share in the area's exports, even at a time when other areas were purchasing Latin American goods for inventory accumulation as well as for consumption. Further changes from the 1949 trade pattern can still be expected, but may well be limited to small shifts in the direction of imports. In particular, only the beginnings of revival in German and Japanese capacity to export was reflected in 1949 data.

CHART 4

GEOGRAPHIC DISTRIBUTION OF THE TRADE OF LATIN AMERICA



Source: 1938 and 1947 data as published by Department of Commerce.
1949 data from Direction of International Trade, joint publication of UN, IMF, and IBRD.

* Data for 1949 excludes El Salvador, Ecuador, and Bolivia.

The basic factor explaining the larger U. S. share in Latin American trade has been a virtually uninterrupted growth in production and disposable income in the United States during and subsequent to World War II, as compared with a cessation of economic growth in Europe during much of the period. In addition to the increased volume of Latin America's exports to the United States, there has been a radical shift in the price relationship between primary products and manufactured goods. This is reflected in the shift in Latin America's terms of trade, which is discussed later, and largely accounts for the difference between the 342 per cent increase in the value of Latin America's exports to the United States between 1938 and 1948 and the smaller increase of 235 per cent in U. S. national income.

In attempting to predict the probable effect of mobilization in the western world on Latin American trade patterns, the major unknown factor is the extent to which Europe will follow the U. S. lead in restricting the volume of durable goods available for export. There will probably be little change in the direction of Latin America's exports, but the factor which will again assume increasing importance in determining the origin of the area's imports will be the availability of durable goods for consumption and investment.

The factors which will determine whether Europe continues to export heavy equipment and durable consumer goods are partly of a political nature. It should be noted, however, that the problem of how Europe is to pay for imports from Latin America if her exports to the area are reduced will again arise as it did in the early post-war period. On the other hand, if European countries continue to sell a substantial amount of investment and durable consumption goods to Latin America, they may be able to recapture some of the markets which they lost to U. S. producers during the war and post-war years.

U.S.-Latin American terms of trade

Latin America entered the post-war period with a terms-of-trade position not substantially better than that of 1938, as is shown in Table 1. Moreover, the prediction of a post-war deterioration, frequently voiced by Latin American spokesmen, has not materialized. On the contrary, Latin America's terms of trade have improved continuously and rapidly since 1946. The fact that the predictions did not materialize is accounted for almost solely by the continued high level of economic activity in the United States and the rapid rate of recovery in other industrial centers. However, while this may explain why the terms of trade did not deteriorate, it is not adequate to explain their spectacular improvement.

Terms of Trade with the U.S.; 1946-1950 and Quarterly, 1950

Period	Index Numbers: 1936-38=100		
	Exports	Imports	L.A. Terms of Trade 1/
1946	157 2/	171 3/	109
1947	186 2/	229 3/	123
1948	197 2/	258 3/	131
1949	185 2/	255 3/	138
1950	181 2/	315 2/	174
1st quarter	179 2/	287 2/	160
2nd quarter	175 2/	282 2/	161
3rd quarter	179 2/	339 2/	189
4th quarter	189 2/	347 2/	184

Source: Department of Commerce; Unpublished data prepared by International Economic Analysis Division, Office of International Trade, from basic data of the Bureau of Census.

1/ Unit value index of U.S. imports divided by unit value index of U.S. exports.

2/ Estimated by Department of Commerce from unit value indexes of total U.S. exports and imports with allowances for heavier weights of finished-manufactures exports and foodstuffs imports in trade with Latin America.

3/ Unit value index for Southern North America and South America.

The principal explanation of the relatively small improvement in Latin America's terms of trade up to 1946 is that effective demand for the area's "non-essential" products was sharply limited during the war by lack of shipping space and by direct controls on their consumption. Removal of some of these obstacles resulted in sharp improvement in Latin American terms of trade in 1947, but it was some time before the changed demand conditions were fully reflected in the prices of Latin America's exports. Exporters considered the volume of early post-war trade to be exceptional, and general expectations were that prices would decline as demand for Latin America's products fell back to what was considered to be a "normal" level

based on pre-war experience. The result was a depletion of exporters' inventories accumulated during the war and a consequent lag in upward price movements and in the terms of trade.

Contributing to the spectacular post-war improvement in Latin America's terms of trade was the fact that upward shifts in the demand schedule for Latin America's products moved along a virtually unchanged short-run supply schedule. Production of many of Latin America's exportable products was geared to the relatively low prices that prevailed during the war, and its expansion was inhibited by factors directly associated with the war. Thus the expansion in output that could be realized under normal physical and technical limitations--and for many products these limitations are serious--was not achieved. Post-war growth in the supply of primary products was also discouraged by the policies of several governments which were based on expectations of a terms-of-trade deterioration and which, in some cases, were consciously designed to promote industrialization at the expense of production of agricultural products and raw materials for export.

It will be noted from Table 1 that the terms-of-trade index, which had jumped from an average of 138 in 1949 to 160 during the first quarter of 1950, largely as a consequence of a sharp increase in coffee prices, remained approximately steady during the first half of 1950. The question of whether this level was "appropriate" for the conditions then obtaining is presently relevant primarily for disentangling the effects of mobilization on the terms of trade. It should be noted in the first place that the terms-of-trade index shown has a downward bias in present circumstances because of the lag between the time commodities are purchased in Latin America and the time they are reported as imports in the United States. The unit value index of 282, which is based on U. S. imports during the second quarter, is therefore partly a reflection of Latin America's export prices during the first quarter, and an index of Latin America's export prices during the second quarter should lie somewhere between 282 and 339.

In the second place, an analysis of the price changes which occurred in the major exports of Latin America during 1950 indicates that some lags probably occurred in upward price movements. It will be noted from Table II that the prices of major Latin American exports either increased or remained approximately steady during the first half of the year. The stability in the prices of sisal, lead, and tin was probably abnormal, however, under conditions which resulted in a rapid recovery of other crude material prices. This conclusion is strengthened by the fact that the increase in their prices was particularly sharp between June and December.

Table II

U.S. Indexes of Primary Market Wholesale Prices for All Commodities, and for Selected Commodities Imported from Latin America

	Index of Monthly Average Prices: 1926=100								
	Dec. 1944	Dec. 1945	Dec. 1946	Dec. 1947	Dec. 1948	Dec. 1949	June 1950	Dec. 1950	March 1951
All commodities	105	107	141	163	162	151	157	175	184
Foodstuffs and Beverages:									
Cocoa beans	78	78	213	374	276	226	268	300	334
Coffee, green	60	61	118	120	122	220	214	243	246
Sugar, raw	86	86	137	146	130	132	133	145	136
Textiles and Fibers:									
Wool, greasy	113	115	132	142	187	162	199	375	--
Sisal	--	66	115	157	158	112	115	204	214
Metals:									
Copper	85	85	139	153	167	132	160	174	174
Lead	77	77	145	178	255	142	141	202	202
Tin	80	80	107	131	158	121	119	223	221
Zinc	112	112	142	143	235	136	202	236	236

Source: Bureau of Labor Statistics

To make allowance for these factors, the rather arbitrary method of assigning weights of two and one respectively to the unit value indexes of U.S. imports during the second and third quarters yields a terms-of-trade index of 172, which is considered to be roughly appropriate to the economic conditions which immediately preceded the outbreak of the Korean war.

The question of whether this highly favorable position for Latin America could have been maintained in the absence of the Korean war turns largely on an opinion as to whether the levels of output and employment which were achieved in the United States and other industrialized areas by the middle of 1950 could have been maintained over a long period of time. In order to have a basis for comparison and to simplify exposition, it is tentatively assumed that this would have been the case, and that there would not have been any further improvement in Latin America's terms of trade in the absence of the Korean war and subsequent mobilization.

Based on the assumptions stated above, about 10 per cent of the relative increase in the prices of Latin America's exports to the United States during 1950, as compared with the areas imports from the United States, is attributable to the effects of the Korean war and associated events. It should be noted, however, that the prices of Latin America's food exports have risen by less than the average of all commodity prices in the United States since June 1950 (See Table II). The area's terms-of-trade improvement has therefore occurred mainly because of the relative increase in raw material prices and the comparative stickiness of U.S. export prices. This has resulted in an uneven distribution of the gains made by Latin America as a whole during the last half of 1950. Individual country studies might even show some slight deterioration in the terms of trade of a few of the republics during the period. There is little doubt, however, that most of the republics ended 1950 with a much more favorable terms-of-trade position than would have been the case in the absence of the Korean war and subsequent mobilization.

As to the immediate future, recent figures show that the fears expressed by many Latin American spokesmen of a prospective deterioration in the area's terms of trade are not completely unfounded. The imposition of price controls and the allocation of strategic materials in the United States have already had their effect on the prices of Latin America's exports, as will be noted from Table II. Most of these prices showed a high degree of stability during the first three months of this year while at the same time the U.S. wholesale price index continued to climb. Whether or not this will result in a deterioration in Latin America's terms of trade depends primarily on the efficacy of U.S. price controls and anti-inflationary policy, and political decisions at the international level.

In addition to the questions of what the present terms of trade are and what they might have been in the absence of the Korean war, there is the policy question of what they ought to be during this period of defense mobilization. This question involves a political decision concerning what Latin America's contribution should be to the defense effort of the western world. Given such a decision, it is possible to arrive at some ceiling on the terms of trade which would establish an equitable relationship between the percentage reduction in the consumption of U.S. goods by the Latin Americans and by the American public.

Stated in these terms, the case might be put as follows: (1) If Latin America's terms-of-trade index stood at approximately 172 and the importers of Latin America could purchase any goods that they desired in the United States, the area would be making no economic contribution to western world mobilization; (2) If the terms of trade index stood at 172 and choice was limited to availability of goods in a partially controlled

market in the United States, consumers of U.S. goods in Latin America would be making a "real" contribution comparable to that made by any U.S. consumer who must purchase goods that are inferior in quality or desirability because of shortages resulting from the defense effort; (3) If Latin America's terms-of-trade index fell by a percentage amount equal to the percentage decrease in the share of total U.S. output which is made available for private consumption and investment in the United States, and provided that choice was limited as in (2), only then would consumers of U.S. goods in Latin America be making a contribution to the mutual defense effort comparable to that made by the U.S. public.1/

It should be noted that the preceding observations are based on an estimated terms-of-trade index of 172, which may be high. These observations are also based on the assumption that the U. S. would have maintained the high level of employment and output achieved during the first half of 1950 in the absence of the Korean war. Moreover, since the policy guide used above is based on only that share of Latin America's consumption which consists of U. S. goods, a policy guide which called for a proportionate reduction in total consumption would be much less favorable to the Latin American countries.

Room for practical application of the principles set forth above is probably limited. They are suggested mainly as the basis for a rational U. S. position in the discussion of Latin America's terms of trade at international conference tables. It seems to the writer that policy ought not necessarily be directed towards preventing deterioration in Latin America's terms of trade. The policy problem for settlement at the international level should be that of deciding what Latin America's contribution to the defense of the free world should be, and the area's terms of trade should be regarded primarily as a useful measure of that contribution.

1/ An offsetting item would be any increase in Latin America's domestic defense efforts.