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SOME THOUGHTS ON IMPORT RESTRICTIONS

J. Herbert Furth

The impending submission to the U. S. Congress of the Havana Charter of the International Trade Organization draws attention again to the problems of import restrictions. This paper discusses firstly, some aspects of import restrictions in general; secondly, some problems of quantitative restrictions and their relationship to tariff duties, currency controls, and pertinent domestic measures; and thirdly, some aspects of discriminatory **practices**.

These discussions will be based upon an economic philosophy embodying neither the dogma of radical collectivism - which is inconsistent with the very purpose of the Charter - nor that of radical individualism - which condemns the slightest deviation from unrestricted free trade; but rather an intermediate position which accepts the individualistic market-price mechanism as the general method, and concedes government interference as an exceptional method, of maximizing national income and equitably distributing its shares.

Import Restrictions in General

Import restrictions in general may aim (a) at curtailing the volume of overall imports mainly for the sake of preserving monetary reserves; or (b) at changing the composition of imports, mainly in order to promote the importation of "necessities" rather than "luxuries" or of producers' rather than consumers' goods; or (c) at reducing imports of specific commodities mainly for the sake of protecting particular domestic industries.

(a) Radical individualists may contend that government interference for the sake of cutting down an overall import surplus is unnecessary because such an import surplus must disappear eventually without interference. Even if prices (and exchange rates) were so inflexible as to prevent the theoretical automatism of the international gold (or paper) standard from restoring equilibrium at an earlier stage, the exhaustion of monetary reserves and foreign credit facilities would make it impossible for merchants in the deficit country to pay for imports beyond the value of exports.

Import restrictions indeed need not curtail imports more severely than a non-interventionist economic policy would, but they curtail them at an earlier stage. The importance of that timing is not based upon the gold-standard mentality which believed that the loss of monetary reserves would threaten the domestic currency system; for the domestic currency system the existence of monetary reserves is at most of psychological significance. Monetary reserves are needed, however, to give a country flexibility in the financing of future imports. A country without reserves and foreign credit facilities has to curtail its imports immediately whenever its exports decline, and is unable to increase imports without a preceding or simultaneous increase in its exports.

A country that avoids a fall in reserves by restricting imports, curtails present imports in order to make possible a future import surplus. Similarly, a country that avoids an increase in foreign indebtedness by restricting imports, curtails present imports in order to make unnecessary a future export surplus. In both cases it decides to forego present in favor of potential future imports.

A free market mechanism does not necessarily provide an optimum solution for the allocation of resources between present and future imports. There is no competitive bidding between those who want to finance present imports and those who prefer to finance future imports; the persons who decide about present imports are not identical with those who at some future time will decide about future imports. Under these circumstances the government probably is as good an agency as any other to weigh the allocation of monetary reserves between the present and the future.

(b) Restrictions for the sake of changing the composition of imports may be useful mainly to countries whose resources have been so severely depleted that the maintenance of a high level of consumption would endanger the subsistence of low-income groups or hamper the capital formation needed for reconstructing the system of production.

(c) Import restrictions for the protection of specific industries may be needed in the case of inflexibilities which make it impossible without protection to shift resources to the most advantageous use ("infant industry" argument) or to continue using resources that are engaged in enterprises unable to compete with foreign industries. Both cases are genuine exceptions to the practical applicability of the theory of comparative advantage.

Quantitative Restrictions

(a) Although import restrictions may be unobjectionable in the instances cited above, this does not mean that quantitative restrictions are necessarily justified. As a rule, tariff duties are less harmful to the working of the market mechanism, mainly because quantitative restrictions tend to bring about discrimination, to create windfall profits and thereby invite corruption, and finally, to ossify the economy.

The last argument is probably the most important. Tariff walls can be scaled by foreign industries that manage to reduce the price or improve the quality of their products. The protected industries, therefore, have to be constantly on guard against the danger of being overtaken by their foreign competitors. Quantitative restrictions, however, make it impossible for foreign industries to overcome the import obstacle by lowering the price or improving the quality of their products. Domestic producers, therefore, have less incentives to make use of advanced methods, and economic progress may be hampered.

Under special circumstances, however, the very reasons that in general make quantitative restrictions more obnoxious than tariffs, may make them preferable. In an emergency an immediate restriction of imports may be needed to avoid the drain of monetary reserves or the annihilation of a particular industry. In that case, the preparation of appropriate tariff schedules may be too time-consuming especially if tariffs have to be enacted by the legislature while other restrictions may be imposed by administrative order (although the latter difficulty could easily be avoided if countries introduced more flexibility into their tariff procedures.) Moreover, the possibility of foreign producers overcoming the tariff barrier by price changes may defeat the purpose of the measure. If the restrictions were of short duration, there would be no real danger of opportunities for economic progress being missed. Quantitative restrictions may therefore be considered an appropriate remedy in such emergency cases, provided that discrimination and windfall profits are successfully avoided.

(b) Quantitative restrictions are as a rule preferable to currency controls because currency controls tend to distort foreign trade more radically. If the controls completely separate the value of domestic from international currency, as in the case of Germany before the recent currency reform, domestic entrepreneurs have no rational guide for allocating resources between production for exports and domestic consumption. Moreover, if the central banks of other countries agree to exchange controlled currencies at arbitrarily fixed rates, exporters and importers in these other countries - who receive and pay the countervalue of exports and imports in their own currency - have no rational guide for allocating their sales

and purchases between countries with controlled and with free currencies. Multiple exchange rates, which in many respects have similar effects to tariffs, require currency controls for their administration and, therefore, involve disadvantages similar to those of other methods of currency restrictions.

Changes in exchange rates probably are preferable to other measures in the case of a chronic depletion of monetary reserves, but would unnecessarily interfere with international finance transactions if applied in temporary emergencies, and would be useless for changing the composition of imports or protecting particular industries.

(c) In some cases restrictions might be avoided by appropriate domestic policies. Such measures, however, would take effect more slowly than import controls, and could be abolished less easily once the need for restrictions has passed.

The overall volume of imports could be reduced by curtailing domestic incomes, e.g., by fiscal or monetary measures. Such a policy may also bring about an increase in exports, thus attacking an import surplus from two sides. It may, however, lead to a deflationary spiral and thus replace the foreign by an even more harmful domestic disequilibrium.

If the object of restrictions is not the overall reduction but a change in the composition of imports, other domestic measures might be applied. If the importation of "luxuries" is to be curtailed in favor of the purchase of "necessities", the government could reduce the inequality of income and wealth. Such measures, by influencing domestic consumption as well as imports, would strengthen the tendency toward shifting resources from "luxuries" to "necessities". Adequate measures of this kind, however, would ordinarily raise extremely difficult and controversial problems of social policy, and might be harmful to domestic entrepreneurial activity. If imports of consumer goods are to be curtailed in favor of the purchase of raw materials and capital equipment, the government could lower the propensity to consume, e.g., by special taxes on consumption and greater inducements to save. Such measures, however, might lead to a state of expectations unfavorable to capital formation and investment.

Particular industries can be protected by domestic measures such as subsidies. This method may be preferable whenever protection is expected to be gradually abolished, since subsidies demonstrate clearly the burden of the measure upon the economy at large and are less likely to be continued without compelling reason than more hidden encumbrances. In temporary emergencies, however, the payment of large subsidies may raise difficult questions of fiscal policy. Hence, in all these cases quantitative restrictions would probably endanger the functioning of the economy less than domestic measures if used solely in temporary emergencies.

Discriminatory Practices

Discrimination may serve to maximize real income of all participating nations (a) if it avoids a mutual contraction of foreign trade, and (b) if it counteracts the effects of exchange controls.

(a) The first case, which is similar to that of avoiding a deflationary spiral in a contracting domestic economy, has been widely discussed in connection with the recent work of Professor Ragnar Frisch.

The essence of Professor Frisch's theory^{1/} may be simplified in the following example: Assume that country A exports 12 units to country B without importing anything from that country, and that country C imports from and exports to both A and B 120 units each, demand (and supply) elasticities for the transactions being equal in all countries. Assume further that country B has to eliminate its import surplus of 12 without being able to expand its exports. International trade would contract least if B eliminated all imports from A. Without discrimination, however, B will instead reduce imports from A by about 1 and imports from C by about 11. Assume that country C also has to avoid an import surplus without being able to expand exports. International trade would contract least if country C reduced its imports from A by about 11. Without discrimination, however, C will instead reduce imports from A and B by about $5\frac{1}{2}$ each. This will force B to reduce its imports further; equilibrium will eventually be restored only when B has reduced its imports from A by 2 and its imports from C by 20 while C has reduced its imports from A and B by 10 each. Instead of a reduction of total foreign trade by 12, there will be one by 42 units.

This does not mean, however, that economic conditions in all three countries would be worse than if B had merely eliminated its imports from A. According to the basic theorem of utility analysis, B may in fact be better off by eliminating extra-marginal imports of 20 from C rather than intra-marginal imports of 10 from A: The average utility of each intra-marginal unit may well be twice as great as that of each extra-marginal unit. Country A's position will be neither better nor worse: in both cases it loses its export surplus of 12 but none of its imports. Country C, however, will be worse off: if country B had eliminated only its imports from A, country C would not have been touched at all, while actually it loses imports and exports of 20 each.

As a net result country B may be better and country C will be worse off than they would have been if the contraction of foreign trade had been kept at a minimum. With the present tools of economic analysis it is impossible to decide whether the possible advantage accruing to country B will be larger than, equal to, or smaller than, the disadvantage suffered by country C.

^{1/} See Randall Hinshaw's papers in this Review, May 18, and September 7, 1948

One thing, however, is certain: both countries B and C would be better off if the mutual contraction in their foreign trade by 10 units had not taken place. This mutual contraction may be called the Frisch-effect. If countries B and C reached an agreement avoiding that mutual contraction, the international economic equilibrium would not be disturbed, country A would not be affected, and both countries B and C would profit.

The Frisch-effect would also appear if not the deficit countries but the surplus countries would attempt to restore equilibrium in their balance of payments; namely, by contracting their exports. In our example, this would lead to a mutual contraction of trade between A and C rather than between B and C.

The elimination of the Frisch-effect in our example would not need a complicated system of international trade direction. It would suffice that the countries that have to restrict imports (or exports) avoid a contraction in relation to any other country insofar as that other country would have to shift the resulting foreign trade deficit back to the original country.

In the case of more than three countries the situation would become more complicated: secondary and tertiary shifts in the reduction of imports (or exports) also would fall in part upon countries able to absorb them because of their good international financial position, and in part upon countries that would have to retaliate because of their tight position. Moreover, demand and supply elasticities probably would show substantial variations. Forecasting the results of the final distribution of the burden of trade contractions would thereby become extremely difficult and uncertain. Finally, the condition that an increase in exports from the deficit countries (or in imports into the surplus countries) be treated as impossible, severely restricts the practical application of the analysis.

(b) The second case for discrimination is connected with the inconvertibility of currencies subject to exchange controls.^{1/} The limited acceptability of inconvertible currencies tends to hamper exports from, and to spur imports into countries using currency controls; especially if the central banks of free-currency countries agree to exchange the controlled currencies at arbitrarily fixed rates for the payment of exports and imports. In that case, these central banks tend to accumulate growing balances of currencies that are useless except for direct expenditures within the countries of issue. Free-currency countries may therefore benefit from measures aimed at avoiding such an accumulation by discriminating against exports to, or in favor of imports from, countries using inconvertible currencies. It would indeed be more in line with the principles of a free economy if central banks declined to trade in foreign currencies at arbitrarily fixed rates; but international obligations, and especially the policy of the International Monetary Fund, may make such a trade inevitable. In that case, discriminatory measures may restore the flow of imports and exports to the pattern that would obtain in a free economy at equilibrium exchange rates.

^{1/} See Albert O. Hirschman's paper in this Review, September 7, 1948

RECENT DEVELOPMENTS IN THE FRENCH
FOREIGN EXCHANGE SYSTEM

Robert Solomon

The recent alteration in the French foreign exchange system, which went into effect on October 16, 1948, may be characterized as a partial unification of that system. As such it has been welcomed by the International Monetary Fund as "a significant step toward restoring a unitary exchange system for France".

Essentially the modification results in a unitary system of exchange rates for commercial transactions; i.e., a system of "orderly cross rates" has been established for merchandise trade, freight and insurance. For tourist trade and financial transfers the higher free market rate continues to apply to the three so-called hard currencies, the dollar, escudo and Swiss franc.

The System before October

It will be remembered^{1/} that on January 25, 1948, the French Government instituted a general devaluation of the franc, raising the official rate for all currencies to the equivalent of 214 francs for the dollar from the previous rate of 119 francs. At the same time a "free" market for dollars and escudos was created, to be supplied by one-half the proceeds from merchandise exports and the entire proceeds of invisible exports and repatriation or import of capital in these two currencies. The demand in the "free" market was to arise from non-basic imports including invisibles. Access to the "free" market for the purchase of foreign exchange was limited, however, to holders of import licenses from the Exchange Control Office.

The system as established at that time involved several exchange rates:

1. The official rate for all transactions in currencies other than the dollar and escudo and for imports of basic commodities from the latter areas (fuels, grains, fats and fertilizers) - 214 francs per dollar.
2. An export rate applicable to dollar and escudo areas equivalent to the average of the "free" market rate and the official rate - 262 francs per dollar.
3. The "free" market rate for licensed non-basic imports, including invisibles, and for tourist receipts, other invisibles and capital receipts in dollars and escudos - 310 francs per dollar. ^{2/}

^{1/} See this Review, February 10, 1948

^{2/} Since the repatriator of capital was to be given amnesty for previous evasion of regulations, he was charged a 25 per cent tax on the proceeds of repatriation, thus reducing the effective rate for such transactions in dollars and escudos to 233 francs per dollar.

4. An exception was made for certain basic commodities (wheat, petroleum and cotton) imported from the United States under the Interim Aid Program. Up to July 1 these goods were paid for by importers at the pre-devaluation rate of 119 francs per dollar.

The demand on the "free" market was not really free, inasmuch as it was regulated by the policy of the Exchange Control Office in issuing import licenses. A parallel or black market therefore continued to function after the establishment of the "free" market. The black market rate for dollars rose from 315 francs at the end of January 1948 to 440 francs at the end of September.

Beginning February 13, 1948, the system was modified by a decree permitting "franco valuta" imports; i.e., imports which do not require foreign exchange from the Exchange Control Office but which are financed by repatriation or imports of capital, tourist receipts, etc. ^{1/} This system was abandoned in April, however because it appeared that a large portion of the imports without license were being sold in the black market, resulting in higher black market prices for dollars which were in turn used to finance "franco valuta" imports.

On April 1, at the time the Swiss franc was admitted to the "free" market along with the dollar and escudo, the system was altered again so as to lower the import rate for non-basic commodities from the "free" market rate to the middle rate; that is, after April 1, importers of non-basic commodities from the three hard currency areas could purchase half the foreign exchange at the official rate from the Exchange Stabilization Fund and half on the "free" market. As a result of this step all convertible currency trade transactions, with the exception of basic imports which continued to enjoy the preferential official rate of 214 francs, took place at the average rate - at that time about 260 francs per dollar.

Except for the increase in the rate for Interim Aid and ECA imports from 119 to 214 francs on July 1, the system remained unchanged from April until the recent unification on October 16.

To summarize, the system consisted of (1) an official rate, equivalent to 214 francs per dollar, for all transactions in inconvertible currencies and for imports of basic commodities for convertible currencies; (2) an average rate, equivalent to about 260 francs per dollar, for all other trade transactions in convertible currencies; (3) a "free" rate, equivalent to about 306 francs per dollar in September, for all invisible and capital transactions in convertible currencies. ^{2/}

^{1/} See this Review, March 23, 1948

^{2/} See footnote 2.

Under this system exports to hard currency areas received a premium which was intended to make those markets more attractive to French exporters and also to offset the pull of relatively higher prices in soft currency countries. Conversely, the higher rate for hard currency imports was intended to increase imports from soft currency areas at the expense of those that had to be paid for in convertible currencies. The use of the official rate for basic imports was essentially a subsidy to keep down domestic prices.

The higher "free" market rate for dollars, escudos, and Swiss francs would, it was hoped, result in increased tourist receipts and repatriation and import of capital the proceeds of which would flow into legal commercial channels rather than the black market.

The New System of Exchange Rates

The system which was put into effect last month has abolished the discriminatory features, with respect to both currencies and commodities, of the French foreign exchange regime insofar as it concerns trade transactions (including now freight and insurance). Under the new system, such transactions in all currencies are effected at exchange rates equivalent to the average rate for the dollar, which is determined as previously, by the average of the official and "free" market rates. Along with this change, the preferential official rate for basic commodity imports from hard-currency areas has been eliminated, with the result that all merchandise imports (as well as freight and insurance payments) from these areas are financed at the same rate; namely, the average rate.

The "free" market continues to operate as it did under the former system. However, the exchange rates for inconvertible currencies will now be fixed each month by the French authorities on the basis of (1) the average of the official (214 francs) and "free" market rates for the dollar during the seven working days preceding the 28th of the last month and (2) the official exchange rate of each inconvertible currency with the dollar. In other words, the exchange rates for all currencies other than the dollar, escudo, and Swiss franc will be fixed monthly so as to remain equivalent, in terms of par values, to the average rate for the dollar. In addition, there is a provision for altering these exchange rates before the end of a month if the "free" market rate for the dollar varies by five per cent or more from the average of the "free" market rates taken as a base for that month. Also, in order to prevent too frequent changes in fixed rates from month to month, they may be changed only if the calculation described above results in rates which differ from the preceding month's rates by more than two per cent.

The change in the system of exchange rates involves a depreciation in two respects: (1) For transactions with soft-currency countries the exchange rate has been raised from the equivalent of 214 francs per dollar to the average dollar rate - now about 264 francs per dollar^{1/}; (2) For basic imports from the three

^{1/} The change does not imply a depreciation vis-a-vis Italy, since as from March 1948 the franc-lira rate has been fixed each month at a level corresponding to the ratio of the average lira rate for the dollar in Rome and the average franc rate for the dollar in Paris.

hard-currency areas the rate has been raised from the equivalent of 214 francs to the average rate.

Observations on the New System

1. The depreciation with respect to all currencies except the dollar, escudo, and Swiss franc reflects the growing deterioration in past months in the French trade balance with other European countries and the sterling area. France has become the heaviest net debtor in Europe. It is the hope of the French authorities to improve this situation, at the same time removing one of the barriers to increased intra-European trade.

2. While the preferential rate for dollar, escudo, and Swiss franc exports has been abandoned, the preferential rate (the "free" rate) for tourist receipts and capital imports remains in force. Thus the effort to attract such receipts both from abroad and from the black market in France by this device coupled with the free gold market continues as an important policy of the French Government.

3. The fixed official exchange rate (214 francs per dollar and its equivalent in other currencies) continues in effect as the rate at which the Exchange Stabilization Fund buys and sells one-half the foreign exchange involved in trade transactions in convertible currencies and is also used, together with the "free" dollar rate, to determine the monthly exchange rates for other currencies. Nevertheless, it may be said that France, by pegging all rates to the "free" market dollar rate, has instituted what might be called a "controlled floating rate" which can be permitted to depreciate with respect to all currencies by the simple device of increasing the volume of dollar import licenses issued^{1/}, thus raising the average exchange rate for the dollar on which all soft-currency rates are based. Apparently, it is felt that in the absence of internal stabilization it is preferable to be able gradually to lower the parity of the franc as it becomes necessary, without the psychological effect of a formal depreciation.

4. It should be noted that the depreciation of the franc with respect to inconvertible currencies (23 per cent) is less than the increase in the French wholesale industrial price index from the depreciation of last January to September (29 per cent). In fact the price increases announced during October and early November alone will probably come close to offsetting the extent of the depreciation against inconvertible currencies. Moreover, the increased franc prices for basic imports from hard-currency areas and for all imports from other areas will undoubtedly have further repercussions on the level of French prices.

Thus the primary problem of the French economy remains that of halting the inflation while allowing the essential task of reconstruction and reequipment to continue in directions which will permit France to become self-sustaining when ERP assistance comes to an end.

^{1/} In addition the exchange authorities can themselves go into the free market and purchase dollars for the purpose of increasing the franc rate of the dollar.

GOLD HOARDING - AN OVER-ALL ESTIMATE

Mary Maroney

In recent years there have been frequent indications of interest in the amount of gold hoarded throughout the world. As political and economic dislocation has pressed upon the supply of goods and the financial resources of individuals and governments, private trade in the metal has appeared to flourish in many areas, as evidenced by black markets and soaring quotations. In conditions as complex as those with which the world is now faced, it may be naive to consider such gold capable of mobilization, but the possibility is frequently discussed and therefore needs to be considered. Hence, it may be useful to summarize the statistical information that can be brought to bear on estimating the quantity of hoarded gold.

The available information relates primarily to additions to the gold supply and changes in monetary reserves. Some years ago the Board published a study of such material for the period January 1931 to June 1937.^{1/} The results appeared to tally in a general way with the known trends of financial markets. Figures are now presented to bring such analysis down to date. For these later years, as for the earlier ones, the source materials have important deficiencies. The results, however, are interesting, because they are at variance with some current notions of the extent of gold hoarding.

As shown in Table I below, it is indicated that the net accretion to the world's gold hoards for the whole period 1931-1947 was probably small (e.g. around \$200 million) with net dishoarding of around \$1 billion before 1940 counter balanced by net hoarding of around \$1 billion during the years 1944-1947. The figures also suggest that on balance gold was dishoarded in the East and hoarded in the West, the net amount of gold added to hoards outside the Far East having been of the order of \$1 - 1.5 billions. There appear to have been net additions to hoards in both the East and West in the years 1944 to 1947, of substantial proportions considering the magnitude of the movements indicated over the whole period. Further details of the over-all hoarding estimates appear in Table II attached to this article. Table IV gives details of the estimates of hoarding in the Orient; it is by subtracting these estimates from the over-all figures that the estimates for the rest of the world were obtained.

TABLE I
CHANGES IN HOARDED GOLD
(Estimates in billions of dollars)

	<u>World Total</u>	<u>Europe, Middle East, Western Hemisphere</u>	<u>India, Far East</u>
1931 - Sept. 1936	+ .2	+ 1.8	- 1.5
Oct. 1936 - 1940	-1.4	- 1.0	- .4
1941 - 1943	+ .1	- .1	+ .2
1944 - 1947	<u>+1.3</u>	<u>+ .8</u>	<u>+ .5</u>
Total, 1931 - 1947	+ .2	+ 1.4	- 1.3

^{1/} Federal Reserve Bulletin, August 1937, page 703.

An analysis of this sort is of course only a year to year measurement which does not reflect the total accumulation in hoards at any one time. There are no data which bear directly on this total accumulation in the world or in its constituent regions or countries. What we are trying to do, therefore, is to use a relatively simple method of measuring the trend in hoarding by means of factors indicating whether new gold is going entirely into official channels. The magnitude of the movements shown to be outside these channels should provide, over a period, a rough indication of accretions to private stocks.

Reservations as to Material

The reliability of the results is affected by the fact that they are highly sensitive to errors in the basic components of the analysis. One of the most important of the factors considered is the amount of gold in monetary stocks. This is not known very exactly for many countries, and must be estimated. The quality of the estimates is apparently better for the later years than for the earlier ones because more information is available. In this connection, however, it is to be noted that the quantity of the indicated hoarding movements is less for the later than for the earlier (or pre-war) years. Whether there is more than coincidence in this alignment of the figures cannot be determined. It should also be noted that figures for any single year may be influenced by random short-term factors (such as amounts of gold in transit over a year-end), so that the figures for individual years may be less significant than those for longer periods.

The absence of satisfactory data for certain areas of the world is also a factor of great importance in the results. Reports on movements in considerable portions of the East are not available, and it has always been a region in which large stocks of the metal were held in private hands as distinct from official hands.

Russia has been excluded from the analysis because data on its gold production and monetary reserves are not reported and there is the widest possible variation in concepts of what they might be. Some economists have suggested that that country's production of gold is very large and is being disposed of on world free markets. What we know of the course of prices on free markets seems to refute this theory, but the uncertainty creates a serious question as to the general reliability of the results.

A specific point at which the uncertainty over Russia affects the returns shown concerns the \$522 million reserves of Spain which the Bank of Spain alleges was sent to Russia in 1938. This amount is not included in the Spanish reserves after 1937, and is assumed here to have been in Russian reserves after that date. The total indicated for net dishoarding from 1931 to 1939 is \$780 million. If it were assumed that this \$522 million from Spain's reserves did not go to Russia but was dissipated elsewhere in private stocks, the estimated net dishoarding would be reduced from \$780 to \$260 millions.

Lack of Data on Industrial Gold

Again, with respect to the general character of the results, the lack

of reliable data on industrial gold needs to be noted. For recent years, the United States is the only country for which there are reports of gold used for manufacture and gold returned as scrap. In the Board's pre-war study, a net return from industry was of major importance in some years for which partial returns were available. From 1935 on, however, the lack of data was responsible for the assumption that industrial needs outside the United States were about equal to the scrap return so that there was no net drain for manufacture. However, this assumption would appear to be open to question, especially for the more recent years when hoarding has frequently taken a manufactured form.

Some estimates on net industrial consumption have been published by the Union Corporation of Johannesburg. They do not show their method of derivation and appear high. The United States Mint has also collected some data on gross consumption, but these must be on the low side because of gaps in reporting. These series are shown in Table V. In this situation, we have adopted the alternative of compiling, for periods after October 1936, combined figures on gold going into hoarding and into industrial consumption outside the United States.

This does not necessarily imply a view that all increased industrial use is suspect of diversion. In some countries, for example the few neutrals, there may have been an increase in genuine industrial demand: i.e., jewelry, dentistry, chemicals, etc. Some other countries, however, have also reported the export of gold manufactured into statuettes, undoubtedly in response to a demand for the metal which has arisen from abnormal conditions. Thus the always thin line of demarcation between industrial and hoarding gold has become even more tenuous. It seems permissible therefore to consider them part and parcel of the same aspect of the problem.

If the Union Corporation figures on industrial consumption were to be accepted at their face value, they would indicate that the estimated flow of gold, into hoarding (and industrial consumption) in 1941 - 1943, shown in Table I as \$0.1 billion, went entirely into industrial consumption. They would also indicate that out of the estimated flow of \$1.3 billion in these directions in the years 1944 - 1947, about \$0.6 billion worth went into industrial consumption.

Conclusions

Generally, therefore, we have estimates which must be regarded with caution. In summary, they show that in the years 1931 to September 1936, there was a net hoarding in all the world of about \$0.2 billion. Between late 1936 and the end of 1940 they indicate dishoarding, almost entirely for the benefit of monetary stocks, of around \$1.4 billion. Beginning in 1944, they show again a substantial hoarding, amounting in the four years through 1947, to about \$1.3 billion. The interim war years, 1941 - 1943, show movements so small as to discourage interpretation.

Outstanding in the results is the indication that hoarding and dishoarding in the years in which these movements were most extreme have probably involved no more than \$350 million a year, this amount including, by definition, industrial consumption outside the U. S. This amount is about 40 per cent of

mine output at its present low level, or about 25 per cent of it in terms of the high production years during the past decade. Measurement in terms of current monetary stock is not significant inasmuch as it is impossible to show a breakdown by individual countries. Over the whole period surveyed, comprising 17 years from 1931 through 1947, there was apparently a net movement into hoards of only around \$0.2 billion.

Hoarding in the East and West.

In the Board's earlier study, it was noted that some Eastern countries, particularly India, are large net traders in gold and report receipts and shipments. From these latter, along with the estimates of disposition of world stocks, the movements in the West were calculated as a residual. The extension of the study through 1947 continues this practice, because there is no direct index of the situation in the West, particularly Europe, where it is of special interest.

It must be remembered that the division between East and West is subject to large errors due to unrecorded smuggling of gold into or out of the Orient. There is no reason to believe that such smuggling was on a large enough scale to invalidate seriously our regional estimates in Table I, at least for the period before 1945. There was probably much more smuggling during 1945 - 1947. However, from the extremely high prices that were quoted for gold in Far Eastern markets during this period, and from such other fragmentary data as are available, it seems very likely that the net balance of smuggling during this period was into (rather than out of) the Orient. Thus our figures for hoarding in the Western world during this period are likely to be above rather than below the true figures.

The pattern of this regional breakdown, as shown in Table I, may be described briefly as follows:

In the early thirties, a period of great instability in European currencies, as well as low commodity prices, the East is shown to have been dishoarding and Europe to have been hoarding. From 1936 on, as exchange regulations tightened in support of the new parities, and the refugee movement took shape from central to western Europe, dishoarding in Europe became important while dishoarding in the East fell.

Special circumstances appear to explain the substantial dishoarding in the West indicated for 1940. Known exchange resources were collected for war purposes by various governments, from their own nationals, or later by the Nazis from holders in occupied countries. In addition, many capitalists in Europe whose resources were not mobilized must have preferred to sell their gold holdings in order to shift into overseas assets that seemed to afford greater security from risks of the war.

Results for the years 1941, 1942, and 1943 show revival of hoarding in the East, and some Western dishoarding, the former development apparently relating to sales by the United States and the United Kingdom to India to obtain local funds for military purposes. That no other factors appear of consequence, however, may reflect merely the fact that the coverage of the figures is limited.

In the later years through 1947, both the East and West are shown hoarding, with the figures suggesting a striking parallelism in the quantity of the movement.

Over the whole period, the East is represented by a net dishoarding of \$1.3 billion, and the West by a net hoarding of \$1.4 billion. Considering that seventeen years of acute unsettlement are covered, the amounts are small. The net dishoarding by the East is the result of the outward movement of the thirties which apparently was never compensated although the tide of movements later turned inward. As has been mentioned, the methodology of the study makes the Eastern movement the criterion of the movement in the West, so that the latter can never be viewed as a phenomenon independently established.

No attempt is made here to estimate the volume of gold hoarding by individual countries. Unfortunately, there is almost no data on the situation by countries, and what fragments are available (of doubtful derivation) are not at all reconcilable with the general magnitude of these results. Even if such reports were available, their value would in most cases be very doubtful because of large-scale smuggling across national boundaries.

Table II

PRELIMINARY ESTIMATES OF SOURCES AND USES OF GOLD, 1931-1947
(In millions of dollars at \$35 an ounce - round figures)

Period	Sources of gold			Estimated uses of gold			
	Estimated mine output	Estimated other sources	Total	Estimated increase in monetary stocks (excl. U.S.S.R.)	Industrial consumption	Total	Estimated increase in private holdings
	(1)	(2)	(3=1+2)	(4)	(5)	(6=4+5)	(7=3-6)
January 1, 1931-September 30, 1936	4,715	1,355	6,070	5,345	500	5,845	225
October 1, 1936-December 31, 1939	3,660	50	3,710	4,600	115	4,715	-1,005
Total (nine years)	8,375	1,405	9,780	9,945	615	10,560	-780
1940	1,310	85	1,395	1,735	40	1,775	-385
1941	1,265	75	1,340	1,230	70	1,300	45
1942	1,130	60	1,190	1,070	75	1,145	45
1943	830	10	890	830	95	925	-35
1944	795	25	820	385	125	510	310
1945	745	30	775	355	140	495	280
1946	760	90	850	295	200	495	355
1947	785	75	860	450	100	550	310
Total (eight years)	7,670	450	8,120	6,350	845	7,195	930
Grand Total (17 years)	16,045	1,860	17,905	16,295	1,460	17,755	150

Notes: Column 1 - 1931-1937, estimates of U.S. Mint; 1938-1946, estimates of U.S. Bureau of Mines; 1947, our estimate.

Column 2 - See Table III for breakdown.

Column 5 - Beginning October 1936, U.S. only: industrial consumption in other countries after October 1936 is covered in column 7.

Column 7 - See Table IV for breakdown.

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 Table III
 ESTIMATED "OTHER" SOURCES OF GOLD
 (In millions of dollars at \$35 a fine ounce - round figures)

Period	Net receipts from U.S.S.R. (1)	Return of coin			Return of scrap			Total (8=1+4+7)
		United States (2)	Other (3)	Total (4=2+3)	United States (5)	Other (6)	Total (7=5+6)	
January 1, 1931-September 30, 1936	375	150	100	250	285	450	735	1,355
October 1, 1936-December 31, 1939	-140	10	70	80	105	(see note)	105	50
Total (nine years)	235	160	170	330	390	450	840	1,405
1940	55				30		30	85
1941	45				30		30	75
1942	30	Not available			30		30	60
1943	-				10		10	10
1944	-				25		25	25
1945	-				30		30	30
1946	45				45		45	90
1947	30				50		50	75
Total (eight years)	200				250		250	450
Grand Total (17 years)	435	160	170	330	640	450	1,090	1,860

Column 1 - Figures include U.S. receipts and incomplete data on receipts by other countries. Estimated outflow from U.S.S.R. has been adjusted in 1938 to include receipt by U.S.S.R. of \$522 million of Spanish gold alleged by Bank of Spain to have been sent to the U.S.S.R. (see text page 12).

Columns 2 and 3 - No data available after 1939. Receipts believed negligible, except for amounts mobilized in 1940 for which no estimates are available.

Column 6 - No data available after 1936. Return of scrap after 1936 is covered in the hoarding estimate (see text page 12).

Table IV
ESTIMATED CHANGES IN PRIVATE GOLD HOLDINGS

(In millions of dollars at \$35 a fine ounce - round figures)

Period	Estimated increase in total private holdings (1)	In Oriental holdings					Total (6=2+3+4+5)	In other private holdings (7=1-6)
		India (2)	China (3)	Egypt and Straits (4)	Sales of gold coin in Mexico (5)			
January 1, 1951-September 30, 1956	225	-1,175	-245	-35	-	-1,530	1,755	
October 1, 1956-December 31, 1959	-1,005	-300	-35	-10	-	-345	-660	
Total (nine years)	-780	-1,475	-280	-105	-	-1,975	1,095	
1940	-335	-25	-15	-	-	-40	-345	
1941	45	5	5	-	10	20	25	
1942	45	10	10	-	10	30	15	
1943	-35	130	10	-	10	145	-180	
1944	310	120	25	-	20	165	145	
1945	280	35	60	-	30	125	155	
1946	355	5	100	-	20	125	230	
1947	310	25	20	-	-	45	265	
Total (eight years)	930	300	220	-	95	615	315	
Grand Total (17 years)	150	-1,175	-60	-105	95	-1,260	1,410	

Notes:

Column 1 - From Table II, column 7.

Columns 2 and 3 - Estimated on basis of gold movements, production, and change in official reserves. In the case of China gold movements to and from China as reported by other countries as well as by China were used.

Column 4 - Imports from these areas as reported by other countries.

Column 5 - Sales of gold coin as reported by Banco de Mexico. Included on assumption that exports to Orient were equal to such sales. Figures for period 1941-1945 are prorated.

Column 7 - Includes net industrial consumption after October 1956 (see text page 12).

Table V

INDUSTRIAL CONSUMPTION ESTIMATES

(In millions of dollars)

Year	United States Mint (gross consumption)			Union Corporation (net consumption) ^{2/}		
	Total	United States	Other ^{1/}	Total	United States (Mint figures)	Other
1937	81	40	41	n.a.	4	n.a.
1938	58	30	28	n.a.	-1	n.a.
1939	72	39	33	n.a.	8	n.a.
1940	50	41	9	35	13	22
1941	80	68	12	70	37	33
1942	89	76	13	95	48	47
1943	111	97	14	154	86	68
1944	152	123	29	189	97	92
1945	189	140	49	221	109	112
1946	n.a.	200	n.a.	273	154	119
1947	n.a.	98	n.a.	301	49	252

n.a. Not available.

^{1/} These estimates do not cover the whole world outside the United States, but only those countries for which suitable data were available for a particular year.

^{2/} New material consumed less return of scrap-gold.