tangle under the D curve, can at worst be constant.

Similar kinks in the schedules may also be the result of the fact that international competition is oligopolistic not merely in the sense of entrepreneurial reactions in the markets of most manufactured goods but also in the sense, described at greater length elsewhere (11) that the reactions of the competing national economies policy changes in (powerful) economies are of an oligopolistic character. In their policy decisions they take note of the policy of the countries with which they compete (12). To give an ex-

ample, devaluation or deflation in a powerful country which has the impact effect of making all entrepreneurs in that country more competitive abroad, has usually been followed by the competing economies as they would otherwise have been drenched of liquid reserves. Appreciation, on the other hand, need not be followed by appreciation or inflation abroad. Indeed unless the rest of the world is already fully stretched the appreciation will lead to a loss of trade (13). Hence a country contemplating a change in its exchange rate is in an analogous position to the oligopolistic entrepreneur whose behaviour has been represented by a kinked demand curve. The reactions need not be certain. The more risk may be a sufficient reason to refrain from experiments if the country's international liquidity position is precarious.


(12) This reduces the analytical value of efforts to circumvent the obvious and acknowledged difficulties of the time correlation analysis of elasticities by an analysis of simultaneously existing relations between the price and the quantity of foreign transactions of different countries. The fact that lower prices were associated with higher export figures does not permit us to conclude that, had the countries suffering from higher prices reduced their prices, their exports would have risen in the proportion indicated by the relation of prices and exports between high and low cost countries. This difficulty is far more basic and ineradicable than the obvious stat-

istical difficulty of measuring relative prices in a world where even certain raw materials, e.g. coal, were sold in highly imperfect markets.

(13) Under certain circumstances e.g. when the appreciating (or inflating) country is the main supplier of essential commodities its customers might gain if they followed suit (e.g. the U.S. in 1946-47).

Exchange Rates and National Income

by T. BALOH and P. P. STREE EHN

1. — Income effects.

In the first paper certain difficulties were analysed which arise from the breakdown of partial equilibrium analysis and from the oligopolistic nature of the relationships. We have seen that the «elasticities» depend: 1) upon each other, 2) upon price reactions in oligopolistic markets, 3) upon employment levels, 4) upon the amount and the direction of price changes, 5) upon reactions in other trading countries. We shall in the following discuss: i) more fully the effect of employment and income variations both in the short and long run; ii) the effects of changes in the distribution of income.

An alteration in the exchange rate will affect income and employment in three ways of which only the first is usually analysed.

(a) There are income effects which arise from the change in the volume of exports and the balance of trade. These are supposed to be brought about by the interplay of the «elasticities» and have been fully analysed, notably by M. Robinson. They need not detain us further.

(b) There are effects which arise from changes in the distribution of income within the country. They are usually entirely neglected.

(c) There are finally changes in the real income of the country which result from changes in the terms of trade.

Now all these effects will alter saving, consumption and investment and hence the demand for imports and the supply of exports. Thus a deterioration in the terms of trade and a reduction in real income is likely to reduce the demand for imports (although we have seen that it may give rise to inflationary movements in money wages which would have the opposite effect). A shift to profits is likely to raise savings and hence to reduce the demand for imports. The increased competitiveness of domestic business with foreign industry will provide new investment opportunities, etc. and, by raising incomes, raise demand for imports.

2. — Short run changes in income.

We shall consider the short-run effects on effective demand and monetary stability in this and the long-run effects on the growth of capital and income in a subsequent section. We shall discuss the question how these changes affect the concept of «price elasticities» and of «equilibrium rates of exchange». The first concept is relevant to value theory, the second to welfare economics.

An alteration in the exchange rate is likely to alter the level of effective demand for the reasons given above. The customary treatment of initial price effects, to be measured by price elasticities, and consequential income effects, to be measured by income elasticities and propensities, is not satisfactory. Although the multiplier effects of changes in the balance of payments might conceivably be treated as «secondary», the effects on income changes in the terms of trade and of distribution are simultaneous and analytically inseparable from the price changes. Exchange rate alterations are t vector income alterations. Moreover, if these income changes give rise to cumulative movements, the final reactions to price changes will be irreversible, for cumulative movements are not symmetrical for upward and downward changes.
A further asymmetry is introduced into the picture by the lack of perfect mobility of labour and the lags due to the time taken to adjust the capital structure of the country. The short-run effects of changes on investment depend on the direction and extent of the change. A reduction in net investment is perhaps most easily carried out. Even here strong complementarities might impede adjustments. An increase in net investment, though perhaps slower than a decrease, could be carried out more rapidly than an actual disinvestment of durable capital.

The difference in lags however will tend to impart a deflatory bias to the system as a whole — which can of course be counteracted. Investment decisions are discontinuous in any case and their timing will also be affected by actual or anticipated shifts in any of the schedules due to changes in exchange rates. These in their turn will alter the relevant propensities to consume and to import.

Again, with exchange rates, one of the conditions of a working «equilibrium» rate of exchange is the equation of aggregate supplies and aggregate demand in the trading countries. Only if inflation and deflation or inflationary and deflationary pressures are avoided can the rate of exchange be expected to work.

This argument is based on the tacit assumption that the attempt to equate aggregate supply to aggregate demand does not itself alter the relevant propensities and schedules. Demand and supply functions, with respect to price and income are assumed to be given and policy does not effect them. If there are restrictions, demand is frustrated and presses against the walls of controls. But such assumptions are not always justified. Frequently, we are not dealing with comparable schedules in two situations, one of which contains restrictions, the other of which does not. Pressures of excess demand are often modified by the imposition or the lifting of restrictions.

It is very doubtful whether one can speak legitimately of the intensity of a given demand, exerting a given inflationary pressure against controls. Controls often work more like canals and drainage systems than like absolute dams, by diverting and reducing inflationary pressures and thus altering the underlying situation.

Thus recommendations that a currency should e.g. be devalued so as to make the restoration of «equilibrium» and the abandonment of controls possible, must face the following difficulties: First, the rise in import prices and domestic prices resulting from depreciation and decontrol may itself aggravate the danger of inflation. Unless there is a substantial shift to non-invested profits in the export trades, contract and investment demand will tend to exceed available supplies. If the additional devaluation measures are recommended in order to make the devaluation and decontrol «effective», it is by no means obvious that this would not involve a larger, more painful and socially less desirable reduction in consumption and investment than that brought about by restrictions. Second, the availability of imports, though at higher prices, may raise the propensity to import compared with the situation in which they were not available. Advertising joint demand, habit formation and external diseconomies of consumption will play their part. The foreign exchange problem may thus be aggravated and even further-going deflation at home might have to be used in order to restore «equilibrium» in the foreign exchange market.

In short, restrictions on imports other than price restrictions often raise not only saving but the propensity to save (partly through favorable terms of trade which make money income stabilisation easier) and reduce not only imports but the propensity to import (by altering tastes and habits). There is no obvious reason why habits and tastes engendered by a free pricing system alone should be the «right» ones.

3. Effects of changes in the rate of exchange on income distribution.

A finite devaluation of the currency ipso facto alters the distribution of income both within a country and between members of different countries and hence the propensities to consume, invest and import. It is therefore illegitimate to treat the problem as if it were a case of an infinitesimal variation whose consequences can be neglected.

The internal effect of a devaluation will benefit export trades and those producing substitute imports, while the consumers of imports and also of substitutes for imports will suffer. Since wages must be assumed to be sticky there will be a redistribution in favour of profits. This will be aggravated if imports are largely necessary.

It is impossible to predict the net effect on savings but it is very probable that there will be a change. There are three possibilities: either there will be an inflationary impulse which might offset or more than offset any improvement in the balance from devaluation; or there may be a deflationary effect which would help the balance though possibly at a heavier price than is necessary; or finally internal monetary equilibrium is maintained but the amount of savings and imports is altered. In all cases the movement in the exchange rate and the ensuing reactions are not likely to be reversible. Only in the case of zero net saving both before and after the change and absence of any monetary cumulative effects could one speak of determinate «elasticities», were it not for the difficulties mentioned in previous sections, one would have to take account of trade union reactions to changes in the cost of living, secondary income changes resulting from the change in the balance of trade (both on consumption and investment) and speculative movements in anticipation of price changes.

In multiplier analysis it is now generally recognised that changes in employment are not only a function of the aggregate marginal propensity to consume and changes in interest, but of the composition of these aggregates. Rarely are analogous qualifications introduced into the theory of demand and supply responses to exchange depreciation. Yet it is clear that the composition of the demand for imports and the supply of exports which depends on changes in the distribution of income will affect the relevant «elasticities».

Thus any given change in the exchange rate will have different effects upon supply and demand according to different consequential changes in income distribution.

These changes are not reversible and any given change in the terms of trade is always uniquely related to a change in income distribution. But it is well known that contractually fixed incomes are much more flexible upwards than downwards. A country whose workers have once benefited from an improvement in the terms of trade and have grown used to a certain standard of living may find it difficult to enforce the return to the old low real wage level if a deficit should demand such a readjustment. The worsening of the terms of trade might be brought about by unemployment, by a reduction in profits or in costs, but it is most unlikely that the movement will be parallel and symmetric up or down. Hence «elasticities» will be different for upward or downward movements, according to the altered distribution of incomes. This is another reason for asymmetrical reactions.

Just as «elasticities» cannot be defined without provision about changes in the income distribution within a country, so proviso have to be made concerning the distribution of income (per head) between countries. Changes in the distribution of income will affect demand and supply «elasticities» at least for three reasons: First, because they will change the price of goods and supply. Secondly, because they will change the rate of growth of real income (by affecting savings and investment) and thirdly, because they will affect the ease or difficulty of maintaining monetary equilibrium and preventing cumulative movements.

Hitherto we have discussed the difficulties that arise in the formulation of «elasticity» concepts if the distributional effects of price changes are irreversible. These «elasticities» are often used to recommend methods of achieving an «equilibrium» through an «equilibrium» exchange rate in the balance of payments. The concept of an «equilibrium» is often taken to stand for a desirable state of affairs. A few remarks may therefore be appropriate about the welfare implications of an «equilibrium» rate of exchange.

Here again the two types of distributional effects must be considered: internal and international. The choice between foreign exchange and import restrictions of luxuries, combined with «overvaluation» on the one hand; and of an «equilibrium» rate, through devaluation without restrictions on the other, is not one between a «dis-equilibrium» and an «equilib-
nally and that even in the short run the effects on real income and on monetary stability must not be neglected. In the long run, when capital and real income must be assumed to grow, two additional problems arise for the definition of an equilibrium exchange rate.

First, it will no longer be possible to construct a model with a positive rate of growth because that rate of growth itself cannot be assumed to be given. If one is independent of the fluctuations round it, a dynamic model may replace the static assumption of zero net investment. The relative rates of growth of real income in different countries will give rise to disequilibria and the manner in which these disequilibria are adjusted will affect the rates of growth of real income. Thus a series of devaluations, even if they were practicable, might slow down the relative rate of real income growth in the deficit country and aggravate the difficulties of adjustment in the future, whilst e.g. policies with less detrimental effects on the terms of trade and hence (foreign trade) productivity might facilitate future adjustments by raising the relative growth of income and productivity in the deficit country. It is one of the characteristics of static equilibrium theory that it requires a dynamic theory of growth (domestic and foreign) before it can be applied to actual conditions and that the dynamic changes are themselves a function of the adjustments envisaged by static equilibrium theory. The concept of an equilibrium rate of exchange is ambiguous because any one rate of exchange alters the conditions underlying the moving equilibrium.

The second problem is this: if we assume that real income grows at different rates in different countries, a permanent cause of unbalance arises which impairs the application of such concepts as ‘elasticities’ and ‘equilibrium rates’ if applied to a long run. In the case of two countries each expanding at a different rate, an equilibrium exchange rate is conceivable if either of two possibilities is realized: either the rapidly expanding country has a sufficiently high income elasticity of demand for imports to provide a market which expands at the same rate as its exports (or a sufficiently high income ‘elasticity’ of demand for its exportable goods to reduce the rate of growth of exports sufficiently to maintain balance). Relative inequalities will then increase cumulatively and cyclical instability will probably be aggravated but there would be no secular pressure to devalue or devalue on the more slowly expanding country. Else or else the rapidly expanding country must inflate its costs and prices (or the slowly growing country deflate its costs and prices) sufficiently fast to prevent unemployment. In this case, given favourable price ‘elasticities’ a balance might be maintained, again, at the cost of cumulative inequality and possibly cyclical instability.

If either of these conditions is fulfilled the rapidly expanding country will not tend to generate export surpluses. Apart from the undesirability of these processes on grounds of equity and stability, the assumptions are not likely to be fulfilled. It is well known that the income ‘elasticities’ of demand for imports are likely to be low and that the pressure to inflate on a potential creditor country is weaker than the pressure to deflate on a potential debtor country. Moreover, the authorities in the potential creditor country may not want to inflate sufficiently, for distributional or internal stability reasons; even if they wanted they may not succeed in expanding credit and raising prices sufficiently; even if they succeeded the total expenditure on the country’s exports may rise at its prices rise. Thus the brunt of the pressure would fall on the deficit country with the deplorable consequences of deflation.

The alternative would be a series of exchange depreciations. But clearly, the notion of an equilibrium rate of change of exchange rates is artificial. Anticipations alone would make it nugatory. Even if it were imperfectly forecast, it would lead to a series of financial crises. Speculative forces would swamp the underlying ‘real’ forces and expectations about the equilibrium rate of change of the exchange rate would produce grave disequilibria. The well-known vicious spiral of inflation and devaluation would be at work, for internal price rises will also be anticipated and will aggravate the difficulties. Capital flight to the countries against which the currency is expected to be depreciated will be encouraged with very awkward effects on current account transactions. It appears that the concept of a constantly moving rate of exchange creates more difficulties than solves.

Like the rate of interest, the equilibrium rate of exchange does not depend only on the level of effective demand but also on the rate of growth of real income. It will both affect this rate of growth (which, as we have seen above, is a function of productivity, an important function of which is the value productivity of the terms of trade and be affected by it. This is the case of the elasticity optimists who argue that it is the long-run ‘elasticity’ that matters if deflation is considered and that it is likely to be high. The longer the run, the more time will have passed for investment and real income effects to work themselves out and dampen the price effects of devaluation. It is, of course, on the face of it, not obvious in which direction these effects will work in any particular case. But the concept of a long-run ‘elasticity’ of demand is unwarranted and the concept of a long-run equilibrium rate of change in the exchange rate is, quite exceptional circumstances apart, self-defeating.

Conclusions.

The use of the concept of ‘elasticity’ in the analysis of international economic problems has been shown to disregard complications of a sufficient order of magnitude to render the procedure inappropriate. The various functions, the ‘elasticities’ of which are supposed to govern the reaction of the balance of payments to the variations of exchange rates, have been shown to be interrelated in such a way that the calculation of elasticities may involve indeterminacy as the functions are shifted and probably distorted.

Secondly, we found, as one would expect in the case of functions which represent macroeconomic aggregates, that the state of employment in the constituent units has an important bearing on the reactions of the balance of payments to changes in the rate of foreign exchange and tends to render them irreversible and unique. Thirdly, the traditional analysis tends to neglect variables other than price-quantity relations, and thus gives an over-simplified view of these relationships. Fourthly, finite changes in the rate of exchange alter not merely
Italy's National Income
by
EUGENIO D'ELIA

1. — The Italian Central Institute of Statistics has recently published the results of an exhaustive investigation on the pattern and recent trends in Italy's national income (1). The book brings together valuable contributions on methodological problems (e.g., the interpretation to be given to the concept of "income," the theoretical systems used in calculating it, etc.) (2) and a detailed statistical material of special interest for an up-to-date analysis of national income in this country. The research has been carried out analytically for each separate branch of economic activity and is prefaced by a report in which the several component items of the income are defined and illustrated and the conclusive data are given in summarised form (3).

In this paper a synthetic exposition of these efforts will be made in an attempt to point out the essential features of Italy's national income, war disturbances and the recovery movement of the subsequent years. To start with, however, it seems necessary to submit a few explanatory remarks so as to clear up certain problems of method and definition.

2. — As is known, the national income of a given country may be estimated by the personal or by the real method, the choice depending on the statistical data available. The first method is adopted in countries possessing statistics on personal incomes returned for the purposes of the direct tax (the income-tax of the English-speaking countries). The second method is based on the ascertainment of the added value and of the net product. It should be used when, in the absence of the fiscal statistics just referred to, the results of economic censuses and of annual statistics on production for the several branches and sub-branches of economic activity are available.

As the Italian fiscal legislation does not provide statistical data which would allow of using the first method, recourse must be had to the second. This is what the Central Institute of Statistics has done in the recently published volume, in which the net product, both of private and of the public sector is to be understood as the "internal component of the national income, while the "external component is provided by net incomes from abroad (capital investments and labour) and by foreign donations.

If, however, we bear in mind that the net product represents the value of the national production of goods and services in the given period of time, net of the value of the raw materials used in the processes of production and net of payments for upkeep, repairs and sinking funds, we cannot but admit that it can be identified with the internal component of income only when referred to "normal" periods. Thus, if during the period under consideration expenses incurred for rebuilding the efficiency of plants injured by lack of upkeep during the preceding periods are deducted from the gross product, the net product is found to be smaller than the internal component of the income. This, for instance, has occurred in Italy during the post-war years and in increasing extent from 1947 to 1949 in all branches of economy, and more especially in industry and agriculture. The reconstruction of industrial plants, the reacquisition of farm live-stock