

16. Superposed Circuits. There are sets of phenomena, notably the favourable and unfavourable balances of foreign trade, deficit government spending and the payment of public debts by taxation, that are analogous to the phenomena of the cycle. It is proposed to deal with them under the general title of "superposed circuits". In our general account of the monetary circulation, two circuits, a basic and a surplus, were distinguished. They were inter-connected with a cross-over. But they involved no regular flow through the redistributive function; that function stood, as it were, outside the circuits, a source of more money for expansions and a refuge for money during contractions, but not a regular stop in the circulation of money as far as the productive process was concerned.

There is, however, no impossibility of the redistributive function becoming a point through which a circuit regularly passes. On the other hand, such a circuit both presupposes and is distinct from the basic and surplus circuits already considered. Hence, the name of superposed circuits, and also the mode of treatment. For any superposed circuit may be represented by rates of payment, $\{Z'$ and $\{Z''$, per interval added to variables of the circulation diagramme as follows:

- 1) $\{D' + \{Z' \quad -- \quad \{D'' + \{Z''$
- 2) $\{E' + \{Z' \quad -- \quad \{E'' + \{Z''$
- 3) $G'\{D' + \{Z' \quad -- \quad (1 - G'')\{D'' + \{Z''$
- 4) $\{D'' - \{Z' - \{Z''$

The foregoing additions and, in the last case, subtractions are supposed to be made to or from the other rates, fD^1 , fD^2 , fE^1 , fE^2 , etc., as they are determined generally. No doubt the additions or subtractions modify these rates, reinforce or counter-act the tendencies of whatever phase may be in progress. Our purpose in representing them as above is not at all to deny such inter-action but rather to gain a view-point from which such inter-action may be studied. The view-point adopted is that of the circuit: the circular route of fZ^1 and fZ^2 is a different route from that of basic or surplus expenditure, outlay, or income; there exists a partial coincidence, but its significance varies with the nature of the superposed circuit; and there is never a total coincidence since the redistributive function is a regular port of call in the superposed circuit.

In any given interval fZ^1 is the same value no matter whether it is added to fD^1 or fZ^1 or G^1fO^1 or subtracted from fD^2 . Further, the addition or subtraction always occurs in each of the four cases. These two conditions are necessary to have a circular movement of a sum of money, fZ^1 , per interval. The same holds for fZ^2 . On the other hand, from one interval to another, the quantity represented by fZ^1 , or by fZ^2 , may vary. However, since our interest is to examine the superposed circuit in itself rather than the effect of its variations, in general it will be convenient to suppose that fZ^1 and fZ^2 are constant over a series of intervals. Finally, there never is any need of fZ^1 and fZ^2 being equal.

As represented by the list of additions to the circuit diagramme, a superposed circuit consists of the following eight movements per

interval: from the redistributive function $\{Z'$ to basic demand and $\{Z''$ to surplus demand; from basic demand $\{Z'$ to basic supply, and from surplus demand $\{Z''$ to surplus supply; from basic supply $\{Z'$ to surplus demand, and from surplus supply $\{Z''$ to surplus demand; from surplus demand $\{Z'$ and $\{Z''$ to the redistributive function. In any given interval either $\{Z'$ or $\{Z''$ may be zero; but if both are zero, there is no superposed circuit.

In studying the superposed circuits one may begin at any function to move in either direction. One may begin anywhere because the total movement is circular. One may move in either direction, for one may ask where the money goes or where it is coming from. Finally, one may regard the eight movements as simultaneous: they all occur within the same interval; the condition of a circulation is satisfied if they occur within the interval; and the condition of a circulation is the one condition required. In fact, a certain amount of short-term financing will be required to enable some function to pay before it receives its $\{Z'$ or its $\{Z''$ either in whole or in part; or else the superposed circuit will be a circuit in virtue of a lag; but such minor phenomena need not be discussed in the general inquiry.

17. The Balance of Foreign Trade. There is an evident analogy between the rate of new fixed investment and a favourable balance of foreign trade. In both cases the rates of current production exceed, within the given area, the sum of the rate of current consumption and of the rate of capital replacements and maintenance. In both cases there results accordingly a rate of pure surplus income which really is the new fixed investment or the excess export but has as well a monetary equivalent in the difference between total outlay, which is proportionate to total production, and total consumption and replacement income, which are proportionate to a fraction only of total production.

The interest of the free economies in a favourable balance of foreign trade has a very solid foundation. Prior to the full development of monetary techniques, an excess export of goods and services was balanced by an excess import of gold; this increased the quantity of money available in the economy; and this increase in the economy made possible an equal increase in the circuits. But the expansion of the circuits is, in large part, conditioned by the possibility of increasing the quantity of money available for the transactions of the circuits. Thus, a favourable balance of trade, balanced by a favourable balance of gold imports, was a means of satisfying a principal condition for economic expansion.

However, this monetary interest in a favourable balance of trade is far from the sole interest in it. The favourable balance adds an equal amount to the rate of pure surplus income; with pure surplus

income at the nerve centre of economies based ^{and more} on the ideal of the "successful man", this addition to the rate of pure surplus was, while it lasted, an unmitigated blessing. It augmented the rate of pure surplus in surplus expansions. It offset the rate of losses in depressions, and it did this in two distinct ways: first it tended to cancel out any rate of losses that otherwise would appear; second it tended to prevent such an hypothetical appearance. The first point is obvious. The second follows from the fact that the rate of losses results from the economy's inability to reduce sufficiently the rate of net aggregate savings; but the need of bringing about such a reduction rests on the fact that basic quantities are increasing more rapidly than surplus; evidently, in the measure in which the production of increasing basic quantities may be replaced by the production of increasing quantities of goods and services for an increasing favourable foreign balance, in that measure the turn of the process towards basic expansion is eliminated; and there follows the elimination of a tendency towards decreasing savings with the consequent rate of losses.

The theoretical significance of the foregoing is considerable. It provides an explanation both of nineteenth century practice and of nineteenth century theory. The nineteenth century economy did not need, as we need, a rigorous adaptation to the pure cycle of the productive process because then the phenomena of the pure cycle could be covered over by the favourable balance of foreign trade. Further, under such circumstances a theorist would not have his attention directed to cycles as matters of scientific moment, for the very good reason that, since their phenomena were covered over in part, they would be

regarded naturally and spontaneously as incidental complexes of relatively arbitrary events. Accordingly, we turn to a more detailed consideration of the circuits involved in a favourable balance of foreign trade.

The assumption of the closed economy is now dropped. One supposes the existence of a number of economies, each with its redistributive function and its basic and surplus circuits. It will be convenient to assume that transactions between economies take place between their redistributive functions: thus goods and services leaving one economy for the benefit of another leave the one as redistributive goods or services and enter the other as redistributive goods or services; similarly, payments enter and leave by the redistributive function.

Consider, then, an economy that, over a series of intervals, has a favourable balance of foreign trade of $fZ' + fZ''$ per interval. Then in each interval it produces, over and above all domestic requirements, fZ' worth of basic goods and services and fZ'' worth of surplus goods and services. Exporters purchase these products by moving from the redistributive function to basic demand, fZ' , and to surplus demand, fZ'' ; both sums are there spent to give $fE' + fZ'$ and $fE'' + fZ''$. The resultant receipts contain $fZ' + fZ''$ of surplus income, that is, of income that need be spent at neither final market; hence we have the movements $G'fO' + fZ'$ and $(1 - G'')fO'' + fZ''$ and then $fD'' - fZ' - fZ''$ as the surplus income is counted pure surplus and moved from surplus demand to the redistributive function. To close the circuit it is necessary to connect this movement of pure surplus income to the redistributive

function with the movement by exporters of an equal sum from the redistributive function to the final markets.

Such a connection can be operated in a variety of ways. The exporters receive from abroad either a gold import or a foreign debt or the cancellation of a domestic debt abroad. For such payment to be acceptable to the exporters, it must be negotiable on the domestic redistributive market. The general condition of negotiability is that the exporters by their subsequent use of the money they receive do not drain the redistributive function of its funds. This general condition is satisfied by the movement of the pure surplus income into the redistributive function at the same rate as exporters move money out of the redistributive function. Provided then there exist markets in short-term bills and long-term securities or for gold, and provided the pure surplus is spent on these markets, the general condition will be satisfied.

The international monetary phenomena are quite simple. In a first period payments are made in gold. The countries with the favourable balance are thus enabled to undertake expansions in virtue of their increased stocks of money. The countries with the unfavourable balance suffer equal contractions, until they discover the cause of the trouble. Then they practice the doctrine of mercantilism: foreign trade is controlled so that there is no unfavourable balance of trade. In the long run the only countries that will balance an excess import by the export of gold are either gold-producing countries or else backward economies in which there exist stocks of gold which can be hoarded. In a second period there develops the practice of foreign

lending. Countries with unfavourable balances of trade have bills of exchange pile up against them in the exporting countries; these are liquidated by floating long-term foreign loans or, when an economy which previously enjoyed a favourable balance turns to an unfavourable balance, by selling domestically owned foreign securities.

Some of the domestic features of an economy enjoying a favourable balance have already been noted. The rate of excess export involves an equal rate of pure surplus income that augments the benefits of an expansion, provides a substitute for them when there is no expansion, counter-acts the tendency for a rate of losses in a basic expansion, and tends to eliminate basic expansions by directing into an increasing excess export what otherwise would have been an increasing rate of domestic consumption with consequently contracting savings. Thus, an economy operating with a favourable balance enjoys a cushioned domestic cycle. As far as the domestic cycle is concerned, it can proceed on the principles of increasing thrift and enterprise which are normative generally only in the surplus expansion. On the other hand, the favourable balance itself will be conditioned by the cycles in foreign economies. If the importing countries are sufficiently developed exchange economies to experience the cycle and if the volume of international trade is sufficiently large to effect a general synchronism of cycles, then so far from mitigating domestic cycles the effect of foreign trade will be to reinforce them tremendously. On the other hand, when the synchronism is lacking and still more when the importing countries are colonial economies with little domestic

commerce or industry, such reinforcement does not occur. The existence of the cushioning effect would seem established by the fact that in England basic wages rates did not begin to rise until 1870; that would suggest that previous basic expansions had been avoided successfully by diverting increased potential into an increased excess export. And to some extent, at least, the same fact confirms the advantage of conducting foreign trade with colonies and primitive countries.

The inverse phenomena to the favourable balance result from the unfavourable balance of foreign trade. Then either or both the emergent standard of living and the increment of capital equipment of the economy are in excess of its basic and surplus rates of production. In so far as the excess import does not enter domestic channels of industry and commerce, there is no superposed circuit: importers purchase and use or consume the excess import within the redistributive function. However, in that case they are not importers in the sense of a class of dealers; no large rate of import can be managed in that fashion, for large imports have to be sold on the regular final markets of the domestic economy. Let then the ratio of the excess import sold on the domestic final markets be once more $\{Z'$ and $\{Z''$. Then domestic entrepreneurs direct part of their gross receipts, as though they were pure surplus income, to surplus demand and thence to the redistributive function. This gives elements 3) and 4), namely, $G'\{D' + \{Z'$, $(1 - G'')\{D'' + \{Z''$, and $\{D'' - \{Z' - \{Z''$. Thus domestic entrepreneurs purchase the excess import from the importers in the redistributive function and transfer it to the stocks of the domestic basic and sur-

plus markets. There it is sold to the domestic public, to give $fE' + fZ'$ and $fE'' + fZ''$. It is true that the domestic public will pay more than fZ' and fZ'' ; however, the difference will be the wages, rents, and interest due to domestic production factors; it will circulate in the ordinary fashion; and so we need not be concerned with it. On the other hand, the fZ' and fZ'' ends up in the redistributive function where it pays the importers who pay the foreign sellers with gold, with the contraction of foreign debts, or with the sale of domestically owned foreign securities. The problem of the unfavourable balance is to close the circuit by moving to the domestic public the money the importers receive from domestic entrepreneurs and pay to domestic sellers of gold or securities. This involves the $fD' + fZ'$ and the $fD'' + fZ''$.

The $fD'' + fZ''$ is analogous to the rate of new fixed investment in the domestic expansion. Domestic surplus demand is borrowing from the redistributive function at the rate fZ'' per interval to purchase goods or services for the maintenance, replacement, or net increment of domestic capital equipment. But there is a grave difference. In the domestic expansion or in the purchase through borrowing (which may include borrowing from one's own holdings in the redistributive function) of domestically produced replacements, the rate of movement from the redistributive function to surplus demand is balanced by a rate of income moving from surplus demand to the redistributive function. But in the present case, the balancing movement is not a rate of income, for the goods sold were not produced domestically and so generate no income; the balancing rate is simply a rate of payment for the current supply

of the goods and services of the excess import. The consequence is that, if the excess import is replacement goods, then domestic industry does not pay its own way but has to borrow to the extent, fZ^n per interval, to keep its capital equipment up to date. And if the excess import is an increment of existing capital yielding an acceleration of the process, then the economy conducts a long-term acceleration at the rate, fZ^n of new capital equipment per interval, without enjoying any pure surplus income such as is enjoyed when the increment of equipment is domestically produced. Hence, the greater fZ^n is relatively to fE^n , the greater the difficulty of investors contemplating the maintenance, replacement, or increment of capital equipment; for evidently if capital notably fails to support itself and yields only a mediocre flow of pure surplus income, investment is unattractive. Hence, just as the favourable balance of trade intensifies the joy of expansion, so the unfavourable balance dims that joy. With foreign debts mounting or foreign holdings decreasing, the economy with an unfavourable balance reacts very sluggishly indeed to opportunities for expansion. And while brilliant prospects of great developments in the future may overcome this sluggishness in a young country, the matter is quite different in an old country that once was a creditor but since has become a rentier to the world.

Even more intractable is the the other component of the movement from the redistributive function to demand, $fD^1 + fZ^1$. The possibility of such a transference arises mainly in two cases; there is the case of oriental princes dehoarding gold to purchase occidental trumperies;

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there is the case of the rentier class living on the interest or principal of foreign holdings. In either case money is moved at a rate, say fZ' , from the redistributive function to basic demand. On the other hand, it is to be noted that rentier spending of interest on domestic industrial bonds, for instance, does not meet the requirements of the problem: such interest is a part of domestic income and must be spent interval by interval either in itself or equivalently by others spending more than they earn; hence it does not create the possibility of an additional movement from the redistributive function to basic demand.

Now evidently it may happen easily that the movement $fD' + fZ'$ fails to occur either in whole or in part. The consequences of such a failure vary with the country's balance of foreign payments and with the phase in which the economy is moving. Let us first suppose that the unfavourable balance of trade is necessary for the balance of payments; we deal then with an economy that once was a creditor but since has become a rentier; opportunities for foreign lending no longer keep pace with the interest and dividends due to former loans made abroad, and so if there is to be payment by foreign economies, the payment now must be in goods and services. In such a situation the failure of $fD' + fZ'$ may occur during a surplus expansion; then the required rate of savings tends to exceed the actual rate of savings, and so the failure is all to the good, for the excess import of basic products makes up for excessive monetary basic income. However, in so far as the excess import includes surplus goods and services, there are apt to be special difficulties in surplus expansion occurring, as was argued above; and so the problem of $fD'' + fZ''$ can make this happy solution of

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the failure of $fD' + fZ'$ somewhat rarer than might be anticipated.

Apart from the occurrence of a surplus expansion, the failure of $fD' + fZ'$ generates the phenomena of a depression. More goods and services are moving to the basic final market than there is monetary income to pay for them at current prices. The situation is repeated in each successive interval, and so prices fall continuously. Further, as they fall aggregate outlay and income shrink, both from the contraction of the price index and from the consequent reduction of scales of operation; hence the fZ' becomes relatively more and more important. Now if prices are allowed to fall and the domestic economy to contract sufficiently, there comes a time when the excess import can no longer be sold on the domestic final market; it cannot compete with domestic prices and it cannot be demanded by domestic rates of income. This, however, not only is a painful operation upon the domestic economy but also it will force foreign debtors to repudiate their debts since they no longer have any possibility of paying them in goods and services. The alternative to such a doubly unpleasant decision is to force the recipients of interest and dividends on foreign holdings to spend their income on the basic final market. Since such recipients will be relatively few in number, they cannot undertake personally so great a rate of consumer expenditure. However, the depression has notably augmented the numbers of the unemployed, and so the brilliant expedient of a steep income tax on the rich to provide a dole for the poor will effect the required $fD' + fZ'$; the upper leisure class of rentiers is recruited from a lower leisure class of unemployed. Obviously an economy that has worked itself into this impasse is not to be regarded as a

model of enlightened legislation for other economies more fortunately placed; its "social security" and other programmes may or may not be defensible from the view-point of the difficulties they solve; but such a defence cannot be applied to mimic procedures in totally different situations.

So much for the unfavourable balance of trade that effects a balance of payments. When the unfavourable balance of trade means that a rate of foreign borrowing is needed to effect the balance of payments, phenomena are simpler inasmuch as the foreign borrowing can be ended by the introduction of sufficiently vigorous controls. The fact that Australia rationed the import of automobiles is suggestive. Modern ideas on "managed money", that is, of an expansion of credit in accordance with the needs of domestic industry and commerce, have to be complemented with the fear that the monetary expansion may stimulate the purchase of imported goods more than the industrial and commercial expansion stimulates the export trade. When such a fear proves grounded, there results an unfavourable balance; and the bold ideas on money, especially when put forward by confiscators of private property, do little to reassure foreign lenders. With foreign lenders not forthcoming, the unfavourable balance of trade has to end, and if the "managed money" is to be maintained, it postulates a government control of imports and an orientation towards economic autarky. However, the issue before us is the movement from the redistributive function to the circuits that gives a $\int D' + \int Z'$ while the unfavourable balance of trade persists. In the situation of a bold monetary expansion stim-

ulating the purchase of imports, the movement from the redistributive function is to the supply and not to the demand function; it is a $fS' + fZ'$ or a $fS'' + fZ'$ and not a $fD' + fZ'$. This movement initially finances an increment in entrepreneurial scales of operation, but instead of this increment being sold at the final markets, there is sold the excess import. The resultant contraction may be delayed, however, by a fuller boldness of monetary policy. As long as the increment in production is to be sold at surplus markets, it can be bought by borrowers, so that the problem of providing a $fD' + fZ'$ is being solved by providing both a $fS'' + fZ'$ and a $fD'' + fZ'$; the former fZ' expands turnover magnitudes, becomes basic income, is spent for the excess import, and so moves back to the redistributive function; the latter fZ' purchases the increment in the rate of production and then circulates normally to maintain that increment. This is a case of surplus expansion not yielding pure surplus income: the fZ' that moves to the redistributive function is not income but payment for the excess import; and it is accompanied by an increase in debts of $2fZ'$ per interval, apart from the increase due to fZ'' . When however the domestic expansion puts goods on the basic final market, contraction results. The only escape is for these goods to be exported, and that will end the unfavourable balance of trade. Thus, it should seem that a debtor country can meet the requirement for a $fD' + fZ'$ only during an expansion of the surplus stage of its productive process, and only by paying for the excess basic import by increasing its long-term capital debt by fZ' per interval.

18. Deficit Spending and Taxes

Government spending purports to promote the economic, social, and cultural overhead of the community. Exceptional expenditures may be funded by floating loans, but loans mean payments of interest and amortization. Ultimately, then, if not immediately, government revenues come from taxes.

Deficit spending arises when government expenditure exceeds its revenues. It may be represented by payments made to the circuits from the redistributational area in excess of payments made from the circuits to the redistributational area.

As there are two circuits, we must distinguish in government spending in any interval, fZ , between fZ' paid into basic demand and fZ'' paid into surplus demand. Similarly, in taxes, fT , we have to distinguish between fT' withdrawn from basic demand and fT'' withdrawn from surplus demand.

Now as long as there is a deficit, fZ will be greater than fT . But what is true of the totals, need not hold for the parts. fZ' may be smaller than fT' if fZ'' is sufficiently greater than fT'' . Similarly, fZ'' may be smaller than fT'' when fZ' is proportionately greater than fT' .

But in each of these cases the balance of the circuits is upset. In the former case the basic circuit is being drained of funds while the surplus circuit is invited to expand or inflate or deposit its excess in the redistributational area. In the latter case the surplus circuit is being drained of funds while the basic circuit is invited to expand or inflate or enter the redistributational market.

The latter alternative is the more probable. Surplus income is as essential to the continuity of surplus production as basic income is essential to the community's standard of living. An uncompensated withdrawal from surplus implies a contraction of surplus production. Yet surplus seems to many to be the obviously right target for taxation. That mistake has grievous consequences. A contraction of the surplus circuit means a contraction of surplus outlay, of employment, of the cross-over from surplus to basic, of the means of maintenance and growth. At the same time there will be a strong tendency for the basic market to inflate and to continue inflating as long as the imbalance is maintained.

It seems the latter alternative that is more likely to occur. Conventional wisdom favors taxing the rich and resists taxing the masses, and so fT^* is encouraged to be too big and fT' too small. Again it is thought that government spending should not compete against private enterprise. But then fZ^* will have to be small, and from the nature of the case fZ' will be the normal outlet for government spending.

There results the situation — sometimes thought mysterious — in which consumer prices continuously inflate, new enterprise is evaded, unemployment becomes chronic, and despite the inflation the value of stocks declines.

While this second alternative is most unwelcome, no doubt it is the first alternative that encouraged the advocates of the unbalanced budget and deficit spending. For the first alternative recalls the happy days of mercantilism or, rather, it appears to do so. Basic prices are held down and basic production held back by high taxation. Surplus activity is lavishly encouraged. All that is lacking is the foreign market in which the fruits of this activity can be sold.

Need the moral be repeated. There exist two distinct circuits each with its own final market. The equilibrium of the economic process is conditioned by the balance of the two circuits: each must be allowed the possibility of continuity, of basic outlay yielding an equal basic income and surplus outlay yielding an equal surplus income, of basic and surplus income yielding equal basic and surplus expenditure, and of these grounding equivalent basic and surplus outlay. But what cannot be tolerated, must less sustained, is for one circuit to be drained by the other. That is the essence of dynamic disequilibrium.