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Exchange of Bank Notes in France

Hans J. Dernburg

A financial operation of great magnitude has just been carried out in France: the bulk of the old note issue of the Bank of France has been exchanged for a new issue. The exchange of notes was coupled with a similar operation with respect to certain categories of short- and medium-term Treasury bills. In contrast to note exchange operations in Belgium and elsewhere, the French measure was not designed as a deflationary device; it may be regarded as an integral part of the moderate finance program of Rene Pleven, Minister of Finance who on April 5 also took over the portfolio of the Ministry of National Economy succeeding Pierre Mendes-France. Mendes-France had favored stringent deflationary measures and advocated some such scheme as that carried out in Belgium. The Belgian program, it will be remembered, included the withdrawal of outstanding notes of 100 franc denomination and over; these were only partially replaced with new notes while a part of the difference became "temporarily unavailable" and a part was converted into a forced government loan at nominal interest rates.

René Pleven, by contrast, is now pursuing the more orthodox measures which he advocated in his budget speech on March 29 before the Consultative Assembly. The Minister developed the following program: to push production to a maximum, to absorb through higher taxes a maximum portion of the excess income created by increased production, and to encourage saving in order to mobilize for the Treasury that part of the income which was not absorbed by taxation. In line with this program the Minister announced the issue of a new type of Treasury bond. These bonds, known as Liberation Bonds, are devised for the savings of individuals and bear a progressively increasing interest rate, rising to 2-1/2 per cent at the end of five years when they are redeemable. The Minister also announced a capital levy, under the name of National Equalization Tax, which is to strike "the real gainers of new wealth". It has since become known that this levy will take the form of a graduated tax starting at 5 per cent on all fortunes of 300,000 to 500,000 francs and rising to 30 per cent on those over 50 million francs; it is expected to yield about 120 billion francs in four years. Mr. Pleven expressly rejected deflationary operations on the Belgian pattern, saying that economic recovery "must not be hampered by the rationing of money". He announced that the exchange of bank notes would be effected under conditions providing for the complete protection of their value without withholding or blocking.

The exchange took place between June 4 and June 16 and involved all bank notes of 50 franc denomination and over, and all principal short-term government securities maturing in five years or less. The measure was of a politico-economic nature and was devised to clarify the confused situation which had developed during the war: During the German occupation fortunes had been made through collaboration or through black market trading; the latter has, of course, continued since liberation. Hoarding of money, which has always been characteristic of the French agricultural population was widespread, partly because of "liquidity preference", partly to evade taxes. Estimates of the hoards of notes and Treasury bills made out to the bearer ran up to 200 billion francs. Tax evasion was said to be widespread and war profits, which were supposed to have been reported, had in fact been secreted. Much wealth was being held abroad, partly in the form of currency and Treasury bills which, in violation of laws governing the declaration and repatriation of foreign assets, had not been declared. Moreover, certain amounts of both currency and Treasury bills had been removed by the Germans from France, principally during the liberation period; some of these assets were said to be held in Germany and some on German account in Switzerland and other neutral countries.

The operation was therefore expected to accomplish the following three objectives:

1) To cancel all bank notes and Treasury bills not presented for exchange--primarily notes and bills held by the enemy or held irregularly by Frenchmen at home or abroad.

2) To provide an accounting of "war fortunes" and to pave the way for the capital levy mentioned above and for the seizure of illegal profits made during the period of occupation.

3) To force hoarded bank notes into circulation, into bank accounts, and possibly into "Liberation Bonds".

The operation was carried out between June 4 and June 16. Between those dates all notes of the Bank of France and all Tricolor notes (invasion currency) with denominations of 50 francs and over were to be presented for exchange, franc for franc, at banks or public offices (Caisses Publiques). However, during this first period no depositor received in new notes more than 6,000 francs plus 3,000 francs for each dependent. Payment of the balance has been going on since June 16 upon presentation of receipts made out during the exchange. The reason given for carrying out the exchange in those two steps was that sufficient new currency was not yet available. In connection with the exchange of bank notes, the Government also required that all principal Treasury bills maturing in five years or less be presented for stamping or exchange and that the names of the owners be registered. All bank notes and Treasury bills not presented for exchange by June 16 were forfeited in favor of the State. In addition, heavy penalties were provided for any person not presenting all his holdings for exchange.

For the exchange of notes and Treasury bills outside of France, special regulations were issued. It was stipulated that these be deposited with the French Consular offices not later than June 24[1/] and proof must be submitted that the currency and securities were not removed from France by or for the account of enemy nationals and that they are not held as a result of transactions in which enemy nationals took part.

The operation was of great magnitude and required comprehensive preparations. Subject to the exchange were bank notes to the value of some 540 billion francs and Treasury bills valued at some 300 billion.[2/] The operation accordingly covered money claims of some 840 billion francs, equivalent to 16.8 billion dollars at the present rate of exchange.

Interesting data on the exchange of bank notes may be derived from the composition of the French note circulation by denominations on December 28, 1945. At that time, the total value of the outstanding notes amounted to 573 billion francs, their total number to 2,460 million. Of the latter, 1,587 million notes or 65 per cent were notes of 50 francs and over, while 873 million notes or 35 per cent were notes of smaller denomination. It was logical to exempt from the exchange the smaller notes which, while representing more than 1/3 of the number, contributed only 1.6 per cent of the value of the circulation. The new notes issued in the exchange operation (probably some 1-1/2 billion in number) were printed in the United Kingdom and the United States. The exchange was carried out in France through 25,000 exchange offices at 35,000 counters and 140,000 persons were employed in the task.

As soon as the intention of exchanging bank notes was announced, many persons either paid their holdings into bank accounts (which was possible until June 3) or bought government securities. Neither action, however, was of benefit to persons seeking to conceal their holdings since the banks were required to report the names of both new depositors and new purchasers of government securities;

1/ Extended from June 24 to June 30 by official announcement of June 25.
2/ One-half of the outstanding Treasury bills of 600 billion francs are held by credit institutions; they had already been deposited with the Bank of France.

as a result of those transactions, however, the note circulation of the Bank of France decreased by some 40 billion francs in the two weeks from May 17 to May 31, when the note issue amounted to 548 billion francs. The announcement also precipitated a scramble for notes of less than 50 francs, which were exchanged for the larger denominations at a premium. According to one report, new notes were purchased for future delivery at considerable premiums. There developed also a strong demand for all sorts of assets from objects of art, jewels, and foreign exchange to Monte Carlo Casino gambling chips. Some persons tried to distribute their hoards of notes among relatives while others made hasty payments on debts and even on taxes.

It is not yet possible to report the final results of the exchange. These will be discernible only through methodical analysis of future statements of the Bank of France, which discontinued publishing weekly statements during the period of exchange. It has been reported so far that a considerable volume of notes has not been presented for exchange, that bank accounts have increased in number and volume and that subscriptions to government bonds, in particular to Liberation Bonds, were substantial. We shall report the final results in a future issue.

Further Depreciation of the Hungarian Currency J.H.F.

During the last two months the Hungarian pengő has depreciated more rapidly than ever before.1/ No data on the circulation of money have been published since the Russian armies drove the Germans from the country. But the currency depreciation can be roughly measured by the rise in the exchange value of the dollar. The amount of foreign exchange (dollars, sterling, gold coins) available in the Budapest market has been estimated at less than 1.5 million dollars, but the turnover is rapid and prices are quoted daily. At the beginning of April 1945, the dollar was selling for about 150 pengő, as against a pre-war parity of about 5 pengő and a cross-rate of about 13 pengő, based upon the official pengő-ruble relation established by the Russian occupation authorities. The dollar price rose on May 7 to 275, and on June 7 to 840 pengő. Thus the pengő was quoted at only 6/10ths of 1 per cent of its pre-war value, having fallen within two months from 0.67 to 0.12 cent, or by 82 per cent. Hungarian financial circles expect the downward trend to continue unchecked since neither the Government nor the occupation authorities have put forward a plan for financial rehabilitation.

1/ See Review of Foreign Developments, April 16, 1945, p. 2.

New Plans for a Danubian Customs Union

J. Herbert Furth

The Rumanian Prime Minister has proposed a customs union between Rumania and Hungary, and the Hungarian Foreign Minister has announced himself in favor of the plan. More recently, the Rumanian Premier told a representative of the Bulgarian press that he aimed at "the creation of an economic union of all countries, from Vienna down to the Black Sea". This would mean a customs union including Rumania, Hungary, Bulgaria, Yugoslavia, Czechoslovakia, and Austria. It may be assumed that the proposal would not have been put forth without the approval of the Soviet Union, which is at present the supreme authority in Rumania, Hungary, and Bulgaria. The plan has therefore far better chances of realization than similar proposals made during the inter-war period.

The table presented at the end of this article shows the foreign trade of the Danubian countries in 1937. Later figures cannot be used because of the territorial changes that occurred as a result of the German occupation of Austria and the Sudetenland in 1938. The figures are based upon the official statistics of the countries concerned, with the local currencies converted into dollars at the official rates. The discrepancies between export and import figures are due partly to different methods of computing commodity values and partly to the varying accuracy of local statistics. In general, the figures of the various countries are reasonably consistent with each other; the most serious discrepancy concerns Czechoslovak exports to Yugoslavia, which are reported as 20.9 million dollars in the Czechoslovak export statistics, but as only 13.3 million in the Yugoslav import statistics.

Trade among the Danubian countries amounted to 275 million dollars, as against total combined exports of 1,197 million and imports of 1,082 million. Thus only about one-fourth of their combined foreign trade was conducted within the territory of the proposed union. For the individual countries, the ratio varied from about one-third of the total in the case of Hungary and Austria to about one-eighth in the case of Bulgaria. It must be remembered, however, that in 1937 trade between many of these countries was artificially stimulated by bilateral arrangements; this was particularly true for the trade between Austria and Hungary, which represents one of the largest items in the list. The economic structure of the various countries determines the trade pattern shown in the table. The agricultural regions (Bulgaria, Hungary, Rumania, Yugoslavia) exported cereals and animal products to Austria and Czechoslovakia, and received industrial goods in return. In addition, Rumania exported oil to the rest of the region, and Austria and Czechoslovakia exchanged various raw materials and manufactured products.

The relatively small trade among these countries in 1937 does not preclude the possibility of substantial increases during the post-war period. Before the war, Germany was the most important single consumer of agricultural produce of, and the leading supplier of industrial goods to, the Danubian region; it is unlikely to continue in in this role. Therefore, Austria and Czechoslovakia will probably be able to expand industrial exports to the rest of the region; their increased demand for industrial labor may encourage them to eliminate artificial protection of their agriculture, and to increase their agricultural imports from their customer countries. On the other hand, the decline in German exports to Southeastern European markets will make it possible for the agricultural countries to continue their efforts to build up domestic industries without erecting trade barriers against Austria and Czechoslovakia.

The success of the plan is by no means assured, however. The Rumanian export position has suffered from the discovery of oil in Austria and Hungary, and it may be that her foreign trade with these countries will not return to the inter-war level. Moreover, the Soviet Union will probably want to supplement its political predominance by closer economic relations, and her plans may affect the economic structure of the countries within her sphere of influence. The Soviet Union may want to preserve the Danubian countries as a market for her growing industries, or she may want to use the industries of Austria and Czechoslovakia mainly for the reconstruction of her own economic system. In both cases, intra-Danubian trade would suffer. More important, however, are possible political obstacles. The Western powers may be afraid of losing the potential markets of Austria and Czechoslovakia for their agricultural surplus, and those of the other Danubian countries for their industrial products. Austria and Czechoslovakia themselves may be reluctant to enter more closely into the Soviet sphere as the result of an economic union with Soviet-dominated areas. On the other hand, the Danubian countries know as well as the Western countries that a revival of economic nationalism and separatism would be dangerous to their economic stability and thus also to their precarious independence. The final decision probably will be based upon those conflicting political considerations rather than on purely economic grounds.

Foreign Trade of Danubian Countries in 1937
(Millions of dollars)

Exports

To	From											
	Austria		Bulgaria		Czechoslo.		Hungary		Rumania		Yugoslavia	
		%		%		%		%		%		%
Austria	-		2.6	4.0	30.7	7.3	19.6	16.8	15.4	7.0	19.5	13.5
Bulgaria	1.8	.8	-		3.0	.7	0.8	.7	1.7	.8	0.3	.2
Czechoslovakia	16.5	7.1	3.6	5.5	-		4.2	3.6	18.1	8.2	11.3	7.8
Hungary	21.0	9.1	0.6	.9	7.9	1.9	-		9.7	4.4	5.1	3.5
Rumania	12.9	5.6	0.2	.3	22.9	5.5	5.0	4.3	-		1.0	.7
Yugoslavia	12.5	5.4	0.4	.6	20.9	5.0	2.6	2.2	3.0	1.4	-	
Total	64.7	28.0	7.4	11.3	85.4	20.4	32.2	27.7	47.9	21.7	37.2	25.8
Other countries	166.5	72.0	57.8	88.7	333.6	79.6	84.2	72.3	173.1	78.3	107.1	74.2
Grand total	231.2	100	65.2	100	419.0	100	116.4	100	221.0	100	144.3	100

Imports

From	Into											
	Austria		Bulgaria		Czechoslo.		Hungary		Rumania		Yugoslavia	
		%		%		%		%		%		%
Austria	-		2.1	3.2	16.0	4.2	17.2	18.0	12.9	9.1	12.4	10.3
Bulgaria	2.5	.9	-		3.4	.9	0.5	.5	0.1	.1	0.3	.2
Czechoslovakia	30.2	11.0	3.2	4.9	-		5.9	6.2	23.8	16.8	13.3	11.0
Hungary	24.8	9.0	0.9	1.4	5.6	1.5	-		6.4	4.5	3.2	2.7
Rumania	16.4	6.0	1.9	2.9	18.6	4.8	9.5	9.9	-		2.1	1.7
Yugoslavia	21.7	7.9	0.4	.6	14.4	3.7	4.8	5.0	0.8	.6	-	
Total	95.6	34.8	8.5	13.1	58.0	15.1	37.9	39.6	44.0	31.0	31.3	26.0
Other countries	179.1	65.2	56.3	86.9	326.3	84.9	57.9	60.4	98.0	69.0	89.1	74.0
Grand total	274.7	100	64.8	100	384.3	100	95.8	100	142.0	100	120.4	100

NOTE: Conversion rates: 1 Austrian schilling = 18.8 cents, 1 Bulgarian lev = 1.3 cents, 1 Czechoslovak crown = 3.5 cents, 1 Hungarian pengő = 19.8 cents, 1 Rumanian leu = 0.7 cents, and 1 Yugoslav dinar = 2.3 cents.

Under the exchange control systems now generally in force in Latin America, exporters are usually required to sell all or part of their foreign exchange receipts to the government or the central bank. In many cases, this compulsory delivery of exchange is accompanied by what amounts to a tax on exports, since the exporter often is compelled to sell at least part of his exchange below the official rate.

In the case of Bolivia, the gold standard was abandoned in September 1931 and was followed by the adoption of official exchange control in May 1932. This control has been continued to date. Exporters have been required to deliver to the Government varying proportions--seldom exceeding 45 or 50 per cent--of their foreign exchange receipts, generally at the official rate of exchange.

Bolivia recently issued a decree (Supreme Decree No. 280 of April 3, 1945), however, which requires exporters of tin to sell 100 per cent of their foreign exchange proceeds to the Government, through its agent the Central Bank. Exports of tin represent about 70 per cent of Bolivia's total exports. This decree is of special interest for several reasons.

In the preamble it is stated that as a consequence of the agreement signed by the United Nations at the Bretton Woods Conference, the Government of Bolivia has undertaken the responsibility of contributing quotas in American dollars to the International Monetary Fund and to the International Bank for Reconstruction and Development. For the fulfillment of this purpose, therefore, as well as for the building up of a special reserve of foreign exchange for post-war needs, it is deemed necessary to give the Government effective control over all foreign exchange proceeds of exports.

The preamble concludes by stating that "the control of foreign exchange does not constitute a surcharge in taxes. Therefore, it does not increase the costs of production of the mining industry". The explanation of this statement appears to be a desire to emphasize that exporters will receive the full value of their exchange deliveries at the official exchange rate, and will not be "taxed" by being compelled to sell part of their proceeds at lower rates.

The law provides, however, that exporters may retain certain fixed percentages of their foreign exchange receipts, on a provisional basis, in order to cover selling costs abroad, necessary imports for the continuation of production, dividend and amortization payments, and also other obligations and expenses in foreign currency, provided that such other obligations and expenses have been legally authorized. The percentage of foreign exchange proceeds which may be retained on this provisional basis ranges from 85 per cent on slags and wastes to 40 per cent for the highest grade ores. The bulk of the exports of the major producers will fall within the 40 per cent category. The previous decrees governing the retention of foreign exchange permitted those producers to retain nearly 60 per cent of their export receipts.

Exporters must make a strict accounting of all expenditures from the exchange which they retain, and any remaining balance must be sold to the Government through the Central Bank. In exceptional cases where tin exporters require a greater amount of foreign drafts than they are authorized to retain provisionally, a documented application for additional foreign exchange may be presented to the Central Bank. If the Central Bank approves the request, it is to send the documents and a supporting report to the Treasury Department, which is authorized to grant the necessary permission to acquire the additional foreign exchange.

Although Bolivia's desire to increase her official holdings of gold and foreign exchange is perfectly understandable, the statement in the preamble that Bolivia needs larger international reserves in order to meet the commitments made at Bretton Woods does not seem to be borne out by the facts. In the first place, Bolivia is under no pressure to increase her international reserves in order to meet her quota for the Monetary Fund, since a country's minimum gold contribution is only 25 per cent of its quota or 10 per cent of its net official holdings of gold and United States dollars, whichever is smaller, and regardless of how small official holdings may be. Bolivia's quota is 10 million dollars. Her official holdings of gold and foreign exchange at the end of 1944 were 23 million dollars. Her gold contribution, therefore, as of the end of 1944, would have been only 2.3 million dollars.

Bolivia's international reserve position would not be weakened by this contribution. On the contrary, it would be decidedly strengthened, since it would be entitled to draw from the Fund, over a period of years, 12.3 million dollars--thus representing a potential net increase of 10 million dollars in the international reserves of the country.

Bolivia's subscription to the capital of the Bank for Reconstruction and Development is only 7 million dollars. Of this amount, 20 per cent, or 1.4 million dollars, is to be paid or to be subject to call as needed by the Bank for its operations. Of this amount, only 140,000 dollars need be paid in gold or in United States dollars; the other 18 per cent is payable in local currency. The remaining 80 per cent of the subscription is subject to call by the Bank only when needed to meet losses arising from the operations of the Bank; these calls must be paid in dollars or in whatever currency is needed by the Bank. There is little likelihood of losses ever being large, however, because of the fundamentally conservative basis on which the Bank is to be operated. Under the very worst of circumstances, Bolivia might have to deliver 5,740,000 dollars to the Bank, but even then, this would take place only over a considerable period of time. It should be emphasized once more, however, that the chances of this situation arising are very small indeed and that, in any case, the Bretton Woods Agreements, on balance, strengthen rather than weaken Bolivia's international reserve position.

On the other hand, the provisions of this decree do not appear to be at all incompatible with either the spirit or the terms of the Bretton Woods Agreements. The Agreements do not prohibit any member from having a monopoly of all purchases and sales of foreign exchange within its boundaries, or from exercising complete supervision over all foreign exchange transactions, provided only that sale of exchange, at the legal rate, is not denied to any individual who needs exchange for current transactions. The provisions pertaining to the purposes for which foreign exchange may be obtained by exporters do not seem to be unduly restrictive. Any surplus of foreign exchange retained by exporters above the amounts necessary to cover the purposes permitted by this law would, in effect, be an export of capital--a luxury which Bolivia may not feel able to afford at this stage of her economic development. Article VI, section 3, of the Fund agreement states that members may exercise such controls as are necessary to regulate international capital movements but that no member may exercise those controls in a manner which will restrict payments for current transactions or which will unduly delay transfers of funds in settlement of commitments. The terms of the Bolivian decree appear not to violate this provision, at least insofar as exporters of tin are concerned. The real question involving the Fund in this case would be whether or not others have the same access to foreign exchange for purposes of current transactions.

In spite of the apparent reasonableness of this decree, the reaction of the mining industry has been one of violent opposition. One of the large producers has stated that the decree does not permit the retention of sufficient foreign exchange to meet fixed obligations, and another has said that continued operations under the Villarool Government are no longer possible. There have been reports from several observers that this decree may prove of great political importance in that it offers an incentive to the big producers to finance a revolution to overthrow the present regime and to install one which would be more favorable to the mining industry and to capital interests. Reports state that there is a general opinion in Bolivia that the decree marks a final break between the large producers and the Government, and that a revolutionary group composed of the big producers, the opposition "Party of the Revolutionary Left" and strong contingents of the army may endeavor to overthrow the Villarool Government in the relatively near future.

War Damage and Reconstruction Needs in Italy J.H.F.

The Italian Government and the Allied Control Commission have released a summary of a joint investigation into the war damage suffered by Central and Southern Italy. The report covers 38 provinces with a population of 19 million, representing more than 40 per cent of the entire country, and is based upon conditions in September 1944. About 655,000 people were absent, either as prisoners of war or because they had been interned, deported, or exiled by the fascist Government or the Germans. About 100,000 houses had been destroyed and 234,000 were damaged. Less than 8,000 motor vehicles of all kinds (passenger cars, motorcycles, trucks) were counted, many of them in bad condition. Of all industrial equipment (buildings, machinery, inventory), valued at the equivalent of 660 million dollars in 1939, one-third had been destroyed or removed, including 100 million dollars worth of machinery. About 130,000 acres of forest were devastated, together with 90 million grapevines and 9 million olive, fruit, and similar trees. Almost 500,000 acres of reclaimed land had been lost again to cultivation. Livestock, especially cattle, had been depleted by one-third between 1942 and 1944, largely as a result of German requisitions. Only one-tenth of agricultural tools and machinery had been destroyed or removed, but the remaining mechanical equipment could not be used to capacity because fuel supplies were one-third of the required quantity. The grain harvest fell from 12.7 million metric quintals in 1942 to 5.8 million in 1944; for 1945 an increase to not more than 6.1 million quintals was expected. This decline was largely due to the lack of commercial fertilizer, especially phosphates, sales of which dropped in 1944 to less than 3 per cent of the 1939 level.

The financial aspect of the problem is equally dark. In February 1945, the cost of living in Rome was more than 13 times as high as in the fall of 1940. Prices of foodstuffs had increased to 22 times, but the average wage income to only 5-1/2 times the 1940 level. It is true that this income was about doubled by receipts from the sale of personal belongings, by relief payments, and especially by black-market activities. Nevertheless, the average income of a worker's family of five amounted to only about 10,200 lire per month while it would have had to spend 11,800 lire to buy foodstuffs corresponding to its peace-time diet. One-third of the caloric content of the present average diet is derived from rationed foodstuffs sold at official prices, and two-thirds from purchases in the black market; acquisition of the latter portion requires nine-tenths of the total food budget.

In Northern Italy the situation is better. Industrial facilities have suffered little damage, and the price level is substantially lower than in the South. It is expected that Northern industries will be able to supply the country with a large part of the products needed for rehabilitation and reconstruction, expecially textiles, chemicals, and machinery. The most urgently needed imports are foodstuffs (mainly grain and dairy products), coal, cotton, petroleum products, rubber, iron and steel, and particularly transportation material (railroad equipment, trucks, merchant vessels). The cost of these imports has been estimated at 600 million dollars, which is substantially less than previous estimates, but substantially more than the amount of foreign exchange available to the country. The Italian Government has been credited with 100 million dollars as the equivalent of payments made in AM lire to United States armed forces in Italy, and an additional 50 million dollars will probably be credited in the near future. The Italian economy also has at its disposal the equivalent of dollar and pound sterling remittances sent by emigrants to their relatives at home, and receipts from the small volume of Italian exports. The sum of all these items, however, would still be 400 million dollars less than the estimated cost of imports. Italy is not eligible for lend-lease aid or to receive free supplies from UNRRA, and the question of how to finance the desired imports is still unsettled.

WORLD INCOME, 1929-1937

Randall Hinshaw

National-income data exist for a sufficient number of countries to warrant at least the attempt to construct a meaningful world-income index for the highly interesting period 1929-1937. Except for a few isolated omissions, consecutive national-income figures over this period can be obtained for more than twenty countries, including all the major industrial nations. The various series of course differ widely in reliability and, because of conceptual differences, are frequently not strictly comparable. These difficulties, however, can easily be exaggerated, particularly if all that is desired is an index. While the indexes in this study are obtained from income totals expressed in dollars, it is the indexes rather than the totals on which chief reliance should be placed.

Theoretical Difficulties

The major problem in constructing dollar totals of income for a group of countries is to find appropriate rates at which to convert income figures expressed in the various national currencies. Several possibilities suggest themselves. The most obvious, and probably the least satisfactory, solution is to convert all figures at actual (annual-average) exchange rates. This method would not be inappropriate in a world in which exchange rates were in substantial agreement with purchasing-power parities, but the world of the 'thirties was of a different character. It was a world, moreover, in which systems of dual or multiple exchange rates were not uncommon, thus making it occasionally necessary, in using the above method, to choose somewhat arbitrarily from among two or more rates, none of which were necessarily near equilibrium.

A more satisfactory, though theoretically inadequate, method of combining income figures expressed in various currencies would be to employ fixed exchange rates throughout--either the exchange rates of a particular year or an average of the exchange rates for the period. This method has the quality of maintaining without distortion, for each country, the relative changes in national income as expressed in the original currency.

Neither current nor fixed exchange rates, however, provide an ideal basis for combining income totals. A more adequate method of summation would be to employ purchasing-power-parity rates, since what is needed is a measure, for any given year, of how much foreign incomes can buy (internally) in terms of dollars.

In this study, each of the above methods has been employed, thus making it possible to determine the degree to which the choice of method affects the estimates.

World Money Income, 1929-1937

Table 1 contains three indexes of world money income, together with the respective income totals from which they have been derived.

TABLE 1

MONEY INCOME OF TWENTY-ONE COUNTRIES

(Billions of Dollars)

	A	Index	B	Index	C	Index
1929	162.3	100	162.3	100	175.5	100
1930	143.8	89	143.5	88	156.4	89
1931	117.7	73	119.8	74	130.2	74
1932	89.2	55	98.5	61	104.4	60
1933	102.8	63	102.1	63	105.9	60
1934	126.7	79	112.3	69	118.4	67
1935	136.4	84	121.6	75	129.4	74
1936	150.8	93	136.0	84	142.9	81
1937	159.5	98	149.4	92	155.2	88

A. Total money income at actual (annual-average) exchange rates.
B. Total money income at 1929 exchange rates.
C. Total money income at purchasing-power-parity rates.

The indexes are based on figures for twenty-one countries.[1] These countries in 1928 accounted for slightly more than two-thirds of the value of international trade. The first index shows the relative change in total money income as calculated at actual (annual-average) exchange rates. In the second series, the income totals are computed on the basis of the exchange rates prevailing in 1929. The third index is derived from income totals calculated at purchasing-power-parity rates, which were computed from cost-of-living indexes in the conventional way, with 1929 as base year. However, instead of assuming that the exchange rates prevailing in 1929 accurately reflected purchasing-power parities, it was assumed that they diverged from purchasing-power equilibrium to the extent indicated by Colin Clark in his table comparing the estimated price levels of various countries at 1929 exchange rates.[2] Thus, where possible, the 1929 rates were adjusted by an amount which, according to Clark, would have equalized these price levels. Clark does not give figures for all the countries represented in this study; where his estimates are not available, the unadjusted 1929 exchange rates have been used as base figures.

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[1] The countries are Australia, Austria, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Estonia, Finland, France, Germany, Hungary, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States. A real-income series is available for the Soviet Union, making it possible to include Russia in the real-income index, discussed below.

[2] Colin Clark, The Conditions of Economic Progress (1940), p. 51.

Of the three series, the third is undoubtedly the most meaningful. On the assumption that the underlying data are reliable, it shows how much, per annum, the total income of this group of countries could buy internally in terms of current dollars.

The three indexes are plotted in Chart 1. Roughly speaking, all three indexes tell the same story. Between 1929 and 1932, total money income fell by something in the neighborhood of 40 per cent, and after 1933 recovered steadily, so that by 1937 it was not far below the 1929 level. The most conservative picture of the degree of recovery is provided by the index based on purchasing-power parities, and it is this index on which major reliance should be placed. However, it will be noted that the story which it tells is closely supported by the index based on 1929 exchange rates; the two series are virtually congruent.

These figures make possible a comparison between the movement of American income during this period and the movement of world income. In Table 2, American money income (Commerce series) is compared with the total income of the twenty-one countries, as computed at purchasing-power-parity rates.

TABLE 2

COMPARISON OF WORLD INCOME WITH AMERICAN INCOME

(Billions of Dollars)

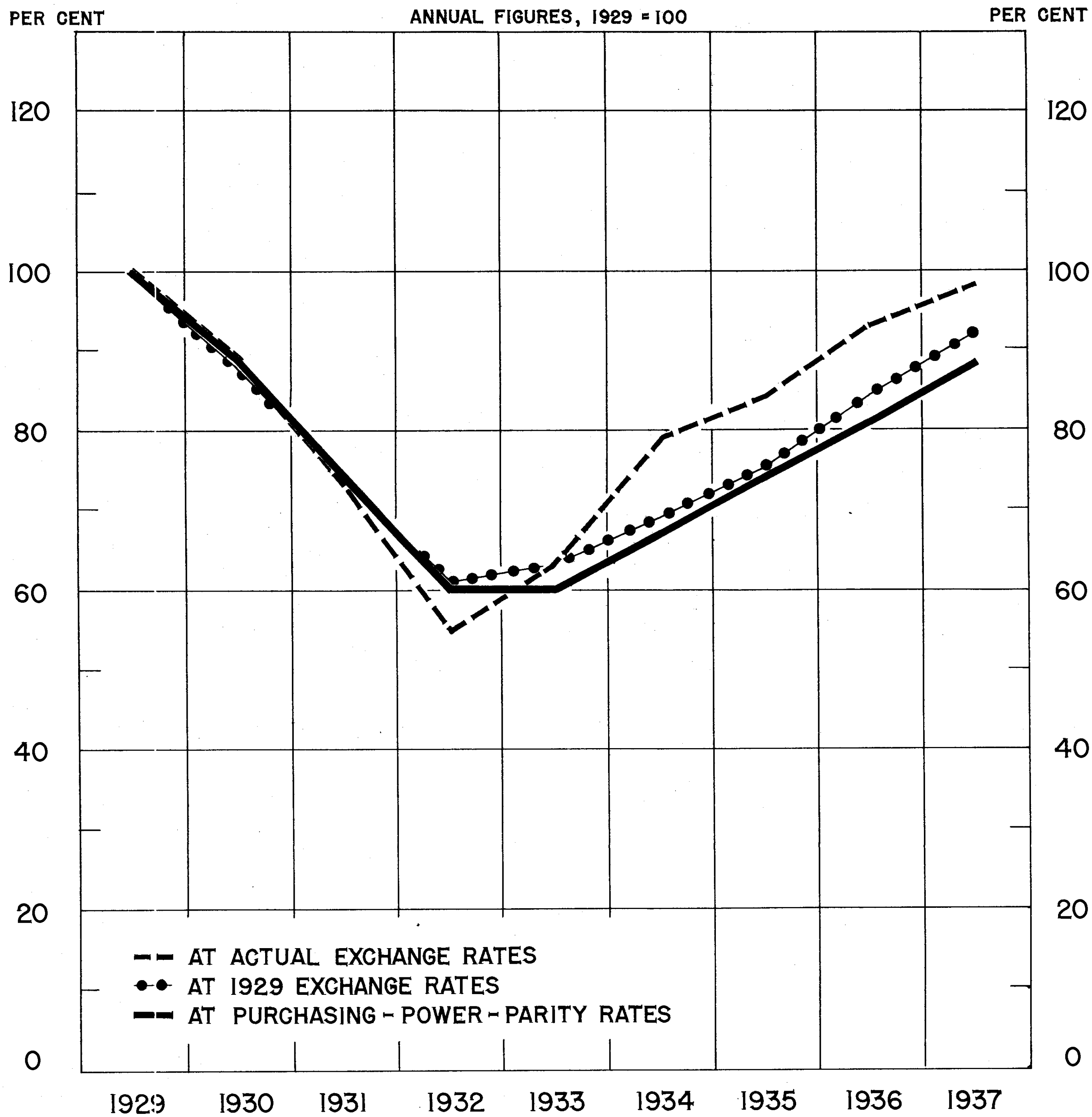
	A	Index	B	Index	C	Index	D
1929	175.5	100	92.1	100	83.3	100	47.5
1930	156.4	89	87.6	95	68.9	83	44.1
1931	130.2	74	75.7	82	54.5	65	41.9
1932	104.4	60	64.4	70	40.0	48	38.3
1933	105.9	60	63.6	69	42.3	51	39.9
1934	118.4	67	68.9	75	49.5	59	41.8
1935	129.4	74	73.7	80	55.7	67	43.0
1936	142.9	81	78.0	85	64.9	78	45.4
1937	155.2	88	83.6	91	71.5	86	46.1

A. Total money income of the 21 countries at purchasing-power-parity rates.
B. A without the United States.
C. National income of the United States.
D. C as a percentage of A.

Perhaps the most striking fact shown in this table is the preominent position of American income in the total. For the period covered in this study, American income averaged 43.6 per cent of the income of the group as a whole. If figures were available for all the remaining countries of the world, the fraction would probably have been in the neighborhood of one-third.

CHART I

INDEXES OF WORLD MONEY INCOME, 1929 - 1937



The table also confirms the contention that the depression was considerably more severe in the United States than in the rest of the world. Between 1929 and 1932, American money income dropped by more than half; for the other twenty countries, the drop was less than a third.

These conclusions are illustrated in Chart 2, which compares the level of American money income during the period under consideration with the level of income of the group as a whole. As in Table 2, foreign incomes in this chart are computed at purchasing-power-parity rates.

World Real Income, 1929-1937

Since cost-of-living indexes are available for all the countries in the above group, it is possible to compute a real-income series for each country and a real-income index for the group as a whole. To construct this index, the various income series were first expressed in the original currencies at 1929 prices (cost of living). Each series was then converted into dollars at the average purchasing-power-parity rate for the whole period. Thus the British series, for example, was converted into dollars at a rate of 4.918 dollars per pound, the average purchasing-power parity for the period 1929-1937. In this form, the various income figures for each year were added, and an index was made of the totals.

Since a real-income series exists for the Soviet Union, it was possible to add Russia to the real-income index. At the suggestion of Dr. Abram Bergson, the Russian figures were inflated by 25 per cent to make them comparable with the income series of the other major countries, and were converted into dollars at a rate of 25 cents per ruble.

In Table 3, five real-income indexes are shown, four of which are "world" income series. The first is a real-income index of the entire group of twenty-two countries, including the Soviet Union. In the second series, Russia is excluded; in the third, the United States is excluded; and in the fourth, both countries are omitted. The fifth series is a real-income index for the United States.

These series are plotted in Chart 3. According to the index for all twenty-two countries, real income dropped by somewhat less than a fourth between 1929 and 1932, and by 1937 not only had recovered from this decline but was 16 per cent higher than in 1929. Since the movement of real income in neither Russia nor the United States was typical of the rest of the world during this period, and since real income in both Russia and the United States comprises a considerable fraction of world income, the inclusion or exclusion of either of these countries substantially affects the world-income index.

CHART 2

WORLD MONEY INCOME, 1929 - 1937

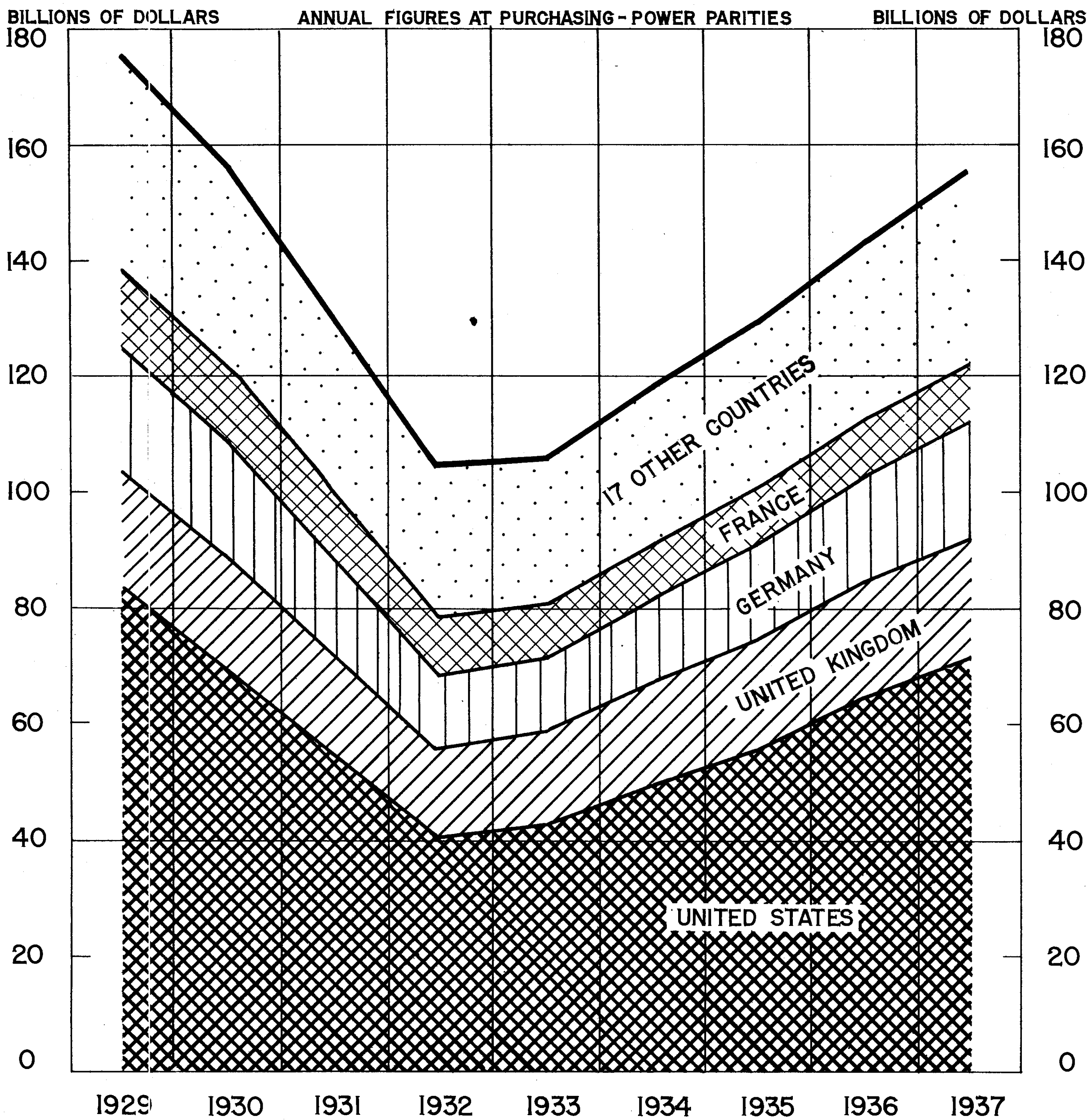


TABLE 3

WORLD REAL INCOME, 1929-1937

	A	B	C	D	E
1929	100	100	100	100	100
1930	92	91	99	97	85
1931	87	83	99	92	73
1932	78	74	94	87	60
1933	83	79	98	91	67
1934	91	85	104	95	75
1935	98	91	111	99	82
1936	109	99	120	103	95
1937	116	105	128	108	101

A. Real income of the 22 countries.
B. A without the Soviet Union.
C. A without the United States.
D. A without the Soviet Union and the United States.
E. Real income of the United States.

During the period under consideration, real income in the Soviet Union more than trebled, and indeed was much higher in 1932 than in 1929.[1] American real income, on the other hand, dropped by 40 per cent between 1929 and 1932--far more sharply than in most other countries.[2] Consequently, when the United States is omitted from the world-income index (with Russia left in), the index drops by only 6 per cent between 1929 and 1932, and is 28 per cent higher in 1937 than in 1929. However, when Russia is removed from the series (with the United States left in), the index drops by 26 per cent from 1929 to 1932, and is only 5 per cent higher in 1937 than in 1929.

In Table 4, the twenty-two countries are listed in the order of their average real income over the period studied. The real-income figures are expressed at 1929 prices (cost of living), and are converted into dollars at the average purchasing-power-parity rate for each country.

[1]However, it should be noted that the Russian figures tend to exaggerate the extent of the increase in Russian real income, for two reasons. In the first place, the period under consideration was characterized by the transfer to the state of certain household production not previously appearing in the income statistics. In the second place, the period was marked by the emergence of many new products appearing at a time when the Russian price level was sharply rising. The introduction of new items in this situation tended to inflate the real-income series, since the products were included in the income figures at their initial prices rather than the prices at which they would have been produced at the beginning of the period.

[2]However, American real income appears to have completely recovered by 1937; in fact, the index for 1937 is slightly higher than for 1929.

CHART 3

REAL-INCOME INDEXES, 1929 - 1937

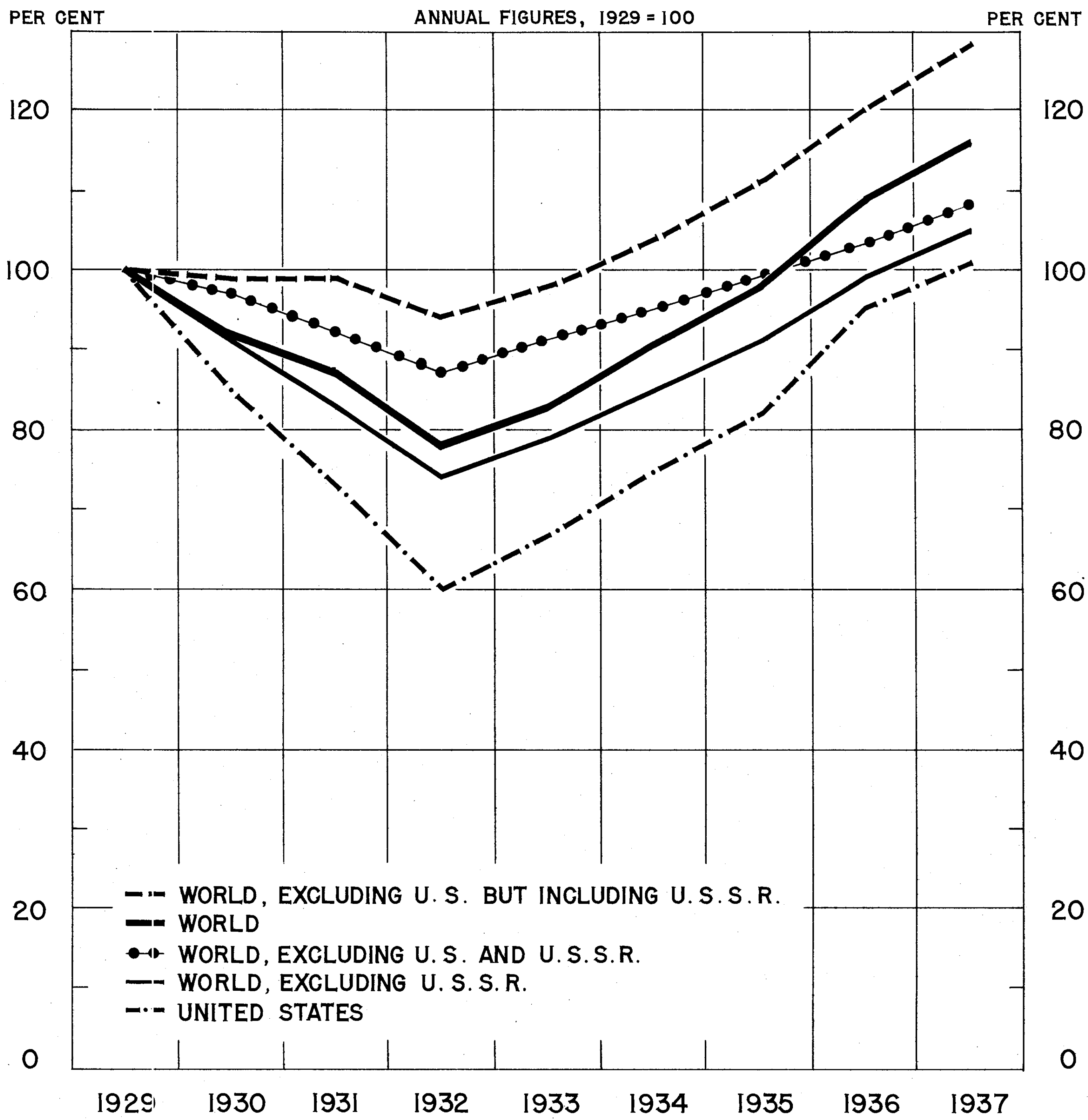


TABLE 4

AVERAGE REAL INCOME, 1929-1937

(Billions of Dollars at 1929 Prices)

	Average Real Income	Per Cent of Total
United States	68.4	39.8
United Kingdom	20.6	12.0
Germany	20.0	11.6
Soviet Union	17.5	10.2
France	11.0	6.4
Japan	8.7	5.1
Canada	5.5	3.2
Australia	2.9	1.7
Netherlands	2.7	1.6
Belgium	2.5	1.5
Czechoslovakia	2.5	1.5
Sweden	1.9	1.1
Switzerland	1.8	1.1
Austria	1.2	.7
Hungary	1.1	.6
Denmark	.9	.5
New Zealand	.7	.4
Finland	.6	.3
Bulgaria	.5	.3
Norway	.5	.3
Chile	.4	.2
Estonia	.1	.1
	172.0	100%

According to these figures, the five countries with the largest incomes account for exactly four-fifths of the total, and of the total income of those five, the United States accounts for about half (49.7 per cent). The eleven countries with the smallest incomes (half the entire number) account for only 5.6 per cent of the total income of the group.

In Chart 4, two of the indexes of world real income--one including, and the other excluding, Russia--are compared with the League of Nations index of the "quantum" of international trade. According to these indexes, the fall in the volume of international trade during the world depression was of virtually the same proportions as the fall in world real income; if Russia is disregarded, both variables fell by 26 per cent between 1929 and 1932. Recovery of trade appears to have been more gradual than the recovery of real income; by 1937, however, the volume of international trade was at approximately the 1929 level.

CHART 4

INDEXES OF WORLD INCOME AND TRADE