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Currency Appreciation as an
Anti-Inflationary Device
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CURRENCY APPRECIATION AS AN ANTI-INFLATIONARY DEVICE

Randall Hinshaw

The spectacular increase in the dollar prices of primary products since the outbreak of the Korean conflict has created serious difficulties both for the countries which import such products and for the countries which export them. One result has been a growing body of opinion in favor of currency appreciation in such widely varying countries as Australia, Ceylon, India, the United Kingdom, and the countries of continental Western Europe. While such sentiment has been mainly confined to the press rather than official circles, an increasing amount of support has lately been forthcoming from reputable economists. Roy Harrod, the British economist, has recently come out strongly in favor of sterling appreciation, and a recent staff report of the United Nations Economic Commission for Europe recommends currency appreciation for the countries of Western Europe. 1/

In greater or less degree, the countries in which a case for appreciation has been made are all confronted with renewed inflationary pressures arising directly or indirectly from the general rearmament effort, and their interest in appreciation is primarily as an anti-inflationary measure. In the group are included countries whose external positions are strong as well as countries where the external position remains weak; countries whose terms of trade have sharply deteriorated since 1949 as well as countries whose terms of trade have dramatically improved. While differing in various ways from one another, these countries in most cases still retain direct restrictions on trade and payments -- particularly on payments to the dollar area. This fact is of special significance, since it is with respect to the dollar that such countries are considering the case for appreciation.

While the prevention or restraining of inflation is the primary objection sought by those who advocate appreciation at the present time, there appear to be wide differences of opinion as to precisely how appreciation exerts an anti-inflationary influence. In the minds of some advocates, such as Roy Harrod, the important consideration is the terms of trade; appreciation, in Harrod's view, would have an anti-inflationary effect in the case of the United Kingdom by making it possible to secure a larger volume of imports for a given volume of British exports. But appreciation is also advocated in countries whose terms of trade have sharply improved since 1949, and for reasons closely associated with this improvement. For example, in Australia, where the terms of trade have improved by more than 100 per cent since August 1949, it is maintained that present inflationary difficulties are mainly the result of the very sharp rise in export prices, which has inflated the incomes of exporters to such an extent as to create a generally inflationary situation. It is contended that appreciation of the Australian pound, by driving down export prices and incomes, would have a strong anti-inflationary effect, even if the effect on Australian terms of trade were somewhat adverse.

A similar lack of agreement characterizes the attitude of advocates of appreciation toward the significance of the external position. According to one group, appreciation exerts an anti-inflationary effect by

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1/ Roy Harrod, "Revaluation of Sterling," Financial Times, April 25, 1951; preliminary edition of ECE Economic Survey of Europe in 1950, Chapter 5.

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Appreciation as a remedy for externally induced inflation

It is generally agreed that appreciation is an appropriate corrective measure in cases where the external position is characterized by a persistent excess of receipts over payments, provided this situation is not simply the result of direct controls on current payments. An excess of receipts over payments is not, of course, synonymous with a surplus on current account, since a current-account surplus can be offset by an outflow of capital (or gifts) which may keep over-all receipts and payments in balance. Under such conditions, the export surplus of goods and services is not necessarily inflationary, although the process whereby the export surplus was originally developed may have been. 1/ Where, however, a current-account surplus is not offset by an outflow of capital or gifts -- or where a current-account deficit is more than counterbalanced by an inflow of capital or of assistance from abroad -- the resulting excess of receipts over payments, unless offset by internal influences, has an actively inflationary effect on the money supply, the internal price level, and the level of money incomes.

In the absence of direct controls on payments, appreciation can normally be depended upon to correct such a situation both by reducing foreign-exchange receipts and by expanding payments. Not only is further inflation stopped by the restoration of external balance, but, in addition, there is a deflationary effect on the incomes of exporters and on the price level (in local currency) of internationally traded goods (both imports and exports). This fall in the price level of international goods is not simply a temporary by-product of appreciation, but is a lasting effect because of the increased availability in the home market of both export and import goods.

In the type of case just described, currency appreciation is normally an effective anti-inflationary measure, and few would deny the appropriateness of the procedure under such conditions. With few, if any exceptions, however, the countries currently contemplating appreciation do not fall into this category. In general, those countries which are confronted with an over-all surplus in the balance of payments also retain direct controls on payments, while some countries for which appreciation is recommended are not even faced with a surplus. Thus two questions inevitably rise, namely: (1) In cases where a balance-of-payments surplus is at least partly due to direct restrictions on current payments, what is the case for appreciation, as opposed to relaxation of restrictions, as an anti-inflationary measure? and (2) What kind of a case can be made for appreciation as an anti-inflationary device in situations where the external position is not characterized by an excess of receipts over payments? These questions will be considered in the two succeeding sections.

1/ Even the development of an export surplus is not necessarily inflationary. For example, if an increase in United States assistance to foreign countries is matched by an increase in taxation, the increase in the export surplus would not necessarily have inflationary consequences.

Appreciation versus relaxation of restrictions

Where a country is confronted with an over-all surplus in its balance of payments, but at the same time has direct restrictions on payments, it can move toward a position of external balance either by appreciating its currency or by relaxing its restrictions. To consider the two extreme cases, if a country with direct controls on all payments appreciates its currency without relaxing restrictions, it will move toward balance by reducing foreign-exchange receipts, without affecting payments. If, on the other hand, the country relaxes restrictions without appreciating its currency, it will move toward balance by increasing its foreign-exchange payments, without affecting receipts.

Either procedure, by reducing or eliminating the surplus of receipts over payments, would check or bring to a halt the expansionary effect of the surplus on the internal money supply. Moreover, either procedure would have a deflationary effect on prices, though in quite different ways.

In the first case (appreciation without liberalization of payments), the major initial impact would be on export prices and incomes, which would tend to fall. The reduction in the local-currency prices of export goods would tend to be an enduring effect of appreciation because of the increased availability of export goods in the home market. The prices of imports paid by importers would also be lower than before, but little if any of this reduction would necessarily be passed on to consumers, since, in the absence of liberalization, nothing would have occurred to increase the supply of imports.1/

On the other hand, in the second case (liberalization of payments without appreciation), the major initial effect would be a decline in the retail prices of imported goods because of the increased supply. Thus, for countries with comprehensive direct controls on imports, appreciation without liberalization would tend to lower import prices to the importer without significantly affecting the retail price level of imports, while removal of restrictions without appreciation would tend to lower the retail price level of imports without significantly affecting the prices paid by the importer.

These conclusions, if correct, are of interest in view of the fact that current sentiment in favor of appreciation stems largely from a desire to take effective action against rising import prices. Concern over the high level of import prices (notably of primary products) is the major reason given by the Economic Commission for Europe for its recent proposal to appreciate Western European currencies. While such concern is fully warranted, the question remains whether, in the absence of liberalization (which is not proposed), appreciation would correct the situation. 2/ For countries in

1/ This reasoning rests on the assumption that import prices at the retail level are freely determined by demand and (fixed) supply. Some decline in the retail prices of imports and home goods might occur in view of the contraction in aggregate demand induced by the fall in the incomes of exporters.

2/ With the possible exception of the United Kingdom, the gold and dollar position of Western European countries is not sufficiently strong to permit both appreciation and liberalization. This is recognized in the ECE Report, which, in fact, points out that appreciation might require some countries to reimpose or tighten up import controls. (Preliminary edition of Chapter 5, p. 57.)

over-all surplus, liberalization of payments without appreciation would appear to be a much more effective way of driving down import prices to consumers than appreciation without liberalization. There is every reason to believe that, in the absence of liberalization, appreciation would prove highly disappointing as a means of reducing the retail price level of imports (and products made from imports), unless it were accompanied by measures (*e.g.*, rationing, subsidies, higher taxes) which could be just as easily instituted without appreciation. 1/

Appreciation as a remedy for internally induced inflation

Thus far, we have dealt only with cases where at least part of the inflation suffered by a country is the result of external influences. But inflation may also be the result of purely internal causes. Under present conditions, inflationary pressures in most cases result from a mixture of external and internal factors, the relative proportions of which vary greatly from country to country. Where inflation is the result of purely domestic influences, there would appear to be no case whatever for appreciation as an anti-inflationary technique unless there is reason to believe that it would result in an improvement in the terms of trade. Since this proposition may not be obvious, it may be helpful to consider a concrete case.

Let us suppose that a country, as a result of a large increase in defense expenditures, is suffering from a serious domestically induced inflation of the "open," or unsuppressed, variety, while the external position, because of inadequate reserves, is maintained in strict balance by means of tight restrictions on payments. We shall assume that, except for the direct controls on payments, we are dealing with a "free" economy in the sense that all prices internally, including the retail prices of imports, are determined by the free play of supply and demand. Finally, let us assume for the time being that the terms of trade are unaffected by appreciation (*i.e.*, that any fall in the export price level in terms of local currency is accompanied by an equivalent decline in the import price level). 2/ Let us now suppose that the country decides to appreciate its currency in the hope that the effect will be anti-inflationary. For reasons which will shortly become clear, this hope will be doomed to almost inevitable frustration.

The effects of appreciation in this case may be analyzed by considering the repercussions, first, on imports and, later, on exports. The first point to be noted is that while the prices paid in local currency by importers may be expected to fall, there would appear to be no reason to assume a fall in import prices at the retail level, since the supply of imported goods could not be permitted to increase. Indeed, if we make the normal assumption that foreign-exchange receipts would decline following appreciation, import controls would have to be tightened up if external balance is to be maintained. In these circumstances, retail prices of imported goods (and of products made from imports) would actually tend to *rise* because of the reduced supply. The

1/ In some cases, the removal of all restrictions on payments might not be sufficient to remove the entire external surplus. In such an event, appreciation of the currency would be an appropriate supplementary measure, for reasons already discussed.

2/ By import price level is here meant the price level confronting importers -- not the *retail* price level of imports.

incomes of the privileged group who were able to obtain import licenses would also tend to rise, since the profit margin on import transactions would be widened as a result of the decline in the price paid by the importer. 1/ Consequently, on the import side, the effect of appreciation in the present case, far from being anti-inflationary, would in fact tend to be inflationary.

Appreciation would of course be expected to exert a deflationary influence on export prices and incomes, but in the case under consideration the deflationary effects would in every respect appear to be fully offset by opposite effects on the import side. Thus, the increased availability of export goods in the home market would be offset by the reduced availability of import goods; the reduced retail prices of export goods would be offset by the increased retail prices of import goods; and the decline in the profits of exporters would be offset by the increase in the profits of importers. Assuming the continued maintenance of external balance by means of direct controls on payments, the net effect of appreciation on the over-all level of income 2/, the money supply, and the retail price level would appear to be more or less neutral in this situation, while real income (at least in any qualitative sense) would tend to decline, since the curtailment of imports following appreciation would constitute a move in the direction of autarky. The degree of autarky thus imposed would of course depend on the degree of appreciation. On the theory that if a small dose of appreciation is anti-inflationary a large dose is more so, appreciation conceivably might be carried so far as to cut off all exports; and if external balance were preserved by directly prohibiting all imports, complete autarky would be the result. Such a situation would represent the reductio ad absurdum of attempting to cure an internally induced inflation by appreciation.

Appreciation and the terms of trade

In the foregoing case, we have assumed that appreciation is not accompanied by an improvement in the country's terms of trade -- i.e., by a favorable change in the relationship between the country's export price level and its import price level. If it could be shown that, following appreciation, export prices (in local currency) would fall less than import prices, so that a given volume of imports could be obtained for a reduced volume of exports, it would appear to follow that appreciation may have an anti-inflationary effect even in cases where the inflation is solely attributable to domestic causes.

The extent to which a country can rig its terms of trade in its favor by currency appreciation has often been greatly exaggerated. There is a widespread impression that appreciation is typically accompanied by a lasting improvement, and depreciation by a lasting deterioration, in the terms of trade. This impression, which is sometimes based on purely temporary or even

1/ The volume of imports might of course be curtailed if foreign-exchange receipts were to decline, but in this case the profit margin would be further widened by a rise in the retail prices of imports.
2/ Conceivably, the level of income might be affected by the redistribution of income resulting from appreciation, but there seems to be no reason to assume that such an effect would be substantial or would more likely be in one direction than in the other.

momentary effects of an exchange-rate change, does not stand up well under either careful theoretical analysis or statistical investigation.

In the case of a small country -- i.e., a country accounting for only a negligible part of the world demand for, and supply of, internationally traded goods -- a unilateral change in the exchange rate can have no significant effect on the country's terms of trade, since the prices of the country's exports and imports in terms of foreign currency (e.g., dollars) will be affected little, if at all. Under such conditions, any effect on terms of trade must clearly be negligible.

In the case of a large country, there is the presumption, in the absence of knowledge to the contrary, that the country is as important a factor in the world demand for the internationally traded goods that it buys as in the world supply of goods that it sells. Certain countries, it is true, may be specialized in a few exports while importing a widely diversified schedule of products, but this is by no means true of all countries; the United States, for example, is a country with highly diversified exports, while the bulk of its imports are accounted for by a small number of raw materials and foodstuffs. Since a change in the exchange rate is ordinarily accompanied by offsetting shifts in a country's demand for, and supply of, internationally traded goods, special assumptions of a non-symmetrical character must be introduced to account for any lasting change in the terms of trade.

For example, if a country depreciates its currency in order to remove an external deficit, the normally expected effect is an increase in the country's volume of exports and a decrease in its volume of imports. That is to say, there is an increase in the supply of goods available to the rest of the world, but also a reduction in the demand for the output of the rest of the world. Consequently, in so far as there is any effect on the depreciating country's export and import price levels in terms of foreign currency, it is in the same direction for both -- i.e., downward. Import prices in foreign currency may fall less than export prices, resulting in a deterioration in the country's terms of trade, but, in the absence of special (i.e., non-symmetrical) assumptions, there is no more reason to assume this than to assume that import prices will fall more than export prices. Depending on demand and supply elasticities, either result may occur, or both price levels may fall by the same degree. That is to say, a depreciation may result in a deterioration, an improvement, or no change in a country's terms of trade.

Moreover, any change which does occur may be strictly temporary. For example, an initial deterioration in terms of trade can be expected as a consequence of depreciation in cases where export prices in local currency are "sticky" -- but not rigid -- while import prices react quickly to a change in demand or supply. In so far, however, as this state of affairs is simply due to a difference in the speed of adjustment as between export and import prices, the initial deterioration will clearly disappear as export prices (in local currency) gradually rise to the level more quickly reached by import prices.

Exactly the same observations apply conversely to the case of currency appreciation. For example, if a country appreciates its currency in order to remove an external surplus, the normally expected effect would be a reduction in its volume of exports and an increase in its volume of imports. Consequently, in so far as there is any effect on the country's export and import price levels in terms of foreign currency, it would be in the same direction for both -- i.e., upward. In the absence of non-symmetrical assumptions, there is no presumption that appreciation would have an enduring effect on terms of trade; and if there were any effect, it could be in either direction.

Appreciation may, of course, be undertaken by a country which intends, by direct means, to prevent the increase in imports which would otherwise be expected, or even to curtail the volume of imports if foreign-exchange receipts should fall. The illustration considered in the preceding section is an example of such a situation. Under such conditions, it may be argued that appreciation (plus tightened restrictions) would tend to improve a country's terms of trade, since there would be a decline in both exports and imports. Under these conditions, the country's export prices in terms of foreign currency would tend to rise, while its import prices in foreign currency would tend to fall.

While terms of trade can theoretically be improved in this manner, the effect for any but very large countries or areas would probably be slight. In the case of small countries, any improvement in terms of trade thus attained would clearly be negligible. In the case of large countries (or groups of countries), such improvement might be appreciable, but would have to be weighed against any losses arising from the steps necessary to deal with the probable deterioration in the external position. It might well be that the maximum -- and possibly not very great -- improvement in the terms of trade attainable by the combination of appreciation plus tightened restrictions might occur at an exchange rate at which exports were close to zero, with imports kept close to zero by direct controls. Except for the terms of trade, this could hardly represent an optimum situation from any point of view.

Sterling appreciation and British terms of trade

A spirited case for sterling appreciation as an anti-inflationary measure has recently been made by Roy Harrod, the well known British economist, who argues that appreciation would reverse much of the deterioration in British terms of trade which followed devaluation.1/ He assumes that sterling appreciation would and should be accompanied by a corresponding appreciation of currencies throughout most of the sterling area, including Australia.

Harrod suggests that a revaluation of sterling to the level obtaining before devaluation would result in an improvement in British terms of trade corresponding to the deterioration experienced between devaluation and the Korean conflict. This proposition is open to serious question, since during the period in question the terms of trade of the United States -- the country whose currency was depreciated _against_ -- deteriorated almost as much as those of the United Kingdom. Between August 1949, the month before devaluation, and June 1950, the last month unaffected by Korean developments, British terms of trade deteriorated by 13.5 per cent, while United States

1/ Roy Harrod, "Revaluation of Sterling," _Financial Times_, April 25, 1951.

terms of trade deteriorated by 11.3 per cent. The fact that the terms of trade of the United States deteriorated somewhat less than in the British case suggests that devaluation may have had some effect on British terms of trade, but any such effect appears to have been overshadowed by more important influences affecting the trading terms of both countries in the same direction.

This impression is reinforced by the post-devaluation behavior of the import price level of the United States -- behavior which, even before the Korean conflict, seems impossible to explain on the basis of devaluation alone. The simultaneous devaluation, by 30 per cent, of the pound sterling and a large number of other currencies would in itself have been expected to exert a downward influence on the dollar prices of American imports. Such an effect did occur, but by January 1950, the United States import price level was already back to the pre-devaluation level, and by June had climbed to a level 7 per cent above that of August 1949.

This rise in import prices, which was mainly responsible for the deterioration in United States terms of trade during the period under consideration, is almost entirely accounted for by (1) sharp price increases of crude foodstuffs, mainly associated with crop shortages, and (2) smaller price increases of crude materials, reflecting, in part at least, the up-turn in American business conditions which set in during the summer of 1949. 1/ These developments, which appear to have been completely unrelated to devaluation, also contributed to the increase in British import prices and thus to the deterioration in British terms of trade. Consequently, there would seem to be no assurance whatever that an appreciation of the pound sterling and associated currencies to the level prevailing before devaluation would reverse all, or even most, of the deterioration experienced between devaluation and the Korean conflict.

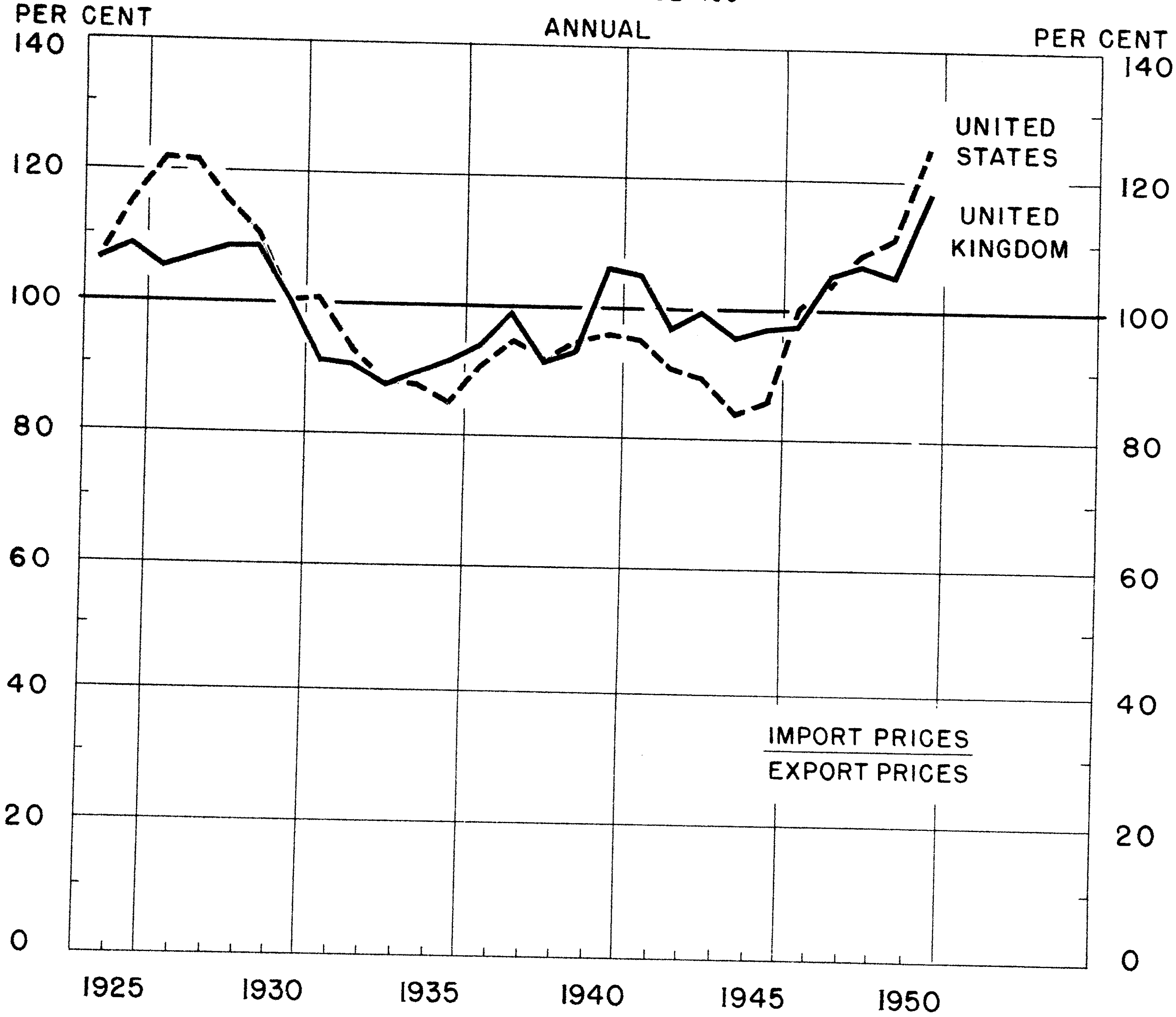
Further evidence that changes in the dollar-sterling rate have been much less important than more fundamental factors in affecting British terms of trade is provided in the chart on the next page, in which British terms of trade are compared with those of the United States for the period 1924-50. It will be noted that, despite several important changes in the dollar-sterling rate (notably in 1931, 1933, and 1949), there is a high positive correlation between the two series for the 27-year period. 2/ For both countries, terms of trade were particularly favorable during the world depression; for both countries, the poorest terms of trade for the period were experienced in 1950; and both countries have been confronted with a trend of increasingly unfavorable terms of trade since World War II. It may be noted that this postwar trend appears to be even more severe for the United States than for the United Kingdom.

The fact that British and American terms of trade should in general move together is not in itself particularly surprising. Both countries lead the world in the export of manufactured goods and in the importation of primary

1/ The United States import price level of crude foodstuffs was 34 per cent higher in June 1950 than in August 1949, while the import price level of crude materials was 5 per cent higher. During this period, industrial production in the United States (seasonally adjusted) rose by 17 per cent.
2/ The correlation coefficient for the period is +.80.

COMPARISON OF U. K. AND U. S. TERMS OF TRADE, 1924 - 1950

1924 - 50 AVERAGE = 100



products. Any change -- whether cyclical, secular, or sporadic -- in the terms on which manufactured goods are exchanged for primary products is almost bound to affect both countries. What may be surprising to some is the lack of any clear evidence to support the view that British terms of trade are substantially altered (at least in the way commonly supposed) by changes in the dollar-sterling rate. During the period under consideration, there were four instances in which the average dollar-sterling rate for a given calendar year diverged from the average rate for the preceding year by more than 15 per cent. Two of these instances involved sterling appreciation, and two involved sterling depreciation. In both of the cases involving sterling appreciation, there was a relative deterioration in British terms of trade as compared with those of the United States (i.e., an adverse change in the ratio of British to United States terms of trade). Thus, in 1933, the average dollar-sterling rate was 20.8 per cent higher than in 1932, but this appreciation was accompanied by a relative deterioration, amounting to 2.0 per cent, in British as compared with American trading terms. Again, in 1934, the average dollar-sterling rate was 18.9 per cent higher than in 1933, yet this change was accompanied by a relative deterioration in British terms of trade amounting to 2.4 per cent.

On the other hand, the two instances involving sterling depreciation are similarly inconclusive. Thus, in 1932, the average dollar-sterling rate was 22.5 per cent lower than in 1931; this depreciation, like the two foregoing cases of appreciation, was also accompanied by a relative deterioration, amounting to 7.9 per cent, in British as compared with United States terms of trade. Finally, in 1950, the average dollar-sterling rate was 24.1 per cent lower than in 1949, but this change was accompanied by virtually no change (a less than one per cent improvement) in the ratio of British to American trading terms. 1/

The foregoing evidence, while of course not conclusive, suggests that changes in the dollar-sterling rate cannot be depended upon to alter British terms of trade in a predictable way. In particular, the data would seem to provide little assurance that sterling appreciation could be firmly counted upon to effect more than an ephemeral improvement in British terms of trade, or even to delay appreciably the further deterioration that may occur if present world price trends should continue.

Conclusion

The major conclusions of this paper may be briefly summarized as follows:

(1) Currency appreciation is normally an effective (although not necessarily the most effective) anti-inflationary measure in situations where the inflation is the result of a persistent over-all surplus in the balance of payments.

1/ During the period 1924-50, there were five other instances in which the average dollar-sterling rate for a given calendar year diverged from the average rate for the preceding year by 7 per cent or more. One of these involved sterling appreciation, and the other four sterling depreciation. While the instance of sterling appreciation was accompanied by a relative improvement in British as compared with United States terms of trade, only one of the four cases of sterling depreciation was accompanied by a relative deterioration.

(2) Where a country has an external surplus, but at the same time limits imports by direct controls, the removal of such controls is likely to be more effective than appreciation as a method of reducing import prices to consumers. If the removal of import restrictions is not in itself sufficient to remove the external surplus, appreciation is an appropriate supplementary measure.

(3) In the absence of an external surplus, currency appreciation is of little, if any, value in dealing with inflationary tendencies (whether induced by rising import prices or by internal developments) unless the result is a substantial improvement in terms of trade.

(4) The view that currency appreciation typically results in an improvement -- and depreciation in a deterioration -- in terms of trade is supported neither by careful economic reasoning nor by statistical investigation. In certain cases, appreciation may result in a deterioration in terms of trade; in other cases in an improvement, but in the absence of special assumptions, there is no reason to assume a significant change in either direction. Moreover, any change which does occur may be strictly temporary.

(5) The sharp postwar deterioration in the terms of trade of industrial countries and the spectacular improvement in the terms of trade of countries producing primary products are developments very largely unrelated to changes in exchange rates. Since the devaluations of 1949, the terms of trade of the United States -- the country whose currency was depreciated against -- have deteriorated by almost as much as those of the United Kingdom, and much more than those of such countries as Italy and the Netherlands, all of which devalued by the full 30 per cent. The major reason for the deterioration in the position of industrial countries has been a strong tendency since the war for the demand for primary products on the part of industrial countries to expand more rapidly than the supply. This trend, which of course has been greatly accentuated as a result of the general rearmament effort, extends as far back as 1944; and while it creates a serious problem for industrial countries, there is little reason to believe that currency appreciation would be an effective remedy. Efforts to reverse the deterioration in terms of trade associated with this trend by recourse to currency appreciation would probably prove highly disappointing.

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