

Strategic Factors in Balance of Payments Adjustment

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IN THE PAST TEN YEARS, the staff of the International Monetary Fund has had an unusual opportunity to study the balance of payments problems of many countries. The studies that have been made show enormous diversity in the nature and the causes of balance of payments problems. Inevitably, they have called for reconsideration of the means by which balance of payments difficulties can be met. In the course of such reconsideration, some neglected ideas have come to the fore and some accepted ideas have been modified. Above all, it has become clear that payments problems can be best studied as part of the disorder that emerges in an unstable and unbalanced economy.

DEFINING A BALANCE OF PAYMENTS PROBLEM

A proper balance of payments is one that enables a country, over an average of good years and bad, to meet its payments (including ordinary capital outflow) out of its receipts from current transactions and ordinary capital inflow, without compelling it to keep economic activity below a desirable level or to restrict imports merely for the purpose of avoiding a deficit in its balance of payments.¹ This definition could be further refined to provide that a proper balance of payments should enable a country to add to its monetary reserves a proportionate share of the newly mined gold going into the world stock of monetary gold or its equivalent in foreign exchange. A country whose balance of payments is not a proper one by this test has a balance of payments problem. For convenience, this discussion is framed in terms of countries whose payments difficulties take the form of a persistent deficit, large enough to require remedial action.

There are certain payments difficulties which are not considered in

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¹ The emphasis is placed on *ordinary* capital movements as relevant to the longer-run concept of a proper balance of payments and in order to exclude capital flight, which may be caused by political factors, and extraordinary capital inflows, which may be for the purpose of meeting balance of payments difficulties.

this paper. For example, a country suffering a temporary deterioration in its payments position because of a fall in export prices is not regarded as having a balance of payments problem. Nor is a country suffering from a temporary failure of a major crop, which may make its exports abnormally small or its imports abnormally large, regarded as having a balance of payments problem. If countries cannot maintain the flow of imports for which they have a demand under temporarily adverse conditions, their real problem is one of reserves rather than the balance of payments.

This definition also excludes widespread payments difficulties incident to a deep and prolonged depression in a great trading country. Such a depression would, in fact, cause a very serious payments problem in a large number of countries. It is, however, a problem *sui generis*, better considered in relation to the concept of a scarce currency, rather than as one of the several types of balance of payments problem that have their origin in conditions affecting one or a few countries.

Types of Balance of Payments Problem

The social and political forces that induce countries to follow economic policies that cause balance of payments difficulties vary from country to country and from time to time. The economic causes, however, are surprisingly similar and provide a satisfactory basis for the classification of balance of payments problems. These causes are current inflation, manifested by excessive spending; price and cost disparity reflecting an inflated level of home prices and costs; and structural changes resulting in a deterioration in the real international economic position of a country. The actual balance of payments problem of an individual country cannot, as a rule, be attributed exclusively to any one of these causes. In most countries, there is a complex balance of payments problem to which each of the main causes may contribute in varying degree.

CURRENT INFLATION

The view that inflation causes balance of payments difficulties goes far back, at least to Adam Smith. In the *Wealth of Nations*, he laid down the rule that "the whole paper money of every kind which can easily circulate in any country never can exceed the value of the gold and silver, of which it supplies the place, or which (the commerce being supposed the same) would circulate there, if there was no paper money."² He then

² Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (edited by Edwin Cannan, London), Book II, Chap. II, p. 283.

observed that, if too great a quantity of paper money were issued, the excess notes would be presented for exchange into gold and silver to be sent abroad; and the gold and silver can flow abroad only if there is a balance of payments deficit. The implication is that the balance of payments deficit will equal the excessive outlay and, presumably, that the deficit will emerge rather quickly.

If a country has a proper balance of payments, an excessive expansion of credit must result in a balance of payments deficit.³ To the extent that the increased spending caused by excessive credit is directed toward import (or export) goods, the balance of payments will be immediately affected. Even that part of the increased spending that is directed toward home goods (other than exports) will in time affect the balance of payments, for the increased expenditure will tend to raise prices, and at higher domestic prices, a larger proportion of aggregate expenditure may be directed to import (or export) goods. The difficult question is not whether inflation will affect the balance of payments, but by how much and how soon.

In a large country like the United States, the aggregate balance of payments deficit may fall considerably short of the excessive credit. In time, a new equilibrium would be established at the point where the increased import demand generated by the rise in incomes and prices in the United States is equal to the increased demand for exports generated by the rise in incomes and prices outside the United States. Because the United States represents a very large part of the world monetary economy, perhaps 40 per cent of the excessive credit would finance U.S. production and U.S. trade at the higher level of prices. The remainder would have the effect of increasing the money supply of other countries, through balance of payments surpluses, and the increase in their money supply would be used to finance their production and trade at a correspondingly higher level of prices.

The effect of an excessive expansion of credit in generating a balance of payments deficit would be much greater in any other country. In a country like the Philippines, for example, which constitutes a very small part of the world monetary economy, practically all of the excessive credit would manifest itself as a balance of payments deficit. For the Philippines, it can be said with approximate accuracy that an inflation

³ The analysis is based on the assumption that all countries have fixed exchange rates and that there is full employment. It also assumes that prices rise in precise proportion to the excessive increase in the quantity of money. These simplifying assumptions are almost always applicable to underdeveloped countries. Even in the great industrial countries, where the behavior of the monetary system is more complex, the effects of excessive credit will approximate those set forth in the analysis above. This brief statement is in part based on studies in progress by J. J. Polak and Marcus Fleming of the Fund staff.

of 100 million pesos will result in a balance of payments deficit equivalent to US\$50 million.

There will also be vast differences between countries in the rate at which the aggregate payments deficit attributable to excessive credit expansion is reached. In the United States, where the marginal propensity to import is low, the primary effect on imports will be small. Most of the additional expenditure will affect home prices. If the elasticity of substitution of import goods for home goods is moderate (although greater than unity), the secondary effects on imports will also be moderate. In short, it may be some time before the aggregate balance of payments deficit that may ultimately be expected from an excessive expansion of credit is reached. On the other hand, in countries where the marginal propensity to import and the substitutability of import goods for home goods are relatively high, the aggregate balance of payments deficit that may be expected will manifest itself rather quickly. All this assumes, of course, that the impact of the inflation is not diverted from the balance of payments and, through restrictions on trade and payments, concentrated more exclusively on the domestic sector.

PRICE AND COST DISPARITY

Excessive credit may conceivably act on the balance of payments very largely through increased expenditure; that is to say, the inflation may have little effect on domestic prices and almost no effect on domestic costs. This happens in a business cycle, in which excessive expenditure during the boom gives rise to a balance of payments deficit but does not upset the structure of costs. With a very mild inflation, the experience may be similar in countries in which wage rates do not respond quickly to the demand for labor and the cost of living. A large and persistent inflation, however, is almost certain to bring about a substantial rise in prices; and sooner or later, such a rise in prices will bring demands for wage increases.

When costs have risen significantly, exporters will find their competitive positions impaired. Even exporters of industrial specialties may find that higher prices result in a considerable reduction in their sales abroad. Where exports are available from many sources and are sold in many markets, price competition may limit even more severely the amount of sales abroad. Exporters of standardized agricultural products will also find that higher costs affect exports. The prices of such products are much the same the world over. It is impossible to secure higher prices merely because a country's costs have risen. With a rise in costs relative to prices, producers of standardized export crops find it difficult to maintain production on the customary scale.

There is another aspect of price disparity that may intensify balance

of payments difficulties. Persistent inflation makes governments sensitive to complaints about the rising cost of living. To avoid wage demands, industrial countries may subsidize food imports. Prices of imports may already be low relative to domestic prices generally; subsidies on food imports will have the effect of further encouraging the demand for imports. A similar policy has been followed in some agricultural producing countries, with even more harmful effects on the balance of payments. Food prices are kept down by price control and by placing food imports in a favored exchange category. As a consequence, food prices are far below the level that a free price and unified exchange system would determine and domestic production is discouraged. Countries that should provide all or nearly all of their food requirements are induced to become large importers of basic foods.

The significance of price and cost disparity arises from the competition of exports with the products of other countries and the competition of imports with domestic products. Price and cost disparity may not be revealed by other price comparisons, particularly purchasing power parity comparisons. Because the United Kingdom's export prices have risen substantially less than its import prices, the argument has been made that its competitive position must be very favorable. This is clearly a case of comparing the wrong price series. The United Kingdom's export prices have risen substantially less than its import prices because of the great increase in world demand for raw materials. The United Kingdom does not compete with such goods to any significant extent, either in its home markets or abroad. The most relevant comparison for determining price and cost disparity is between the prices of U.K. export goods and the prices of the industrial goods of North America and Western Europe.

Purchasing power parity could reflect a country's competitive position in world trade only under circumstances which cannot be found except after an inflation in which all prices and costs rise to much the same extent and the structure of the economy has not been significantly affected by the inflation. Clearly, the purchasing power parity doctrine—that relative changes in the over-all indices of prices in two countries indicate the size of the change that is appropriate in the foreign exchange rates for their currencies—is not applicable after the enormous economic changes induced by a great war. Price and cost disparity is sometimes a major factor in the balance of payments problems of some countries. It must be interpreted, however, in a more realistic manner than through purchasing power parity comparisons.

STRUCTURAL CHANGES

In a dynamic world, innumerable forces are constantly at work to change a country's needs for foreign exchange and its capacity to earn

foreign exchange. Insofar as these forces do not arise from current inflation or from price-cost disparity, they reflect structural changes. While changes in the real international economic position of a country are generally related to the supply and demand schedules of their exports and imports, they may also arise in other ways. Thus, the real position of some European countries was adversely affected by the need for liquidating investments and incurring overseas debt to carry on World War II or to hasten reconstruction. On the other hand, the great expansion in the overseas expenditures of the U.S. Government, much of which will probably continue for an extended time, has improved the real international economic position of many countries.

The structural changes which are most important in this context involve the supply and demand schedules for exports and imports. Because the United Kingdom and Western European countries generally have greater difficulty in attracting labor to coal mining, so that costs have risen and output has fallen, their real payments positions have deteriorated. Coal exports from Europe, once of great significance, have declined almost to the vanishing point, and sizable imports have taken their place. The development of synthetic rubber and various synthetic fibers has adversely affected the payments positions of a number of countries. With the great expansion in world production and trade, the impact of such changes has not always seemed as great as it really has been. At the same time, in many underdeveloped countries emphasis has been given to industrial development. This shift has, of course, adversely affected the export positions of some countries formerly supplying certain manufactured goods to these markets.

Changes in the terms of trade may reflect the greater difficulty of expanding supply to match the growing demand for particular goods. Such changes clearly affect the real international economic position of importing and exporting countries. It is not quite clear, however, whether a rise in the prices of raw materials relative to manufactured goods which is a result of a higher general level of production and trade should be so regarded. The terms of trade of the 1930's, adverse to raw material exporting countries, were in part the consequence of the general depression in the great industrial countries. The terms of trade of the 1950's, favorable to raw material exporting countries, were in part the consequence of the general expansion in the great industrial countries. Insofar as the terms of trade respond to the level of business activity, they are better regarded as independent of changes in the real international economic positions of exporting and importing countries, although they are not, of course, without effect on the balance of payments.

Changes in the real international economic positions of different countries are part of the dynamics of a progressive world economy.

Ordinarily, such changes take place slowly, so that there is ample opportunity to make minor adjustments which will enable countries to keep their payments in order. Sudden changes, however, may have more disturbing effects on the payments position of a single country. The introduction of synthetic fertilizers obviously had a seriously adverse effect on Chile. The opening of new oilfields is having a very favorable effect on the payments of certain countries. These are rare cases. Except for the cumulative effects during and after a great war, structural changes by themselves are not of major significance as causes of balance of payments difficulties.

Remedies for Balance of Payments Problems

There is a real cost in supporting an untenable payments position. If a deficit is allowed to emerge, and reserves are sold at an inappropriate exchange rate, the economy is providing resources for private use at less than their real value. This is not merely a transfer of wealth, for the reserves will be used by individuals to acquire goods for consumption and investment which are not worth to them their real cost to the country. Even if a balance of payments deficit is not allowed to emerge, the support of an inappropriate exchange rate through restrictions will result in serious economic distortions. Decisions concerning which goods to produce and which home goods to consume and invest will be made on the basis of a price system (including the exchange rate) that is not functioning properly.

DETERMINING THE CAUSES OF THE PAYMENTS PROBLEM

It is difficult in any given situation to determine whether a balance of payments problem is caused by inflated demand, by price-cost disparity, or by certain real factors. In fact, since a balance of payments deficit may have several causes, it is essential to analyze the problem in terms of the economy as a whole. Assume, for example, that a country has a large balance of payments deficit while maintaining full employment. Under such circumstances, it would be reasonable to conclude that one cause of the balance of payments deficit is excessive aggregate demand. It may be noted in passing that a country would not ordinarily be willing to absorb the employment effects of a very large balance of payments deficit except under conditions of inflation.

Such a tentative conclusion would have to be supported by an analysis of various sectors of the economy. It would be desirable, for example, to see whether bank credit is expanding at a rapid rate and whether

prices are rising. It would be necessary to determine whether investment is unusually large for the level of income and savings that might be expected in such a country. Finally, it would be important to see whether there are shortages of labor and materials. If the economy shows obvious signs of a current inflation, there can be no reason for doubting that *one* cause of the balance of payments problem is excessive aggregate demand.

It may not always be obvious that the country is in the midst of inflation. The dramatic symptoms of inflation in the form of credit expansion and rising prices may be absent, even though aggregate demand is excessive. Large cash balances accumulated in the past may be used to finance abnormal consumption and investment. Prices may be kept down by controls. This is the kind of inflation that prevailed in many countries in the early postwar years. Nevertheless, with full employment the existence of a balance of payments deficit is a clear indication of current inflation. When a country absorbs in consumption and investment more than its own output and any ordinary capital inflow, without offsetting unemployment, aggregate demand must be excessive to the extent of the balance of payments deficit.

Even if a country has some unemployment while it has a balance of payments deficit, aggregate demand may still be excessive, as the balance of payments deficit may be large relative to the number of unemployed. On the other hand, if there is considerable unemployment as well as a balance of payments deficit, the payments problem must have some other cause. This other cause may be price-cost disparity or a deterioration in the real international economic position of the country.

A study of exports and imports will throw further light on the nature and the cause of the balance of payments deficit. If imports are more and exports less than would ordinarily be expected, and this is true of the whole range of exports and imports, there is *prima facie* reason for believing that *one* cause of the balance of payments deficit is price-cost disparity. This analysis could be further supported by a comparative study of changes in prices and wages at home and abroad.

On the other hand, if imports are at approximately the level that would ordinarily be expected, but exports are below their usual level, the cause of the problem may be a structural change in the competitive positions of certain export industries. This would be so if the deficiency in exports is concentrated in one or several fields. Similarly, if exports are approximately what would ordinarily be expected, but imports of one or a few products are above their usual level, the cause may be a structural change in the demand for certain import goods. The great increase in oil imports in a number of countries is a change of this type.

It should be noted that considerable unemployment even without a

persistent payments deficit may indicate the existence of a balance of payments problem. If unemployment is caused by holding down aggregate demand because of fear of causing a balance of payments deficit, the remedies for the employment situation will have to include the same measures that would be taken to correct a balance of payments disequilibrium caused by price-cost disparity or structural changes that have brought about a deterioration in the real international economic position.

TREATING THE CAUSES

The remedies for balance of payments difficulties should be selected in the light of their causes. If the cause of the persistent deficit is inflation, it cannot be corrected by devaluation. On the other hand, if the cause is price-cost disparity, the deficit should not be corrected by deflation. Finally, if the cause of the persistent deficit is a change in reciprocal supply and demand for exports and imports, part of the remedy will have to include a shift of productive resources from some industries to others. It may, in fact, be necessary to induce such shifts by some deflation and by devaluation. Where the balance of payments problem has complex causes, more than one remedy will have to be applied.

In an unpublished study in 1948, Mr. J. J. Polak showed that devaluation cannot be effective in correcting a large and persistent balance of payments deficit which is the result of a condition of overinvestment. A devaluation will, for a time, bring about a shift in the distribution of income, so that if wages lag, the proportion of income going to receivers of profits will rise. If a substantial part of these profits is saved, investment will not, for the time being, be excessive. The balance of payments deficit may disappear, accompanied by a corresponding reduction of consumption. Nevertheless, if wage earners are successful in restoring their previous real income, and investment is maintained as before, investment will again become excessive and the balance of payments deficit will reappear. In these circumstances, repeated attempts to eliminate a deficit through devaluation will simply reduce the foreign exchange value of the currency without solving the basic payments problem.

If the balance of payments problem arises exclusively from price-cost disparity, devaluation should, by itself, provide a full remedy. As a practical matter, a payments problem is not likely to be wholly the result of price-cost disparity. Inevitably, there will be some excess of current demand, since the economy would otherwise have unemployment equivalent to the balance of payments deficit. Furthermore, it is inconceivable that the price-cost disparity should be uniform and unaccompanied by shifts in reciprocal supply and demand, particularly if the payments difficulties are of long standing. For these reasons, devalua-

tion will have to be accompanied by some deflation; and the effects of devaluation will not be fully felt until the necessary shifts in investment have made possible the expanded production of exports and of substitutes for imports.

TREATING THE DEFICIT

Import and exchange controls are sometimes regarded as a method of meeting a balance of payments problem. If the problem is regarded as consisting merely of the deficit, then by definition import and exchange controls are a corrective to the extent that they actually hold down the deficit. On the other hand, if the problem is regarded as consisting of the imbalance in the economy that leads to excessive demand for imports relative to exports, controls are not a corrective. They merely assure that the effects will manifest themselves primarily on the domestic side of the economy. It would still be true that the pattern of production, consumption, and investment does not conform to what an appropriate price system would bring about. The real costs of the imbalance and distortion would still remain, except those that arise from the sale of some foreign exchange at less than its real value.

The fact that import and exchange controls are not a remedy for payments problems does not mean that their use can never be justified. When reserves are small, or when other measures are being taken to eliminate the payments difficulties, the temporary use of restrictions can be helpful in keeping the deficit within the means available to the monetary authorities. Apart from this, restrictions have been defended as a means of exploiting a quasi-monopolistic trade position through an overvalued currency. In other instances, restrictions have been defended as a means of providing protection for home industry. Such use of restrictions for commercial policy purposes does not bear on the question of the proper remedies for balance of payments problems.

It has been urged that flexible exchange rates provide a continuing and automatic corrective for balance of payments problems. The point that a completely free exchange market would involve continuous balance in international payments, even when balance would be undesirable, can be disregarded. Instead, it may be assumed that the monetary authorities intervene to minimize fluctuations in the exchange market when there is a temporary surplus or deficit, but do not intervene when there is a tendency toward a persistent deficit. Under such circumstances, a persistent deficit in international payments will not emerge, since the exchange market will find a rate at which the current account deficit (or surplus) is precisely equal to the net capital inflow (or outflow).

However, if the excessive aggregate demand is allowed to persist, and

its effects on the balance of payments are merely offset by a steady depreciation of the exchange rate, the cause of the payments difficulties has not been removed and a remedy for the problem has not been found. All that has been done is to make certain that the inflation will act wholly on domestic prices, incomes, and production. Apart from this, a free exchange market embracing capital transfers as well as current payments may lead to such excessive depreciation, if there is a capital flight, as to impose economic difficulties on other countries and cause an undesirable deterioration in a country's own terms of trade. A flexible exchange rate may be an expedient for limiting the pressure on inadequate exchange reserves; it does not eliminate the causes of balance of payments difficulties.

How the Economy Adjusts the Balance of Payments

The typical case of balance of payments difficulties in the postwar period is one with multiple causes. Continued inflation brought about the absorption in consumption and investment of more resources than the economy could itself produce or secure from ordinary capital inflow. The excess was the balance of payments deficit. At the same time, the persistent inflation acted on prices and costs quite unequally in different countries, and often unequally on different sectors of the economy in the same country. Furthermore, the economic, political, and social changes during and after the war necessitated far-reaching adjustments in the structure of national economies which could not be made quickly.

The measures taken to deal with these payments difficulties were also varied and were made over an extended period of time. Much of the adjustment to structural changes was made in the course of reconstruction, when preference in allocating resources for investment was given to the industries best suited to expand production for export. The current inflation was reduced gradually as domestic production increased and investment was restrained. In 1949, a large number of countries acted to correct the price and cost disparity which impaired their competitive positions. Even after the devaluations, much remained to be done to eliminate current inflation and to complete the adjustment to structural changes. The revival of monetary policy after 1952 was a major factor in limiting or terminating the inflation in many countries. Adjustments to structural changes are still being made, although they are to a much less extent the consequences of wartime disruption and destruction.

The impact of these measures on the international payments of the countries that applied them successfully has been striking. It is no easy task to explain precisely how the improvement actually resulted from

the measures that were taken, particularly because it took place gradually over a number of years.

EXPORT AND IMPORT ELASTICITIES

The approach generally taken by economists in explaining the improvement in the balance of payments following the application of remedial measures is to concentrate on the trade balance. Obviously, the improvement in the trade balance is equal to the increase in exports, plus the decrease (or minus the increase) in imports. Any explanation that accounts in full for the changes in exports and imports will explain the improvement in the trade balance.

Where devaluation has been an important component of the remedial measures, economists have tended, on the whole, to concentrate on the price effects to be expected from devaluation. The striking fact about devaluation is that it changes critical price relationships—the prices of import goods relative to domestic goods, the prices of export goods relative to all goods produced abroad, and the prices of export goods relative to domestic goods. The first and second price relationships are of special importance to industrial exporting countries; the first and third are of special importance to agricultural exporting countries. So long as domestic prices and costs do not change in a manner that offsets the effects of devaluation, a powerful new force is introduced into the economy to encourage exports and to discourage imports.

The rise in import prices relative to domestic prices will result in a reduction in a country's demand for imports. In the absence of controls, the decline in imports will depend on the elasticity of domestic demand for imports, in terms of relative price, and on the elasticity of foreign supply for the goods imported. The fall in export prices relative to foreign prices will result in an increase in the foreign demand for a country's exports; and the rise in export prices relative to domestic prices will result in an increase in the domestic supply of goods for export. These four elasticities of supply and demand for exports and imports, at home and abroad, are regarded as determining the improvement in the trade balance.

Discussions of the effects of devaluation have not, of course, ignored the significance of the behavior of the economy as a whole in the adjustment of the trade balance. Such analyses have often called attention to the repercussionary effects on the national economy (and the world economy) through the multiplier, and to the importance of taking into account the employment situation and the employment effects in connection with devaluation. This is especially true of a number of discussions of imports and employment, some of which antedate the devaluations

of the 1930's.⁴ Nevertheless, in most analyses the basic forces acting on the trade balance are presumed to be those arising from the price changes brought about by devaluation, and the behavior of the economy as a whole is regarded as merely modifying the effects of these price forces.

Where a balance of payments problem is caused largely by price-cost disparity, the basic forces of adjustment undoubtedly work through the relevant supply and demand schedules for exports and imports. Even so, to take account of the effect on the trade balance of changes in the level of output and of aggregate demand, it is necessary to distinguish between short-run and long-run elasticities and to allow for the differences in the time needed under varying conditions before the long-run elasticities have their full effect.

CHANGES IN OUTPUT AND ABSORPTION

The practical case with which governments are usually confronted is one in which the balance of payments problem reflects some measure of current inflation as well as some degree of price-cost disparity. Conceivably the authorities might attempt to deal with such a problem by first eliminating the inflation, until there is no excess of aggregate demand. When such a policy would result in unemployed resources equal to the remaining balance of payments deficit, the residual payments problem is one of price-cost disparity with some accompanying structural maladjustments. The government could then proceed with devaluation to correct the price-cost disparity. Perhaps something could be said for such a policy; in fact, however, it is not the way governments act.

More often, governments are confronted with a balance of payments problem that seems to have become critical, either because reserves are near exhaustion or because speculation has suddenly aggravated an adverse payments position. The authorities may find that the situation calls for immediate action. They may have begun to apply deflationary measures designed to reduce or eliminate the excessive expenditure. In any event, it may already be clear that devaluation is a necessary part of the remedial program. The step is taken. In due course, there will be an improvement in the trade balance which is the joint effect of the two sets of measures, deflation and devaluation. The improvement in the trade balance may be analyzed in terms of the effects of the remedial measures on income and absorption, that is, on changes in total consumption and investment and changes in total output.⁵

⁴ See, for example, Sir William Beveridge, *Tariffs: The Case Examined* (London, New York, Toronto, 1932), pp. 52-74; J. A. Hobson, *The Economics of Unemployment*, Appendix; and A. C. Pigou, *A Study in Public Finance* (London, 1949), pp. 218-27.

⁵ Sidney S. Alexander, "Effects of a Devaluation on a Trade Balance," *Staff Papers*, Vol. II, No. 2 (April 1952), pp. 263-78.

The deflationary measures will act on aggregate expenditure, reducing home consumption and investment of import goods and domestic goods. There may be some increase in exports, if exports have been held back by the inability of the economy to satisfy demand from abroad. The deflationary measures will, of course, reduce production, unless exports absorb the resources set free by the reduction in home demand. The devaluation will also affect production and expenditure on consumption and investment. Unemployed resources, including those released through the deflation, will be employed in increasing the production of export goods and domestic goods. Aggregate consumption and investment may not be affected to any large extent by the devaluation, but there will be a reduction in absorption of imports relative to domestic goods. In various other ways, largely in response to higher prices, the economy will be induced to decrease aggregate expenditure relative to output.

The net effect of these measures in improving the trade balance will be equal to the increase in output plus the decrease in absorption. This will be equal to, but not identical with, the increase in exports plus the decrease in imports. It should be noted that if there was formerly any considerable amount of unemployment, there may be no decrease in absorption or even in imports; for the increase in income accompanying an increase in output may result in an increase in aggregate expenditure on consumption and investment approximating, and perhaps even exceeding, the increase in output. Under certain conditions, despite devaluation, the increase in absorption may involve some increase in imports, although obviously this will be much less than the increase in expenditure on domestic goods.

ABSORPTION VERSUS ELASTICITIES

A complete analysis of the effects of the remedial measures on the trade balance in terms of output and absorption must also explain why improvement is divided, as it actually has been, between increased exports and decreased imports. And in answering this question, consideration must be given to the relevant elasticities—the marginal propensity to import in relation to aggregate expenditure, the elasticity of demand for imports, the elasticity of foreign supply of imports, the elasticity of supply of exports, the elasticity of foreign demand for exports, and other relevant functions. Similarly, any analysis of the effects of the remedial measures on the trade balance that starts with the response of exports and imports must, for completeness, continue with an analysis of output and absorption. The two methods are complementary, not alternative explanations of how the balance of payments is adjusted.

Nevertheless, it is preferable to start with changes in output and absorption, and to supplement such an analysis with the role of elasticities. The preference for the absorption approach, as an analytical technique, arises from the fact that changes in the balance of payments are partial manifestations of changes in the national economy as a whole. The absorption approach starts with the entire national economy and should move from there to the export-import sector. The elasticities approach seems to give excessive attention to the balance of payments as an independent, or quasi-independent, aspect of the national economy.

From the practical side, the absorption approach emphasizes the fact that balance of payments problems may have multiple causes and that the remedies may involve different types of measure. That approach can be used to explain the effect of any type of remedial measure on any type of payments problem. On the other hand, the elasticities approach seems to be directed almost entirely to explaining the effects of devaluation on a balance of payments problem arising from price-cost disparity. Finally, the absorption approach explains not only why there may be, in certain instances, a very large response to measures to improve the trade balance, but also why, in other instances, there may be little or no response. Unless the remedial measures affect the relation of output to absorption, there will be no means through which the elasticities can operate on the trade balance. Extreme differences of opinion on the effectiveness of devaluation in solving balance of payments problems arise in large part from neglect of the effects of accompanying monetary and fiscal measures and from failure to note the effects of devaluation on production and aggregate expenditure under varying conditions of employment.

Devaluation, Prices, and Real Income

When a serious balance of payments problem has been allowed to persist for a number of years, the distortions that arise in the economy will be of a kind that cannot be remedied without devaluation. It is a fact that governments do not like to propose formal devaluations of their currencies. The reasons for this attitude are partly political, partly economic. In a sense, devaluation is an acknowledgment that the government has failed to meet the balance of payments problem in ample time and through other measures. Understandably, governments do not like to admit this. There is more to the opposition to devaluation, however, than political distaste. There is a genuine belief that, coming after an extended period of rising prices, devaluation will intensify the difficulty of dealing with the inflation problem by causing a rise in prices.

DEVALUATION AND INFLATION

Inflation involves an excess of expenditure over the value of available output, including net capital inflow, at constant prices under conditions of full employment. The consequences of inflation are manifested in two directions: by a rise in domestic prices and by a balance of payments deficit. In a country with a fixed exchange rate, the effect of a given excess of expenditure will tend to be concentrated in greater degree on the balance of payments, the longer the inflation continues. In the beginning, the excessive expenditure will be used in great part to raise the price of domestic goods. Once prices have risen, a larger proportion of the excessive expenditure will be directed toward import goods, as their relative cost will, by then, be much lower. If the excessive expenditure does not keep growing, the entire impact of the excessive expenditure may, after a time, be on the balance of payments. Under such circumstances, there may be the paradox of inflation with stable prices, although prices will be at a level too high for the competitive position of the country.

This is not in accord with the type of analysis which identifies inflation with the rise in prices and may even regard the amount of the price rise as a measure of the inflation. Of course, if a rise in domestic prices is to be the sole test of inflation, then a balance of payments deficit is not only excluded as an indication of inflation, but it becomes an anti-inflationary force. The same excessive expenditure will be regarded as more or less inflationary, depending upon the propensity to import and the elasticity of substitution of import goods for domestic goods. And a measure such as import controls, which may not be directly related to aggregate expenditure and to output, will be regarded as inflationary because it compels more of the excessive expenditure to be directed to the purchase of domestic goods and thus induces a greater rise in domestic prices.

Any measure which increases aggregate expenditure more than the value of available output at constant prices is inflationary, and any measure which increases the value of output more than aggregate expenditure is deflationary. This definition of inflation is obviously well-suited to the absorption analysis of balance of payments problems. While devaluation, under conditions of full employment, may result in a reduction in aggregate expenditure relative to available output, such behavior is primarily a response to the rise in prices and not to the devaluation. Devaluation may be one of the means of eliminating the price and income distortions created by inflation. Indeed, devaluation may be an essential part of the process of change from inflation to stability.

In general, devaluation is neutral with respect to increasing or decreasing inflationary pressures. There is one case, however, in which devaluation will cause a reduction in aggregate expenditure relative to available

output. Assume that a country with full employment has a balance of payments deficit on current account which it must keep from exceeding a stated sum in dollars, representing capital inflow or aid. Because of excessive expenditure and an overvalued currency, the deficit exceeds the prescribed limit. After devaluation, importers will pay more for the exchange for their imports, and exporters will receive more for the exchange from their exports; this represents a transfer of real income from importers to exporters. The government will also receive more from the importers for that part of the foreign exchange representing aid; this may be sufficient to eliminate the excessive expenditure and to bring aggregate expenditure into balance with output plus aid.

DEVALUATION AND PRICES

The practical problem is not so much the effect of devaluation on inflation as its effect on prices. The answer is by no means simple. Consider the case of a country with a free economy, in which there is neither price control nor exchange control, there is no unemployment, and there is a balance of payments deficit. Assume that devaluation is accompanied by measures designed to reduce aggregate expenditure, so that consumption and investment will equal output and there will be no balance of payments deficit. How will prices behave?⁶

As far as the prices of import and export goods are concerned, their price behavior will depend on supply and demand elasticities at home and abroad. On the assumption that the devaluing country is small relative to the world economy, import prices will tend to rise approximately in proportion to the devaluation, domestic prices will tend to rise to the extent of the higher cost of their import content, and export prices may rise by as little as domestic goods or as much as import goods. For industrial exports sold primarily in domestic markets, the tendency will be for export prices to behave like domestic prices. For raw material exports sold in world markets, the tendency will be for export prices to behave like import prices.

Consider another case, that of a country without price controls but

⁶ This discussion is directed toward the behavior of prices when a single country devalues its currency, its proportion of world trade being relatively small. For a discussion of the behavior of raw material prices when a whole region, say the sterling area, representing a sizable proportion of world trade in these commodities, devalues its currencies, see Barend A. de Vries, "Immediate Effects of Devaluation on Prices of Raw Materials," *Staff Papers*, Vol. I, No. 2 (September 1950), pp. 238-53. In perfect markets, where dollar and sterling prices will be equivalent at the new rate of exchange, the fall in the dollar price of each commodity will be such as to induce a decrease in the supply from the dollar area plus an increase in the demand of the dollar area equal to the increase in the supply from the sterling area plus the decrease in the demand of the sterling area induced by the associated rise in sterling prices.

with import controls. In such a country, the prices of import goods will not be at their landed cost, but at a level determined by the demand and the restricted supply. Assume that the devaluation is accompanied by measures designed to restrict aggregate expenditure to the proper extent. Under such conditions, devaluation will raise the landed cost of import goods; but it will not raise the actual prices at which imports are sold in local markets unless the devaluation is greater than the premium that prevailed for import goods. In fact, if the devaluation encourages an expansion of exports, it may be possible to increase imports, and the prices of import goods may even decline. The behavior of export prices will depend upon the nature of the export goods—rising almost to the extent of the devaluation for raw material exports, behaving much like domestic goods in the case of industrial exports. The prices of domestic goods should not change significantly in either direction.

In a world in which import and exchange restrictions have become much more common and in which severe restrictions are likely to precede devaluation for an extended time, this case seems to be of special importance. If the inflation has been deflected to the domestic sector through rigid import and exchange controls, a devaluation which reflects the degree of price-cost disparity that has been built into the economy will have no significant effect on prices. This is a conclusion that can be supported by the experience of a number of countries in which devaluation was accompanied by successful measures to eliminate the current inflation. In India, for example, wholesale prices and the cost of living in terms of rupees were lower in 1955 than they were in 1949.

DEVALUATION AND REAL INCOME

Another objection frequently made against devaluation is that it will result in a deterioration in the terms of trade and in a reduction in the real national income. This argument seems to have some, but in practice quite limited, validity. There is far greater danger of reducing real national income through excessive restriction of imports than through devaluation. A country exporting more or less specialized industrial goods will be able to keep part of its export markets even if its prices have risen relative to those of other exporting countries. The volume of its exports will, however, be less, and perhaps much less, than they would be at more competitive prices. In order to prevent an unmanageable balance of payments deficit, import and exchange restrictions may be imposed.

Assume that a country in this position decides to devalue in order to eliminate the price-cost disparity and thus induce an expansion of exports and a contraction in the excessive demand for imports. The prices of its imports (landed cost) will rise in national currency approximately in proportion to the devaluation. The prices of its exports in national cur-

rency may rise relatively little. For each unit of import goods, the country will now give somewhat more than a unit of export goods, values being taken on the predevaluation basis. The terms of trade will have deteriorated. If output is valued in such a way that each unit of imports is regarded as equivalent to the exports that were necessary to pay for it prior to devaluation, real income will be lower after the devaluation than it was before.

No doubt there are cases in which a country's position as a supplier of exports or as a buyer of imports is so important in the world market that the country can, through an overvalued currency, secure better terms of trade. Any attempt to exploit the terms of trade, however, will be at the cost of a reduction in the availability of import goods. It is by no means clear that proper valuation of import goods will show that real income has been reduced by a devaluation necessary to secure an expansion of exports and, therefore, an increase in imports. Any system of valuing imports at their landed cost in national currency must show a fall in real income as a consequence of devaluation. On the other hand, if imports are valued at their actual prices in a free internal market, the devaluation may result in a rise in real income.⁷ Computations of this sort, which depend on the unit values selected for measuring real income, are obviously not very reliable bases for far-reaching conclusions on the effects of devaluation on real national income.

The basic question is whether the cost, in alternative consumption and investment, of providing the additional exports, following devaluation, is more than offset by the acquisition of the additional imports. Without attempting a refined analysis of this problem, it is possible to state certain conclusions. On the assumption that exports can be expanded substantially at the same real cost, the well-being of a country is likely to be increased by devaluation if its import restrictions have had to be severe and if the price elasticity of demand for its exports is relatively high. For the countries that devalued in 1949, there can be little doubt that real income, properly defined, was increased by the whole series of measures taken to strengthen the payments position.

⁷ Taking the market value of imports at the predevaluation date, real income will rise whenever P/P' is less than $(e - 1)/e$, where P is the landed cost, P' the real market value, and e the elasticity of demand for a country's exports.