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SETTLEMENT OF THE INDIAN STERLING BALANCES

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Recent negotiations in London have resulted in a partial solution of the troublesome problem of the sterling balances owed by the United Kingdom to India and Pakistan. No part of the balances is to be written off now. The ultimate disposition of about a third of this debt, amounting in total to about £1,160 million ($4.7 billion), has been settled. Approximately £220 million is to be used immediately to liquidate certain obligations of India and Pakistan for surplus property and civil service pensions, after a partial offset by certain war-connected liabilities of the United Kingdom to India. India has the free use of £80 million for current transactions in sterling, and certain rights to draw another £80 million by June 1951, if necessary. Under a separate agreement, Pakistan will obtain similar drawing rights, although on a smaller scale. (The division of the total balances, blocked and unblocked, between India and Pakistan has already been settled in principle, and is described in a later part of this article.) This leaves an amount of about £750 million 1/ for settlement after 1951. India's Finance Minister Chetty states that about £200 million of the balances owed to India may be considered as normal currency reserves. Presumably this means that India will be willing to leave that amount virtually blocked in any final settlement.

1/ If India, during the next three years, does not have a sufficiently unfavorable sterling balance of payments to enable her to utilize in full her drawing rights for £160 million, the residual will be closer to £800 million.

The foregoing brief outline of the settlement omits the crucial question of dollar releases by the United Kingdom to India and Pakistan. In this regard the Indians have had to be content with much less than they wished. During the twelve months to June 1949, releases of unblocked sterling for conversion into hard currencies will be limited to £15 million ($60 million), as compared with £10 million during the first half of 1948 and a much larger amount theoretically available, though not actually used, during the second half of 1947. However, the Indian Finance Minister has indicated that for the duration of this agreement Switzerland and Sweden are no longer to be treated as hard-currency areas. The British have made no commitment on hard currencies beyond June 1949.

Apart from the question of dollar convertibility, the broad outlines of the settlement are about what was expected on both sides. It is true that some Indians have been demanding a full and final settlement immediately, and that some fears have been expressed in India that the British, backed by the United States, or using alleged American pressures as an excuse, would insist on a scaling down of the total amount due to India. It is also true that some Englishmen have argued that there should be a general revision of the war settlements between the United Kingdom and India. But the U.K. Government has shown no intention in the past few years of reopening either the matter of prices at which supplies were sold to the British military in India or the terms of the Defence Expenditure Plan under which Britain was liable for the cost of Indian forces operating outside India. On the other hand, Indian Government officials have frequently indicated their appreciation of the balance of payments difficulties of the United Kingdom. It is therefore not surprising that the negotiators were able to agree on a settlement such as that outlined above.

The agreement announced on July 15 had been preceded by two interim agreements covering half-yearly periods and by an agreement in March 1948 between India and Pakistan regarding the division of sterling balances between the two Dominions.

Before August 15, 1947, India was a single country under British rule and was allowed to draw on its sterling balances either for sterling or dollar payments. The U.K. Treasury and Bank of England relied on the Reserve Bank of India not to allow excessive drawings. By the middle of 1947 the sterling balances of the Reserve Bank of India had fallen to £1,160 million, from a peak in March 1946 of £1,290 million.

The provisions of the United States-United Kingdom Financial Agreement of 1946 requiring convertibility of sterling were due to come into effect on August 15, and the creation of two independent dominions in India was scheduled for the same date. It was therefore necessary for the United Kingdom to arrive at a formal agreement with India under which India would have the free use of a certain part of its sterling balances, while the rest would become inaccessible for current transactions of any kind. An agreement for the second half of 1947 was entered into by the United Kingdom with the Government of undivided India on August 14, 1947; this became binding on both of the new Dominions after the partition on the following day. This agreement set up two accounts for the sterling held by the Reserve Bank of India.

Account No. 1 was credited, as of June 30, with £65 million, of which £30 million was to be a "working balance".1/ Current transactions in any currency were to be freely debited and credited to this account. Account No. 2, containing the remaining £1,095 million, was to be blocked for the duration of the agreement, except for capital movements between "India" (pre-partition) and other countries of the sterling area. Upon agreement between the Bank of England and the Reserve Bank of India, the net balance of such movements would be periodically transferred to or from the unblocked Account No. 1. In this agreement "India" also committed itself not to restrict (a) the acceptance of sterling for current transaction payments due to "Indian" residents or (b) the availability of rupees obtained by sterling area residents through current transactions. These commitments with respect to sterling imposed on "India" the obligations which, with respect to all currencies, were deferred under the Articles of Agreement of the International Monetary Fund until the expiration of the transational period on March 1, 1952. "India" further agreed not to restrict the repatriation of investments and savings from "India" by United Kingdom residents or persons of United Kingdom origin leaving "India" for home. These parts of the 1947 agreement, defining the sense in which India and Pakistan now belong to the sterling area, were extended to June 30, 1948, and have probably been extended again by the most recent agreement.2/

This agreement of August 14, 1947, was not affected by the modifications of sterling convertibility introduced by the United Kingdom, with U.S. approval, on August 20. Mr. Chetty stated, however, at a press conference on the 22nd, that India would respond to Britain's appeal to minimize its dollar demands.

By the end of 1947 the Reserve Bank's sterling balances had fallen to about £1,135 million, a decline of £25 million from June 30. Probably most of this decrease was in the No. 1 Account, bringing it down from £65 million to, say, £40-45 million. Dollar requirements are believed to have been heavy during this period.

An agreement for the first half of 1948, in the form of an exchange of letters3/ modifying the original agreement, was signed by India and the United Kingdom on February 15, 1948. The balance in the No. 1 Account was carried forward and a fresh net transfer of approximately £14 million was made from the No. 2 Account.4/ The resulting balance of something less than £60 million as of January 1 still included a "working balance" of £30 million and the remainder represented India's minimum drawing rights for a six-month period. However, net drawings for transactions with hard currency areas--defined for the purposes of this half year's agreement as including the

1/ Defined more fully as "a working balance which may be drawn upon from time to time to meet any temporary shortage in India's available means of payment abroad". For the text of the Agreement, see Reserve Bank of India Bulletin, September 1947.

2/ The text is not yet available.

3/ Published in Indian News Chronicle, New Delhi, March 3, 1948, and summarized, together with the corresponding United Kingdom-Pakistan agreement, in Reserve Bank of India Bulletin, April 1948.

4/ Actually £18 million was transferred to the No. 1 Account and about £4 million of the amount credited to the new Pakistan Account came from the No. 1 Account.

Western Hemisphere, the Philippines, Japan, Switzerland, Sweden, and the Belgian and Portuguese monetary areas--were to be limited to only £10 million. These drawing rights were no longer to be shared with Pakistan. A separate "Pakistan Account", still owned by the Reserve Bank of India, was set up, and to this was credited approximately £20 million, under the terms of this agreement and of a separate agreement between Pakistan and the United Kingdom.1/ Of this amount £10 million was to be treated as a "working balance". Pakistan's net hard currency drawings for the six months were to be limited to £3.3 million.

The opening of a separate account bearing Pakistan's name probably made no real change in the way the accounts were operated by the Reserve Bank of India on behalf of the two Dominions. As early as August 23, 1947, the Indian Finance Minister had indicated that India and Pakistan would agree on their respective totals for import licenses. On November 29 he explained to the Legislative Assembly the import licensing arrangements which had been agreed to in the Partition Council.2/ The Reserve Bank of India continued to buy and sell foreign exchange in Pakistan in 1947 and the first half of 1948. Originally it had been agreed that Pakistan would take over this function on April 1, 1948, and would take over the note issue and other central bank functions on October 1, 1948. As a result of discussions early in 1948 it was decided, however, that the Reserve Bank of India would continue to perform both functions until, and only until, June 30, 1948.

The actual shift of ownership of a part of the sterling balances to Pakistan has had to await the opening of the new "State Bank of Pakistan" on July 1, 1948. The India-Pakistan negotiations in early 1948,3/in addition to changing the takeover dates, redefined in a much more satisfactory way than before the principles which are to determine Pakistan's share of the sterling balances.4/ These principles, which are by no means ungenerous to Pakistan, will work out as follows. When Pakistan national and provincial government balances at the Reserve Bank of India, and also the reserve balances of banks in Pakistan, are transferred to the State Bank of Pakistan, the Reserve Bank will pay the State Bank in sterling. After deducting (1) these transfers, (2) payments to the United Kingdom under the settlement announced on July 15, and (3) the balance in India's No. 1 Account at the Bank of England, the remaining sterling assets of the Reserve Bank of India will be divided between the two central banks in proportion to the outstanding note circulations in the two Dominions. The amount of the circulation in Pakistan is defined for this purpose as the amount of Pakistan notes issued by the Reserve Bank of India

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1/ Announced by the Pakistan Ministry of Finance on February 23, 1948.
2/ See this Review, May 18, 1948, for an explanation of the composition of the Partition Council and a discussion of the agreements reached on division of government assets and liabilities.
3/ The results of these negotiations were formalized in an Amendment, dated March 31, 1948, to the Pakistan Monetary System and Reserve Bank Order of August 14, 1947.
4/ The earlier arrangement, embodied in the Pakistan Monetary System and Reserve Bank Order of August 14, 1947, and in the agreement of December 12, 1947, between India and Pakistan (see this Review, May 18, 1948), contemplated the early transfer to Pakistan of a certain share of the sterling held in the Issue Department of the Reserve Bank of India and subsequent sales to Pakistan, for rupees, of additional blocked sterling up to a limit worked out by a very complicated formula.

on behalf of Pakistan[1] plus India notes returning from circulation in Pakistan and delivered by the State Bank to the Reserve Bank during the twelve months ending June 30, 1949.

It may be roughly estimated that Pakistan's eventual share of the sterling balances held by the Reserve Bank of India on June 30, 1948, will be of the order of £140 million, as shown in the following computation, based on an assumption that the note issue is divided in the proportion of 90:10 :

Reserve Bank deposits of Pakistan Government and provinces (May 28)	£ 51 million
Reserve Bank deposits of banks in Pakistan (estimate)	9
Estimated 10 per cent share of residual sterling	80
	£140 million

The residual amount of sterling, of which 10 per cent is assumed to go to Pakistan, is calculated as follows:

Total sterling of Reserve Bank (May 28)		£1,160 million
Deduct: Pakistan deposits at Reserve Bank	£ 60 million	
Net payments to United Kingdom	220	
India's No. 1 Account	80	360
Residual to be shared		£800 million

Thus Pakistan receives about £140 million, or 15 per cent, and India about £800 million of the total of about £940 million left to the two Dominions after the settlement of July 15. These are rough estimates based on incomplete and preliminary information.

In determining the total of unblocked and blocked sterling which will continue to stand to the credit of India and Pakistan, the negotiators took into account the following figures:[2]

Capitalized value of pensions payable to retired civil servants by the former Central Government and by provinces	£176 million
Final payment for defense equipment and other assets turned over to India and Pakistan	100
	276
Less: Final payment by United Kingdom under Defence Expenditure Plan	55
Net amount due United Kingdom	£221 million

1/ This issue began in April and ceased at the end of June.

2/ Financial Times, London, July 16, 1948. Mr. Chetty stated in New Delhi that the payment for Central Government pensions was £147.5 million, to purchase a tapering annuity starting at £6.3 million and falling to zero in 60 years. He gave the payment for provincial pensions as £20.5 million; this presumably covers only the provinces now part of India.

At the time the recent negotiations started in London, the India-Pakistan sterling balances had increased by about £25 million over the year-end figure of £1,135 million. Since India's No. 1 Account was less than £60 million at the end of 1947 and is now stated to be £80 million, it is evident that most of the increase was due to a favorable Indian balance of sterling payments on current account. To the extent that India found it necessary to use the dollar drawing rights of £10 million allowed during the first half of 1948, the sterling surplus must have exceeded the increase in sterling assets. This surplus is ascribed partly to the restrictive import policy introduced in July 1947 and partly to seasonally large shipments of export products. It is known that India has continued to have a dollar deficit; during the first half of 1948, India purchased $44 million (£11 million) of dollars from the International Monetary Fund or 44 per cent of her total drawing rights on the Fund for a 12-month period.

Because of the relatively large balance (£80 million) in India's No. 1 Account, it is unlikely that fresh transfers from the No. 2 Account will be needed in the near future. If the maximum transfers of £80 million allowed by the recent agreement are actually made by June 30, 1951, and if only the working balance of £30 million is kept intact, India's drawings on the Bank of England for current transactions will total £130 million or an average of £43 million a year. There are too many imponderables in India's balance of payments to allow any appraisal of the assistance this agreement may give India in its programs of rehabilitation and development. It is clear, however, that the £15 million ceiling on dollar releases for 1948-49 is so low as to force India to seek other sources of dollars, including an expansion of its dollar export sales.

FEDERAL TAX TRENDS IN LATIN AMERICA

Dorothy J. Lichens & Ernest C. Olson

Until the late 'thirties, income taxation played a very subordinate role in the aggregate federal revenues of the Latin American republics. Customs duties and related revenues were among the most important sources of government income. Duties were levied on exports as well as on imports but revenue from the former was particularly unreliable because of its vulnerability to sudden shifts of demand abroad and to crop failures at home. While proceeds from import duties were also subject to wide fluctuations, they were a considerably more stable source of revenue than taxes on exports. Despite these uncertainties, customs duties were favored principally because of the importance of foreign trade to the economies of these countries and the comparative ease of collecting customs duties.

While Latin American tax systems were, and still are, characterized by a preponderance of indirect taxation, direct taxes have not been entirely ignored. In this article the role in total revenues of income taxes and customs proceeds is presented with regard to five Latin American republics: Argentina, Brazil, Chile, Colombia, and Mexico. Income tax laws have been in existence in some of these republics for many years. Nevertheless, except in Colombia, until the advent of the recent war these taxes were only of minor importance in the countries under review. This was so not only because tax rates were low and tax bases narrow but also because evasion was widespread among those assessed.

Under the impetus of the war, **exports** increased enormously while imports were sharply reduced. Incomes rose to heights never before experienced in Latin America. The increased yield from export duties, however, could not offset the sharp decline in receipts from import duties. Governments confronted with the paradox of budget deficits growing out of reduced total customs receipts and increased costs in a period of unparalleled prosperity turned to alternative sources of revenue, particularly the taxation of income. As a result, for the five countries studied income tax receipts began to provide substantial compensation for the loss of customs revenues. The increase in income tax receipts was due not only to higher tax rates, imposition of excess-profits taxes, and presumably to somewhat improved collection techniques, but also to higher prices and increased business activity.

In the following table, income tax receipts and customs revenues are compared, wherever possible, with total tax receipts. Where this has not been possible, it has been necessary to make comparisons with total receipts or ordinary revenues. All the percentages found are in varying degrees influenced by changes in revenues from sources other than customs receipts and income taxes. This is especially true when customs receipts and income taxes have been related to total revenue rather than tax receipts alone. Notwithstanding this limitation, the percentage ratios are useful for comparisons over time although the data are not suited to cross-section comparisons for any one year.

The data presented below generally reveal for each country a steady increase both in the totals and in receipts from income taxes for the years reported. Customs revenues, on the other hand, exhibited some variation, declining during the war and increasing thereafter. During the prewar years customs revenues tended to increase over the 1933 values, reaching a prewar maximum between 1937 and 1941. A downward trend set in during the early years of the war but was reversed in Brazil, Chile, and Mexico in 1943. The turning point was reached by Colombia in 1942 and by Argentina in 1944.

The prewar upward trend in customs receipts appears to have been largely the result of the growing volume of trade. This development was arrested as large traditional overseas sources of imports disappeared, first in Europe and later in the United States. The subsequent downward trend was probably slowed to a considerable extent, if not halted, as a result of increases in prices rather than in quantities of imports, since the resources of the principal overseas suppliers were fully occupied with the prosecution of the war. Moreover, increased receipts from export taxes likewise contributed somewhat to the early reversal of the downward trend.

Since the end of the war, customs duties have increased in importance, and in all of the countries studied have far exceeded their prewar levels. This has been primarily owing to the enormous war-deferred demand for imports of every description, for luxuries as well as for badly needed replacements of worn-out capital equipment. Steadily rising prices for such imports have undoubtedly contributed to this trend.

The importance of customs revenues and income tax receipts in relation to total receipts, total taxes or total ordinary receipts has changed substantially since prewar years. In 1933 income taxes furnished only a small percentage of government revenues while customs duties provided a much larger share. In 1947 in all of the countries under review income taxes formed a larger percentage of the total than customs revenues. During the war the percentage share of customs revenues declined, although the initial and terminal dates differed in the various countries. By 1944-45 the downward trend was arrested, and since the end of the war the percentages for Brazil, Chile, and Mexico have tended to remain at approximately their 1945 levels, while Argentina and Colombia have experienced upward trends.

Income tax receipts during prewar and early war years provided a steadily increasing share of federal revenues. Between 1943 and 1945 a turning point was reached in all five countries studied. During 1946 there was a general tendency for the percentage ratios to remain at or decline slightly from the levels of 1945 but in 1947 the ratios increased over the 1946 level. In Colombia the percentage for 1947 receded slightly from the 1946 level.

From the foregoing it is apparent that revenues from income taxes have grown in importance in the Latin American republics in recent years and may very well continue to furnish substantial shares of government revenues. It is also evident that customs revenues provide smaller shares of total revenue now than before the war but appear to be approaching prewar levels. The absolute magnitudes of such levies have increased substantially. The greater use of income and excess-profit taxes has introduced a measure of progressive taxation in otherwise regressive tax systems. In most of the republics there remains to be explored, however, a source of revenue which has remained virtually untouched, the taxation of land. While urban real estate is usually taxed, other land is either taxed at insignificant rates or not at all. Although opposition to such taxes on the part of influential land owners has heretofore prevented their assessment, it does not necessarily follow that such opposition will be as effective in the future as in the past. The absence of land taxes obstructs full utilization of land through permitting large holdings to be held intact at little cost for speculative purposes, and it is quite possible that more liberal governments may turn to such sources of revenue not only for fiscal purposes but in order to facilitate agricultural development. It is not unlikely that future government policy, increasingly concerned as it is with economic development, may require the taxation of land, both for fiscal and developmental reasons.

Customs Receipts and Income Taxes in Five Latin American Republics

	1933	% of total	1937	% of total	1939	% of total	1941	% of total	1942	% of total	1943	% of total	1944	% of total	1945	% of total	1946	% of total	1947	% of total
Argentina: (In millions of pesos)																				
Total receipts	813	100	1,088	100	1,110	100	1,043	100	1,090	100	1,195	100	1,477	100	1,535	100	2,053	100	3,233	100
Customs receipts	303	37	404	37	321	29	216	21	192	18	127	11	120	8	138	9	291	14	588	18
Income taxes	61	8	111	10	139	13	143	14	206	19	259	22	388	26	381	25	475	23	933	29
Brazil: (In millions of cruzeiros)																				
Total tax receipts	1,608	100	2,351	100	2,655	100	3,119	100	3,348	100	4,227	100	5,631	100	7,080	100	9,367	100	11,667	100
Customs receipts	756	47	1,173	50	1,031	39	1,059	34	674	20	596	14	902	16	1,026	15	1,404	15	1,876	16
Income taxes	123	8	232	10	324	12	537	17	988	30	1,498	35	2,037	36	2,350	33	2,751	29	3,902	33
Chile: (In millions of pesos)																				
Total tax receipts	710	100	1,228	100	1,378	100	1,929	100	2,083	100	2,336	100	2,872	100	3,527	100	4,250	100	5,471	100
Customs receipts	208	29	522	43	573	42	595	31	507	24	448	19	475	17	630	18	784	18	922	17
Income taxes	72	10	148	12	169	12	300	16	446	21	619	27	682	24	832	24	927	22	1,222	22
Colombia: (In millions of pesos)																				
Total ordinary receipts	39.8	100	82.6	100	91.4	100	81.0	100	75.8	100	92.5	100	107.1	100	142.9	100	158.3	100	207.0	100
Customs receipts	22.3	56	34.3	42	40.6	44	30.5	38	18.7	25	21.7	24	26.0	24	41.3	29	49.0	31	65.8	32
Income, property, and excess-profit tax	1.7	4	15.5	19	19.4	21	22.2	27	27.5	36	42.5	46	48.6	45	59.2	41	77.8	49	95.9	46
Mexico: (In millions of pesos)																				
Total receipts	18	100	451	100	529	100	565	100	638	100	942	100	1,121	100	1,167	100	1,701	100	1,709	100
Customs receipts	4	22	104	23	101	19	123	22	103	16	38	9	117	10	135	12	213	13	246	14
Income taxes	1	6	41	9	41	8	57	10	80	13	227	24	221	20	313	27	418	25	491	29

NOTES ON SOVIET GOLD OUTPUT

Alexander Gerschenkron

Information presented in these notes is based on conversations and correspondence with one Mr. P., who, between 1936 and 1942, worked as a political prisoner in the gold fields on the Kolyma River in Northeastern Siberia. The period of six years which has elapsed since the man has left Siberia doubtless detracts somewhat from the value of the information. Some of the facts may have become blurred in his memory, and he has no knowledge of developments after 1942. Nevertheless, his data have been found to be internally consistent, and, in default of other sources of knowledge on Russian gold, they are believed to shed some light on the subject.

The gold mining along the Kolyma River was, and presumably still is, carried out by Dal'stroy which is an agency of the Secret Police (NKVD --now, MVD). All mining proper was performed by prisoners. As a rule, mining was done on the surface of beds of small creeks flowing into the main river. Only in exceptional cases shallow mines of about 40-50 feet in depth were built. No strips were worked unless the gold-bearing sand had a minimum gold content of 5 grams per cubic meter (one Troy ounce = 31.1035 grams). The average gold content, however, was higher, and amounted to about 20 grams per one cubic meter of sand. The soil remained permanently frozen, and as a result the opportunities for mechanization were small. Most of the digging was done by tools. There was only a limited number of steam shovels. Two American excavators which were brought to one of the fields in the region proved ill-suited for the frozen soil and were under-utilized. The winter months were devoted to gold digging. Gold washing was done during 100 summer days only. In 1938, an attempt was made to wash gold in the winter months by channeling steam into the mines so as to unfreeze the soil and to melt the ice, but the losses of gold were staggering (about 60 per cent), and the attempt was abandoned.

Total gold output of the Dal'stroy is said to have developed as follows:

Table I

	Gold Output (In metric tons)	Values in Millions of Dollars (At 35 dollars per oz.)
1936	100	113
1937	140	158
1938	200	226
1939	175	196
1940	150	169
1941	100 ?	113 ?
1942	50 ?	57 ?

The increase in output until 1938 seems to have been caused by the steady growth of the labor force. In 1936, there were about 40,000 workers who were engaged in mining throughout the year. The corresponding figure for 1938 was 110,000 workers. It should be noted that the total number of forced labor in Dal'stroy was about twice as large. Prisoners who did not work in the mines throughout the whole year were engaged in construction, lumbering, and even agriculture; the latter was conducted in hothouses. During the short summer season, however, about 90 per cent of all prisoners were occupied in gold washing. The high output of 1938 was also caused by a change in the working conditions in the mines. While in 1937 the working day lasted for about 9 hours in the winter and 10-12 hours in the summer, it was increased in 1938 to 12 hours in the winter and 14-16 hours in the summer. Finally, output in 1938 was also increased somewhat by the previously mentioned attempt at winter gold washing. The following decline in output in 1939 is essentially explained by two factors: (1) In 1939 working hours were reduced to 10 hours in the winter, and 12-14 hours in the summer. The extremely high mortality among prisoners in 1938 is said to have caused the change in working hours; (2) a considerable portion of the labor force was taken off mining and dispatched some 300 miles west of the Kolyma River to construct a new mining camp. It was, incidentally, this field--the so-called Western Administration of Dal'stroy--that Mr. Wallace visited during his journey to Siberia in 1943. After the outbreak of the war, about 50 per cent of the labor was sent to tin mines and road building. (Dal'stroy maintains a large tin mine about 500 miles west of the mouth of the Kolyma River.) Mr. P. refuses to credit various previously published reports according to which Soviet gold production continued undiminished throughout the war.

With regard to total Russian gold output the following estimates were ventured.

Table II

	Total Gold Output of the U.S.S.R.		Dal'stroy Gold Output as Percentage of Total U.S.S.R. Output
	In metric tons	In millions of dollars (at $35 per oz.)	
1936	180	203	57
1937	200	225	70
1938	250	280	80
1939	200	225	87
1940	180	203	83
1941	120	135	83

For the years 1936-38 the series on total Soviet gold output as given in the preceding table may be compared with the data on Russian gold output in the Federal Reserve Bulletin. The former are consistently higher than the latter. For 1936 the discrepancy is only 9 per cent. It increases very greatly, however, for the two following years, and amounts to 22 per cent in 1937 and 55 per cent in 1938. When confronted with these discrepancies, Mr. P. expressed the opinion that the Federal Reserve data had underestimated the rapid growth of gold output in the Kolyma region.

It is very interesting to note from Tables I and II that the expansion of output by Dal'stroy apparently was accompanied by a fall in the output of gold fields outside the Kolyma region, that is to say in the old Russian fields on the Lena and the Aldan in Siberia and in the Urals. The higher cost of production in the latter fields was given as an explanation for the contraction of output. In this connection some data may be adduced on the cost of production in Dal'stroy. The average cost of output for the whole region developed as follows:

Table III
Cost of Production
(In rubles per 1 gram of fine gold)

	Planned Cost	Actual Cost
1936	20	20-22
1937	20	20-22
1938	18	25
1939	18	27-28
1940	22	30
1941	22	25

The order of magnitude of the preceding figures seems to be consistent with the general trend of cost of production in the years 1928-35; cost data on the period just mentioned were previously obtained by this writer from an American engineer who had worked for some time in the Russian gold fields. The planned reduction of cost in the preceding table between 1937 and 1938 presumably reflects the Soviet expectations in connection with the lengthening of the working day in 1938 which also was accompanied by a drastic reduction of money payments to prisoners. If the preceding figures are correct, these expectations were not fulfilled and the actual cost continued to rise. The fall in actual cost from 30 rubles per gram in 1940 to 25 rubles per gram in 1941 is associated with the effect of additional capital investment in the mines, but the precise nature of this investment has not been clearly explained. Possibly the reduction in the cost of production was the result of increasing returns which accompanied the fall in output.

This writer feels that the cost of production data as given in the preceding confirm the contention that gold is a relatively high cost industry in Russia. This may be illustrated in the following fashion: The price of $35 per ounce corresponds to a price of about $1.125 per gram. Since the actual cost of production in Dal'stroy in 1938 was 25 rubles per gram, a rate of 22.2 rubles to the dollar is implied. Computations made a few years ago revealed that the rate of exchange which was appropriate for converting from current rubles into dollars the value of Russian industrial output of 1938 was about 8 rubles to the dollar. In the Russian concept, "industry" includes output of such major export products as lumber and manganese; it can be confidently stated that for these products whose output in Russia enjoys a comparative advantage in world markets, the appropriate rate of exchange in 1938 was lower than the average rate of 8 rubles to the dollar for the industry as a whole. In other words, per 100 rubles invested in producing lumber or manganese the Russians may have been able to obtain three times as many dollars as compared with 100 rubles invested in producing gold. This differential is very considerable indeed. Even if the relative ease with which gold can be stored, transported, and sold is taken into account, production of gold in Russia would still seem an economically irrational enterprise. It also should be remembered that output in fields other than those of Dal'stroy seems to have been subject to even higher cost of production. It is true that the Russians combine the purpose of gold mining with that of correction, or rather punishment, but the latter purpose still would be achieved if the prisoner labor force were to be engaged in a more efficient occupation, such as lumbering. This writer tends to believe that the continued use of large Russian resources in gold production is not derived from any strict calculus, but is the result of arbitrary decisions based on a series of vague notions, such as fear of a repetition of the disastrous decline in terms of trade which was experienced in the Great Depression; and the repeatedly professed belief that the capitalistic world economy cannot function except on the basis of gold.

Gold production undoubtedly employs a relatively considerable portion of Russian resources. In 1937 the actual cost of output in Dal'stroy was 20-22 rubles per gram. Applying the amount of 20 rubles per gram to the total 1937 gold output of the U.S.S.R. which has been estimated for 1937 at 200 tons (cf. Table II), an amount of 4 billion current rubles is obtained as representing the total cost of gold output in 1937. On the basis of previously made computations, the net income from industry in the same year may be roughly estimated at about 100 billion 1937 rubles. While the figure of 4 billion rubles is indeed a gross figure, the ratio of value added to total cost is undoubtedly very high in gold mining. It may be assumed accordingly that gold output accounted in 1937 for about 3-3.5 per cent of the total net income from industry. This is a very substantial proportion.

The data on output as given by Mr. P. tend to disprove the variously expressed beliefs that the current annual value of gold output in Russia may be in the vicinity of $600 million (16-18 million ounces). Such a contention was recently reiterated in an article of the London Economist (May 29, 1948). Statements of this sort should be taken with great caution. The fact is that in the mid-thirties further expansion or even maintenance of the then existing levels of output, was regarded as an extremely difficult task. American engineers who at that time worked in the Russian gold fields believed that maintenance of output was premised upon:

(1) better supply of food to the mines to assure a sufficiently large labor force;

(2) further increases in mechanization of the mines; and

(3) greater independence in the position of the mine managers.

It seems that in an unbelievably ruthless way the problem was solved by the transfer of more than 80 per cent of gold output to the administration of the Secret Police. The NKVD manager was free from bureaucratic and political pressures. Through the use of political prisoners a sufficiently large labor force was assured while the food supply to the mines not only did not increase, but was allowed to deteriorate. Finally, the plentiful supply of cheap labor rendered large-scale plans of mechanization unnecessary. This ruthlessness apparently bore fruit. If Mr. P. is correct, total Russian gold output in 1938 was in the vicinity of 8 million ounces, whereas American engineers in the 'thirties tended to doubt that gold output would ever pass the 7 million ounce mark. Even so, the fact that despite the brutal disregard for human life in Dal'stroy the cost of production was staggeringly high, in conjunction with reductionsof output outside the Kolyma region, should serve to emphasize the existing limitations and to warn against exaggerated estimates of Soviet gold output.