THE FOREIGN EXCHANGES

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BY

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PREFATORY NOTE

THE subject of this volume was selected as that of the course of Newmarch lectures delivered in the Michaelmas term of 1922 at University College, London. The lectures have been reproduced substantially as given, both in form and content, the chapters of the book corresponding to the successive lectures of the course. In one respect the diagrammatic illustrations and the commentary on them has been modified, as the course of events represented has been extended to the end of 1923 in some cases and to the end of March, 1924, in others, in place of being limited to happenings prior to November, 1922. The least possible change, consistent with the inclusion of the later data, has been made in the text, though some of the diagrams have been redrawn in a different form. It is hoped that these changes will be found to be improvements.

CHAPTER I

EFFECTS OF THE WAR ON THE EXCHANGES. THE BALANCING OF INTERNATIONAL PAYMENTS

PREVIOUS to the war, the theory of the Foreign Exchanges was generally regarded as an abstruse, not very interesting, even a somewhat mysterious subject, understood by the few people who had to deal with it in the way of business, but which the rest of the community were content to leave alone. A more general interest has been awakened in it by the extraordinary changes which have been witnessed in the movements of the foreign exchanges, not only during the war, but still more since the Armistice. While still regarded as a rather mysterious subject, its importance to all of us is readily recognized. Various explanations are from time to time offered of the extraordinary manner in which the foreign exchanges jump about, and it is the purpose of this book to examine the principal of these explanations and to submit them to such statistical tests

as are available, without having recourse, however, to the more technical methods of modern statistical science.

The principles which are involved in the understanding of the foreign exchanges are neither so abstruse as to be beyond the grasp of ordinary intelligent people, provided that they will exercise reasonable patience and not expect to reach an explanation of everything in a hurry: nor are they so involved in mystery as to defy comprehension by all but a very select few. The plain man who will give sufficient patience to the study of the problem ought to be able to reach its kernel without a great deal of difficulty.

In Diagrams 1 and 2 the comparative variations of the exchanges on London, Paris and Berlin during the war are shown. Weekly averages of the daily quotations have been prepared for the purposes of these diagrams. In the first of them there are shown the rates quoted in New York on London and Paris and, until April, 1917, on Berlin. To continue the record after direct quotations on Berlin ceased, the cost of marks in terms of dollars has been calculated by taking the cost of Dutch gulden in dollars and of marks in Dutch gulden. As the results of such calculations differed considerably more than in normal times from the direct quotations during the early months of 1917, the position of the line on the diagram showing the arbitrage rates has been so adjusted that its average level during those months corresponds to

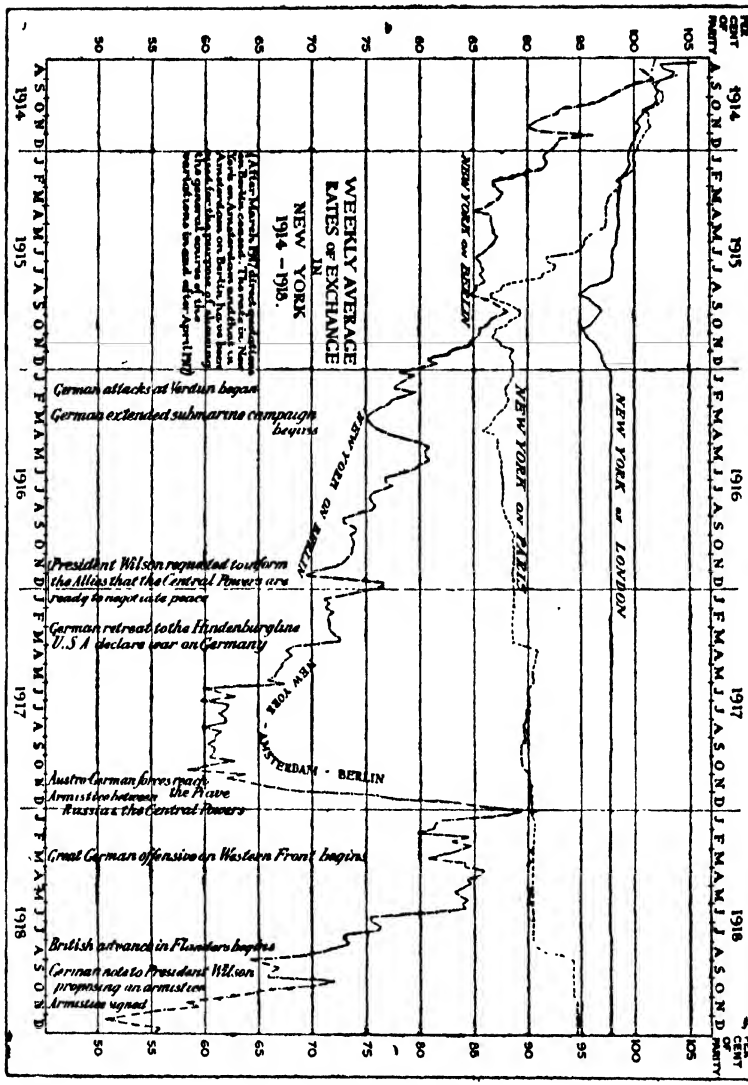

WEEKLY AVERAGE RATES OF EXCHANGE IN NEW YORK 1914 – 1918.
PER CENT OF PARITY
NEW YORK on BERLIN
NEW YORK on PARIS
NEW YORK on LONDON
NEW YORK - AMSTERDAM - BERLIN
German attacks at Verdun began
German extended submarine campaign begins
President Wilson requested to inform the Allies that the Central Powers are ready to negotiate peace
German retreat to the Hindenburg line
U.S.A declare war on Germany
Austro German forces reach Armistice between the Piave Russia & the Central Powers
Great German offensive on Western Front begins
British advance in Flanders begins
German note to President Wilson proposing an armistice
Armistice signed

DIAGRAM I.

that shown by the direct quotations. It will be seen that, after some extreme quotations in the opening weeks of the war, when difficulties in communication, actual or anticipated, made dollars fall to a phenomenally low value in sterling, there was established a varying discount on the pounds in terms of dollars, reaching to over 5 per cent. (weekly average about $4.60 to the £) at the end of August, 1915, the lowest level reached being about 1 per cent. below the week's average. From January, 1916, however, a means of stabilizing the exchange had been devised, and the rate was practically steady at $4.76\frac{7}{16}$ to the pound. The Paris exchange fell more than that on London, and at the end of August, 1915, was at a discount of 14 per cent. (weekly average $13\frac{1}{2}$ per cent.) or over double that on sterling. As late as the middle of April, 1916, its fluctuations remained considerable, and the lowest point was reached near that date, immediately preceding a period of much greater steadiness, followed in October, 1916, by a definite stabilization at about 5.85 francs to the dollar. From April, 1917, to August, 1918, a rate lower by about $12\frac{1}{2}$ centimes was achieved, and a further reduction to about 5.50 francs to the dollar was made in the course of the last-named month.

The Rome exchange suffered more than that on Paris, and remained subject to very great variations throughout the period preceding the

entry of the United States into the war. During the early months of 1917, the discount on lire in New York was as great as that on marks; in the month of March even substantially greater.

The variations of the mark exchange on the New York market are very interesting, and might be connected with various efforts made to secure credit for Germany in America. As late as September, 1915, marks were depreciated little more than French francs, but six months later, at 25 per cent. discount, they showed about double the discount on French currency. There was a notable recovery in May, followed by a relapse, the rate drifting downwards to over 30 per cent. discount in the first half of December, 1916, followed by a sensational recovery to little more than 21 per cent. discount before Christmas, which was, however, only short lived. During the summer and autumn of 1917 a fluctuating rate, passing 40 per cent. discount on several occasions, is indicated by the arbitrage calculations shown in the diagram. In November and December, 1917, after the successes of the arms of the Central Powers in Italy and the definite loss to the Allies of Russian co-operation, the value of the mark once more rose to levels not attained since 1915, and maintained that position for half a year, only to fall with corresponding suddenness as the end approached. The spurt which followed the opening of negotiations for an armistice

was but a temporary flutter, as the diagram indicates.

After the entry of the United States into the war on the side of the Allies, the relative position of Allied and Enemy currencies must be traced from a different post of observation. We might take Switzerland, or a Scandinavian centre, or Holland, and the latter has been selected for the purposes of the second of the diagrams. Viewed from this standpoint, the London and Paris exchanges depreciated from the entry of the United States into the war, till the summer of 1918, the worst point being reached in the early days of August in that year. The Berlin exchange also depreciated at almost the same rate from January, 1918 (after a remarkable rise during the preceding two months), and the explanation of the similar movement in all three may be found in an appreciation of the Dutch currency relatively to gold (as seen by the movement of the rate on New York), causing it to function not altogether satisfactorily as a standard from which to measure the movements of other currencies. This difficulty cannot be overcome by selecting one of the other neutral centres as a point of observation, and the method adopted in Diagram 1 appears one of the least unsatisfactory for showing the relative variations in the three currencies compared.

During the months of June and July, 1918, when the exchange on London and Paris was still falling in Amsterdam, that on Berlin was falling

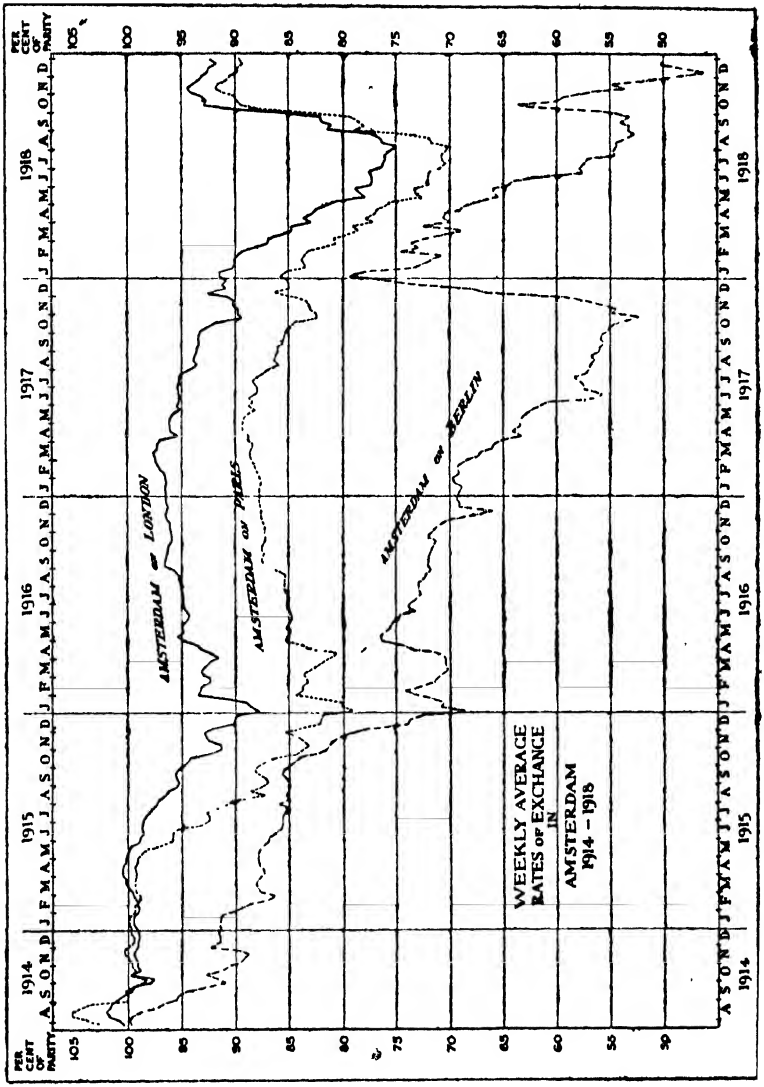

WEEKLY AVERAGE
RATES OF EXCHANGE
IN
AMSTERDAM
1914 – 1918
AMSTERDAM on LONDON
AMSTERDAM on PARIS
AMSTERDAM on BERLIN
PER CENT OF PARITY
1914
1915
1916
1917
1918

DIAGRAM 2.

even more rapidly. During August and September the Allied rates improved, while the Berlin rate ceased its rapid fall. In October all three rates showed a rapid recovery, but while the rates on London and Paris marked further improvement as the date of the Armistice approached, that on Berlin fell again as rapidly as it had risen.

In the half-year following the Armistice, the rate of exchange on London improved considerably in Amsterdam, its variations being closely paralleled till the middle of March, 1919, by those of the rate on Paris. With the unpegging of the exchanges which was then effected, that is, the cessation of the special measures adopted to secure fixed rates of exchange between London and Paris on the one hand, and New York on the other, a rapid depreciation of the Paris exchange occurred in Amsterdam, while sterling improved. The course of the exchanges in and after 1919 will be dealt with in a later part of this chapter (see pp. 10–18).

From the middle of October, 1918, throughout the year 1919, and the opening months of 1920, the value of the mark tended downwards in Amsterdam, with considerable oscillations. From a discount of 33 per cent. at the best point in October, the movement was so rapid that at the Armistice date the discount on marks exceeded 45 per cent. Before the end of November it passed definitely and finally its previous worst

point and, in the course of February, 1920, fell to a discount of over 95 per cent.

The main features to which attention should be directed in regard to the changes during the war are two. The one is that the rates of exchange between London and New York maintained during the course of the war an extraordinary stability. That was done by the use of special methods which it will be our purpose in due course to explain, but that explanation cannot come before we examine the problem as a whole. The other is the progressive fall in the foreign value of German currency, which was, however, interrupted from time to time, either as a result of the successes achieved by the Germans and their allies or by means of special efforts to procure resources for meeting their constant difficulties in regard to supplies of food and of certain military necessities. Such interruptions were short lived, and though the depreciation of the mark did not measure with precision the degree of German need, it served as a rough indication of the strain on the enemy resources.

It is rather, however, the course of exchanges after the conclusion of the war that presents most interest, because we can begin then to refer them in due course to ordinary commercial factors.

It will be useful to pass in review the fluctuations in the exchange rates between London and the principal centres abroad since the date of the Armistice. In Diagrams 3, 4, 5 and 6 the monthly

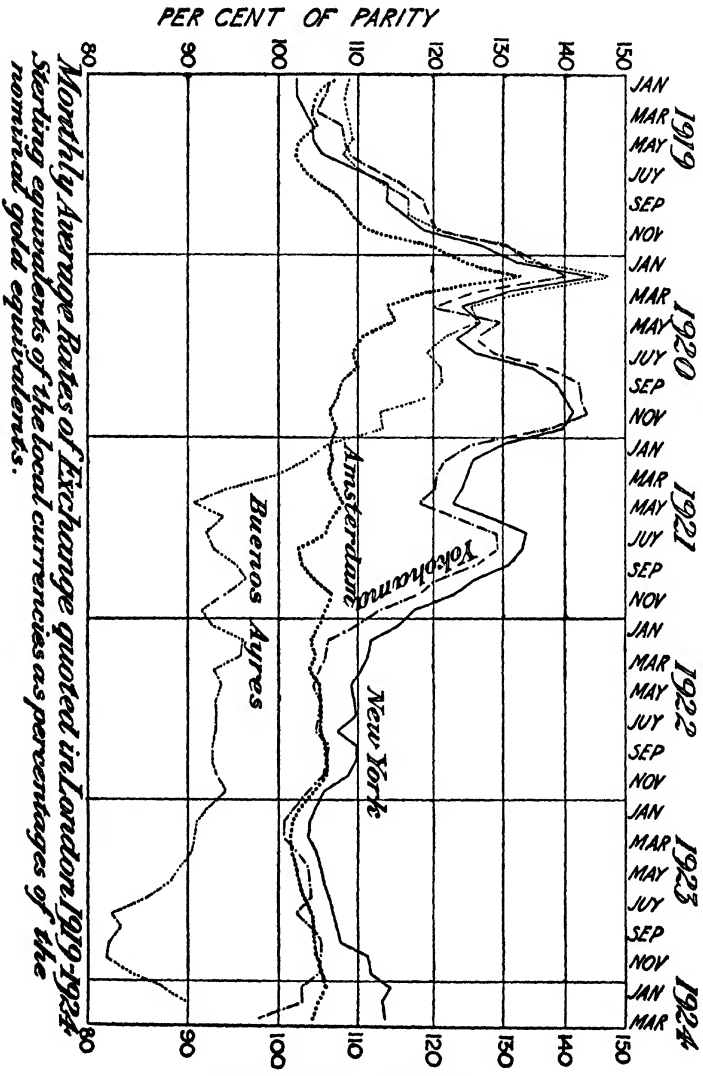

PER CENT OF PARITY
80
90
100
110
120
130
140
150
1919
1920
1921
1922
1923
1924
JAN
MAR
MAY
JUY
SEP
NOV
Amsterdam
Yokohama
Buenos Ayres
New York
Monthly Average Rates of Exchange quoted in London 1919-1924
Sterling equivalents of the local currencies as percentages of the nominal gold equivalents.

DIAGRAM 3.

averages of the quotations are traced for the years 1919 to 1923 and the first three months of 1924.

The group represented in Diagram 3 includes the exchanges on New York, on Yokohama, on Amsterdam and on Buenos Ayres. All these were quoted at a premium in sterling, and the premium increased as 1919 advanced. In February, 1920, the premium reached its maximum. The New York rate averaged about $3.37 to the pound for the month, showing dollars at 45 per cent. premium or sterling at over 30 per cent. discount. The Argentine exchange marked about 32 per cent. discount on sterling as the month's average, the Japanese about 29 per cent., and the Dutch rate about 25 per cent. The premium on Argentine and Dutch exchange fell, with some fluctuations, from that point. That shown by the New York and Yokohama quotations, after an improvement in the second quarter of the year, rose again, the Japanese rate showing even a greater discount on sterling in the months of September, October, and November than in February, while the New York rate showed for November an average of $3.44. From November, 1920, to May, 1921, the rates recovered, only to fall back again in the following three months. By the second quarter of 1922 a relatively steady period was reached and was maintained, with a progressively decreasing premium on dollars, gulden and yen, till the spring of 1923, from which point a slow movement in the opposite direc-

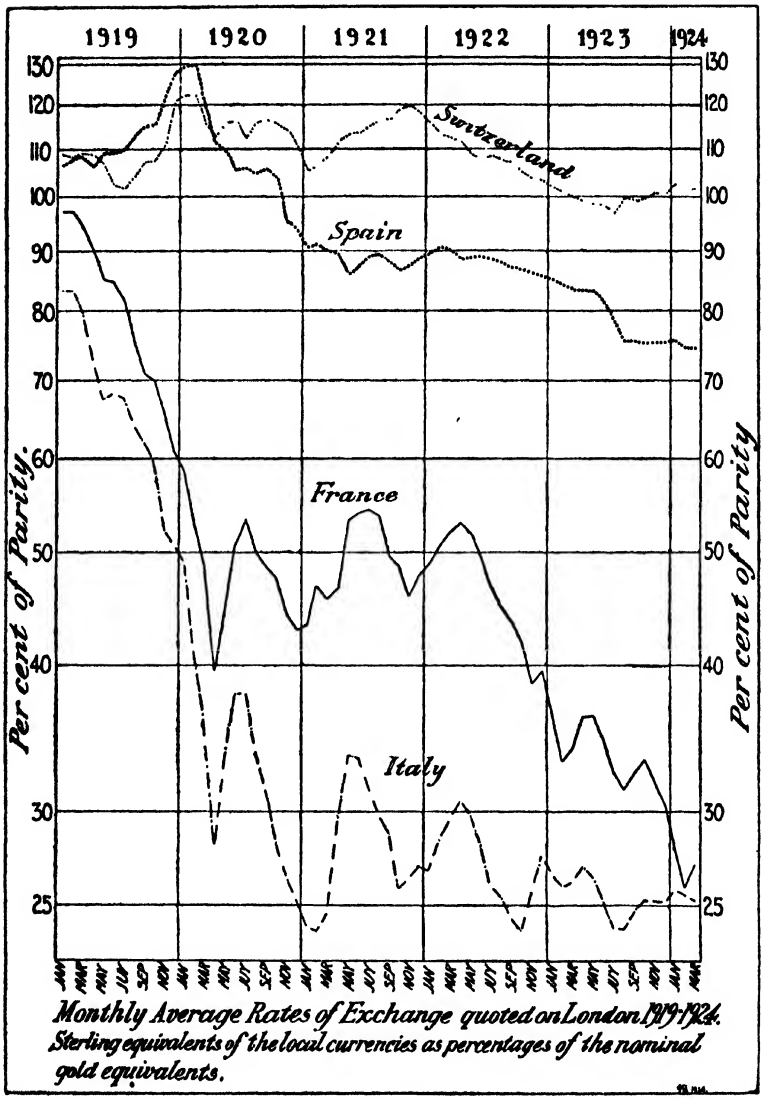

1919
1920
1921
1922
1923
1924
Switzerland
Spain
France
Italy
Per cent of Parity.
Per cent of Parity
Monthly Average Rates of Exchange quoted on London 1919-1924.
Sterling equivalents of the local currencies as percentages of the nominal gold equivalents.

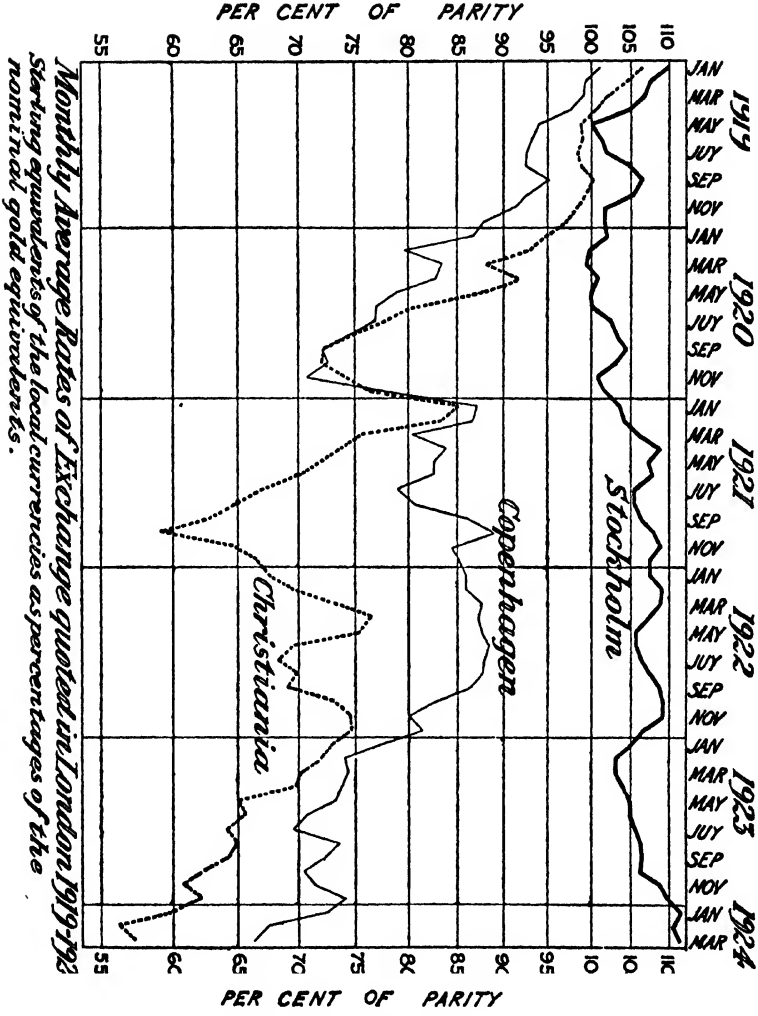
DIAGRAM 4.

tion began. Of the four exchanges in the group under consideration, three remained throughout 1919–1923 at a premium in sterling, but the Argentine rate fell to a discount after March, 1921. From the spring of 1923 this discount showed a marked increase, but a recovery set in after November. In the course of February, 1924, the Japanese exchange fell to a discount for the first time since the war.

A second group of exchanges shown (Diagram 4), those on Paris, Rome, Zurich and Madrid, all have nominally the same gold parity, viz. 25.22 francs or lire or pesetas to the pound. The two last show tendencies on the whole similar to those of the first group, particularly in the advancing value of the local currency relative to sterling down to February, 1920. The Swiss rate remained at a premium (i.e. the quotation was less than 25.22) until March, 1923, when a small discount appeared and was maintained till near the end of 1923. The Spanish rate showed a discount from the later months of 1920, and, in the second half of 1923, the discount was approximately 25 per cent. The French and Italian rates rose rapidly and steadily till the spring of 1920 (i.e. the value of those currencies expressed in sterling fell). Then, for nearly two years, the French rate fluctuated somewhat widely about a mean level rather more than double the par rate, i.e. the fluctuations were mostly within the limits of 50 to 60 francs to the

pound. From April, 1922, the quotation has tended upwards on the whole, though with some interruptions, and towards the end of 1923 was approaching 90 to the pound. In February, 1924, the rate was, for a time, over 100 francs to the pound. The Italian rate showed a further fall in the second half of 1920, before reaching the limits of its variation for the time being. Its fluctuations since that time have been mainly within the range of 75 to 105 lire to the pound. Since the autumn of 1923, the range of variation on either side of the rate of 100 lire to the pound has been small.

The third group of exchanges (Diagram 5) relate to countries which have a common currency unit like the preceding group, and had, before the war, interchangeable currencies. The Swedish exchange has, except for two brief periods in 1919 and 1920, maintained a premium on sterling, though its fluctuations have been wholly dissimilar to those of the other exchanges, passed in review above, which have shared this characteristic. As the diagram shows, the premium was on a higher level after the spring of 1921 than before that period, and showed some tendency upwards later. The movements of the Danish and Norwegian rates have been very different from those of the Swedish. During 1919 and 1920 they were roughly similar; since then they have been strikingly different. The sharp fall in the value of



Monthly Average Rates of Exchange quoted in London 1919-1923. Starting equivalents of the local currencies as percentages of the nominal gold equivalents.

DIAGRAM 5.

Danish currency in the autumn of 1922 may be associated with the revelation of weakness in one of the important Danish banks, and the improvement at the end of 1923 with definite measures to support and stabilize the rate, which have been renewed after the fall which succeeded the temporary improvement.

The fourth group of exchanges, presented in Diagram 6, forms a selection from the Central European group. For these, only in the case of Berlin can London quotations be given before 1920, so that the diagram is made to begin late in 1919. The Berlin and Prague rates moved together till the spring of 1921, after which the former plunged downwards. The Prague quotation began to rise towards the end of 1921, and, after a relatively steady period in the first half of 1922, the rate was again raised. The recovery of the quotation from about 385 korune to the pound, the average for October, 1921, to the level of about 150, which it has been found possible to maintain, is a remarkable illustration of what can be effected by those who see clearly the causes of the exchange trouble and set themselves definitely to remedy them, not contenting themselves with adjusting superficial symptoms while leaving the real causes untouched.

The stabilization of the Austrian exchange from August, 1922, after two years of almost continuous degradation at a phenomenal rate, is a second illustration of the efficiency of known remedies

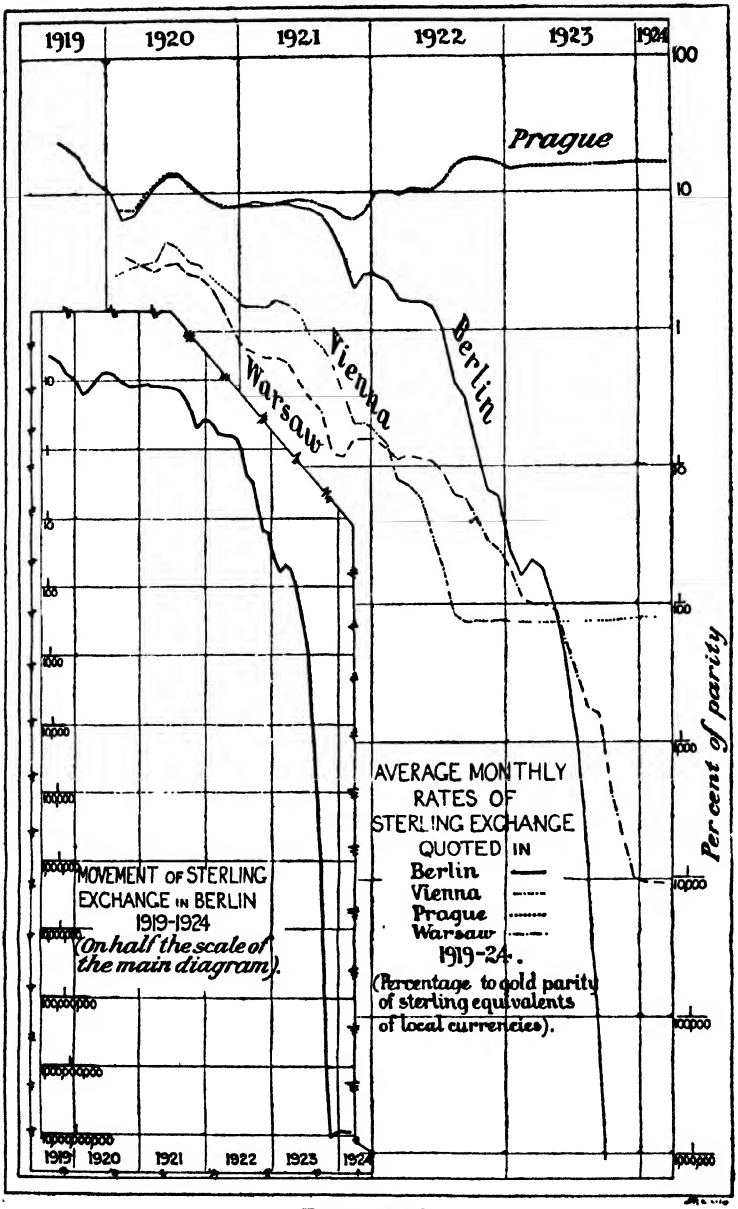

1919
1920
1921
1922
1923
1924
100
10
1
1/10
1/100
1/1000
1/10000
1/100000
1/1000000
Prague
Vienna
Berlin
Warsaw
Percent of parity
AVERAGE MONTHLY RATES OF STERLING EXCHANGE QUOTED IN
Berlin
Vienna
Prague
Warsaw
1919-24.
(Percentage to gold parity of sterling equivalents of local currencies).
MOVEMENT OF STERLING EXCHANGE IN BERLIN 1919-1924
(On half the scale of the main diagram).

DIAGRAM 6.

for exchange troubles. The assistance of the leading commercial countries, organized under the advice and guidance of the League of Nations, enabled this gigantic task to be carried through. The Berlin and Warsaw exchanges illustrate the consequences of attempting to carry on national finances on the false and mischievous basis of a resort to the continual creation of paper currency to meet national expenditure which the nation can either not afford or should frankly meet by the proceeds of concurrent taxation. Both these exchanges have, however, been stabilized from the end of 1923, at least for the time being.

The diagrams reviewed above furnish a general view of movements in certain figures that are used to represent the phenomena that we have to study, and we must proceed to consider what is the rate of exchange, the historic fluctuations of which have been recorded on these charts. The first, and perhaps the most usual conception of those figures, is that they express what you have to pay in English money to get foreign money. But it will be desirable to keep in the forefront of our minds, not so much what you have to pay in paper pounds to obtain any required amount literally in paper marks or paper francs or other currencies, but to face our real problem, which is not the price we pay over the counter of a London Exchange office or bank for the actual physical currency of a foreign currency, but the price which has to be paid in the money of one country

to acquire the means of making a payment in another country.

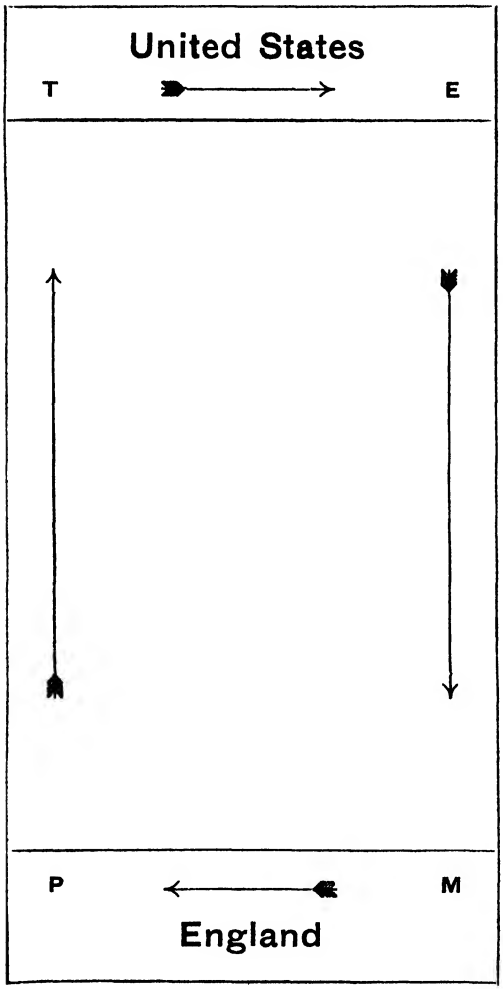
What is the difference? There is a difference in point of view. In the first case, you think of getting your means of payment, putting it in your pocket and going away with it. That is a quite natural point of view, the point of view of the tourist, who proposes to make a journey abroad and desires to provide himself with appropriate supplies of currency to use on that journey. But it is not the point of view that is most important, or that comes to the front most frequently, in the actual exchange market. There, we have to deal with the transactions of merchants on a large scale, concerned not in getting paper currency which they can take to a foreign country and use there for current expenses, but in purchasing documents which will give them a means of paying debts abroad. Actual currency will, of course, serve this purpose, but is often inconvenient, among other reasons because it is only available in round sums which may not exactly correspond to the payment to be made. Purchasing a bank deposit in a foreign country means acquiring the right to draw upon a foreign bank for a given amount, and purchasing a draft on a foreign bank will establish a basis for credit abroad, providing the means for paying debts or for purchasing commodities in the foreign country concerned.

The mechanism of the foreign exchanges is one very closely related to the developments of modern

commerce. Bills of exchange have existed for a long time, but the history of early trading often presents a picture of merchants loading a ship with a miscellaneous assortment of goods adapted to the market of a particular country, going in person or by an agent with the ship, disposing of the goods in that foreign country, obtaining for them, in many cases at any rate, the money of the foreign country, and using that money in that country to buy other things, which they load on the ship and bring home and, by realizing the goods here, secure the profit of their venture. Trading carried on in that manner did not involve "exchange" in the sense in which we are dealing with it: there was no buying or selling of bills of exchange necessary to conduct that kind of dealing. But that kind of dealing was not necessarily what we know as barter, which involves the direct exchange of goods of one kind for an equivalent amount of goods of other kinds. Some of the references to the means that might be adopted at the present time to obviate the difficulties of fluctuating foreign exchanges suggest a resort to barter. The kind of trading referred to above might be a way of evading the effects of speculative dealing on the markets for exchange, but the commerce that could be conducted either in that way or by direct barter would be very different indeed to that to which we have been accustomed. With the growing magnitude of operations there has grown up a system of arranging the payments

involved which enables large operations to be put through very smoothly in normal times by specializing certain of our commercial agencies to act as intermediaries in the exchange. A very brief statement will be sufficient for us to make clear the essence of our problem. Let us suppose a case, for illustrative purposes, of dealing between a foreign country, say the United States, and England. The following diagram may show the essential features of such a case.

An exporter, E, in the United States sends goods —wheat or cotton or copper or other merchandise —to an importing merchant, M, in England: the goods travel in the direction of the right hand arrow in the diagram. E needs to get payment for his goods. He could have taken payment in the old days by a shipment of sovereigns to America, obtaining dollars for the sovereigns at the mint at Washington, or selling them in the ordinary bullion market. The recipient of the goods in England, M, if he does not pay in that way, has, at some time or other, to make payment for them. In order to follow out the way in which the payment is arranged, there is another pair of persons to be considered: the importer, T, in the United States of goods from England dispatched by an exporter whom we may designate by P. These goods pass in the direction of the left hand arrow in the diagram and payment is due in the reverse direction. E in the United States has to receive payment, T has to make payment; M in Eng-


United States
T
E
P
M
England

land has to make payment, P has to receive payment; and the use of bills of exchange simply means the creation of the necessary documents which will enable those payments to be made without the requirement of actual money going to and fro across the ocean. If we are dealing with sums of the same magnitude in the two transactions, it will only be necessary to pay attention to the four persons we are concerned with here. Suppose we have an export from the United States which is sold here for, say, £2,000, a convenient sum for the purpose of illustration; and let us assume, in order not to confuse the illustration by a separate consideration of the cost of sending the goods, that the sums for which they are sold include the costs of transport to the port of destination in both cases. £2,000 is required to be paid to E in the United States. The goods travelling in the other direction, from England to the United States, are sold, say, for 9,000 dollars. Now, if the exchange were at $4.50 to the pound [1] the 9,000 dollars and £2,000 would be equivalent to each other. The necessary payments could be effected by creating documents giving authority to M to pay to P his sum of £2,000, and giving authority to T to pay to E his sum of 9,000 dollars, and in this way the necessary receipts and payments of money would have been made. E, who has to receive 9,000

[1] The rates currently quoted in November, 1922, differed little from that named above.

dollars, gets it from T, who is under obligation to pay it; M, who has to pay the equivalent sum of £2,000, pays it to P, who has to receive that amount; and it is not necessary to send any money across the ocean. The documents created, which authorize and require these payments, are called bills of exchange and are designed to enable payments of this kind to take place. In effect, the exporter E may create a document requiring M to pay £2,000 to himself or to his agent or assignee; that document may be duly acknowledged by M or by an authorized representative and sold to T, who has to make payment in America. The sale of the bill of exchange would serve to enable the money to pass from T who has to pay to E who has to receive. E may send the bill to P in settlement of his obligation, and P may collect the £2,000 from M. Goods exported from England may thus be paid for by the use of a document created in connection with an export from America, or they might equally well be paid for in the same manner as in the case of the American exports. The merchants may pass over to others the actual work of securing payment of such bills, and in that case a balance of total amounts payable and receivable, not the exact equivalence of single transactions in each direction, will suffice. We have institutions set up, bill brokers, foreign exchange bankers, to whom the documents are sold and who in turn take the responsibility of making payments. That is the kind of organization that can deal with a

vast number of such bills of exchange for all kinds of sums which do not necessarily correspond exactly to sums which have to be paid in the other direction, but which in the aggregate serve to cover the obligations—somewhat in the manner in which numerous payments between banks on behalf of their clients are set off against one another in bankers' clearing houses in our domestic exchange.

That indicates what is the essential nature of foreign bills of exchange; that they are documents which give a person resident in one country the right to receive, or impose upon him the obligation to make, payment in another country. And the rates of exchange that we have to study, the problem with which we are concerned in this book, are the market prices of these documents. Like other things sold in markets, they become cheaper or dearer according as the supply of them placed on the market exceeds or falls short of the demand in that market at current prices. In order to know what are the influences that make exchange rise or fall, we have to consider what are the reasons why people may come into the market to buy exchange and why people want to sell in the market; we need, in fact, to survey the different financial relations which may arise between two countries. In ordinary times, the first and most important of the groups of payments that have to be made or received is in respect of trading in goods. Imports into a

country involve payment to other countries for them, that is to say, that the country which is importing goods, or rather the merchants who are importing goods, need to buy the means of payment for the goods they import. They come into the market as purchasers of exchange on the country in which they need to make payment. On the other hand, exporting countries have to receive payment for the goods which they sell, and if the course that is followed is the first of those sketched above, that the exporting merchant draws upon his customer on the other side a bill requiring payment and sells that bill, the supply of bills of exchange in the market will be large or small according as the volume of export is large or small. The course of payment may be arranged in various ways, that is, the nature of the documents used may vary a little; instead of drawing upon his correspondent for the value of the exported goods, that correspondent may, as was suggested in our illustration, go into the market and buy bills of exchange in his own country and dispatch those bills to the exporter here in payment. The actual payment will be secured when the value of the remitted bills is collected on this side. In respect of exports, then, there is a supply of means of payment in foreign countries, just as for imports there is a demand for means of payment in foreign countries. For the present it is not necessary to deal differently with precious metals and with ordin-

ary merchandise. It is true that the movement of the precious metals has some special features connected with it; but, as available goods sent from country to country and representing value in the place to which as well as in the place from which they come, they may fall in the same category with ordinary merchandise.

There is another class of transactions that may usefully be considered as involving similar problems to those that arise in dealing with ordinary transferable merchandise. When we speak of merchandise, we refer in general to goods that may be loaded on ships and sent across the ocean. But, besides such physically transferable goods, there are also claims to property, which may be transferred without the property itself moving. That kind of thing is really very familiar, although it is frequently regarded as being something of a different nature from the transfer of ownership of things which are themselves moved. Thus an American wishing to spend the autumn of his life in this country may desire to purchase a house here, and he must find means of paying for the house that will need to be drawn from the source of his wealth. American property in England may be sold in America and remain physically in England, and similarly with any other pair of countries. Such sales of property create a supply of, and a demand for, bills available in the same way as sales of goods which are themselves transferred physically from one country to another.

Similar, again, to such cases is the purchase and sale of bonds and shares; they are titles to property, and the international dealing in bonds and shares which represent industrial enterprises or mercantile enterprises is a quite familiar thing. The documents of title may be sent from country to country, while the property represented by them remains where it was before. Stock Exchange securities include bonds of Governments as well as such securities as represent claims on physical property. In the case of an industrial company that owns a factory and holds materials for manufacture and goods which have been worked up by machines in that factory, we may, quite reasonably, think of its shares as representing the factory and machinery and so on. Such an identification of ownership of shares with the part ownership of a mass of physical property is not essential, and in the case of many loans to Governments would not correspond to any reality. In regard to international transactions of purchase and sale, dealings in Stock Exchange securities generally may be presented to our minds as on a parity with the purchase and sale of property, and thus involving financial relations very similar in certain respects to those resulting from the purchase and sale of commodities which are themselves transferred. But the purchase and sale of Stock Exchange securities has another phase, when the securities are not a representation of values already existing but are issued for the

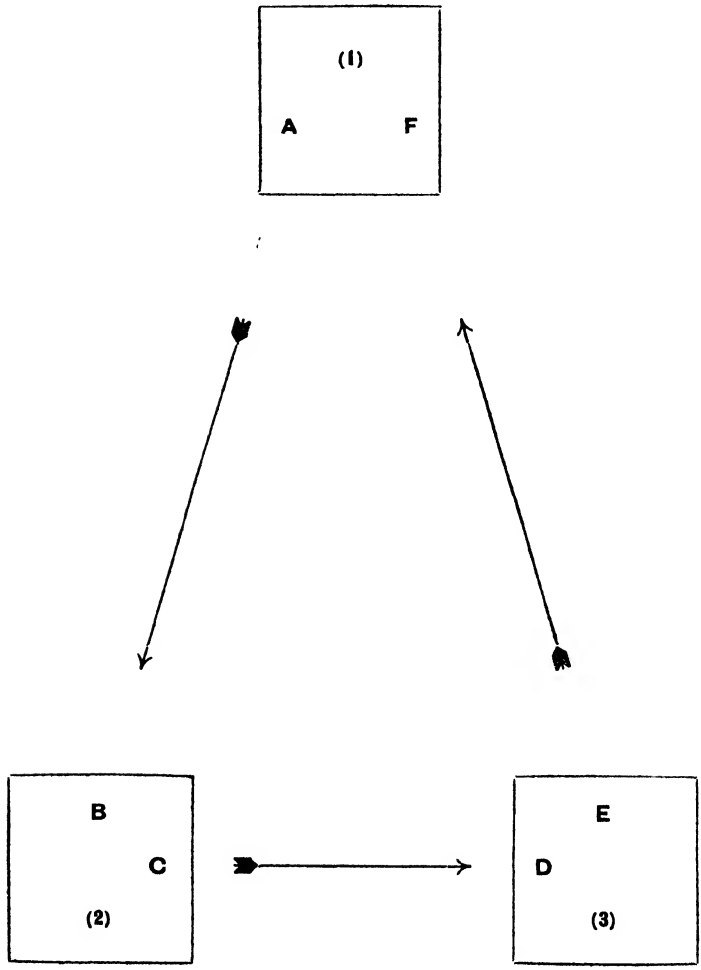
purpose of raising funds to create new values. In other words, when some commercial or financial interests in this country take up a loan in a foreign country, or when we make a loan to a foreign country, those loans need transference. There is a demand for means of furnishing in the lending country a supply of purchasing power to the borrowing country. The borrowers in this country acquire purchasing power in the lending country and thus acquire rights enabling them to draw bills of exchange on the lenders and offer those drafts in the exchange market. International loans are thus the cause of demand or supply in the exchange market and consequently have an important influence on the price of bills of exchange. The repayment of outstanding loans brings into operation considerations of opposite character to those which arise when loans are made. The short-term loans which are, perhaps, more familiar in the United States than in this country, keep the question of repayment, as an influence of importance in the exchange market, more definitely in the foreground than is the case with long-period loans. In the case of many Government bonds, which remain unredeemed for extremely long periods of time, we do not think of redemption as of immediate interest. A good many international loans, however, are of the short term character. Redemption is quite an ordinary thing, and when it occurs has the same sort of influence on the exchange market as would

have resulted from the making of a loan in the opposite direction. So long as these international loans are outstanding, interest becomes due from time to time upon them, and that interest has to be paid. These interest obligations, again, involve influences tending to create a demand, in the country which has interest to pay, for means of payment in another country, i.e. to create a demand in the exchange market on behalf of the country which has to make the payment, in order to provide the means of payment in the recipient country. Demand for and supply of exchange, then, are seriously affected by payments of interest on loans or dividends on capital invested in countries other than those where the capital is owned. These ideas have become more familiar than they used to be, and we may pass on to another group of transactions of a commercial character.

In addition to the value which goods have in the country that exports them, they acquire further value when they have made a long journey to the importing country. Wheat or cotton representing a certain money value leaves America, but it has not the same value as when it leaves the ship on reaching Liverpool or other port on this side. There is, in general, an increment in value which represents the reward of those who have devoted their energies to arranging the transport—the owners of the ship, the sailors who man the ship—and provides payment for the coal or oil that is burned under the boilers in order that

the goods may be brought across. These payments are made out of the difference between the values of the same goods when they are exports and when they are imports. The value of imports must, in the long run, provide enough to pay the manufacturers or producers of the goods in the country where they are produced and to pay freight charges, commissions, agency charges, and so on, incurred in the work of transport. We, as members of a mercantile and shipowning community, are very much interested in this class of payment.

Because of the very large traffic that centres in London, there has grown up a practice of extreme importance from the London point of view in that international obligations between all kinds of foreign countries are settled through London. It may be desired, for example, to effect payment for goods sent from the Argentine to Belgium or Germany. Quite apart from the possibility of dealing directly in exchange on the Argentine in Belgium, bills on London can find a market in any part of the world. London is dealing with every part of the world, and so it is possible for the Argentine merchant to obtain payment from London while Belgium makes payment to London and London receives something for its services as intermediary in the transaction. This three-cornered trade and triangular payment is an extremely simple conception, and is worth careful attention. Let us visualize it for a moment :—


(1)
A
F
B
C
(2)
E
D
(3)

A in one country ships goods to B in another country, C in the second country ships goods to D in a third country, E in the third country ships goods to F in the first country; and we may achieve payment as between all those concerned by arranging that B pays C, D pays E, and F pays A, if we are dealing with goods of the same value in all three transactions. In this way A can receive his payment for goods which he has sent to B, C for the goods he has sent to D, and E for the goods which he has sent to F, provided the necessary mechanism of the counting-house can arrange the accounts so that the sums received may be set off against the sums due. If this can be done, and it is obviously possible, the whole series of transactions can be settled without the actual transmission of physical currency. Just as in the case of direct dealings between two countries by many merchants, bankers and brokers acting as agents aggregate many credit items and set them off against the aggregate of debit items, so, too, in the case of these indirect payments, the equality assumed throughout the series in the illustrative example is not needed to enable individual transactions to be carried through.

There is one other class of transactions to which reference must be made, namely, transactions against which there is no material contra transaction, whether immediate or deferred. In the case of goods sent to and fro, goods that go one way are a set off against goods moved in the other

direction. But there are certain payments that are made where there is not expected to be a contra value. A Mansion House fund raised for the benefit of sufferers from flood or fire in China or from an earthquake in Japan is a case with which from time to time we are unfortunately familiar. Payments of that kind are arranged through the exchange market, just as other payments with other countries are arranged, but there we have only the voluntary undertaking on the part of subscribing countries to arrange funds to be paid to the recipient country without requiring to provide an off-set for them. Similarly, emigrants from this country, or from any other country, to the New World who go there and make a competence or a fortune often wish to transmit their earnings, or part of them, to the home country. Emigrants may desire to send money to their parents at home or something to children left behind, or the funds which may enable wife or children to join them, and the exchange market serves as the means by which they acquire in the home country the means of providing money for their dependents while they pay an equivalent thereto in the country where they acquired their resources.

Other classes of payments more or less of the same general character, in so far as they involve obligations in one direction only, have risen into great prominence in the last few years: in the course of business over centuries they do not

figure very heavily. This class of payment is represented by provision made for armies abroad to cover their fighting necessities and, after war is over, the payment of an indemnity by the country that loses to the country that wins the war. These also involve a strain on the exchange market and may affect very seriously the relation of demand to supply in that market.

These different reasons, that have been passed in review, exist for requiring the means of payment in foreign countries or for offering the means of payment in foreign countries and influence the value of bills of exchange, since the value of a bill of exchange must necessarily be determined by the relative urgency of demand and supply in the market.

As illustrating the relative importance of the principal items mentioned in the foregoing survey, the following statement of the balance of current International Obligations for the United States, gives the results of calculations that have been published in America by the Harvard Bureau of Economic Research. It furnishes estimates of the sums payable by and to the United States in the calendar years 1921 and 1922. It will be observed that there is, in each year, a net debit balance. The compiler of the data suggests, as the principal consideration by way of offset, that balances due to the United States in respect of transactions in 1920 were partially liquidated in 1921 and 1922.

(Units of $1,000,000.)

United States Creditor.	1921.	1922.	United States Debtor.	1921.	1922.
1. Exports of merchandise . .	4,485	3,867	Imports of merchandise	2,509	3,113
2. Exports of silver	52	63	Imports of silver .	63	71
3. Exports of gold .	24	37	Imports of gold .	691	275
4.			Imports of U.S. paper currency .	100	—
5. U.S. Government international receipts . . .	90	170	U.S. Government international expenditures . .	140	29
6. Foreign loans matured and paid off	255	78	New foreign bonds issues in U.S. .	665	637
7. Foreign securities resold to foreign countries		189	Foreign currency securities issued abroad and sold in U.S.	100[1]	326
8. American securities sold to foreign countries		61	Purchases in U.S. of foreign held American securities .	32[2]	34
9.			Other foreign investment of American capital . . .	200	[3]
10. Interest on American private capital abroad	180	227	Interest payable on foreign capital in U.S.	100	100
11. Freight payments receivable on exports carried in American vessels . . .	90	71	Freight payable on imports carried in foreign vessels .	57	64
			Immigrants' remittances and American relief abroad	500	400
			Tourists' expenditure abroad . . .	200	300
Totals . . .	5,176	4,763		5,357	5,349
Net Debit Balance				181	586

[1] Bonds only.

[2] Excess of purchases of foreign held securities over sales to foreign countries in 1921.

[3] Included under other headings.

CHAPTER II

THE RELATIONS OF PRICES IN DIFFERENT COUNTRIES. FACTS AND THEORIES

In the preceding chapter we were concerned with the different directions from which demand for foreign exchange might arise and the different ways in which a supply of bills on foreign countries might be forthcoming. We may picture to ourselves a market in the bills, fed in varying proportions from the different sources, and a demand arising to absorb these supplies offered, the rate of exchange being the result of the competition in the market of those offering bills on the one side and those requiring bills on the other. Among the many various reasons why bills might be offered or bills might be required, an important place is taken by the actual movement of merchandise from country to country and, in addition to the actual merchandise, it was found that the ownership of property, whether it took the form of actual physical buildings or machinery and the like, or that of stocks or shares of corporate bodies owning such property, was the subject

of international transactions. Now, in those transactions, it is obvious that an extremely important place, as affecting the keenness of demand for bills or the volume of supply of bills, will be taken by the prices at which the commodities or the property or the stocks and shares that may be the subject of dealing are purchasable. The question of the relations of prices in different trading countries is thus the next subject for our careful consideration. Those prices may be regarded as independent facts, or we may see them, as we shall see them, in their relation to the rates of exchange and as affected by the rates of exchange in their turn. Before the war the large majority of the important trading countries of the world were linked together in their trading transactions by the use of currencies convertible into gold on either side, but to-day that close link between currencies in different countries has disappeared and the majority of countries to-day, by whatever names they call their currencies, whether they use the old names or whether they use new ones, have currencies which are independent of the value which each currency had formerly because of its convertibility into gold. That independence is the result, to a very large extent, of the policies adopted in different countries with regard to the volume of currency that is put into circulation. Not only are the currencies with which we have to deal in the leading countries not directly convertible into gold but,

if we try to see their relation to gold by examining the course of the price of gold in the market, we find that the price of gold is an extremely variable thing, up one day and down the next. The movements of the price of gold in terms of the currency of one country are related to the conditions in that country, and the movements of the price of gold in terms of the currency of another country are, in their turn, related to the conditions in the second country, so that we have variable relations between currencies and gold, and gold no longer serves as the simple and direct link of association between the currencies even of the leading countries of the world. In each country we have established, as the result of the conditions of that country, a set of prices for different commodities which represent the relative importance of those different commodities. If the price of one commodity is £10 per unit and that of another is £1 per unit, then one unit of the £10 commodity is desired as much as ten units of the £1 commodity. Whether due to differences in quality, or to differences of intensity of the desire for different things, the schedules of prices of different commodities, expressed in the currencies of each country, will give us a series of measures in accordance with which we might set in order the leading commodities dealt in. If we drew up a table of prices for a constant weight, prices per lb., prices per ton or for any other unit that may be selected for all the commodities, and put them

in order of magnitude, and take a similar set of prices in another country, we should find that the two sets of prices were not directly proportionate to each other. The two lists would, in fact, express, each for its country, relations between the different commodities offered for sale and desired in that country. The study of prices and the relation of prices to value and to cost of production is one of the most important sections of economic theory; but it is not the purpose of this book to deal even in the most sketchy way with the fundamental details of the economic doctrine of value. We shall have to accept the conclusions reached by economists in their studies in that field, and take for granted that prices are the money expression of values and that, in their proportion to one another, they represent, on the one hand, the relative costs of production of different articles, and, on the other hand, the different degrees of intensity of desire for these different articles. We shall not stay to inquire in just what sense those words are used. It will be sufficient to say generally that prices are high or low in correspondence with whether the costs of production of the goods concerned be high or low, and that the desires of purchasers for one class of commodity are keener than for another class of commodity, and these different desires express themselves in the relative levels of prices of those commodities.

As stated above, if we drew up schedules of goods in the order of their prices, we should find

those schedules not exactly parallel in different countries, but each for its own country represents the relative costs of production on the one hand, the relative degree of utility, the relative intensity of desire of consumers, on the other. A list that may be valid for a community the members of which are in full and free competition with each other, will not necessarily hold where competition is imperfect; and it is apt to show certain deviations from its normal structure at times, such as we are now passing through, when there has been a very great disturbance of economic equilibrium. But where rapid changes are going on the results of which may be a modified position of equilibrium, but those changes are still in progress and by no means approaching their final conclusion, so that the different influences at work have not fully worked themselves out, we shall find results somewhat different from those that might be expected to occur in a community in a stable condition where the different forces operating might reasonably be regarded as in approximate equilibrium.

The general price-level in a country is related to the currency and credit conditions prevailing in the country. And the question whether the goods of the country we are considering are cheap or dear in the eyes of people in other countries will be obviously a question of at what rates the currency of that country is exchangeable for the currencies of those other countries. If we look

at prices in America we shall consider them high or low according to the equivalence of the dollar in pounds sterling. Rates of exchange that prevailed early in 1921, when the pound sterling bought no more than something in the neighbourhood of 3¼ dollars at one time, would mean that prices in the United States looked very dear when viewed from London. Conversely, at a time like that, prices in England would be very cheap from the standpoint of New York. The same sort of thing has been realized much more vividly and more widely in this country when, in place of comparing London and New York, the comparison is made between either of these cities and Berlin or Vienna or Moscow. There, because of the large number of marks or kronen or roubles that can be obtained for the pound, in spite of being high in terms of marks or kronen or roubles, prices may turn out to be very low in terms of pounds or dollars. The question of dearness or cheapness when viewed from another country is a question that is intimately related to the rate of exchange that prevails.

We need to get closer to our problem than these generalities, and the nature of the problem may be conveniently illustrated by taking a particular instance based on market quotations for the end of the month of October, 1922. It is not suggested that the two commodities selected are the most typical that could be selected for the purpose of illustration, but only that they are of import-

ance and, from the point of view of the theoretical points to which it is particularly desired to direct attention, they serve admirably to illustrate the main features. The price quoted in the *Iron Age* for 100 lbs. of foundry pig-iron at Cincinnati at the end of October, 1922, was at the rate of 31 dollars 5 cents per ton of 2240 lbs., and at the same time we find that the price of wheat (No. 2, Red Winter) at New York stood at 135 cents per bushel of 60 lbs. Those were United States quotations. The simultaneous quotations of similar articles on this side of the water were, for pig-iron £4 12*s.* 6*d.* per ton, and for wheat at Liverpool 11*s.* 3*d.* per 100 lbs. The New York price of wheat was $50.40 per ton, so that 1,000 tons of pig-iron, costing $31,050, were equal in money value to 616 tons of wheat. In this country the price of wheat was £12 12*s.* per ton, so that 1,000 tons of pig-iron, costing £4,625, were equal in money value to 367 tons of wheat.

Now we can get away from the money equivalents in considering the relations of values between the two countries. Measured in iron, we have, in the United States, 616 tons of wheat equivalent to 1,000 tons of iron, and in England 367 tons of wheat equivalent to the same quantity, namely 1,000 tons, of pig-iron. Thus wheat was cheap in the United States measured in terms of iron compared with the position in England, while iron was dear, measured in wheat, in the United States compared with the position in England.

This is clear either from the figures just given or from the alternative mode of presenting the same facts, since in the United States 1,000 tons of wheat were the equivalent of 1,623 tons of pig-iron, while in England 1,000 tons of wheat were the equivalent of 2,724 tons of pig-iron.

The use of the same unit of quantity in these comparisons is not an essential part of the argument. We might have measured wheat in quarters, showing 1,000 tons of iron as equivalent to 2,875 quarters of wheat in America and to a fraction under 1,713 quarters in England. The same conclusion that wheat was cheaper in America than in England, measured in iron, and that iron was cheaper in England than in America, measured in wheat, follows from either method of comparing the price quotations.

More than this, if we examine the costs of moving these articles across the Atlantic, we shall find that the difference between the relative valuation in America and the relative valuation in England was sufficient to provide for the transport of the commodities, in the case of iron westward and in the case of wheat eastward, and leave still a profitable business to be done in purchasing American wheat for England and English pig-iron for America. That it was really profitable is evidenced by looking at the actual figures of the trade movement of the month of October, 1922. These price figures relate to the end of October because they were taken for a particular

day in order to get greater precision of comparison; but they represent the approximate market position held in the month of October. The October trade accounts show that 90,000 tons of pig-iron and ferro-alloys were sent from the United Kingdom to the United States and, as the total amount of ferro-alloys exported to all countries was comparatively small, it appears that most of that must have been pig-iron. A large quantity of pig-iron was thus actually shipped from England to America in the month of October, confirming the view that iron in England was cheap to American buyers at that time, while over half a million quarters of wheat were landed in English ports from the United States in the month of October, confirming the view that wheat was cheap at current American prices to the English. In this question of cheapness or dearness there is involved not only the costs of purchase but the costs of transport. The actual freight rate across the Atlantic for wheat in the month of October was something like 3*s.* a quarter, which would mean that if 54*s.* were realized, three of them had to cover freight and 51*s.* were left for buying on the other side and for paying the various other costs incurred in connection with the transaction. On the whole, if we assume that these costs and reasonable profits may be met out of a further sum of about 2*s.* 6*d.* per quarter, we shall find that the purchase of wheat in America for meeting the demand of the English market at 54*s.* per quarter

at Liverpool was profitable, provided that exchange could be got at a figure not lower than $4.45 to the pound. The actual market rate quoted on the day in October to which these figures relate was $4.44 to the pound, so that we find the transaction in wheat, on the basis of charges and profits assumed, closely adjusted to the market rate of exchange. If exchange had been lower than $4.44, the operation would not have been profitable; if the exchange had been notably higher than $4.44, say $4.60, the operation of the purchase of wheat in New York at 135 cents per bushel for sale in Liverpool at 54*s.* per quarter would leave a margin after providing for the necessary intermediate outlay. Looking, however, at the movement of pig-iron in the other direction, the situation is somewhat different. Westward freight for a commodity like pig-iron at about this date was something like 14*s.* 6*d.* per ton; and we have also to consider the difference between the value at the American coast-line and the market prices at Cincinnati, a difference which has been ignored above, and the customs duty of 75 cents per ton. After making these allowances we shall find that rates as high as $5 to the pound would have made the purchase of pig-iron a practically profitable transaction for shipment to America. We can express it in another way, a way that is more familiar to the readers of the market reports in the newspapers; in fact it was expressed by the writer

of the market report of the *Iron Age* when he said that transactions in New York were almost confined to English pig-iron, the difference in the cost of acquiring English pig-iron enabling it to be offered at so much lower a price than American pig-iron. That statement duly interpreted means that, with the current rate of exchange, there was a good margin left in buying pig-iron, and that the transaction would have been profitable even if the rate had been a good deal higher than it actually was. Now the actual position which left so large a margin on that occasion was not quite a normal position, and I do not wish to convey the idea that, in selecting these quotations for illustrating the point I wish to bring out, I am representing a perfectly normal situation in the markets on both sides. The pig-iron situation in the United States had been a great deal disturbed by the labour troubles in the coal-fields on that side and there was a considerable shortage of pig-iron for the time being, which made it exceptionally profitable to ship English iron to the United States. If, however, a position such as is illustrated here had arisen between two countries which exchanged their goods in the normal way, so that the price relations of exportable commodities and importable commodities in general had been such as those figures of iron in America and, on the English side, wheat illustrate, then what would necessarily have happened? We need not reflect over the situation long to see

that commodities which were in the position of pig-iron at that time would have been keenly in demand for export, and the natural response of the market to a keen demand is a rise in price, so that we should have a tendency to a rise in the prices of the exportable commodities on this side; and, on the other side, the ability to lay down English pig-iron at a cheaper rate would have been a weight on the market tending to make prices lower in dollars. Similarly, the price of wheat might be affected on one side, or on both sides, of the Atlantic, rising in America under the influence of English demand or falling in England under the influence of abundant supplies from America. Such changes would, as we have seen, turn the business of purchasing wheat in America for shipment to England into an unprofitable one, unless there were a sufficient rise in the rate of exchange to offset the price changes. The rise of the exchange would narrow the margin of profit shown in considering the shipment of English iron to America. If the movements in the prices of iron went far enough, they might show no more than a reasonable profit at the higher rate of exchange required to adjust the modified prices of wheat.

There are, thus, three kinds of changes we can have—prices may go up on the one side in one country, they may go down in the other country on the other side, and the rate of exchange between the countries may alter so as to assist in bring-

ing about an adjustment of the trade situation. Some or all of these changes would certainly proceed far enough to bring about a balance before any long period of time had elapsed, reducing the import and export business to a business yielding only something like a normal profit. We have selected a case that illustrates the way in which the possibility of import or export trade may very easily be affected, not only by the prices of the commodities concerned in the two trading countries, but by the rates at which their currencies are exchangeable for one another. There is a range between the figures of $4.44 and $5.00 to the pound within which profitable interchange of the selected goods might take place. But if the rate of exchange wanders outside that range, then the profitable nature of the exchange ceases. Suppose, for example, that exchange goes below $4.44. As appeared when we were first considering the case of wheat, wheat becomes an impossible article to move to England at these lower rates of exchange; it will not yield a commercial profit on the transaction and, if it were the case that wheat is a commodity truly representative of the price positions of other commodities which might be bought in America for shipment to England, their price positions will also be so related to the exchange rate that they will pass out of the possibility of movement. If that does not occur in the case of any specific commodity as soon as the exchange falls below $4.44 to the

pound, as the exchange goes further and further away from that point, more and more articles will cease to be commercially available for shipment to England. If exchange fell away towards the levels which it reached in 1921, while prices remained unchanged, then import trade into England from the United States would have to stop for lack of profit. The movement of exchange, as we can see more clearly in some of the cases of extremely depreciated currencies, may bring about a position in which the commodities which are normally able to be bought in one country for shipment to another country can no longer be dealt with profitably. The fall of exchanges in Germany, Austria and neighbouring countries, rendered it very difficult for exporters here, who were in the habit of selling goods to these countries before the war, to find a place in those markets. A movement in the other direction has an effect which can also be illustrated by the figures which we have had under consideration. If exchange had been much above $5 to the pound, pig-iron would have been too dear to buy here for shipment to America. It may seem nonsense to talk of such movements in the particular case before us—exchange between England and the United States—but the situation that is illustrated by those figures is a situation which has been created over and over again in the course of recent experience in trade between England and neighbouring continental countries, where the continued

fall of exchange, the continued increase in the number of the units of a foreign currency which can be purchased for a fixed sum of our currency, has brought about a position in which a stimulus to the export of their commodities was in existence. Merchants or manufacturers in such countries were in a position to offer goods on our market, with profit to themselves, at prices that were below the current prices here; while we, on our part, owing to that same fall in the exchange, were unable to find the usual opportunities for the sale of our commodities to them with the normal profit. In this connection it is important to bear in mind that, though commercial considerations are those which we are apt to think of as the most important, the most adjustable to the situation, at any rate in affecting the rate of exchange, there are other considerations which come into the account. Some of them were referred to at the close of the preceding chapter, and it will be a fairly familiar fact that there are payments—large payments—that have to be made between countries not only on account of large mercantile transactions, but to carry out political obligations. At certain stages large payments may have to be made to carry out large military enterprises, and the necessity of making these payments may bring about on the exchanges a situation of the most vital importance to trade. We have been discussing the exchanges only in relation to trading conditions. But, owing to

political or military necessities, the exchange market may run away from the position resulting from the trading conditions and may react on those trading conditions and render entirely unprofitable transactions that might otherwise be profitable or, on the other hand, render profitable transactions which otherwise might not come within the range of commercial possibility. We could generalize the statement which has been associated above with two named commodities, wheat and iron, and two named countries, America and England. While it might have been preferable to discuss the problem with reference to two countries named only by some reference letters or numbers and commodities similarly designated, in order that we might deal with the essential principles instead of having our attention liable to be diverted by the peculiar relations of actual numerals, it appears likely that the particular ideas which it was desired to convey would not be quite as clearly stated in that form to everyone. I wish particularly to insist on the essentials of the theory we are examining, certain principles that underlie the facts that these figures only illustrate. We have two countries and we can consider the exchange between them of two commodities which we may take as typical of the whole of the commodities entering into the trade between those countries. If we attempted to discuss the case of numerous commodities on each side at the outset, we should risk a con-

fusion of ideas. It is for that reason that it is helpful to think of all the exports from each country to the other as if they consisted of a single commodity. For clearness then, expressing the position in terms of two commodities, we may have a situation where the rate of exchange may make export from one of our countries to the other unprofitable for the time being. What then happens? There is no export in one direction, and there is a movement of commodities in the other direction. That means that the exporting country of the two is accumulating credits in the other country. In the case that we have illustrated above, with exchange below $4.44, pig-iron would have been going to the United States and wheat not coming from the United States here and, so far as these commodities alone were concerned, we should have been accumulating credits in America. In that situation, what should we have done with these credits? By our hypothesis the American level of prices in relation to the rate of exchange is an unprofitable one for buying commodities there and shipping them here. What then should we do? There might be some non-commercial obligations to carry out; there might be something such as the payment of interest on our American debt. If operations of that kind had to be carried out, then the credits might find a natural outlet in that way but, if such operations have not to be covered, or if they can be fully covered and still

leave the credits piling up, an effect on the exchange market is bound to be produced in due course and the situation of one-sided trade created by the assumed low rate of exchange would have been brought to an end as a consequence of its own establishment. The exchange rate would have crept up and, as it crept up, one article after another would come within the field of profitable trade and at last we should reach a position where a balance of trading obligations might be brought about. The same sort of argument might be followed out at the other extreme. Supposing the exchange is above $5 to the pound, a rate which would make it very profitable at the prices quoted above to bring wheat from America here, but unprofitable to send iron from here to America on the basis of the quotations for that metal. The situation already described would be created but with the rôles reversed, American credits piling up in this country, which could not be used in purchasing for export at the prices current. These credits might be able to be used for some other purposes, for example, the financing of loans. If no other form of loans were available, we might have a situation parallel to that which has occurred in certain phases of our trade where, in order to develop an export trade to certain countries, it has been necessary to establish a system of export credits to finance the trade. That is the sort of position that would be created with prices as

we have given them and the exchange rate for the time being above $5 to the pound. Just as with the other extreme case, this extreme case also would, as a result of its own existence, set in operation forces that would bring it to an end, unless there were other and non-commercial forces stronger and more persistent than the commercial forces. And it is that that makes the particular interest of exchange problems at the present time and their peculiar difficulty, in a way. In former times we were justified in thinking of exchange as a matter of commercial business in the main, and we only needed to consider the position in relation to this. We could see easily that commercial considerations would soon correct a deviation of exchange to one side or the other of that corresponding to the gold parity, where we were concerned with gold currencies on both sides. Where the trade in question involved some of the South American countries whose currencies consisted of paper not effectively redeemable in gold, the balance of trading transactions was the determinant of the rate of exchange. The intrusion of non-commercial considerations of great and enduring importance into the exchange market, has brought with it changes that embarrass very much trading transactions and are only with difficulty, if at all, overborne by those trading transactions. Of particular importance in this connection is the position of our trade with the countries with

depreciated currencies in Central Europe, where high domestic prices may be the equivalent of low prices in terms of dollars or Swiss francs or Dutch florins or other of the more stable currencies. The constant inflation of the currencies of some of these countries has brought about a tendency of prices to rise towards the level that leads to a reaction on exchange. If price inflation occurs without a corresponding movement of the exchanges, there is a tendency to discourage exports from and to encourage imports into the inflating country, since goods are made relatively dear in that country. When the reaction on exchange has taken place that relative dearness is wiped out. If exchange is not subject to trade conditions only, but also to non-commercial conditions, then we may have the exchange movement outrunning the price movement and making goods relatively cheap in the country concerned, with results that we have been realizing in practice, of a stimulus to export from the countries that have had the strongest depreciation.

Now let us consider briefly the particular effect of the existence of a gold basis for currencies, that is to say, of the effective convertibility of paper currency into gold at its face value. That exercises, as long experience has shown us, a stabilizing effect on the exchanges, and it is very easy for us to realize the way in which that stabilizing is brought about. It was shown above that if we imagined the rate of exchange to deviate

from the rate corresponding to a balance of transactions, it was gradually brought back towards that rate, and in the course of that movement it overtook one commodity after another, and brought them one after another into the range of profitable commerce. Where we have two currencies each based upon gold, each capable of exchange into gold, if nothing else can be brought within the range of profitable movement, a comparatively small variation of exchange will bring gold within the range of profitable movement, and will enable gold to be taken from the circulation of the one country and shipped to the other country and added to the circulation there. The movement of gold from country to country is a much less expensive matter than the movement of commodities across the Atlantic. Before the war, a movement of something like $\frac{1}{2}$ of 1 per cent. was normally sufficient to bring about shipments of gold between London and Paris, or between London and Berlin. Between London and New York the cost was higher than this, but it was less than $\frac{3}{4}$ of 1 per cent., and lower rates than $\frac{1}{2}$ of 1 per cent. can also be illustrated. Thus, the cost of sending gold between Montreal and New York, including insurance as well as freight, was formerly $\frac{5}{64}$ths of 1 per cent., a considerably smaller fraction than that previously mentioned. Now that means that when the exchange deviates from the direct equivalence of gold currencies by something like $\frac{1}{2}$ of 1 per cent., it becomes

profitable to ship gold in one direction or the other. The rates of exchange at which such shipments become commercially possible are known as the "specie points" or "gold points." Where you have currencies convertible into gold and the export and import of gold is unrestricted, the exchange is practically tied to the gold parity, and the link of connection is so short that, while the pre-war variations were of importance to exchange bankers, they were not of very great importance to many business men and of practically no importance to tourists. While of some importance to merchants in large transactions, these fluctuations faded into insignificance compared with the variability of exchange between this country and many countries of continental Europe at the present time.

According to the provisions of law governing the operations of the mints 100,000 sovereigns might be made from a certain amount of gold; they were, therefore, the equivalent of a legally fixed amount of gold. That same amount of gold was required to make up an amount of the French currency represented by 2,522,150 francs, so that this sum in 20 and 10 franc pieces would contain the same amount of gold as 100,000 sovereigns. In the one case $\frac{11}{12}$ths gold was mixed with $\frac{1}{12}$th of its weight of alloy to make sovereigns, and in the other case French gold coins were made of gold $\frac{9}{10}$ths fine, that is, consisted of an alloy containing 9 parts of fine gold to 1 of alloy. The

amount of gold in these two sums of money, 100,000 sovereigns and 2,522,150 francs, was the same by law, and that gives us for the direct equivalence of the moneys of the two countries on the basis of their gold contents: £1 = 25 francs 22·15 centimes. That illustrates what we mean by gold pars of exchange, which are rates expressing arithmetically the relations between the legal make up of the coinage in the countries concerned.[1]

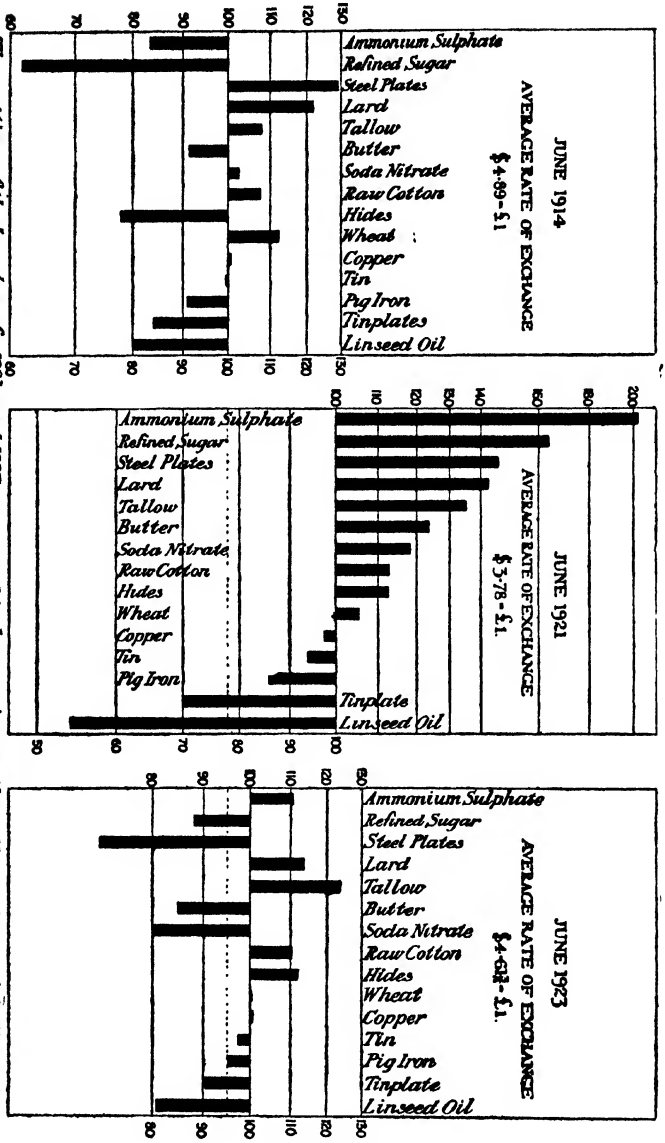
APPENDIX TO CHAPTER II

In the course of Chapter II the conditions affecting the commercial exchanges between two countries have been illustrated by the case of two commodities, one an exported and the other an imported article in each case, the article exported from one country being that imported into the other. Reference was made (see p. 50) to the more complex case of many commodities, some of which pass into or out of the category of exportable or importable commodities according as the rate of exchange rises or falls. It appears desirable to present this aspect of the problem more precisely and the diagram which follows has been designed for this purpose.

In Diagram 7 the relative prices of fifteen different commodities in the United Kingdom and in the United States in June, 1914, June, 1921, and June, 1923, are represented. The mode of representation is the following. The American prices are converted into sterling at a fixed rate, for which the gold parity serves as well as any other rate. The base line marked 100 in the left-hand section of the diagram

[1] The above relations result from the legal provisions that 1869 sovereigns are to be made from 40 lbs. troy weight of gold of a fineness of eleven-twelfths, and that 3,100 francs in gold coin are to be made from 1 kilogram of gold of a fineness of nine-tenths. The quantity of fine gold in the sums named in the text is 1,961 lbs. 10 ozs. and ·514 grains troy.

PERCENTAGE PROPORTIONS OF PRICES OF COMMODITIES IN THE U.K. TO THOSE IN THE U.S.A.
(RATIO SCALE)



The positions of the base lines for 1921 and 1923 correspond to the premium on the dollar in terms of sterling at these dates.

DIAGRAM 7.

corresponds to this rate. The end of the column representing each commodity is at such a distance from this base line as corresponds, on the scale of the diagram, to the logarithm of the fraction obtained by dividing the English price by the American price, as converted into sterling at par. If we desire to show the corresponding proportions of prices at any other rate of exchange than par, this can be simply achieved by drawing a new base line across the diagram at such a distance from the line marked 100 as corresponds to the premium or discount on the exchange at the rate at which the comparison is desired. Thus the lines in the middle and right-hand sections of the diagram which bear the mark 100 correspond to the rates of exchange in June, 1921, and June, 1923, the average rates for those months being \$3.78 to the £ and \$4.61⅜ to the £ respectively. The distances of the ends of the columns from the new base lines will clearly correspond to the logarithm of the fractions resulting from dividing the English prices by the sterling equivalent of the American prices converted at the rate of exchange to which those base lines severally correspond.

Thus if the English price of an article is £ p per ton and the American price \$ q per ton, while the par of exchange is \$ r per £, the distance from the line marked 100 in the left-hand section to the top of the column representing the article in question will be

$$\log p - \log \frac{q}{r} = \log p + \log r - \log q.$$

Its distance from the base line corresponding to a rate of exchange of \$ t per £ will similarly be

$$\log p + \log t - \log q$$
$$= \log p + \log r - \log q - (\log r - \log t)$$

Now $\log r - \log t$ is the distance between the two base lines, and consequently the actual positions of the ends of the columns are identical whether they are determined by calculations based on the par of exchange or by calculations based on some other rate, provided that the base lines used as starting points of measurement are laid down at distances from each other corresponding to the rates of exchange which they

are intended to represent. If gold were one of the commodities included in the price comparison, the corresponding column, based on calculations in which the conversions were made at the par of exchange, would reach to the base line corresponding to the rate of exchange of the date of the price of gold in England used for the comparison, since the price of gold is adjusted to the New York exchange rate.[1]

Now let us consider the diagram constructed in the manner just described. The group of articles represented in it have been arranged in the order of the magnitude of the fraction English price ÷ United States price at the date June, 1921. It will be noted that for some articles this fraction was greater than unity, while for others it was less. For the latter, the column representative of the article is drawn downwards from the base line corresponding to the exchange rate at the date of the price quotation. It will also be seen that in June of 1914 or 1923, the various columns differ, in general, both in magnitude and in direction from those which relate to June, 1921.

Broadly speaking, articles represented by columns extending upwards from the appropriate base line, being valued at prices higher in England than in America, belong to a class which we may call "importable" goods from the English standpoint, and articles represented by columns extending downwards from that base line, being valued in England at prices lower than in America, may be called, from the English standpoint, "exportable" goods. Thus, at the dates mentioned, tallow, raw cotton, and wheat were in the former class, pig-iron, tin plates and linseed oil in the latter. Steel plates and nitrate of soda were in the former class at the earlier date, but in the latter class at the latest date, while hides and sulphate of ammonia, which were in the "exportable" class in 1914, were in the "importable" class in 1923.

[1] The slight deviations from exact equivalence of the market price of gold and the New York rate of exchange are ignored in this statement. In practice they would make the position of the base line proper to a given date lack precision to the extent of those deviations. The slight deviation from par of the exchange rate in June, 1914, could not be shown clearly on the scale of Diagram 7, and has also been ignored.

The situation in 1921 was strikingly different from that in either 1914 or 1923, especially in respect of the wide divergence of prices in the two countries. If we suppose prices either to remain unchanged in both countries or to rise or fall by exactly the same percentage for all commodities in each of those countries, the effect of a movement of the exchange rate can easily be seen. A movement upwards of the base line, corresponding to a fall in the number of dollars to the pound, would gradually bring into the rank of exportable goods some of the articles which, at the higher rates of exchange, were in the importable class, while a rise in the number of dollars to the pound, requiring a movement of the base line downwards, would have the opposite effect.

It is necessary to note that the fact that an article is represented by a column drawn upwards from the appropriate base line may not definitely determine that the article can be profitably imported from the United States to England. A difference of price making it cheaper to buy in America than in England is indicated, but unless that difference is great enough to provide for all the expenses of importation, actual movements of the article may not take place. Freight, insurance, mercantile profits and any import duties (or export duties should such exist) may be sufficient to absorb the difference of price indicated in such a diagram, or even to exceed that difference. Thus the cases in which the columns are short may or may not be cases in which commercial profit from importation is indicated. It is, however, just these cases which are most sensitive to exchange movements, since the elevation or depression of the base line may cut off from, or add to, the price difference an amount of real significance in determining whether purchase for import or export offers a prospect of profit.

It may even be the case that certain of these divergencies from equality of price in the two countries, and particularly the smaller of them, are indicative, not of the possibility of direct trade in the article in question between the two countries, but of the influences determining with which of the two countries the trade of a third country will be conducted. Thus it is possible that the change in the case of hides between June, 1914, when they were cheaper in the United Kingdom,

and June, 1921, or 1923, when they were cheaper in the United States, may be significant of the direction of movement of hides from (say) the Argentine at the two dates rather than, e.g., of direct export of hides from England to America in June, 1914. England furnished the more advantageous market, so far as price was concerned, in 1923, the United States in 1914. As freights from the Argentine to the United States and to England may well have shown a much smaller difference than the amount of the freight between England and the United States, it is clear that a smaller price difference could determine which of the two countries could attract hides from the Plate than would suffice to stimulate their shipment east or west across the North Atlantic.

The main purpose of the diagrammatic representation here offered is to enable the problem of the relation of the price positions of the numerous articles with which trade between two such countries as the United States and the United Kingdom is concerned to be visualized in relation to the fluctuations of the rate of exchange between the countries concerned, and to facilitate the extension of the argument, developed in Chapter II in relation to two commodities only, to the wider field of practical experience. The work of constructing these diagrams was rendered somewhat difficult, and the range of commodities represented in them was restricted, by the lack of assurance that price quotations obtainable related really to precisely the same commodity in the two countries. If exact identity of quality has not been secured in every instance, the general nature of the argument will not have been affected in any essential respect, since any important movement in the price of one grade of a given commodity is, in general, accompanied by a movement in the same direction, and of roughly similar relative magnitude, in the case of other grades not markedly different.[1]

The examination of actual price records shows that, in comparing two countries, we find some articles markedly cheaper, others markedly dearer, in the one country than in

[1] The data for 1914 and 1921 have been taken, for the most part, from a Report on "Depreciated Exchanges and International Trade" issued in 1922 by the United States Tariff Commission.

the other. The question of how much dearer or how much cheaper given commodities are in one of the countries in comparison with the other is dependent on the rate of exchange between their currencies. A very large movement of that exchange rate in either direction, unless accompanied by corresponding movements in prices, or by movements in prices which alter the relative positions of commodities in the order of their dearness or cheapness but have otherwise a similar effect to that resulting from such corresponding movements, would reduce very greatly, if it did not wholly extinguish, the group of articles which are importable—or the group of those which are exportable. In terms of the diagram, it is possible to conceive of exchange movements which would make the columns for all articles lie on the same side of the base line showing the actual rate of exchange, or to reduce those which depart from that rule to a magnitude representing an insufficient provision for the costs of transport and other expenses of moving the goods from one country to the other. Such a position would give results such as are discussed in the text.

It is, perhaps, worth while to observe that such comparisons as are the subject of discussion in this note need not extend to the entire range of commodities produced or exchanged in each of the countries under examination. Some goods are practically excluded from international trade owing to their inability to endure transport. While this consideration does not exclude them from all international trade, since countries separated by a land boundary may exchange any goods which are capable of transport from one position to another near it, it does exclude them from all but local trade, so that their importance in international trade is not great. As between countries separated by wide oceans or long distances by land, goods which lose their character in the course of transport to distant places cannot be drawn into the currents of international trade even by extreme differences of price. The progress of science has greatly extended the range of goods which are worth the trouble and cost of transport to distant countries, but there remain some which can only be used in the immediate neighbourhood of the place where they

are produced. The difference between these and goods the transport of which, even over short distances, involves expenses so great in proportion to their value that such transport can only be undertaken in very exceptional circumstances is, perhaps, rather a difference of degree than of kind. Completed buildings may serve as an illustration of goods of this class. Between such cases and that of the goods ordinarily met with in trade, it is possible to conceive of any necessary number of intermediate stages. It is, accordingly, impossible to state a percentage difference of price which, if reached, will ensure that trade in the article concerned will be commercially possible. Each article needs separate consideration. A change in the cost of handling or of packing or of transport, as well as a change in Customs duties, or other charges hindering trade movements, may bring into, or remove from, the range of trading possibilities, any given article, even though its price everywhere and all exchange rates were supposed to remain constant.

The consideration of the problem of simultaneous trade in many commodities between two countries leads to the same result as the simpler discussion of trade in two commodities only, namely that a rise in the value of a country's currency relative to that of other countries tends to stimulate imports and to restrain exports, while a fall tends to stimulate exports and to restrain imports. Price changes of some or all of the goods imported or exported, resulting from that modification of foreign trade, can, if carried far enough, nullify the effect of the exchange movement.

CHAPTER III

PURCHASING POWER PARITIES

As was stated at the end of the preceding chapter, in most of the leading commercial countries, before the war, currencies were redeemable in gold, and bar gold or gold coin might be freely exported from those countries without Government interference. In those circumstances the actual current rates of exchange were prevented from deviating by more than a very small percentage from the equivalence of the moneys determined by their gold contents, i.e., from the gold par of exchange, or the mint par, as it is sometimes defined. I do not propose to use the conception sometimes used in books discussing the subject, that the par of exchange is that rate of exchange which exists when the payments that have to be made from one country to another are just equal to the payments that have to be made from the second to the first. One reason for not starting from that conception is that it is not a clear and explicit definition. It is true that it might enable a complicated equation to be written down, the solution of which would be quite definite. But

the rate of exchange is itself involved in that conception of payments to be made being equal to the payments to be received, so that the definition, as viewed from that angle, is not wholly satisfactory. As we have certain definite legal points on which to base the calculation of the mint pars, it is quite possible and may well be desirable when dealing with redeemable currencies, to which case only the conception of a par of exchange is, in truth, applicable, to look at the par of exchange rather as the expression of these legal enactments than as the result of the balancing of commercial transactions. But the balancing of commercial transactions is the aspect of affairs which demands our attention when we are dealing with currencies that are not tied to one another, through the link of gold, by the free movement of currency from country to country. In the new state of affairs that is established, it has been found necessary to readjust our thoughts to the actual nature of international exchange, to set them free from the central idea of currency exchange, and to realize that we are dealing with an exchange of commodities and that prices enter into our problem when we are discussing rates of exchange. The real business is the exchange of commodity for commodity, and the relation of prices of commodities in any two countries which we are comparing, and whose trade we are considering, is the point from which we start. Some countries have experienced extremely large changes

in the general level of prices obtaining in them since the period before the outbreak of war. It is familiar that in Germany, for example, we have a very great multiplication of prices, that in such a country as Italy, pre-war prices have been multiplied by nearly 6, in France by more than 4, and in a number of other countries, such as the United States and our own country and the Netherlands and Sweden, while we have varying deviations from the scale of prices that prevailed before the war, the general level of prices is about 50 to 60 per cent. higher than before—a little more in some, a little less in others. In all cases, however, we have a very considerable deviation from the price-level prevailing before the war. The attention of theoretic discussions on this subject has been turned in the direction of observing and comparing the actual levels of prices in different countries. After the discussion in the last chapter, it may be definitely asserted that the proportion of prices in one country to the prices in another country, the proportion of the changes from the pre-war level in the two countries, has a very important, indeed a dominating, effect in determining the current rates of exchange. In the present chapter that proposition will be examined rather more closely in order to determine the limitations that we ought to make to a general statement of that kind before we can accept it as the basis of practical action.

Professor Gustav Cassel has in various of his

writings devoted a good deal of attention to this subject of the relation of prices in different countries. In one of the articles which he wrote some years since in the *Economic Journal*, he expressed himself in the course of the discussion in this fashion [1]:

"At every moment the real parity between two countries is represented by this quotient between the purchasing power of the money in the one country and the other. I propose to call this parity 'the purchasing power parity.'"

It will be of advantage to give a concrete illustration of that proposition. Let us suppose that we have in one country an increase of prices to three times the general level at which they stood before the war. It will be sufficient at this stage to assume that it is possible to make up a general measure of prices. Having measured them we find that they are on the average three times what they were before the war. In another country, by a suitable process of measurement, we find that prices are 50 per cent. higher than they were before the war: A ratio of 300 : 100 expresses the proportionate change in the first country, and a ratio of 150 : 100 in the second. The relative change may be expressed by the ratio of 300 to 150 or 2 to 1. The pre-war parity of exchange being x units of the currency of the first country to 1 of the currency of the second, the proportion which Professor Cassel proposes to take as expressing the

[1] *Economic Journal*, December, 1918, p. 413.

purchasing power parity of money in these countries is the proportion of $2x : 1$. The prices in one country, if they were equal before the war to those in the other, or if they were in such relation as to keep exchange at or close to par before the war, will now be in the relation which will make twice as many units of the currency of the country with the greater rise in prices exchange for any given amount of the currency of the country with the smaller rise in prices as exchanged for that same amount before the war, when exchange was at parity between the two countries. If prices in the second country have risen in the ratio of $n : 1$ and in the first in the ratio of $r.n : 1$, while the moneys exchanged at par in the ratio $x : 1$ (i.e. 1 unit of the money of the second country equivalent to x units of the money of the first country), the purchasing power parity between these two countries is defined as the ratio of $r.x : 1$.

Professor Pigou, who has devoted his very acute analytical capacity to a careful consideration of this subject in the *Economic Journal*, taking, for the case of his illustration, two countries in which prices were not as greatly different as in the illustration given above but which, nevertheless, at the time of his writing, had levels of prices which were quite considerably different in relation to pre-war prices, defined the doctrine as meaning "that, in ordinary conditions of trade equilibrium, Englishmen cannot

be getting different quantities of sterling per unit for the same commodities as sold in England and, allowance being made for transport charges and any taxes that may call for payment, in America."[1] A given volume of commodities that are capable of selling in England or America will fetch a certain number of pounds sterling in England and a certain number of dollars in America, and the rate of exchange between the two countries must be such as to yield to the seller the same amount of money whether he sells it in the one market or the other, taking account of the expenses of getting the commodities into the market in each case—otherwise one of the markets would be abandoned or fail. The trader would sell in England, if England offered him the better price, or in America, if America offered the better price, after taking account of expenses of transport. A particular illustration of this relation of prices was given in Chapter II, and it becomes of interest to consider generally what is the nature of the effect upon rates of exchange not only of changes in the levels of prices prevailing in the two countries, but also of the fact that two countries thus trading are not commonly contiguous to one another; there are expenses incurred in moving commodities from one market to the other and those expenses may have an important effect upon the prices in the two countries that admit of profitable trade.

[1] *Economic Journal*, December, 1920, pp. 462–3.

In dealing with the particular illustration used in Chapter *II* for the purpose of developing the general theory, reference was made to the charges of the nature of freight that were involved in moving wheat from America to England or in moving iron from England to America, and, going back to the conceptions with which we were then concerned, we may give a little attention to the effect on our problem of an increase or decrease in the amount of those charges. If you have goods which are capable of profitable sale in a foreign country with the existing charges upon transport and suppose that those charges are doubled, it will not need a great deal of demonstration that in general the doubling of those charges will mean that at any rate some of the commodities which otherwise might have been exported profitably will no longer be in that position. If the prices of iron were such that it was just profitable to ship it to America at existing prices, and if the price in England remain unchanged, the increase of the transport charges will render it impossible to export iron to America unless there is either a rise in the price of iron in America or an alteration of the rate of exchange between England and America. It is the latter of these two changes which requires more particular attention, as it is often a reasonable assumption that goods thus sent into a foreign market do not dominate that market but take advantage of the level of prices obtaining there. It is true

that one effect of the movement may be to lower prices in the foreign market, but it is quite convenient to consider that case separately, and to take up the case in which prices in the foreign market remain unaffected by the extent to which it is supplied from a particular country.

Referring to the discussion in the Appendix to Chapter II, the increase of the obstacles to movement of goods between two countries has the effect of requiring a greater divergence in price (comparison being made at the current rate of exchange) in order that it may be worth while to move goods from the one country to the other. Some classes of goods, formerly sufficiently different in price to render profitable their export from the country in which they are cheaper to the country in which they are dearer, will fall out of that class, while in the case of others the advantage of the trade will be decreased. The result of these changes is a diminution of the quantity of goods moving in the direction in which the obstacles to transport have been increased. The balance of indebtedness is thus disturbed, and a new position of equilibrium must be found. Apart from the introduction of new elements into the financial relations between the two countries, the new position will clearly be one in which the movement in the direction in which the new obstacles have been created is stimulated and that in the opposite direction restrained. As we are discussing the hypothesis

of unchanged prices (expressed in the local currency) in each country, the mode of adjustment must be found in an alteration of the rate of exchange between them. The direction of the alteration and its amount are the variable factors in the adjustment.

Denoting the two countries by the letters A and B, and considering the case of increased obstacles to movement of goods in the direction from A to B, the change must be in favour of A, i.e. must make the currency of A dearer in terms of that of B, and, which is the same thing, the currency of B cheaper in terms of that of A. This change affects the relation of the prices, in the two countries, of all goods capable of being exported from one of them and imported into the other. It will decrease the profits of exporting some goods from B to A, nullify the possibility of exporting some, and even, perhaps, transfer some goods from the exportable to the importable class.

The extent of the movement will depend on the magnitude of the new obstacles, since the extent of the disturbance to be overcome is clearly affected by that magnitude. All that can be stated in general terms is that, at the rate of exchange, the net effect of the additional obstacles (unfavourable) and the exchange movement (favourable) on the export from A to B must be to diminish the credits corresponding to that export to the same extent as the alteration in the rate of exchange reduces the credits cor-

responding to the resulting reduced volume of export from B to A.

If we have to take account of several countries in place of two, the effects of additions to the obstacles to movement between any two of them may be felt in trade between other countries as well as in the trade of the country the entry to which has become more difficult. In that case the change whose extent is considered in the last paragraph will have its magnitude modified in some degree, owing to the possibility of evading the new obstacles by extending exchanges with such other countries. It will be sufficient to indicate this complication of the problem without attempting to find in what terms its precise solution should be expressed.

Returning to the simpler problem of two countries we may consider the particular illustration previously used, namely, the exchange of English iron for American wheat.

English iron being subject to higher charges of transport to the United States, a larger amount of English money must be expended in laying down the iron in America, where it sells for the same amount of American money, or in other words the number of dollars bought for a pound sterling would fall. A lowering of the rate as commonly quoted would be the means of ensuring conditions by which, after the increase in the transport charges, trade could still be carried on in the same commodities as previously. The

question as viewed from the American side need not detain us very long. The same interchange of goods which involves an export from England involves also import into England, and the increase of obstacles to the interchange may take the form of hindrances to movement in either direction. Whether we call the obstacles hindrances to export or to import, therefore, we should expect substantially the same kind of effect to be produced. The main thing is that there are difficulties to overcome in the passage of goods from the one country to the other and the increase of obstacles is an influence tending to decrease the value of the currency of the exporting country in terms of the currency of the importing country. That is a general statement that will cover both cases if new charges are imposed on transport in one direction only; then they are an influence tending to alter the rate of exchange. But if they are imposed on transport in both directions, what then? The one set of obstacles tends to move the exchange in one direction, the other set of obstacles, by exact parity of reasoning, will tend to move the exchange in the other direction. If we regard America, for the moment, as the exporting country and England as the importing country, and assume fresh obstacles to be placed on the movement of commodities eastward, that must, in accordance with the earlier argument, raise the value of dollars in English currency or, otherwise, lower the value in dollars

of English currency. It is clear that by the imposition of obstacles such as to produce opposite variations of the exchange—obstacles in the one direction tending to lower it, obstacles in the opposite direction tending to raise it—the obstacles may be so adjusted as to have balancing effects. While it may not be true that the imposition of equal obstacles, or obstacles in equal proportion to the prices involved, in the way of the movement of goods in the one direction and of goods moving in the other direction, would leave the exchanges exactly where they were before, it will not be difficult to arrive, by a simple process of argument, at the conclusion that similar obstacles—using the word similar in the sense that they are such as to have equal effects upon the exchange—similar obstacles imposed in both directions may leave the rate of exchange between the two countries unaltered. If obstacles are imposed, such as increased freight rates on commodities, on the movement of goods westward from England to America, and also on the movement of goods eastward from America to England, the effect upon the exchange will be the result of the balancing of those obstacles, and they might be arranged in such proportion as to have equal effects in the two directions. Just what relative magnitudes the obstacles ought to have to produce that exact balance, is an interesting but complicated question, the solution of which is not attempted here.

During the period when exchanges between Europe and America were pegged in the manner referred to in the first chapter, the normal effects of commercial conditions did not have an opportunity of working themselves out in the exchanges. Through Government intervention the dollar value of the sovereign was maintained unchanged at a level fixed by authority. The prices of commodities in England might change and the prices of commodities in America might change, and under normal conditions of free commerce that might well have resulted in an alteration in the rate of exchange at which the pound sold for the dollar, but that rate was fixed and some of the effects of that artificial stability will be fairly obvious. If the actual position of affairs between England and America was, as it turned out to be, as soon as the exchanges were released from control, such that commercial considerations would have involved a lower rate of exchange than that at which exchange was pegged, then through the pegging of the exchange, English people were able to buy American goods cheaper than they would have been able to do if left to the free operation of the market. The effect of being able to buy more cheaply would naturally be an increase of demand for American commodities. And conversely, English goods were what may be described as "unnaturally" dear in terms of American currency, so that a restraint was imposed on the normal flow of trade from England

to America. To use the jargon that has become common in this connection, the external purchasing power of our currency and of other European currencies—Allied currencies and neutral currencies—rose relative to their purchasing power in their own countries. While this was the case, the full effects of the situation were not developed owing mainly to the fact that trade was not really free, that it was not open to merchants to buy all that the commercial conditions of the time would have stimulated them to buy. The opportunities for transport were limited and even the availability of commodities was limited, while in other ways a Government control was exercised, in the interests of the Allied communities, over the actual movement of the commodities themselves, and so the volume of merchandise movement that actually took place during this period of pegged exchanges did not in fact correspond to the volume which would have been stimulated by that position of the exchanges had there been no war hindrances to the free movement of merchandise. It is principally for that reason that a very large part of the discussion in these chapters is not based on the position of the exchanges during the war. I am very much less concerned with the exchanges during the war than after the war. I am not concerned, except as a matter of historical curiosity, in tracing out what were the economic effects of the exchange policy during the war period. I am concerned rather to con-

sider where we are to-day with exchanges free to vary with merchandise movement, free to take place under commercial influences in most commodities and most countries, though there are some countries that still maintain a certain amount of supervision over the goods exported from or imported into them.

A great deal has been written on the subject of " purchasing power parities " and the relations of what are called the internal and external purchasing powers of different currencies. In dealing with the deviation of exchanges from purchasing power parities we have to consider by what means we shall measure the purchasing power parity. It appears to be hastily assumed, by some writers at any rate, or if they have not assumed it they have not taken very great care with their arguments, that the purchasing power parity can be quite readily determined in practice by a comparison of the standard index numbers which are calculated in various countries as a means of measuring the deviations of prices in those countries from the pre-war position of prices. Index numbers by themselves form a subject, the discussion of which cannot be adequately dealt with as an incidental topic to the main subject of this volume. For those who are not familiar with them it may, nevertheless, be desirable to say enough to introduce the idea of an index number to them. The object of the calculation of an index number of prices is to express

the degree in which prices have varied from one time to another. It is not possible to take all prices for the purpose of calculating such an expression and, consequently, it has been the custom to select from among the many articles whose prices might be quoted a certain number of representative commodities, and to calculate from the prices of those representative commodities at the two periods with which we are concerned, the amount of the average movement. We take each commodity by itself, take its price at one date and its price at another and express the price at the second date as a percentage of that at the first. Adopting the same method for each commodity in our representative list, we obtain a series of numbers which have to be combined in some way. There are a good many different ways in which we can combine them, and the way in which we combine them has an important effect on our result. We may take a simple average of them, or we may take a modified average of them—in which those commodities in the list which are of the greatest importance in trade, or in the life of a community, are given, so far as their price variation is concerned—the greatest importance in working out the average result. We shall, by these different processes, get different indications of the relations of prices at the two selected dates. Whatever process of averaging we may adopt we shall get, after dealing with all the items in our list of commodities,

a result which can be expressed in a form showing the percentage proportion of prices at the second date, on the average, to those at the first date. Now the first thing to which we have to direct a good deal of attention in considering the practical calculation of purchasing power parities is the fact that numbers of this kind, calculated for two different countries, when they come to be compared, must give a result which depends upon the ways—generally different—in which the averaging has been carried out for the two countries. Unless it were true that whatever the method of taking the average we get the same result, then it is clear that the conception "purchasing power parity" is not definite, or is not accurately represented by all combinations of index numbers. One consideration alone seems to warn us in regard to the hasty use of ordinary index numbers to calculate that rate of exchange which might maintain itself in current conditions if those conditions were stabilized, which is what I take to be approximately the aim of those who discuss purchasing power parities. Before the war, exchanges varied comparatively little from parity. As pointed out at the end of the last chapter, about $\frac{1}{2}$ of 1 per cent. in some cases, a little less than that in others, expressed the extreme deviations from parity of exchanges between European countries, the currencies of both of which were based upon gold. In the case of the exchange with the United States the variations were some-

what greater, but did not extend beyond ¾ of 1 per cent. in either direction. Do we find, therefore, that the index numbers of prices in those countries varied from one another within the range of 1 per cent. or 1½ per cent.? By no means. The actual position differed quite notably from that. If we take certain of the actual index numbers in the United States, we had, before the war, the admirable index number calculated by the Bureau of Labor Statistics. According to that index number the level of prices rose between 1900 and 1913 by about 22 per cent.[1] In France the office of the *Statistique Générale de la France* calculated an index number of the movement of French prices, and that gave us a figure of 17 per cent. as the rise in French wholesale prices over the same period. In this country we had, besides the official index of the Board of Trade, index numbers that were published in the *Statist* and the *Economist*, and, according to the former of these unofficial calculations, there was, between 1900 and 1913, a rise in prices of 13 per cent. and according to the latter a rise of 18 per cent., while the Board of Trade index number gave us an intermediary figure of 16½ per cent. These different calculations made in the United Kingdom illustrate the same point which I have tried to put theoretically as the natural result of the divergence of processes in arriving at an index number. In Germany, again, an index number prepared

[1] According to revised calculations, nearly 25 per cent.

before the war by Herr Schmitz showed a rise over the same period for wholesale prices in Germany of 19 per cent. Now the variations between the results of these calculations for the four countries in question greatly exceed the variations of exchange for the same periods in the same countries, and they bear out the a priori view that, while it may be true that if we could get appropriate measures of the movements of prices in any two countries, their comparison might yield results, which we call the purchasing power parities between those two countries, that would be useful; if we take the actual index numbers available, which are calculated for different purposes altogether, and compare them, we get only a rather distant approximation to the desired result. It is not suggested that the index numbers of wholesale prices as calculated in different countries are necessarily at all inappropriate to the purposes for which they are calculated. They may be very well adapted indeed to the purposes in view of which they were designed, but different purposes have to be served when we come to the calculation of purchasing power parities. Looking at the problem from the angle illustrated in the last chapter, and in the Appendix to that chapter, commodities in different countries, for example, in America and England as illustrated in the diagrams, can be ranged in order in accordance with their relative prices in the two countries, and their position in that order shows the strength

of the forces at work to push them into the group of exports from the one country and imports into the other, or of exports from the latter and imports into the first. Changes in prices might alter the composition of these groups and throw commodities which had been in one of them over the dividing line into the complementary group. It would appear that changes in price may take place without affecting the international exchange of commodities, that is to say, without bringing the goods affected within the range of possible exchange at the time; and in particular in the case of the commodities which are so near the dividing line between exportable and importable commodities in the two countries that the difference cannot cover the charges of transport and other hindrances to exchange. Thus, in the case of any index number which was sufficiently comprehensive, and which included a very wide range of commodities in each of the two countries, we should find commodities in which there might be variations in price important enough to affect the index number but not to affect the international movement of commodities. These changes would, in consequence, not affect the demand for or supply of bills of exchange. Quite apart from non-commercial influences on the exchange rate, it is certainly within the range of possibility that changes may occur in either of the two countries which ought to be registered in the index numbers as calculated without setting up a

state of affairs needing a modification of the exchange rate to adjust it. There are a good many commodities which, by their nature, are not adapted to international exchange, at any rate over long distances. It is easy to think of commodities that must find their market very near to the place of production, and considerable variations in the price of these commodities might occur without making it commercially profitable to set up a system by which they might be transported over long distances and still be fit for use at the end of such transport.

While it appears that, in an index number suitable for the calculation of purchasing power parities at any rate, we should cover both imported and exported goods, we need not necessarily confine ourselves to the goods actually passing in trade between two countries, exchange between which is occupying our attention. One case was illustrated in the last chapter in which the relation of prices under consideration was a relation which would probably not affect any direct movement of commodities between the two countries concerned, but would determine whether the market for the goods of a third country would be found in one or the other of the two countries. Thus it is not only the goods in which there is direct trade between those two countries whose prices would affect such an index number as would serve for calculating purchasing power parities, but also other commodities con-

cerned in the foreign trade of each of the two countries.

There is another consideration even here. It cannot be maintained that goods which do not actually move in international trade have no influence on our problem and that the inclusion of their prices in the calculation of index numbers must render such index numbers inapplicable for our purpose. It would be perfectly possible that movements of prices of goods that never move from one country to another, that are matters of purely domestic trade, might have an influence upon our problem, for the range of prices of any considerable mass of important goods will affect the extent to which the resources of the community are devoted to the purchase and sale of these goods, and may affect, consequently, the available resources to be devoted to other purposes and hence affect the price-levels of goods that do enter into international trade. The effects of competition, in fact, are such as to prevent us from laying down roundly the rule that the intrusion into an index number of goods that are concerned only with domestic trade renders that index number inapplicable to the calculation of purchasing power parities. There are some cases, at any rate, where actual experience appears to show that general index numbers, calculated primarily for purposes proper to the countries in which they are calculated, and covering not a few classes of goods not dealt with in the international trade

of those countries may, nevertheless, reflect sufficiently well the general movement of prices over the range of goods with which we are directly concerned in the international trade problem to serve the purpose of a satisfactory measure and a satisfactory means of calculating purchasing power parities.

One other point which should not be omitted from consideration is the effect of the inclusion of different classes of goods in the index numbers that are to be the basis of purchasing-power-parity calculations. We may have imported goods as raw materials out of which are produced manufactured commodities the prices of which are included in our index numbers, and thus it is not only through the rather remote effects of competition as directing the resources of the country to this or that mode of disposal that we can find a link between prices of different ranges of goods, but also the cost of imported raw material may influence the prices of goods which do not, in their finished form, become the subject of international trade, as well as of goods that enter in their turn again into international trade and are exported. So that in this way again we may find, in the case where the worked-up material is intended only for the domestic market, a further link between the level of prices of goods that are of importance in foreign exchange and the level of prices of some classes of goods that are of importance primarily in domestic exchange only. The variations in price

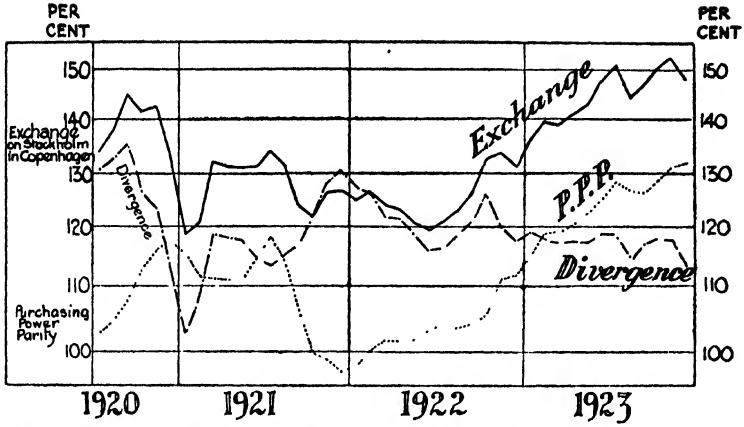
of goods manufactured from imported materials may, however, be quite different from those of the imported materials themselves.

As was stated earlier in this chapter, the movements of prices, i.e. the relative movements of prices in different countries, cause various commodities to pass into the field of possible exports or into the field of possible imports or out of those fields. The consideration given to the subject in Chapter II would indicate that, if we had exactly proportionate movements of prices, i.e. of the prices with which we are concerned, in both countries, no result upon the level of exchanges need follow. The purchasing power parity, too, would remain unaffected, since both index numbers would rise or fall in the same proportion. But if, in the calculation of our index numbers, we are endeavouring to assign a large relative importance to those things which ought to get a large relative importance, and a small relative importance to those things which ought to get a small relative importance, then it is at least a question whether the degrees of importance that ought to be in our minds in this connection should be such as correspond, not to the magnitude of the trade in a commodity, to the quantity of the consumption of the commodity in a country, or to the extent of the production of the commodity in a country, or even to the quantity of the commodity—or its derivatives—that is exported from or imported to a country, but rather the extent to

which the quantity of each commodity which a country sells or which a country buys may be modified by given changes in their prices. If a very large increase in demand abroad for our commodities follows a small fall in their price, then it may be that we ought to give greater attention to that fall than to the fall in another commodity where you may halve the price without finding any important increase in the sale for the goods, to take a somewhat extreme illustration in order to convey the nature of the point at issue. In spite, however, of all these qualifying considerations, the use of the available index numbers as they are calculated does probably give a fair measure if we take, not a solitary isolated date, but a period of reasonable length for which to estimate the average level of exchange which would equate the price conditions of two countries, at any rate if the period over which we take that average is a period of fairly stable conditions. In stable conditions, however, it may be expected that the actual exchange rates will maintain a stable position, and in that case will serve as a more correct means of measuring the rate of exchange that is normal to existing commercial conditions than any theoretical calculation from index numbers, however carefully prepared. If we are dealing with a case not of stable conditions of price in both of the countries concerned, but with a period in which in one country, if not in both the countries, there is a continuous rise or

fall of prices, such as to result in a continuous rise or fall in exchange quotations, or where rates, though not perhaps always running in the same direction, are fluctuating very widely, I am disposed to the view that it is not very probable that in such cases the ordinary index numbers provide a good measure of the relative price levels for the purpose of calculating a satisfactory purchasing power parity. In fact, in the case quoted, the purchasing-power-parity calculation might give us no more than a rough indication of the position we want to appreciate. The defects of index numbers for this purpose, at least of index numbers as ordinarily calculated for general purposes and not for application to our particular problem, are likely to be on the whole rather important, while in the case where those defects are likely not to be very important we may quite probably find a more correct measure of the object at which we are aiming in the direct market quotations of exchange rates. In Diagrams 8 to 10 actual movements of exchange rates are compared with purchasing power parities calculated from the index numbers available in the different countries. It will be seen that they bear out in many respects the doubt as to the applicability of existing index numbers to the direct calculation of purchasing power parities that will have a close relation to the problems to which it is desired to apply this conception.

The index numbers actually available do show,



Purchasing Power Parity calculated from the official index of wholesale prices for Sweden and the index of the Finanstidende for Denmark.

DIAGRAM 8.

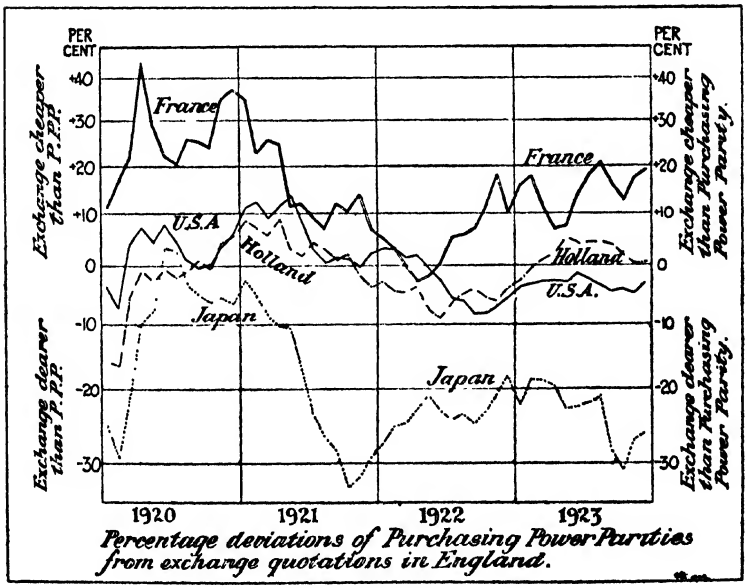


DIAGRAM 9.

however, as might be expected, that when a considerable and rapid rise or fall occurs in the exchange rates, internal prices are adjusted to prices on international markets only with some delay, so that purchasing power parities lag behind the actual exchanges in their movements.

Diagram 8 shows the movements of exchange on Stockholm in Copenhagen and the comparative movements of wholesale prices in Stockholm and Copenhagen. Only the divergence between the two movements is shown for other cases in Diagrams 9 and 10. The logarithmic or ratio scale has been used, so that the vertical distances to be shown are not affected by the choice of one or the other, of the two numbers to be compared, as the denominator of the fraction expressing their ratio to one another. In Diagram 9 the comparisons are with the United Kingdom, and in Diagram 10 with the United States. The relation of United States figures to United Kingdom figures is, of course, the inverse of the corresponding relation of United Kingdom figures to United States figures. Diagram 10 has been so drawn that the relative movements are shown by variations in the same direction in both diagrams, for readier comparison. The use of different Index Numbers results in some differences in the corresponding lines of the two diagrams. In preparing Diagram 10 the price indices of the Federal Reserve Board have been used for the United States, the United Kingdom and France, Bachi's index for

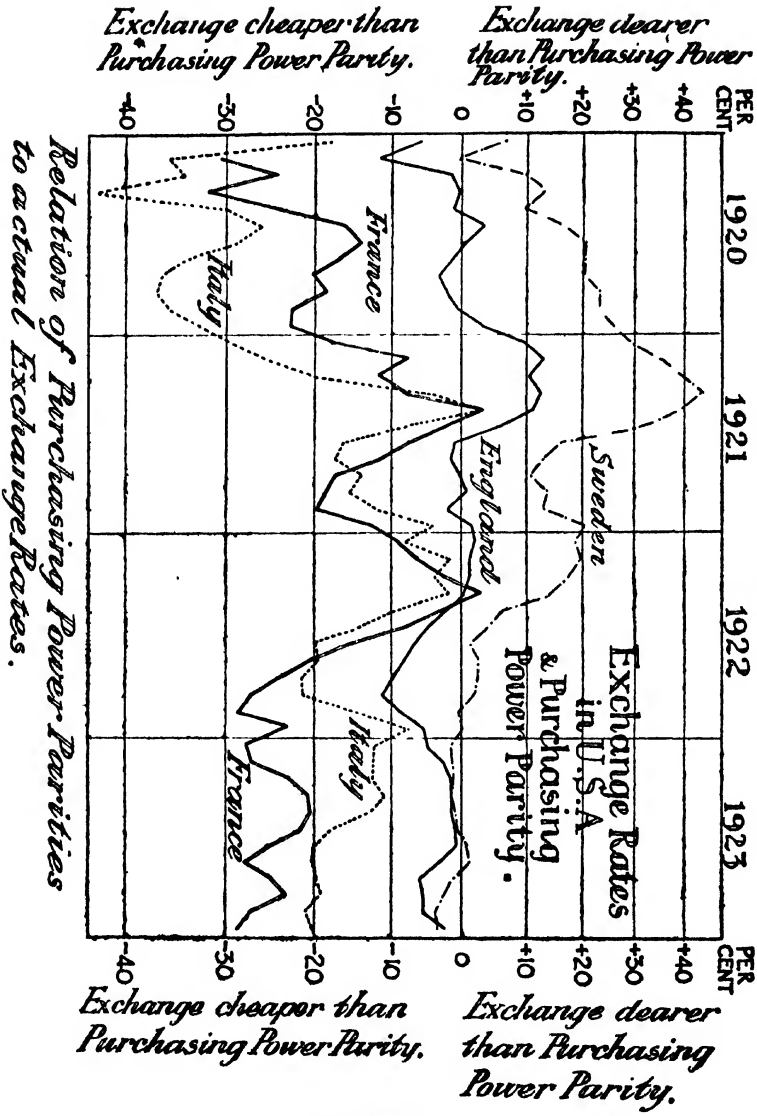

Exchange cheaper than Purchasing Power Parity.
Exchange dearer than Purchasing Power Parity.
PER CENT
-40
-30
-20
-10
0
+10
+20
+30
+40
1920
1921
1922
1923
Relation of Purchasing Power Parities to actual Exchange Rates.
France
Italy
England
Sweden
Exchange Rates in U.S.A & Purchasing Power Parity.
Italy
France
Exchange cheaper than Purchasing Power Parity.
Exchange dearer than Purchasing Power Parity.

DIAGRAM 10.

Italy and the official index for Sweden. In Diagram 9 the Board of Trade Index Number has been used for the United Kingdom, the index number of the Bureau of Labor Statistics for the United States, and for France that of the *Statistique Générale de la France.* The official index has been used for the Netherlands and that of the Bank of Japan for Japan.

CHAPTER IV

INFLATION AND DEFLATION. THE REACTION OF THE FOREIGN EXCHANGE MOVEMENTS ON BUSINESS CONDITIONS AT HOME

In discussing the subject of the movement of prices we find writers describing their topic in somewhat different terms. They talk of inflation, some of them meaning by that term the simple increase of prices—price inflation; others using the word in a sense in which they mean to get to the causes that lie behind the increase in prices and refer to the financial events, the expansion of currency, the enlargement of credits, which serve as the basis, and which we may perhaps regard as, in some sense, the causes, of the price movement. It is convenient that we should not shut ourselves off from the use of the word inflation in either of those senses, but more convenient, on the whole, to speak of inflation with reference to the causes and influences giving rise to price changes rather than with reference to their consequence in the price movement itself. We can always talk of " price inflation " if we wish

to make it clear that what is in our minds is the price movement, and so obtain quite a definite connotation for our words while leaving "inflation," the word used by itself, to call to our minds the other group of facts. That seems to be the most convenient practice, and it is one which may be recommended for adoption simply on the ground of clearness, the avoidance of confusion. We have two aspects of inflation, then—a currency and credit expansion, and a price rise. The matter was referred to in the first chapter, and it was then suggested that it is not necessary, nor will the space at our disposal allow us, to thrash out fully this question of the causal relation between these two kinds of inflation. Is it, in fact, the case that the price changes are the consequence, the changes in currency and in credit the cause, or should we rather regard the price changes as the cause, the forerunner at any rate, of the expansion of currency or the expansion of credit? A good deal has been said and written on the subject which suggests the latter conclusion. While not proposing to enter here into the discussion of what is the soundest doctrine to hold in that connection, it does appear that, however divergent the views held, and even if they be directly conflicting, it is possible to agree on one statement in regard to the connection between the two phenomena. We may agree that, whether the price rise causes the currency expansion or the credit expansion, or whether the currency and

credit expansion causes the price rise, a rise in prices cannot be maintained unless provision is made for an expansion of currency and credit to support it.

Let us look at that just for a moment and consider how far it carries us. It means at any rate this—that even if we cannot take the view that we must look to expansion of currency as the fundamental originating cause of a general rise in prices, if we had a system in operation which barred the door to any such expansion of currency or inflation of credit, that would at the least prove a hindrance to the maintenance of the price rise that had been established. We may not altogether incorrectly picture to ourselves the commercial world as a system in which there are constant efforts to find out whether circumstances render certain changes possible, involving tentative movements to see if the actual underlying causes that are in operation will support those movements. And operators on the market are always trying whether a rise in price can be put into force, so that it is not essential that we should establish that, as a preliminary to any attempt at the elevation of prices, an expansion of currency or of credit universally occurs. But it is difficult to maintain the proposition that, in the absence of an expanded volume of the medium of exchange, whether in the form of actual currency or in the forms that result from credit operations, it would be possible to maintain a general advance in the

level of prices for a long period of time. Such an admission does not involve a final and definite conclusion with regard to the causal relations between currency and prices. Now the increase and decrease of prices exercises a very important influence on exchange rates; it is, consequently, a tempting subject to discuss the kind of connection found in actual practice between the volume of the monetary circulation and the price-level. While we cannot pretend to survey the whole range of facts, it is useful to survey some of the leading cases and to trace out what may amount to a demonstration that the connection between currency expansion and price inflation is not imaginary but represents broadly the actual course of historical events.

We do not need to go back, as was the custom at the end of the last century, to the time of the French Revolution and quote the experience of *mandats territoriaux* and of *assignats* and other currency experiments that characterized that period. Some writers have recently drawn interesting parallels between that time and our own, and especially tried, and very wisely tried, to deduce some lessons to guide our own conduct from the experience of our forefathers of more or less 100 years ago. We can, however, find plenty of examples of extraordinary inflation of currency or inflation of prices in the experiences of the last few years, to serve our purpose in any examination of the subject that we might wish to make.

But the raw material for our examination is by no means well adapted to the demonstration of the connection for which we are looking. Precise data are not, in fact, available for these comparisons between the period before the war and any period during the last few years. While it is true that we can follow throughout the fluctuations of the paper currencies of the different countries, when we want to make a comparison between the present position of prices and the present position of currency and that which held in the year 1913, or in the year 1914, we find that the information we should like to have is, unfortunately, not at our disposal. Before the war, the countries whose price movements and currency movements we should be most interested to trace were not the countries that carried on their monetary operations to so large an extent as at the present time with paper currency; they had, as we remember, a fairly generous metallic circulation. In this country we have a coin circulation at the present time limited to bronze and silver; we used to have a metallic circulation of gold; we probably used, relative to our total circulation, a very large amount of gold in comparison with that used in most other countries; that is to say, that most other countries were more accustomed to paper currency before the war than we were; but though they were familiar enough with the use of paper currency, their currencies did not consist of paper to anything like the present extent. In many

countries we find that practically all coins have been driven out except for the more trivial transactions. Those who have visited France within the last few years will be aware that, for a time, even penny pieces became rare, and that, as a resort to meet the difficulties resulting from scarcity of small change, postage stamps were utilized to deal with transactions which, at ordinary times, had been dealt with by means of bronze money and small silver. The silver currency had to be replaced by paper pending its replacement by coins of a different metallic content, though having the same face value. For the larger pieces, paper remains the substitute. The same is true of many other countries—Scandinavian countries, Switzerland, the Netherlands did not wholly abandon their metallic currencies, but a large quantity of paper notes was put into circulation to serve the purposes which, before the war, were served by a silver currency. Thus, in Switzerland, the 5-franc paper note, though not completely driving out the 5-franc silver piece, has taken the place of it to a very large extent. Even where, to-day, the metallic currencies formerly familiar are reappearing, a period has been passed through in which there was a very marked replacement of silver as well as of gold currencies by paper.

Now the fact that large masses of gold and of silver currency, and sometimes even of bronze currency, have been replaced in the circulation

by paper currency, is a fact which makes it rather difficult to obtain, in clear and definite form, the data we should want for the direct comparison of currency movements with price movements. We must take such data as are available, and though we do not know the precise amount of coin that has disappeared and that has had to be replaced by paper, in some cases sufficiently close approximate allowances can be made for the coin that has disappeared.

There is another factor which remains unknown to us, and that is whether a larger amount of currency or a smaller amount of currency in the shape of paper is required for doing a given amount of currency work than would be required of metallic coin to perform the same amount of currency work. Do you need, for example, one thousand 10*s*. notes to do the currency work that 1,000 half-sovereigns would have done? It does not appear possible to give to that question a final and definite answer that might not be controverted, though the question indicates one of the doubtful points in the comparisons that we have to make. While complicating the problem before us, a considerable degree of uncertainty as to the amount of coin that has disappeared from circulation and given place to paper will not, in some cases, hamper us very much in making our comparisons between currency expansion and price movements. If we proposed to deal with the Russian case, it is fairly obvious that considera-

tions of coin would not matter at all. If we were able to deal with the Austrian case, we could also probably ignore the extent to which paper has been a substitute for, rather than an addition to, the earlier coin circulation. It is not proposed to attempt to deal with those extreme cases, though the figures seem extraordinarily attractive in their magnitude. Because their magnitude is great, we might imagine that we had traced a greater degree of precision in the relations with which we are concerned than exists in reality. There are other considerations in those countries, in particular the great disturbance of the economic life of the countries; and these considerations render sound deductions from the simple data of paper circulation and price variations extremely difficult. One important consideration is that in neither of these cases have we pre-war data covering the same territory as would be covered by the post-war data available to us. In the case of Germany the same is true; Germany has lost an important part of her territory and, consequently, allowance will have to be made, in considering the quantity of her currency to-day, for the fact that that currency supplies a smaller territory and a smaller amount of business, even if business were equally active to-day and in 1913. That is a consideration that will lead us not to expect too close a comparison between the figures showing the movements of German prices and those showing the currency

changes. The circulation of German paper currency about the end of 1913 and the first half of 1914, including the issues of the banks other than the Reichsbank, may be put in very round figures at 2,900 millions of marks. We have also to take account of the gold and silver circulation, and their amount is a matter of estimate. Some estimates which appear to be reasonable and reliable assess the gold currency of Germany at 100 millions sterling, 2,000 million marks, in pre-war value. Then there was a large amount of silver currency, as silver coins of fairly high denominations were in common daily use; the 5-mark piece occurred very freely indeed in German transactions, besides 2-mark and 1-mark and smaller coins. Some estimates have put the amount of silver currency actually in use in the pre-war period as high as 40 millions sterling, 800 millions of marks. Thus it looks as though we could almost double the figure of paper currency if we take into account metallic circulation of money in addition to the circulation of paper money before the war. If we wish to compare Germany's pre-war money to Germany's present money in actual number of marks face value, we must certainly not be content with the pre-war paper circulation to represent the total currency of that time, but a figure approaching the double of the paper circulation. By the end of 1919 the paper circulation had expanded to about 17 times the pre-war amount, or about 8 or 9 times the total pre-war

circulation in the whole of pre-war Germany. The admirable memorandum of the League of Nations on Currency contains data of the amount of paper currency outstanding from time to time, and, for later dates, the League of Nations monthly Bulletin of Statistics furnishes the leading figures. Wholesale prices, according to the official index number, which is also recorded in those publications, had by December, 1919, reached about 12½ times the average level of prices in 1913. Over that period currency seems to have expanded less rapidly than prices. During the year 1920 the paper currency was further expanded to about 28 times the pre-war figure, and prices did not rise above 15 times the pre-war average, except for a month or two early in 1920, until after the middle of the year 1921. Thus the currency had been expanded at the end of 1920 to about 14 times the total pre-war currency, and prices had been increased in a proportion not greatly different from the expansion of the currency. The correspondence is rather too close, in view of the qualifying circumstances to which attention has been directed. By the end of 1921 the German paper currency had further expanded to about 42 times the pre-war amount. As to wholesale prices, there is, it may be noted, quite a considerable difference between the official index number and the index number of the *Frankfurter Zeitung*. The latter, while showing the same general tendency, appears to get ahead of the official index

number, so that it reflects the position at a somewhat later stage of development than is represented by the official index number. The official index number of wholesale prices had, by the end of 1921, risen to about 35 times the pre-war average. Thus wholesale prices had risen in a greater proportion than the paper currency during 1921, and, in comparison with the pre-war situation, they had, by the end of 1921, risen more in proportion than the total currency. The currency was further doubled during the following eight months, that is, up to the time when the sudden plunges began to which attention was directed in Chapter I. By the middle of November, 1922, the issue was 5 times as great as at the end of December, 1921, and by the end of December over 10 times that of a year earlier, so that the aggregate circulation at the end of 1922 was about 220 times the pre-war figure of total circulation. The official index number of wholesale prices for August, 1922, was 100 times the pre-war average, the November average was 1,150 times—double that of the preceding month—and the December figure represented prices nearly 1,500 times those of 1913 on the average, and more than 40 times those of the preceding December. The proportionate rise of prices during 1922 very greatly exceeded the relative increase in the volume of the circulation: while circulation increased by roughly 10 times, prices rose to 40 times those current a year earlier.

The very high level of prices, measured in paper marks, renders the phraseology used very commonly by writers in some daily newspapers a travesty of the facts. A pound may have been worth 40,000 marks at the end of 1922, but that is a very different thing from saying that a pound was worth £2,000 in Germany, since 40,000 marks in the Germany of December, 1922, were not worth what 40,000 marks were worth in Germany before the war. They had not decreased in purchasing power in the same proportion as their relation to the pound, but they had decreased very greatly in purchasing power, and to say that our pound was worth £2,000 in Germany at that time was, in reality, to make the assumption that German marks, as money, retained their pre-war power to obtain for their owner the comforts and the necessities of life, in about the same degree as sterling in England. The corresponding mode of expressing the relation of the pound to other currencies is equally inaccurate in principle even if it involves a numerically smaller error.

During the later months of 1922, and during 1923, the German currency expanded at ever-increasing rates. Already in November, 1922, the weekly additions to the circulation were approximately equal in amount to the total circulation at the beginning of 1921. The flood of additions could not keep pace with the ever-increasing requirements and the figures expressing them became almost fantastic in their magnitude. In

considering what relation exists between the currency and prices, it may be thought that retail prices ought to be taken into account rather than wholesale prices, in view of their closer relation to the uses to which currency is put. In Germany, according to the official index number, retail prices advanced at a rate somewhat less rapid than wholesale prices. In December of 1921 the various calculations indicate a price level approximating to 20 times that of the pre-war period, whereas for wholesale prices at the same date the multiple was 35 times, so that retail prices were lagging behind wholesale prices. The retail figure corresponds fairly well on the whole with the paper currency expansion to 45 times the pre-war amount, or to about half that multiple of the total of coin and paper. By December of 1922, when the paper currency had expanded to 220 times what it was before the war, retail prices had advanced to 8 times the level at the end of 1921, which means that they, like wholesale prices, had been multiplied by a figure greater than that which represents the expansion of the currency. That there should be a scarcity of currency during a period when retail prices, though they had previously lagged behind the expansion of the currency, had been catching up with that expansion, is hardly to be wondered at. That is a phenomenon which attracted a great deal of attention in Germany, when there was a difficulty in providing enough currency in spite of setting the printing presses at work as fast

as they could be got at work at that time. Working at their utmost capacity, they provided 2 to 3 milliards daily, and there were hopes that 4 milliards of marks might be reached. Before the end of 1922 the former figure was more than doubled, that is to say, the total amount turned daily into the currency approached in face value the double of the paper circulation of the period immediately preceding the war. Such comparisons with pre-war data are defective, as is pointed out above, because the Germany of to-day to which the figures relate is a smaller territory than that to which the figures of 1913–14 relate. There are, however, considerations which enable us to understand the more rapid rise in prices in Germany in recent times. If one tries to put oneself in the position of the inhabitants of a country in which money steadily loses value while it is in the owner's pocket, and purchases a great deal less if you keep it till next week than if you spend it this week, it is tolerably clear that the tendency to keep reserves in the shape of actual currency will receive a very serious check. The storming of shops in the haste to get, in place of the steadily depreciating currency, an article which will have physical substance, and may keep some reasonable proportion of its value, does not appear surprising in these circumstances. We have been trained from our infancy to think of money as something having solid and permanent value, and it is a strain to tear ourselves away from that and

to think that money is not stable ; and when the realization of that finds its way down into the consciousness of the people, the rush to put into practice the obvious way of escaping from this conclusion would produce just the kind of result that has been described so often as " the flight from the mark "—the effort to keep savings, not in marks, but in clothes, in furniture, in foreign money, anything in fact which can be reasonably safe from the steady depreciation of the paper currency. That, of course, tends to make the paper move from hand to hand rapidly, each successive holder being anxious to get rid of the paper. The paper serves as intermediary in an aggregate of transactions the amount of which has a larger face value than the same value in currency would have served to cover in times of stable prices. An increased rapidity of circulation must be one contributory cause of a more rapid rise in prices than is paralleled by the expansion of the paper currency.

Further illustration of the nexus between volume of circulation and level of prices may be found in the case of the United States, where, fortunately, we have an official estimate of the total amount of currency in circulation. In the United States there has been preserved, throughout the whole period, a capacity of redemption of the paper currency in terms of gold coins that has been lost elsewhere ; and there has remained in circulation a considerable amount of metallic coin alongside

paper at the same time as a very great expansion of the paper circulation has taken place and large changes have been made in the kind of paper that is in circulation. The gold certificate has yielded place to the Federal Reserve note to a very large extent in addition to some other changes connected with the Federal Reserve system. There is not a very close parallel between the currency movement recorded and the price movement. We find, for example, that up to the late spring of 1920, when the upward movement of wholesale prices culminated, there was an increase of 150 per cent. in prices, the wholesale prices index number rising to nearly 250. The increase in the amount of currency outside the Treasury and Federal Reserve banks, as reported by United States authorities, was about 60 per cent. in that period. Clearly, therefore, there had been a very much greater rise in prices than can be accounted for on the simple basis of the increase of currency. From the spring of 1920 to the end of 1922 prices fell and, though fluctuating somewhat and showing some tendency to rise during 1922, the general position represents a fall of about 40 per cent., while the circulation did not fall off by as much as 20 per cent. It amounted to about $50 per head in the late spring of 1920, and equalled about $40 per head towards the end of 1922, according to official estimates of the circulation. The variations in the quantities of goods which had to be dealt with, i.e. the goods turnover,

ought to be taken into account as well as the amount of currency available for the purpose of buying and selling. A decreased activity of trade afflicted the United States during the period last considered, just as it afflicted this country, and one of the accompanying features, one of the most characteristic features, of the inactivity was that fewer goods were changing hands; consequently there was less buying and selling to be done and less demand for the services of money as an intermediary in exchanges. That is a factor that we have to bring into the account if we would understand readily what the relations can be between the quantity of money in use and the level of prices prevailing in any country selected for study.

We turn to our own country. The data are by no means as exact and conclusive as one could wish. Some of the data are set out in a Parliamentary Paper prepared in response to a question in the House of Lords by Lord d'Abernon. The last issue of that return recalls to our recollection that Mr. Austen Chamberlain, as Chancellor of the Exchequer, stated in the House of Commons that the pre-war monetary circulation in this country, the total of the currency, amounted to about £214,000,000. An examination of the details indicates that that figure does not take account of the Bank Notes of Scotland and Ireland, but takes account of the gold and silver and bronze coinage and all the circulating Bank of

England notes outside the Bank of England. Calculating on a corresponding basis, therefore, we should get, for the end of the year 1920, a figure of about £565,000,000 to compare with the £214,000,000 which Mr. Austen Chamberlain gave; and the Board of Trade index number for that date was 263·8 per cent. of 1913 prices. The correspondence is embarrassingly close between the proportionate variation of prices and the proportionate variation of the currency. The point of time selected was one when the measures of the phenomena approached each other very closely. If we took the position towards the end of 1922, on the same basis again, the figure of the circulation would be £470,000,000 to £480,000,000, and the price index number, on the basis of 100 in 1913, would be about 155. The comparison of these figures with those for 1920 does not suggest that, on that downward grade, the price movement had been as moderate as the currency movement; a currency deflation of about 15 to 17 per cent. was accompanied by a price deflation of about 40 per cent. There are, of course, such other considerations to bring into the account as have been referred to earlier. In particular, as pointed out earlier in connection with the United States, account must be taken of the depressed condition of all trade at the time to which the last figures relate, and an exact percentage agreement between the increase or decrease of currency and the increase or decrease of prices must

not be looked for. We see, however, that periods of general and rapid upward movement of prices are also periods in which we find a general and fairly rapid increase in currency in circulation, and in periods when prices tend downwards we find, generally, a decrease in the circulating medium.

In this connection it may be desirable to refer to two instances which, if viewed by themselves, would not suggest that idea. In France the note issue expanded to about 7 times the pre-war amount by 1920, and in Italy it rose in that year to about 8 times the pre-war amount—that was about the top point reached in the course of that year, a year in which the highest level of prices was reached in both those countries. In France, as pointed out earlier in this chapter, a considerable metallic currency—possibly as much as two-thirds of the paper currency—has been replaced by paper in the course of recent years and has not yet found its way back into circulation. Some of it found its way over the border into Switzerland, where much French coin was circulating for a period. After some experience of this state of things, the Swiss Government gave notice that, from a certain prescribed date, French coin would no longer be accepted. First the 1 and 2-franc pieces and later the 5-franc pieces were deprived of the right to be regarded as the equivalent of equal amounts in Swiss money. At a later date the whole of the foreign silver coin, Italian and Belgian as well as French, have been removed

over the Swiss border. Owing to the fact that coins whose value was at the rate of between 40 and 50 francs to the pound in France were valued for circulation in Switzerland at 21 or 22 francs to the pound, or fully double their value in France, these coins increased their buying power at that time by merely being carried across the Swiss border. A similar phenomenon manifested itself as between Sweden and Denmark, where Danish silver money moved over the ferry into Sweden and secured there a substantially higher buying power than it had in its own native country. This process had to be stopped and the free circulation of all varieties of silver money between the two countries brought to an end. Paper currency had long before ceased to circulate freely between the three Scandinavian countries, and gold had disappeared for all practical purposes from the circulation.

These instances are illustrations of the effects of disturbances of foreign exchanges on the ordinary transactions which are met with by the tourist, and may be, in some ways, more suggestive than the effects in large financial operations. The amount of Italian coin that disappeared from circulation may, perhaps, have been as much as 20 per cent. of the paper currency formerly in circulation, but that would be a very rough figure indeed. In considering the relation of price movements to the expansion of paper currency, to 7 times in France and to 8 times in Italy, allowance

must be made for the coin that went out of circulation. Wholesale prices rose in France to nearly 6 times the level of 1913; and in Italy to about 6½ times the pre-war level at the top point. The phenomena show thus a very rough correspondence between the price movements and the currency movements. In the later movement in France, paper currency was reduced, in about two years, by less than 10 per cent. of the top figure reached; and in Italy there was a diminution in the paper currency by a yet smaller percentage. In the case of France, prices fluctuated during 1922 between 3 and 3½ times the pre-war average; and in Italy there were rather wide fluctuations between about 5¼ and 6 times the pre-war average.

It must be remembered that the territories covered have undergone considerable modifications, and in both countries the activity of business, the volume of goods bought and sold, can hardly be represented to-day as on the same footing, or even on a closely similar footing, to that of 1913 or the early part of 1914. These changes in price level, which have not a very close correspondence with the expansion and contraction of the circulating medium, have been accompanied by changes in the exchange quotations. Where prices have found a new level about which they fluctuated, the exchanges have been adjusted to the new level. In the neutral countries, such as Switzerland or the Netherlands,

or the Scandinavian countries, though there has been by no means a dead level of prices, they had a relatively small range of fluctuation during the latter part of 1922. In the case of Germany and some other countries prices and exchanges have shown a persistent tendency, the former to rise and the latter to fall. The anticipation of further increases in quotations have introduced speculative influences into the problem, and those speculative influences have carried quotations beyond the point which was required for the process of adjustment of exchange to the current level of prices in those countries and in other countries. If the newspaper reports are to be believed, the sudden plunges from time to time, at any rate during 1922, in the exchange quotations of marks have, on some occasions, not been the result of any action by the Government, though the masses of new paper currency created have been sufficient to bring about movements of considerable magnitude, but rather of action by tired operators, or disgusted operators in exchange, purchasers of marks who had bought, as a great many people bought, in the hope of a recovery in the international value of the mark and have at last realized the vanity of these hopes and have cut their losses and brought about at times sudden plunges in the quotations of the exchanges. The exchanges have been very sensitive, and sometimes a very small amount of transactions sufficed to bring about a very violent movement in the

quotations; so that extraordinary jumps up and down have resulted from a volume of business which in olden times, between the same countries, would barely have caused exchange quotations to move at all.

The facts of inflation are worthy of a good deal of attention, and particularly so because there are still preachers of the doctrine that our difficulties at the present time could be removed if we would only adopt some plan which, however it may be disguised, means neither more nor less than persistent inflation of currency and credit. We do not wish to reproduce in England what has gone on in countries that have inflated their currency systematically and persistently as, for example, Germany or Russia have done. Some of the relations between the foreign exchanges and inflation of currencies can be seen immediately in the case of movements of such violence as those that have taken place in the last few years in these two cases—though in kind, if not in degree, the correspondence might be found in other cases even if the movements were smaller. It is easier for the untrained eye to recognize the cause of difficulty when movements are large than when they are small; but the connection between the phenomena is the same, even if the movements are small, though the small movements might not be accepted as convincing evidence. With transactions limited to the use of a single currency, people get very much into the habit of thinking of

commodities as becoming dearer in terms of money instead of money as becoming cheaper in terms of commodities. But where the equivalent of the currency is seen by reference to a foreign and relatively stable currency, we recognize more clearly what is going on as a depreciation of the currency. In the case of so violent a movement as that in Germany, it is comparatively easy to recognize that money became less valuable. When movements are on a smaller scale it is not so common to attribute the changes to the money; food and clothes and household furniture may be getting dearer; money is conceived of as being steady in value while these vary. The Germans, or the Austrians, the Poles or the Russians cannot possibly persuade themselves of anything of that kind.

Turning now to the relation of these matters to foreign trade, let us consider the case of exported goods sold at prices based on the foreign cost of materials and on the cost of labour in a currency which is depreciating. If the latter cost is calculated on the basis of charges at the time when the goods are ordered and their manufacture is begun, and they are delivered at a later time when prices have risen largely—currency having depreciated—so that the prices then current would be a good deal higher, then the foreign buyer may get the advantage. So far as the depreciation of the currency is reflected in its price in terms of foreign moneys, a smaller sum in foreign money will enable

the buyer of the goods to pay for them than would have sufficed at the date of ordering them. We may see the advantage in another way, because in progressive depreciation there has been a steady tendency for the exchange movement to outrun the price movement, so that a given amount of a stable foreign currency will pay for quantities of the depreciating currency that increase more rapidly than do the prices, in that currency, of the goods to be bought. The goods may be subject to an export licence unless sold at a price corresponding in some degree with the actual depreciation of the currency, but any delay in payment which may be conceded gives opportunity for a further fall in the exchange, and may thus give the foreign buyer an advantage as against buying in his own country. Thus foreign orders receive encouragement in countries whose currency is rapidly depreciating, and manufacture for export tends to furnish a large amount, and an increasing amount, of employment. Imported goods, on the other hand, are made dear, and, of course, to the extent to which imported materials have to be used in the manufacture of the exported goods, they provide a qualification to the advantages to which reference has been made.

One of the effects of the relatively slow adjustment of prices within a country like Germany to the consequences of currency inflation, and to the other influences that have depreciated exchange between Germany and other countries like our

own, is that there has not only been a great rush of foreign wholesale buyers but, in addition, of ordinary retail buyers who have plunged into Germany from Denmark or Switzerland or Holland. In some cases a daily habit has been created of going empty handed into Germany and returning laden more or less heavily with the spoils of the day's huntings. Tourists selected Germany as a place in which to spend their holidays, in order that they might have the opportunity of spending their foreign money in a cheap market —cheap owing to the rate of exchange. This became so common that it can hardly be matter for wonder that it at last aroused resentment on the part of the population of the country suffering from these evils. It has provoked a good many export restrictions and a widespread effort to set up a level of charges to the foreigner higher than those made in sales to the native, or to anyone who may appear to be a native. The " flight from the mark " has involved a rush to acquire foreign currency—pounds sterling, florins, dollars particularly, indeed, any foreign currency that has some reasonable degree of stability in comparison with the German. It has been necessary to interfere with the freedom of Germans to acquire foreign currency, and, as prohibition of dealings is rarely fully effective, efforts have been made to provide a substitute investment for those who had been driven to seek abroad the security of value which was destroyed at home by the depreciation

of the currency. The attempt to establish certificates based on gold as a means of investment were forerunners of schemes to substitute a new currency, having a fixed relation to gold, for the hopelessly discredited paper mark.

The great advantage in the export trade which the Germans have had arises out of the fact that price movements lagged behind the other movements and so gave an advantage in making sales abroad. But an indefinite continuance of such a course of depreciation, even if we were disposed to grant all the advantages pressed on our attention by those who represent inflation as an easy way to deal with our national troubles, is hardly conceivable. At some stage an end must be found to continued depreciation and an adjustment must be made of some kind. We shall have to consider in the last chapter what adjustments are possible to produce a steady relation to foreign currencies. The stimulus to productive activity which the rapid inflation of prices provided is lost when that inflation is brought to an end, and the difficulties which were evaded during the fall in the domestic money must, at last, be met. They are likely to have become greater, not less, for the postponement of the date when they are faced. We have ourselves had, from 1920 onwards, only too painful an experience of the reaction from inflation, and the restricting effect on trade of a rapid fall of prices. The ordinary difficulties of a period of that kind have been

added to that general disorganization of international trade which resulted from war conditions. In countries like our own, where the fall in values of foreign moneys facilitates the export of goods from the countries to which those moneys belong to us, that depreciation of exchanges has a very embarrassing effect, particularly during such a time as that through which we have recently been passing, a time of reconstruction, a time when we were endeavouring to restore the normal level of industrial activity and readjust relations between the different phases of our national life. The depreciating currencies of other countries furnished a basis for temporary successful competition with ourselves in certain of our industries. That there should be successful competition with some of our industries is a natural conclusion to draw from such theoretical views of our problem as have been examined in earlier chapters of this book. Industries which, under normal conditions, could maintain a lively competition in the face of foreign rivals have had to face so special a competition owing to this effect of rapidly depreciating currencies abroad, exchange depreciation outrunning price inflation in those countries, that their position became insecure in a very high degree. It is necessary that we should be able to appreciate the possibility of that situation arising, and the nature of the evil of which certain sections of our population and of our manufacturers have had to complain and are still complaining.

CHAPTER V

DISCOUNT RATES AND EXCHANGES

In approaching the discussion of stability of the exchanges and the means of controlling their movements, it will be convenient, and not only convenient but also necessary, to have some understanding of one of the most important means of controlling exchanges that was in use before the war. We shall then be able to appreciate more readily the general problem of how and to what extent we may hope to see, in the reasonably near future, any effective control or stabilization. The particular means that was employed more than any other, that to which financiers turned naturally when they thought of means of control of the exchanges, was the rate of discount—the rate charged for the loan of money by bankers and other institutions lending money for short periods of time, commonly reckoned, not as a rate of interest on the amount lent, but as a rate of deduction from the amount to be repaid. And even the purchase of a bill of exchange which is not yet due is, to all intents and purposes, an advance to the previous owner of it of the sum

to which he is not entitled until the due date of the bill, less discount for the unexpired term. The rate of discount, then, was the commonly used means of exercising control when it appeared that the course of the foreign exchange market was such as was not in the general interests of this country. It was employed to turn an unfavourable movement of the exchanges into a favourable movement, perhaps to strengthen a favourable movement, or to initiate one if it seemed possible that, without the operation of this correcting mechanism, the position, while at the moment not unfavourable, would develop in an unfavourable direction. Now when the discount rate was thus used in pre-war times it was used in a very different sort of financial world from that which we know to-day so far as the exchanges are concerned. It is important to bear constantly in mind that there is a very important and marked difference between the present circumstances and those of the pre-war situation. This considerable difference is owing mainly to the great changes that have taken place in the currency situation, not merely in this country but in the majority of the countries with which we are doing business.

The principal way in which movements of the rate of discount bring about the desired effect upon the exchange quotation is through the effect which the discount rate exercises upon price levels, price levels both of Stock Exchange securities and of ordinary merchandise sold in the wholesale

produce markets. We have, therefore, in the first place to take into consideration the way in which discount rates affect prices, and then we shall get back to a familiar line of argument in relation to foreign exchange movements, since changes in the prices of commodities affect the creation, that is the supply, of bills of exchange, and affect the demand for them. The rates directly involved are, indeed, not the ordinary official rates of discount, the characteristic one of which in this country is the Bank of England minimum rate of discount, but rather the market rates, the charges made by discount houses and banks to their customers. The market quite commonly undercuts the Bank of England, dealing at a lower rate than the Bank with bills of exchange offered. Operators in this market take some risks, assume some responsibilities, and possess in some directions more expert knowledge of particular classes of bills handled than the officials of the central bank have.

In the United States we have had, with the establishment of the new system of bank control there early in the war in accordance with the legislation enacted in 1913, the creation there of a set of institutions which provide what was never available in former times, a leading rate for discounts in the United States, corresponding in some degree to what the Bank of England minimum rate of discount provides in this country. This rate has not quite the same relation to the business of the country as our Bank Rate, but

sets the tone in somewhat the same way in which the Bank of England rate sets the tone here. There is not one single rate, as each of the Reserve Banks of the Federal Reserve System may declare its own rate for re-discounting bills for members of that system when those members have not enough resources of their own and wish to augment their resources by taking bills for re-discount to the central institution of their district. By the operation of the new system we have a bankers' bank there, just as the Bank of England is a bankers' bank to a large extent in this country.

If we want to see the effect of discount rates on prices, it is the general discount rates charged by the market rather than the tone-giving discount rates of the central institutions which will be effective. But those rates vary from day to day, vary with the class of bill offered; and the general tone of the market can be indicated, the level at which it operates can be measured, by reference to the central institution's rate, and, consequently, it is generally deemed sufficient, at any rate in a hasty glance at the situation, to refer to the Bank of England rate as marking the level of discount in this country. The differences between that rate and the charges for bills discounted in the market or between that rate and the charges for commercial advances by banks are established by long custom, or the variations are known by the customers of the institutions; so that it is not misleading, except in one sense,

to use the central bank's discount rate as the measure of discount business. It will be misleading to suppose that exactly the rate quoted as the central bank's minimum rate is the price that is to be paid for accommodation by each and every person who goes for an advance; that is not the truth, but it is the truth that when the bank rate rises or falls, the other rates have a strong tendency to move along with it. If it were not the case that the rates move together we should not be entitled to refer to the Bank Rate as measuring the movements of the discount markets.

In the conditions of pre-war business there arose from time to time circumstances in which the market was abundantly supplied with funds and was little disposed to follow the lead of the Bank of England when the directors of that institution deemed it desirable to raise the price for accommodation accorded by the central banking institution. If other lenders refused to follow what we will call the advice of their leaders, the directors of the Bank of England, there was only one way in which the situation could be got in hand. The difficulty had its source in the fact that other lending institutions had a plethora of funds at their disposal which they were not disposed to lay idle because the Bank of England deemed restriction of credit desirable. The Bank of England had itself to borrow from time to time funds it did not want, for if it did not do this it

was impossible for the discount rate to be enforced. The Bank had to drain the market of some part of its loanable resources in order that the market might be induced or forced to follow the Bank's policy when it had shown itself unwilling to act on the simple invitation. These things are important as illustrating the fact that the Bank of England can exercise in the first place the power of a leading institution to indicate what, in the opinion of its officials, is sound policy, and, further, if that opinion does not receive sufficient consideration amongst the financial community there are means by which force can be given to it if, though expensive to the Bank of England, it is, in the interests of the country at large, better for the Bank of England policy to be followed. The cost of carrying it out is regarded as a legitimate charge on the Bank's resources.

We may assume, then, that for general purposes the ups and downs of the official rates of discount are followed by corresponding ups and downs in many unofficial charges made for advancing money for business purposes. Turning now to the way in which variations in the discount rates produce their effect, we shall find it necessary to form a conception in our minds of the way in which the business of the country is carried on—certain of the leading outlines of it at any rate. The discount rate is a charge for the loan of capital. What is its relation to what we ordinarily call capital, used in industrial enterprise? Clearly

the money loans that are made in the manner referred to above are not the lending and borrowing of the material capital that is used by enterprises; they are not lending and borrowing of blast-furnaces or cotton-mills or anything of that kind, and these are the kind of things that constitute the productive industrial capital of the community. What have the loans of money to do, then, with capital, and what has the discount rate to do with the rate of interest on capital which is earning its keep in industry? It is useful to think of capital in terms of something else than money; the borrowing and lending of capital may take place mainly under a money form, but the capital that the manufacturer uses, while part of it is money, is in the main something else than money; buildings, machinery, raw materials, that is the kind of thing that constitutes the real active producing capital of the community. By the use of that capital, goods are produced which find a market. They find a market because the community, or some members of the community, want them; they express their want by offering a price for them; the producer undertakes the expenses of producing them with the anticipation of selling them, with the anticipation that, when they are produced, he will, in fact, find they are needed and can be sold at a price sufficient to recoup the expenses of getting together the necessary real capital, and of employing labour and paying wages to operate

that capital, and thus to advance materials stage by stage until they reach the condition of finished commodities. When it reaches that condition, the raw material has been used up and, if the cycle of production is to be renewed, new raw material must be purchased, buildings must be repaired, machinery must be replaced as it gets worn out, and all that is done, in a stable industrial situation, out of the funds resulting from the sale of the produce of the manufacturing operations. Not simply for the expansion of an industrial enterprise, but for its maintenance, a part of the price of the goods that are sold has to be applied to capital purposes. The goods embody part of the capital, and we are not far wrong if we use an abbreviated phraseology and say that they carry through with them the value of the capital and of the raw material that is embodied in them and of the labour that has been put upon them. These values are thus carried into the finished product. More correctly, we should say that the anticipation of recouping the expenditures from the value of the finished product leads to the enterprise being carried on. The other form of speech is the simpler and may be used in spite of the criticism that might be levelled at the philosophical idea underlying it. The values that are thus carried on are replaced from the sale of the goods. It follows, then, that if the owner of the finished goods, when he sells them, regards the proceeds as something which he

could appropriate to his own personal uses, the industry comes to an end gradually. Out of the value of the articles sold, new raw materials are to be purchased; machinery has to be kept in repair, worn-out machinery has to be replaced, buildings have to be kept in good condition, and, in an expanding state of industry, all these various items of equipment are increased gradually out of the values of the goods as they are sold. And so we have a constantly repeated process: materials moving on stage by stage to finished products and, being sold in the state of finished products, the value of raw materials and the value of some part of the fixed capital employed in their manufacture is for the time being rendered free, before that part of the value that has to be spent on new raw material and new machinery, and so on, is once more given those specialized forms. It is open to the man who receives the value of the goods sold to determine that he is not going on with the old enterprise on the old scale, but that he will apply some part of the funds in his hands to some entirely different enterprise. The determination has to be taken constantly that the old enterprise is to be maintained; the capital that is set free on the sale of the goods is fixed once more in the old enterprise by the deliberate choice of the manufacturer in charge. The conception of capital invested in an enterprise is sometimes too often that of a fixed body which is unchanged, and which gives off, without changing itself at

all, a constant stream of products. Capital does not give off a stream of products in that way. Raw material changes into finished goods, and the values represented by the capital are realized in products and again transformed into new capital and new goods, if the enterprise is to be kept going steadily.

Now we come to the place where the cost of borrowing comes in. The enlargement of an enterprise involves more borrowing, and even enterprises maintained in unchanged magnitude are, in the majority of cases, carried on with the assistance of constantly renewed borrowing. I am not speaking now of ordinary joint-stock enterprises, the capital of which is provided by contributors to share capital or preference capital or debentures, but of the borrowing that is constantly done by manufacturing enterprises in the form of arrangements with their bankers to carry a certain part of the transactions of the enterprise. The profitableness of such an enterprise will depend upon the price that has to be paid to the bankers or others who may make advances, i.e. on the sort of terms that bankers demand for the accommodation. If that accommodation is dear, it may appear that, having in view the value of the goods produced and the cost of materials and labour that must be put into them, it may be better for the time being to borrow a little less, to carry on the enterprise on a somewhat smaller scale and certainly to abandon for the moment

thoughts of extension, to postpone repairs and renewals and things of that sort. So that dear borrowing, borrowing made dear by putting on the screw of a rise in the discount rate, such a rise carrying with it other charges, exercises a restraining effect upon many industrial enterprises. It is not necessary that it should restrain every industrial enterprise at once, if it restrains a considerable number. Some may be restrained in a large degree, some in a small degree, but in the aggregate a substantial effect may be produced quite sufficient for the purposes of the argument.

On the other hand, if borrowing gets cheap there is a stimulus to expand some enterprises that can stand expansion. The margin between selling price and costs is enlarged if one part of the cost is reduced, namely the cost of these floating loans, and consequently there is a stimulus to an expansion of the scale of operations, to larger purchases of materials, and so on. Thus a rise in the discount rate results in some restraint on purchasers of many varieties of raw materials and half-finished goods, while a lowering of the borrowing rates, indicated by a lowering of the discount rate, stimulates purchases of this class of commodity. Now these are the circumstances in which, in the former case, prices tend to be checked; if you check buying, you check any tendency to a rise in prices; if the influence is strong enough and goes far enough, you may alter the rising scale of prices into a steady scale

or into a fall. On the other hand, the lowering of the rate of discount, with its stimulus to purchasing in the wholesale markets for various materials, is an influence tending to strengthen prices, to turn falling prices into steady or rising prices. Thus the importance of the rate of discount in connection with our problem is that its movements up and down are reflected in loan charges and indicate whether loan charges on business are going up or down. And the ups and downs of those charges exercise an influence on the activity of the market and so affect prices in the commodity markets. We have only to take one further step in the argument and note that the ups and downs of prices in the commodity markets have a direct influence upon the balance of our foreign trade transactions to complete the connection between loan rates and the price of foreign bills of exchange. This is the outline of the argument, which of course could be developed in much greater detail and at much greater length. Particular reference has been made to the rate of return to borrowing in respect of one part of manufacturing enterprise, but a great part of the capital of such an enterprise is constantly released and re-invested, thus maintaining the corpus of capital through gradual re-creation, as it is commonly said the human body is periodically re-created. We should do well to carry that conception in our minds when thinking about industrial capital, that the corpus of it is gradually renewed over a

period sometimes longer and sometimes shorter, but nevertheless it is renewed. And if a healthy state of affairs is to be maintained, the period of renewal will not be too prolonged, otherwise we shall get antiquated equipment not capable of carrying on an enterprise in accordance with modern views and modern ideas of economical and effective production.

The rate of interest yielded by capital has a close relation to the rate of discount and is itself an indication of the capacity which capital has to assist in production. Now capital in different employments manifests different degrees of capacity in that respect, and there might well be a good deal of doubt if one were to try to insist that the rate of earning of capital is the same in all industries. Although that is not true, it remains true that the industries that have the greatest power of earning will have the greatest attraction for new capital; they will be the industries in which the stimulus to expansion will be felt most strongly when lending rates are low, they will be those that will be able to hold out longest when lending rates rise, while other industries that can barely earn a living in normal conditions will be forced to reduce the scale of operations at an earlier stage in the rise. Different industries, then, exercise different attractive power on such capital as is available, whether that capital comes from new saving or whether it comes from the constant release of capital through

the maturing of a part of the value of capital equipment, as well as the value of materials used up, in the products resulting from the processes of manufacture. So far as different classes of goods are concerned, the prices at which they can be sold are the expression of the estimates which the community places upon the supplies of those different classes of goods. If the community wants one class of goods more than another, they can be secured by offering a correspondingly high price for them, a price which will render the enterprise of associating capital and labour in production sufficiently profitable to warrant those concerned in undertaking it. So far as other charges are concerned, the expenditure of money on wages and labour has been mentioned. Not much will be said on that subject. That must not be understood as implying an underestimate of the importance of that part of the outlay. The labour share in the total funds resulting from the sale of products we may be content for the present purpose to regard as determined by competitive influences. It is not unjust to say that labour is, broadly speaking, looking out for advantage wherever it is to be found, and in ordinary circumstances that attitude of mind on the part of the proprietor of labour power, the wage-earner, tends to ensure that the charges for labour in different enterprises will be equalized and the charge in any one enterprise will be sufficient, but need not be more than sufficient, to

ensure the diversion from other employment to this enterprise of an adequate supply of labour.

We are here concerned rather with the influences affecting capital and the increase or decrease of the demand for capital, and particularly for that part of capital which, not being for the moment in a specialized form but taking the form of general purchasing power, is capable of being diverted to whatever class of enterprise is able to offer the greatest attractions, security and rate of return being both taken into account. Another consideration ought not to be omitted, because it is a very important consideration. We are familiar with the proprietors of industrial enterprises who have inherited their proprietorships from their parents, and have developed such a pride in the enterprise and such a personal identity with the enterprise that, even if they could get a larger return by investing in other enterprises, they feel it as a matter of obligation upon them to return their profits to their own enterprise, in order to make and keep that enterprise at as substantial a level as the situation will permit. Considerations of that kind should not be ignored when attention is given particularly to commercial considerations. The commercial consideration of the rate offered for a loan enables us both in practice and in theory to set off, broadly speaking, one class of enterprise against another. Qualifying considerations of a personal or psychological character must not be wholly left out

of account, although the extent of their influence may be measurable only with difficulty, if at all.

In all that precedes there is assumed, and in dealing with the money market it is safest to assume, the existence of active and intelligent competition, that is, a readiness to seize profitable opportunities, a capacity to judge what opportunities are profitable, and a keenness to look around and see whether there are profitable opportunities to be found; that is what is meant by assuming the existence of active and intelligent competition. Under those influences, new capital will be attracted to any and every new enterprise, or to the extension of old enterprises, so long as the securing of capital from the fluid funds disposable at the moment offers advantages in the prospective return. The rate of return that is capable of being earned by capital, after allowing for special risks of loss by employment in a particular enterprise, may involve loss or an irregular yield, falling over considerable periods to nothing. If such periods are indefinitely prolonged, we shall call the loss absolute; if long, then a large allowance is necessary for the risks of irregular yield in that particular application. Taking these risks into consideration, we obtain something like a definite conception of the yield of capital, that is to say, of the rate which the profitableness of the enterprise enables its management to pay for a supply of capital. That supply must be

diverted from the floating resources of the community to maintain the fixed capital, and provide the working capital which is the life breathed into it, by means of which it is enabled to continue its earning operations. And capital may be transferred from enterprise to enterprise gradually in the way described, when the capital values realized in saleable products are not fully replaced, but are used in developing a different undertaking. Every industry, then, is in constant competition with other industries and in competition with the commercial world, which also needs the use of some of the floating funds of the community that are available at the moment to furnish its financial resources. The market for capital that we are dealing with here is a market which we may best describe as the market for the purchase and sale of control over financial resources ; that is to say, the price that is paid for a loan is the price paid for the control of financial resources. The temporary control of financial resources is important to a manufacturer because he needs money to finance certain phases of his operations, and the rate that he pays for a loan, his borrowing rate, we may regard as the price he pays for the control of financial resources; and that is measured by, or indicated by, the rate of discount. If that rate is higher than an enterprise has the capacity to pay, then that enterprise can only secure the resources that it needs at a price that involves loss. If it is low compared with what

the enterprise can afford to pay, then the enterprise is tempted to expansion.

In circumstances such as occurred during the war in most countries and such as were found when the war was over in not a few countries, a low rate of discount—in normal conditions a stimulus to enterprise—may fail to stimulate increased production of goods for general use, and why that should be the case it is fairly easy to understand. During the war, and since the war, a large part of the resources of a good many communities—our own was quite a conspicuous example while the war was in progress—was required for public uses. It was necessary, if we were to carry on the war, that the Government should have control of a very large part of the total productive capacity of the community, if not directly, then by placing contracts with those who had direct control of the capital, and agreeing with them that they should use their resources for purposes directly contributing to the military strength of the community. There was an appropriation to special public purposes of a large part of the resources of the community, and in those conditions increase of private production in any given line was frequently quite impossible. It might be realized that there was an abundance of goods wanted, but it was impossible to meet the demand, because either the material could not be obtained, or new machinery could not be secured, or even enough of the necessary labour

was not available with the particular skill required for carrying on the enterprise. An abundance of purchasing power might be available, and yet the stimulus to expansion would not result in actual expansion where a situation of that kind existed. Taxation and the raising of loans are two ways in which it is easy to see that the Government takes hold of a part of the resources of the community. Having secured these resources, their use for war purposes by the Government diminishes the volume of goods available for private civilian uses. Unless the currency is reduced to correspond with the quantity of goods left available for private use, there will be such a relative abundance of currency that prices will rise in spite of a low rate of discount. As stated above, a low rate of discount tends to expansion of supplies and consequently to lowering of prices. There may coexist in such circumstances as we had to face during the war, and as have been faced in a country like Germany and in other countries since the war, conditions constantly tending to an abundance of purchasing power leading to constantly rising prices even though the rate for loans be a low one. And if the Government's method of getting hold of the resources of the community is not to tax or to borrow but to create paper money itself, or to stimulate some other authority such as a bank to create paper money by borrowing from the bank and affording it a corresponding privilege in expanding its

circulation of paper money as currency, in those circumstances there is a constant increase of available purchasing power relative to the goods that are available even beyond what there would be if the Government obtained its funds by taxation or by loan. Though the extent of the influence on prices is different in these two cases, it is not lacking in the one case, and is very much exaggerated in the other. Ease in the loan market can be secured by expanding the currency, and that method has been employed at times with the deliberate purpose of bringing about ease in the loan market; that was an end desired in itself, while at the same time immediate resources were secured for carrying on public business. There may thus be a low discount rate that does not mean an abundance of real capital and that will not serve as a stimulus to increasing such abundance.

We have to pass now to the consideration of the indirect effects of an upward or downward trend of prices, the reaction of price movements on discount rates. We have to see how the movement of prices, stimulated by other causes, may affect the problem of the discount rate. If prices in general are rising, or if the prices of commodities produced by a particular industrialist are rising, his attitude towards borrowing is modified by that fact. If he can confidently look forward, basing his expectations on his recent experience and on his knowledge of the particular market he is

concerned with, to a continued rise in the prices of the goods that he produces and sells, he will feel justified in paying a higher rate for loans than if he were dealing with a situation in which he cannot anticipate any rise from the present level of the prices of his commodities. Steadily rising prices, accordingly, enable borrowers to face high loan charges without being compelled thereby to restrict their operations or to consider seriously the advisability of restricting those operations. Suppose the prices of materials are steady and the prices of finished goods also, and in these circumstances a particular mass of capital, duly associated with labour, after paying all other charges whatever, is capable of yielding on the floating capital at, say, the rate of 10 per cent. per annum. Suppose the physical efficiency of the enterprise to remain just the same, and all the other relevant circumstances to be unchanged except that prices of finished goods are rising at a rate that may reasonably lead to the expectation that they may be higher in three months by 1 per cent., in six months by 2 per cent., and so on. It will not affect the argument if prices of materials are also on the upgrade, so that the assumption in regard to prices may be that they are rising generally. Then, unless compensating changes in some of the other charges are stimulated by rising prices, as goods are sold in some cases, if not generally, at a later date than the materials for them are bought, there is a wider margin for the

manufacturer corresponding to the rise of prices during the process of manufacture. It might be the case that such a condition of price movement might so stimulate demands from labour as to absorb a part, or even the whole of the profits that otherwise might be anticipated as coming to the manager of the enterprise out of the rising prices. As wage changes commonly lag behind price changes, this consideration need not destroy the force of the general argument. Outside the labour question, reactions on the physical efficiency of the plant may probably, in general, be ignored. If we assume that prices may reasonably be expected to go up at the rate of 1 per cent. in three months, then something like 4 per cent. per annum will indicate the additional profit that might be expected to accrue out of this price movement over and above what accrues from the ordinary efficiency of the enterprise. And, that being the case, it will be possible to face higher borrowing charges if the actual current borrowing corresponds with that part of the capital with respect to which this extra percentage may be calculated. What could have been borrowed at 5 per cent. per annum could now be borrowed at 9 per cent. without diminishing the profit below the level previously found sufficient, and if it could be got at 5 per cent. there would be a corresponding profit left over and above what would have been obtained under conditions of steady prices. Similarly an anticipation of falling prices,

unless the borrowing rate is lowered, is a stimulus to a restriction in the scale of operations. If we consider a merchanting business, the situation is different in one important respect from that of a manufacturing business, since so much of the capital of a merchanting business is turned over quickly and has to be constantly renewed. With a manufacturing business, one can think of a vast mass of plant, specialized to a particular end in manufacturing, which outweighs in its total value the floating capital which is necessary to energize it and which is represented by the constant flow of goods through the mill or works. But in the case of a merchanting business a very large part of the capital involved is subject to this constant renewal, and, if you assume a turn-over once a quarter, then a rise or fall of prices at the rate already suggested would add to the profits, or subtract from the profits, at the rate of 1 per cent. per quarter or 4 per cent. per annum on the stock, so that a considerable percentage addition to borrowing charges would be needed to offset the effect of such a relatively violent price movement, relatively violent, that is to say, when the 4 per cent. per annum is compared with the ordinary discount rates with which we are familiar. Remembering that 7 per cent. is the highest official discount rate (i.e. Bank of England minimum rate) we have seen in this country since 1914, 4 per cent. is quite a considerable sum. Yet changes in prices to which there has been occasion to refer

in previous chapters have been at a very much more rapid rate than 4 per cent. per annum over considerable periods of time. The effect of changes in the price level, the relative importance of these changes as compared with changes in discount rates, has been very much greater recently than at ordinary times.

Coming back to the discount rates as a controlling factor in circumstances which do not differ too greatly from the normal, that is, where we have not too violent disturbances upwards and downwards in prices, the movements in the discount rate influence prices in the contrary sense to those movements themselves. Thus the discount rate furnishes a weapon by the use of which it is possible to exercise a restraining influence over the foreign exchanges. The influence of the discount rate can also be seen otherwise in the relations of two countries which are trading with each other. The financial interests in each country are stimulated to take action to turn to their own advantage any difference between their discount rates, and the immediate balance of indebtedness between them is modified as a result of such action. At all times there are balances, as between different countries and as between persons and businesses in different countries, remaining to be liquidated. Balances that might otherwise be withdrawn may be left in a country if their earning power in that country is increased, as is indicated by a rise in discount rates in that coun-

try ; and not only so, but it may be worth while to take measures for a positive transfer of balances elsewhere available to the country of greater earning power. Now these movements at once exercise a direct influence on the market for bills of exchange and thus on the quotation for those bills. An abstention from withdrawal of funds that could be withdrawn means that bills that might have been drawn and offered for disposal are not so drawn ; there is a decrease in the supply of drafts on the country with the higher discount rate. The effort to transfer balances to that country means that persons elsewhere are seeking to buy drafts on that country in order that they may become possessed there of funds on which they can earn the higher rate that is there available. That increases the demand for drafts on the country with the higher discount rate. So there is at once a direct influence diminishing the supply of drafts and a direct influence increasing the demand for drafts on a country when its discount rate is at a higher level than that of the countries with which it is in commercial relations. Its currency is consequently increased in value in terms of foreign currencies, and that is expressed in terms of appropriate movements of the exchange quotations. In our case, the exchanges which are normally quoted in sterling would show reduced quotations, a lower number of pence for the Argentine peso or for the Portuguese milreis, while the exchanges quoted in foreign moneys

like United States dollars since the war, the Paris exchange and other European exchanges except that on Portugal, are expressed in rising figures. At the opening of this chapter it was stated that movements in the discount rate used to be one of the most powerful weapons used for controlling the foreign exchanges. When the discount rate was raised, the exchange moved towards the import specie point; when the rate was lowered, the exchange moved towards the export specie point; and it was possible, as shown in well-known textbooks on the subject, to demonstrate a tolerably consistent relation between the movements of discount rates and the movements of gold into and out of this country: it might, indeed, almost have been possible to predict for each 1 per cent. advance in the discount rate how much gold would be imported within a given limit of time. The gold, when it arrived here after a rise in the rate of discount, went into banking reserves, increasing those reserves, and therewith the power of the banks to make advances, and tended thus to make loan rates in the market easier and to bring to an end the high discount rates which had stimulated the inward movement of gold. We have to look to the other phase of the influence of the discount rates, the operation on the prices of commodities and of securities, to see more clearly the way in which the influence is felt in these days of inconvertible currencies. These influences are, of course, in their degree, present

when convertible or full-valued metallic currencies are in question, even though, in that case, a relatively greater importance attaches to the way in which the movements of gold were influenced by the quotations of the discount rate.

It will be clear that the restraint which is imposed on the loan market by a high discount rate cannot be effective while currency expansion proceeds unrestrained and steadily increases the purchasing power in the hands of the community. It may be effective in restraining in some measure the demand upon banks for credits, but, unless we can restrain the creation of new purchasing power—not merely of bank purchasing power, the capacity or right to draw cheques on a bank, but also of the purchasing power represented by currency in hand—a rise in the discount rate will have little effect. In cases such as have been illustrated in actual recent experience, of prices doubled in a week or two, an unimaginably high discount rate would be required to check a movement of that violence, and it would, perhaps, be a delicate exercise to determine what degree of violence in price movements is capable of being brought under control by the exercise of the influence of the rate of discount.

It may be useful, in concluding this chapter, to review in very brief outline the history of certain recent events in which the movements of the rate of discount played an extremely important part, and in reference to which the discount policy of

the leading banks, both in this country and in the United States, has been subjected to a great deal of criticism. In the United States and in England in particular, after the Armistice the rates of discount quoted by the principal lending institutions were maintained at a very low level till near the end of 1919. It was not until November of 1919 that the minimum discount rate of the principal Federal Reserve banks of the United States was moved. From its low level of 4 and 4½ per cent. in November, 1919, it was raised to 4½, and the Federal Reserve authorities contented themselves with this small movement, while cautioning the members of the Federal Reserve System, as bankers, to be wary in their loan policy and to exercise restraint upon loans the purpose of which was known to them to be speculative. It was only towards the end of January, 1920, that the minimum was raised to 5½ per cent., and even then, for loans secured on what is the United States equivalent of our Treasury bills, viz. Treasury certificates of indebtedness, 4¾ per cent. still prevailed at a time when industry was booming and when prices were rising rapidly and speculation developing with giant strides. The general rate was further raised to 6 per cent. early in February, 1920, and in May it reached the figure of 7 per cent. Between November, 1919, and May, 1920, the period during which the movement of inflation reached its culminating point, the rise in prices was, according to the

revised index number of the Department of Labor Statistics, 14 per cent. The earlier basis of calculation made it 18 per cent. The special index number prepared for the Federal Reserve Board showed an advance in average prices for the same period of 20 per cent. The rise of prices in that short period of six months was thus somewhere around 14 to 20 per cent., while the rate of discount was being slowly moved up towards the maximum level. Here in London the bank rate had remained steadily at 5 per cent. since April 5, 1917. It was raised to 6 per cent. on November 6, 1919, and further raised in the middle of April, 1920, to 7 per cent. That last rise took place earlier here than on the other side of the Atlantic, and marked the limit of the upward movement. Somewhere about April or May the price movement also reached its limit. How far the very last step in raising the discount rate can be credited with responsibility in checking the rise in prices it may be difficult to determine, but there is no doubt whatever that the movement of prices was influenced by the movement of lending rates, of which the Bank of England rate is at any rate an index. It was not only that lending rates were moved, but bankers overhauled their accounts and exercised a good deal more caution at that period of time than had in some cases been the practice a little earlier, when the profits of business were apparently more generous, so as to justify fully loans which would not be justified in a

depressed period. So far as our exchange on New York is concerned, it reached its lowest point in February, 1920, but at the end of 1920 it fell off again after a recovery in the middle of the summer. There has been considerable criticism of the delay in raising the discount rates both on the other side of the Atlantic and here, when speculative influences were seen to be active and dangerous and the rise of prices was so rapid and persistent. There has been almost as much criticism levelled at the maintenance of the high rates that were reached late and were kept on so long, in this country till late in April, 1921. In the United States it was long after prices had started to move downwards, indeed, not till the average level had fallen by about 40 per cent. from the level reached at the climax of the rise, before the rate of discount was lowered at all. The rapid fall of prices was already exercising so strong an influence as to be the cause of widespread business controversy.

In France and Italy the 5 per cent. rate, which appears to have been regarded as a providential ordinance in some countries, was maintained until April, 1920, in Austria it was not abandoned until April, 1921, while in Germany it remained the official rate until July, 1922. Whether in these cases we can say reasonably that a healthy influence would have been exerted by earlier restrictive measures is perhaps a problem that has little direct concern with the present discussion.

But the restraint which has been imposed upon borrowers, not only by the higher rates but also by the circumstances which, while compelling lenders to realize the necessity of raising rates, at the same time forced upon their attention the necessity of greater caution in lending—these two things, higher rates and greater caution in lending, played a very important part in checking the inflation of prices and of business generally on both sides of the Atlantic. When we consider, however, the attitude of certain writers, notably of Professor Cassel, who appears to be prepared to rely on the discount rate as practically the sole controlling weapon over the volume of currency maintained in circulation in the different countries, it may be permitted to express a doubt whether through the discount rate alone a sufficient control can be exercised. It is a very important controlling weapon, but it appears to need a good deal more of proof than has yet been adduced that sufficient control can be exercised by this means alone over currency inflation and price inflation, at any rate so long as the regime of inconvertible paper currency prevails over so large a part of the commercial world as that in which that regime dominates to-day.

CHAPTER VI

STABILIZATION OF EXCHANGES. METHODS AND LIMITS OF CONTROL. THE RESUMPTION OF GOLD PAYMENTS

To this final chapter there has been reserved the discussion, in anything like a systematic way, of the various means adopted or suggested for controlling the movements of exchange, and the connected topic of the resumption of the relations between the principal exchanges which prevailed prior to the war for a considerable series of years. During the war it was found essential to exercise some kind of restraint upon the movement of exchanges, and most countries adopted as one of the principal means for influencing the position of their foreign exchanges, a control of their foreign trade, though that control had other purposes as well. One of the most important reasons why it was deemed necessary to control foreign trade was, that every country involved in the war was wishing to devote as much of its resources to direct war purposes as possible, and that as little of its resources as possible should be applied to other and more or less unnecessary purposes—that is,

unnecessary with regard to the direct issue of the war. There was a desire to avoid the expense of purchasing things that were not wanted for war purposes, and to keep in the country those things that would be useful for war purposes instead of letting them go elsewhere, especially if there was risk involved in going elsewhere that they might leak around by devious ways to the control of one or other of the enemies. But the influence upon exchange rates, thus affecting the cost of acquisition of the vast masses of materials that were essential for the successful conduct of the war, was an important consideration in the control that was proposed and that was exercised, more or less thoroughly, both on the import trade and on the export trade of the principal countries concerned. One of the measures that was adopted in some countries, for example in Germany, of exercising this control, was to centralize foreign exchange business in the hands of certain institutions named for the purpose. The same method has been retained after the period of the war for generally similar purposes by Germany and by some other countries that have found since the war, as well as during the war, the necessity of reducing as far as possible what they have to pay to foreign countries for imports. The details of the methods adopted vary from country to country, but the essential feature common to all of them is that, by bringing under one supervision all the documents involving payment to or pay-

ment from foreign countries, a control was established over the nature of the transactions involved, so that those desires for acquiring means of purchase abroad which were in respect of the purchase of goods which the central authority judged could be either procured within the country or dispensed with, could be suppressed or made difficult to carry out, while if the goods to be purchased abroad were deemed to be required in the general interests of the community as well as in the special interests of the merchants who desired to purchase them, the acquisition of the foreign exchange needed for the purpose would meet with no serious official obstacle on the part of the exchange offices in which the centralization of exchange business was effected. One of the objects in view was to influence the balance of indebtedness in foreign trade and thus to influence the rates quoted for foreign bills. Something more than that also was desired, for it was not merely the suppression of unnecessary imports, or a restraint on the export of goods which were deemed, in the general interest, to be more useful at home than if exported, that benefit was looked for. In addition to this, the evil effects resulting sometimes from unrestrained speculation were to be restrained in this fashion, and were, doubtless, considerably restrained by the difficulties placed in the way of obtaining foreign bills. Those are rather general methods. We find that the evils resulting from speculation were in some cases so

patent, called so much for official intervention, that somewhat remarkable measures were adopted. There was a period during the war when in Germany the publication of rates of exchange was prohibited; it was an offence against public interest to print in any newspaper the rates of foreign exchange. More recently in Italy also there was, for a short time, a similar restraint upon the publication of the current rates of exchange. In these cases speculation had reached such a point that the machinery of the general distribution of information relating to this class of business was deemed to be a dangerous machinery to leave in unrestricted operation. Those are methods of influencing the foreign exchanges which we might not inaptly deem somewhat crude, and in the main blending the desire for control of foreign exchange rates with the desire to exercise a different kind of control over the operations involved. It might be claimed, for example, that the main purpose in some of these measures was not a control of foreign exchange rates at all, but something different altogether, and the control of foreign exchange rates was a by-product of a method adopted for some other purpose. We find, however, that those who are convinced that Government intervention in the matter of foreign exchange rates, as in some other matters, is the most direct road towards achieving the desired end have, from time to time, expressed the view that the best way of restricting the

rates of foreign exchange is to issue a public proclamation prohibiting all dealings except at the proclaimed official rate, and visiting with punishment any person who dares to ignore this decree. This belief that, whatever may be the actual relations of the indebtedness of a country to other countries, whatever the natural expression of those relations in a free market would be in the way of the rate of exchange, an official decree can fix the rates of exchange and that the actual effective rates will be those officially prescribed, does appear a very strange delusion. It partakes rather of the notion that if you can only prevent a thermometer from altering you can prevent the temperature of the room in which it is placed from altering. A damaged thermometer may register a definite level, but that would be no proof that the temperature of the room in which it is hung remains unchanged. It is necessary to be careful, in considering measures of relief or of restraint, that we do not countenance measures which amount to little more than a refusal to recognize changes that have actually taken place, and simply shut our eyes to actual facts and imagine that an official decree must represent reality because it is an official decree. That sort of view of the function of official bodies in regard to prices was often expressed during the war with reference to the general activities of governments, including our own, which had the obligation upon them of doing something to

restrain wild movements of prices of various commodities and, in particular, of food. We had a considerable amount of experience of Government control of food prices during the war; and those who know most about the work of the various Bureaux which were concerned with food prices and control will be the most ready to admit that there is only one really effective way of controlling prices of food or of any commodity, or of foreign exchange, and that is the creation of some machinery by which a supply of the article whose price is to be controlled shall be available at the controlled price for everybody who wants to buy at that price. That was in effect the measure, the only successful measure, that was adopted in the matter of foreign exchange. That may be stated without making the usual mistake of trying to condense a great deal of truth in a small phrase and so involving a misleading statement. Where official control of prices was successful, it was so successful because means were taken to ensure that there should be a supply of goods available at the price decreed. The important results attained were not, in reality, secured by merely telling operators in a free market that they were not to exercise their own discretion, and sell commodities in accordance with the accidental relation of the momentary supply of the market to whatever demand might be forthcoming. In relation to exchange, as in other cases, because the problem is one that presents such very clear

features to those who are always handling it from day to day, if prices are to be regulated, it is necessary to consider how a supply can be provided of bills of exchange on a given country at a price that may be officially proclaimed as the price for bills on that country. We had a mechanism at work for a long period during the war which aimed, and aimed successfully, at supplying exchange upon New York at the fixed price of $\$4.76\frac{7}{16}$ to the pound sterling. How did it achieve that end? The means was very simple in conception, though it involved a great deal of painstaking and skilled work in carrying it out. The machinery set up for the purpose was the Dollar Securities Committee. The recourse that the Government had when it was in need of the means for providing funds in America was to turn to the citizens of the country who held securities for which a market could be found in America, and to ask them as citizens to place their securities at the disposal of the nation. In some cases the securities were bought, in other cases they were borrowed. It is not germane to our present subject to examine the precise details of the scheme under which they were bought or borrowed; how those details were varied from time to time; to what extent it was necessary to modify them in order to meet what appeared to be reluctance on the part of holders; how nearly we approached at times to the compulsory requisitioning of certain classes of securities from the holders of

those securities;—it will be sufficient for our present purpose to take account of the fact that there was official machinery set up and an appeal made, a successful appeal, to the owners of certain classes of securities to place them at the nation's disposal either permanently or temporarily, and that, when other measures of raising credit in America had been exhausted, credits were extended on the basis of securities thus borrowed. Of course, until America officially came into the war, there was a period when the basis of ordinary commercial credit had been strained and when it was necessary, if further borrowings had to be made, that fresh collateral should be put up against the borrowings. The collateral had to be something the people in America understood. There are certain classes of securities that will find more ready purchasers than can be found for other securities, and on which people will be more ready to lend than on other securities, and therefore it was necessary to seek to obtain control of just those classes of securities. From first to last, including the securities which were purchased by the Bank of England before the Dollar Securities Committee was set up, and before the schemes of loan to or purchase by that Committee had been matured, control was secured over a total of $1,422 millions; that is to say, converting at the rate at which exchange was maintained, a value of approximately £300,000,000 sterling of dollar securities was

purchased or borrowed. Purchases prevailed over borrowing: two-thirds were purchased, one-third borrowed. But that £300,000,000 was not nearly enough as a basis for the borrowing which had to be carried on; and, accordingly, not merely securities of the United States Government or United States railways, but securities of the Canadian Pacific Railway and various other securities had to be got hold of in addition to the dollar bonds or dollar shares. Such other securities to a total sterling value of £338,000,000 were acquired either by loan or purchase, mainly by way of loan, only about 10 per cent. of them being by way of purchase. That total of £338,000,000 included, besides sterling securities, £1,600,000 worth of securities expressed in terms of Swiss francs, Dutch florins, or Danish kroner, which were also found useful for the same purpose. By selling these securities, or by using them as a basis of credits in New York, a fund was maintained sufficient to supplement reserves that were otherwise available and to enable an adequate supply of exchange to be provided at the practically uniform rate of $\$4.76\frac{7}{16}$ to the pound sterling, or about $6\frac{1}{2}$ cents below the export specie point, as it existed before the war, which was about $4.83 to the pound. That does not necessarily mean that a lower rate of exchange than corresponded to the business conditions of the time was set up. Both freight and insurance under war conditions were more expensive than they were

in the piping times of peace, and consequently this extra $6\frac{1}{2}$ cents, over and above the $3\frac{1}{2}$ cents, which was the ordinary cost of the transport, does not appear to be an unreasonable additional charge in the circumstances. It is probably not very far from the truth to say that, although $4.76\frac{7}{16}$ was a lower rate than exchange reached at any time after the restoration in 1878 of specie payments in the United States until the war broke out, it was not in fact a lower rate than corresponded to the export specie point under war conditions, and inasmuch as we had very large payments to make in America, it might be reasonably contended that exchange, if left alone, and if there had been an abundance of gold in this country for shipment as it was wanted, would have continued during the whole time in those conditions to have been quoted at about the export specie point. Without the gold to ship the exchange must have reached a lower point, so that it may be claimed that the operations of this Committee maintained exchange at a figure not merely as high as it could reasonably have been expected to be, but probably much higher than it actually would have been in the circumstances then prevailing without the special support secured by the establishment of the Committee. During the second half of 1915, in fact, before the setting up of the Committee, exchange fell, not to $\$4.76\frac{7}{16}$ but as low as $\$4.51$, so that, even in comparison with that rate actually

realized we see a very considerable advantage. When we remember, further, that subsequent to the war we have seen the exchange go as low as $3.20, and that our needs during the war were much more pressing than they have been during any post-war period, we may readily agree that the services rendered by the Dollar Securities Committee and by those who advised this scheme of ensuring funds in America were extremely important services with a view to carrying out the war effectively. The variations of the rate after the pegging was abandoned have occupied our attention earlier. In the first chapter of this volume we considered the actual facts and have had to refer to them from time to time later. It was on March 21, 1919, that the provision of exchange at the steady rate came to an end, so that it lasted from about the end of 1915, through the war and for a few months after the Armistice.

The provision of sufficient credit to ensure that all demands for exchange can be met is the only sure means of fixing exchange rates. We fixed them during the war, and we fixed them by the only effective means, that is, by taking care that there was a credit fund on the other side on which to draw and that it did not get exhausted by the demands of trade. Where currencies are based on gold and there is a freedom of import and export of gold, shipment of gold metal provides a means of ensuring that credits are maintained sufficient to meet demands for drafts, so that, where the

gold basis and free movement of gold prevails and gold metal is available for shipment, we do not need to consider special means of providing a credit fund. It is, perhaps, as well to note, at this point, that, though redeemability of currencies in terms of gold may provide this means of stabilization as between two countries, the actual circulation of gold as currency in those countries must not be assumed to be essential to such stability, and even the physical transmission of gold between them may be necessary only on comparatively rare occasions. There have been a good many countries which have maintained a silver currency at fixed rates in terms of gold without having any other than a silver circulation. It has only been necessary to provide a reserve at a suitable financial centre such as London or New York: in some cases a reserve in New York might be contemplated, and if New York achieved the end that seemed possible during the course of the war of replacing London as the world's financial centre, New York would be the natural place at which reserves of this kind, held in order to maintain at parity with gold a currency which is not itself a gold currency would, in that case, be conveniently located. In India, after the old independent silver currency had been abandoned and before the actual gold coins were decreed to have a permanent relation to the silver coins in the Indian currency, the maintenance of the rupee at the sterling value of 1*s.* 4*d.* depended on the

maintenance of reserves in London on which drafts could be made. During an important and prolonged period, India did as the Straits Settlements have done since, the Straits dollar, like the Indian rupee at the time in question, having a fixed relation to the pound sterling and being maintained at that fixed relation to the pound, not by exchanging dollars for sovereigns on the spot but by being ready to give drafts in pounds sterling at a fixed price in dollars, the drafts, of course, being on London. That was a sufficient means of maintaining the Straits currency at a prescribed parity with the sovereign. Other cases could be quoted, for example, that of the Philippines, where the gold parity was maintained with the United States by the maintenance in the United States of a fund on which dollar exchange could be drawn at a fixed price. Reserves of readily saleable securities are an excellent form for such a fund, or at any rate afford the means by which to feed the fund if it gets too much depleted. By readily saleable securities in the case of the Philippines is meant securities readily saleable in America where they are held. India or the Straits might hold the main part of their reserves in London, not in the shape of a deposit at call in the Bank of England but in the shape of, say, Treasury bills, a sufficient amount being held in actual cash to meet any probable requirements for a period during which either such bills could be sold or arrangements could be made with the

Bank of England or other banks to borrow against the deposit of these readily saleable securities as collateral. Such securities are an excellent form of reserve by means of which to ensure the stability of exchange. Mr. Darling has recently put forward an extremely interesting scheme for stabilizing exchange throughout the British Empire, and proposes to create a reserve in the form of special Imperial Treasury bills in terms of which it shall be possible to withdraw currency that is superfluous or by the deposit of which it shall be possible to obtain further supplies of currency if that is wanted. The scheme appears to contemplate that the reserves may consist partly of gold, although gold clearly occupies quite a minor place in Mr. Darling's view, as he talks about 5 or 10 per cent. of the total reserve being required to be held in gold. Whether or not a part of the scheme might be the issue, in each of the countries that might adopt the method, of a certain amount of uncovered currency, that is, of currency covered by other means than the special Treasury bills or by gold, does not appear clearly in the reports, but that is not a point vital to the scheme. Whether the whole of the currency under the new scheme is to be issued against gold and Imperial Treasury bills or only the excess over a fixed limit would not constitute a point of prime theoretical importance. It is wholly in accordance with what has been set out above that Mr. Darling's proposal does provide a means for

ensuring throughout the larger divisions of the British Empire, if it were adopted by them, of ensuring that the value of the currency based on Treasury bills should not deviate from the value of the Treasury bills and, as short-dated Imperial Treasury bills would be likely to maintain very great steadiness of selling value, it means that if the currency maintains steady relations of value to the Treasury bills, it will maintain steadiness of value in relation to anything else in terms of which they are steady. There are two features about it, however, two aspects of the same feature in reality, which cannot reasonably be passed over in a discussion of the principal points of schemes of stabilization. Here we have an important scheme put forward: it appears to lack an assurance that the currency of the British Empire, if based upon this scheme, would be maintained in stable relations with the currencies of countries outside the scheme, and, if that difficulty is a real one, it will be a rather important feature connected with the scheme. We may hold that it is absolutely of the first importance that the British Empire countries should stand shoulder to shoulder, still in business matters it is necessary that we should pay some attention to our relations with other countries, with which we have extensive business relations. We need to assure ourselves that a plan for getting over fluctuations does not introduce serious complications as between Empire currencies and outside

currencies, and may ask if it is possible to get over any such difficulty.

There is another point which may require very serious consideration. Mention is made, in the description which Mr. Darling has given of his scheme, of the probability that about 10 per cent. of the outstanding war loans of the Empire, or something like £1,000 millions, might be created in Imperial Treasury bills for the purpose of backing currencies in the Empire under the scheme. An examination of the latest figures available as to the amounts of the paper-currency circulations in the leading countries of the Empire shows that about £650,000,000 represents the total outstanding paper currency in this country, Canada, New Zealand, South Africa, Australia, and India, and to this some relatively small addition will be necessary in respect of the smaller countries of the Empire. The mention of £1,000 millions in connection with an Imperial currency scheme appears to contemplate considerable increase in the amount of paper currency in circulation in the Empire, and that suggests a danger associated with, even if it does not form an essential part of, the proposal. Further, there are considerable present cash reserves against the currencies, the aggregate of which was just stated as £650,000,000, and these cash reserves amount in the aggregate to something like £250,000,000 in actual gold held in various reserves against currency, besides silver held. If that gold is not to be dispersed, there will only be

about £400,000,000 of these currencies to be based on the Imperial Treasury bills. We shall not want £1,000 millions unless we contemplate doubling the currencies of the Empire, which would mean the raising of prices to something approaching double their present average. I am no advocate of raising prices to double their present level or anything like it. I should contemplate as an Imperial disaster the adoption of any scheme that threatened any such result. That may not be bound up with Mr. Darling's scheme, but it seems reasonable to suppose that, before suggesting the figure of £1,000 millions, the actual figures as to circulation must have been examined to see what amount of currency has to be provided for, and what relation the suggested amount of Imperial Treasury bills would bear to the actually existing currency.

A steady price of the Imperial Treasury bills in terms of sterling might not be steady in terms of U.S. dollars, or French francs, or Dutch florins, and, consequently, ineffective for international purposes for steadying the relation of our currencies to the currencies of other countries over which we can exercise no control. Such relations and co-operation as we may reasonably hope to establish between our own country and the other countries of the British Empire to maintain the convertibility of our currencies in gold appears to be the only reasonable measure available to us for ensuring stable relations between the currencies of

the Empire at the present time, or likely to be available for some considerable future time. There does not appear to be any other way than redemption in gold, or in something whose value varies strictly with gold, that will not break down at some vital point. If such redemption is secured, we can maintain a stability of exchange in the first place with all gold-using countries, and in the second place with any other countries which actually establish an equality in value between their currencies and gold metal by other means such as have been referred to above, as illustrated by the way in which India and the Straits Settlements maintained their currencies in a fixed relation to gold. All currencies redeemable in, or maintaining a fixed relation to, gold will have a fixed relation to ours if we attain to redeemability in terms of gold.

If exchange rates between any two countries are to remain stable it is essential that the currency policies of the countries concerned must be such that the general price level in each country is maintained in a stable condition or, if the price levels vary, that they should vary similarly in the two countries. We cannot expect the price levels to vary similarly by agreement between those countries, since we must expect prices in each of them to vary in accordance with the commercial and financial policies followed. We can, accordingly, only expect their currencies to maintain fixed relations with one another, so far as the

policies of those two countries are such that prices move similarly in each of the two countries. The purchasing power parity between the two countries must be stable. Unless the countries are under the same government, or unless they have an agreement in regard to currency matters and other matters affecting the question, an agreement calculated to ensure that the relations between the supply of currency and the requirements for currency in each country should be similar, stability can only be looked for if each of the two countries adopts for its own purposes a currency policy directed towards stability of prices. Each country can act for itself. We must hope that, if we do our duty in the matter, other countries, moved by similar motives to those that influence us, will do their duty. If we do our duty and stabilize our prices, and other countries do their similar duty and stabilize their prices also, we shall get stability of exchange. But we cannot look for stability of exchange as a permanent thing, maintaining itself under the influences resulting from its own necessary reactions, if we do not adopt a policy ensuring stability of prices. That stability must, for practical purposes, in the present condition of world finance, mean a stable relation to gold. In circumstances of this kind, commercial influences will not render it necessary to have any large movement of gold between the countries that are concerned. Even seasonal variations need not involve important shipments

of gold from time to time. It has to be borne in mind that where you have stability of currency relations, stability of prices, so that there is no fear of wide fluctuations in prices and in exchange rates, the temporary transfer of credits will often carry out all that can be achieved by the movement of actual physical gold. The adoption of a suitable discount policy, operating in the various ways discussed in the last chapter, would be sufficient to check or correct a deviation of prices from stability and to reduce to a low minimum the actual need for shipment of bullion from country to country.

For stability of exchanges, then, stability of prices appears to be an essential prerequisite. No country can expect to see its exchange rates with other countries steady if its own currency policy involves arbitrary depreciation or appreciation of its own currency unit. That is the underlying reason why at the Brussels Financial Conference of September, 1920, and at various other financial conferences, so much stress has been laid on the need for budgetary equilibrium as the essential condition for sound currency and steady exchanges. Why is this? It is because currency cannot be stabilized, prices cannot be stabilized, and, therefore, we cannot hope for a stabilization of exchanges on any permanent basis, so long as the volume of currency in circulation is increased or decreased according as the government stands more or less in need of

revenue. We must find some way of dissociating movements in the volume of currency from the need of the government for funds; that is why budgetary equilibrium is put down as the first step in considering how an evil course is to be brought to an end. Budgetary equilibrium is not easily attained when the constant adjustment of needs to resources has been effected by the simple means of setting the printing-press to work. If expenditure cannot be reduced, taxation or loans—loans secured from genuine savings and not merely by the creation of bank credits—must be made adequate so that there may be no necessity for the government to resort to the worst form of taxation to which a government can resort, namely the depreciation of the measure of value by constant additions to the currency of new masses of paper representing a purchasing power exercised by the government, a control which it achieves over a portion of the goods of the community by the process of inscribing certain words on pieces of paper and handing them over to the owners of the goods in exchange for their goods. If tax revenues cannot be increased, expenditure must be decreased. If this cannot be done, it is not going too far to say that it is hopeless to look for the stabilization of exchanges.

A loan provided by other countries is sometimes suggested as a way out of the difficulty, but such a loan can only give temporary relief; constant drafts on the credits that are obtained in conse-

quence of such a loan must exhaust it in due course. The difficult task of bringing about a stable financial situation in a country which has resorted to the printing-press for a long period of time, as a means of avoiding adjusting expenditure to income, may be eased by a foreign loan, because the foreign loan will give time to bring order into the internal finances, but only because order cannot be brought out of disorder at a mere waving of a wand. Time is required for setting things in order, and a foreign loan just gives the time for honest statesmen to exercise their ingenuity in bringing disordered affairs into order, but it can only give a certain amount of time. Loans cannot be repeated again and again; they are useless except for the temporary purpose of bridging over the time of special strain, and their indefinite repetition is quite obviously entirely out of the question. The needed loan can only be looked for, we can only expect to find people willing to lend, where other conditions tending to stability are, in some sort at least, guaranteed.

The necessity to make heavy payments to other countries is sometimes alleged as one of the reasons why the German rate of exchange in particular has been depreciated as rapidly as it has been depreciated. Now the necessity for heavy payments to other countries is not of itself an insuperable obstacle to stability of exchange. That this is the case appears to be shown, if we had no other evidence on the subject, by the experience of our

own country. Where shall we find in our own experience any parallel with what Germany has been going through during the last year or two? In one essential a parallel sufficient for the present problem can be found in the experience of our own past, before the war; it used to be estimated by those who examined the situation most carefully that we had investments in various parts of the world aggregating a value of something like £4,000 millions sterling at that time expressed in gold sovereigns, and that would mean an annual revenue of something in the neighbourhood of £200,000,000 sterling. Quite apart from any payment for current exports, or current shipping earnings, or any other consideration of that kind, we had learned to finance the transfer from other countries to ourselves of values aggregating £200,000,000 a year or thereabouts, and we were able, in spite of that, to keep our exchanges steady. That seems to suggest that it is possible to bring about commercial and financial relations which can give steady exchange rates and be consistent with very large sums passing unbalanced in a certain sense, that is to say, without any coincident passage of equivalent goods in the opposite direction and without seriously disturbing the exchanges. But the adjustments which enabled that to be done were the result of gradual changes in trade relations, changes which cannot be made suddenly without disturbing the foreign exchanges.

The mere fact, then, that Germany is under obligation to make large reparation payments need not involve violent exchange movements, but, if those movements are to be avoided, considerable changes in the pre-war course of trade would be essential, as one of the concomitants of the payment of reparations. The economic life of Germany, as well as her foreign relations, will need to be adjusted to the conditions imposed by the necessity of such payments. It is not proposed to discuss here what are the limits within which such adjustments can be effected. It will have been sufficient to give some brief attention in passing to the question of whether violent fluctuations of exchanges are the inevitable concomitant of such demands as are involved in reparation payments on a large scale.

The conditions under which a country, whose currency has been inconvertible paper, may establish redeemability in gold form the other subject remaining for consideration in the present chapter. A permanent rate of exchange, variable only within the narrow limits of the gold points applicable to currencies redeemable in gold, implies that the price levels of the countries concerned are related in such a manner as has been discussed in preceding chapters. In view of some statements that are made in public discussions of this matter from time to time, it may not be inappropriate to say that it is not the fact that price levels in two such countries must be identical, and even

to say that, as ordinarily measured, they must vary in identical proportions, does not appear to be justified by pre-war experience. It is, however, true to say that if prices in one of two countries, when converted into their equivalence in the currency of the other country at an assumed rate of exchange are, on the average, high as compared with the corresponding prices in that other country, then to establish convertibility on a basis making that rate the parity of exchange would create a situation that would lead in practice to such deviations of exchange from that parity as would require considerable movements of gold to effect an adjustment. The question of the relative levels of prices in two countries, one, at least, of which has not had redeemability in gold, is important if we are considering the re-establishment of redeemability. The selection of a rate is somewhat arbitrary and, because there is some doubt of what the true rate should be, it has been deemed, by most experts discussing the subject, to be necessary that there should be a substantial reserve of gold in hand in a country proposing to pass out of a regime of inconvertible paper into a regime of convertibility in terms of gold. It is suggested that the calculated purchasing power parity between the two countries can tell us what rate of exchange would correspond to the existing levels of prices in them.

Though there may be means of calculating a rate of exchange appropriate to any given levels

of prices in two such countries, the process of calculation is not the simple arithmetical one adopted in any calculations of purchasing power parities that have yet appeared in print. What the process should be it is not easy to define. It would require a careful and complicated examination, with the use, possibly, of mathematical devices which have not been introduced into this volume. The selection of a rate is somewhat arbitrary, and it is therefore necessary, in view of possible error, moderate error, not large error, that there should be in hand the means of tiding over the time which must elapse between setting up the arbitrary rate, should that rate turn out not to be appropriate, and the establishment of a rate that is appropriate to the circumstances, or the establishment of a level of prices that does correspond to the rate set up. The interval can be tided over, the business relations straightened out, by such devices as the raising of the discount rate. After such a period of testing we may arrive at conditions, in regard to price levels in two countries, consistent with the permanence of the rate of exchange selected.

The United States currency has been on a gold basis throughout the war and the post-war period, and the establishment elsewhere of fixed relations of currency to gold implies corresponding fixity of exchange rates with the United States. Trade being now fairly free from special restrictions, only countries whose actual exchange rates approxi-

mate fairly closely to the former gold parities with the United States can expect in the early future to achieve the resumption of gold payments on the old basis, because if there are large further adjustments of price levels to be made, we cannot expect to get through those adjustments quickly. If we try to get through them quickly, violent disturbances of the economic regime will be caused. The Swedish and Canadian rates were in the near neighbourhood of parity with the United States at the end of 1923. The rates on the Netherlands and Japan quoted in New York show the currencies of those countries at a discount of between 5 and 6 per cent. These rates have been much closer to parity during the last few years, having, indeed, been above par since the Armistice. The Swiss rate also has been above par, though at the end of 1923 it had fallen again to nearly 10 per cent. discount. All these exchanges are within the reach of a moderate adjusting process, and we might expect in those countries, if the conditions appear to make the re-establishment of convertibility into gold desirable,[1] that it could be achieved without a serious disturbance of business. The rates of exchange actually prevalent would not require to be violently altered, and prices might be maintained so close to the current rates that the deviation would

[1] At the end of 1922 gold reappeared in the domestic circulation of Switzerland. The resumption in Sweden of the redemption in gold of the paper currency was announced to take place as from April 1, 1924.

not be of very great importance. The British rate is not quite as close to the old parity as that of any of the countries named above. It was at a discount of over 10 per cent. in December, 1923, and at a greater discount in the following months. In December, 1922, the average deviation from the gold parity was about 5½ per cent., and during that month quotations much closer to parity than the average were reported, so that we had not, at the end of 1922, a very much bigger step to take to achieve the old parity than, say, Switzerland, a step so small, relatively, that violent changes in our commercial and financial conditions would not appear to be threatened, even if we tried to traverse that distance in a comparatively short time. The Cunliffe Committee, which examined the question some time ago, came to the conclusion that a gold stock of £150,000,000 would be desirable if we were to contemplate resumption of convertibility of the paper currency, and that gold stock has been in hand for a considerable time, viz. since the middle of 1920—July 14, 1920, being the date of the bank account which first showed figures large enough to give this aggregate. The coin and bullion in the Bank, together with the gold in the currency reserve, has amounted to £150,000,000, that is, has reached the level prescribed by the Cunliffe Committee, during 3½ years. There no longer stands in the way the absence of a fund of gold of a sufficient amount, as judged by

that committee of experts, to face the uncertainties of the transition period. There can be no sufficient reason in our case for selecting a different gold equivalent for the pound than is represented by the sovereign. A hasty move towards resumption of convertibility does, however, involve certain risks, particularly while payments to America of considerable amounts in respect of war borrowings have not become so much a part of the regular routine as to cease to exercise a serious disturbing influence on the market rates. While the financial situation has not been adjusted to payments on the scale necessary to meet the terms of settlement, we should be hasty in clamouring for a resumption of specie payments in this country. How soon a resumption might be wisely contemplated would be a matter for experts to consider, but a good many of the preliminary conditions that must be satisfied before resumption can even be thought about have already been fulfilled.[1] If we look at the situation of other European countries, the discount at which exchange with the United States stood in December, 1923, was, in round figures, for Spain and for Denmark about 33 per cent., for Norway about 45 per cent., and in their cases we may reasonably say there are two policies that might be followed. Either they would go on with their currency on a paper basis until a change in their price levels had been

[1] The funding of the war debt to the United States was arranged in March, 1923.

effected, with its correlative change in the exchange rates, sufficient to approximate their natural exchanges to the old pre-war rates, or they might choose rather, instead of facing a further considerable change in their domestic price levels, to re-establish gold convertibility on a new parity. As gold is not in active circulation, they might re-establish redeemability of their paper currencies in terms of gold coins somewhat different from those which were legal before the war, and so might contemplate as soon as ourselves, perhaps, at any rate not very long afterwards, joining in a group of countries that would get back to gold convertibility and stable exchanges. If they do not adopt that method of changing the basis, devaluation as it is called, a very substantial reduction in price levels would be a necessary preliminary to re-establishing convertibility of paper currency into gold, and, in the meantime, a fall of 30 or 40 per cent. in the price levels takes a good deal of time unless it is to be inconvenient, possibly disastrous, in its consequences. If it were spread over a long time, exchanges would not be stabilized in the meantime. In all this discussion it is assumed that the United States will not do anything to prevent the restoration of exchange in these various countries on the old basis, by modifying the price level in that country. Until an important group of other countries attain to a gold basis for their currencies, the relation of gold to commodities must depend on the monetary

and financial policy of the United States. Were gold once more the general currency of the world, the domestic policy of even so powerful a commercial community as that of North America could not render wholly nugatory, as it can at present, the efforts made elsewhere to stabilize the position.

The French position in December, 1923, showed exchanges more than 70 per cent. below the pre-war parity with gold; the Belgian and Italian positions more than 75 per cent. below. The hope of satisfying national pride by restoring the former parities of these currencies carries with it the certainty that such a step would be preceded by a change in price levels that could only be brought about by a very great disturbance of social and exchange conditions. A considerable ill effect resulted from the 40 per cent. reduction in prices that took place in France, simultaneously with a similar movement in this country, between the climax of prices in 1920 and the latter part of 1922. But a further fall of 70 per cent. from present levels in any short time seems almost unthinkable, except in association with extraordinary economic disturbance. A fall in prices of something like 50 per cent., spread over the period from the American Civil War to 1895, did not fail to produce a very large amount of disturbance in the commercial world, and provoked continuous complaint of trade depression, although the fall was spread over such a comparatively long time. We are compelled to accept the con-

clusion that the evils which have resulted from the change to a high price level cannot be met by a simple reversion to the old price level; new evils must follow such a change, and where the necessary change is a large one the evils will also be great. It is true that we undo some injustices by going back on the course of inflation that was followed after the Armistice. A balance of advantage might perhaps be looked for from a stabilization of prices and exchanges not too far from present levels.

In resuming the convertibility of currencies into gold, a restoration of actual gold coins as part of the active circulation is not an essential feature; we need not expect to be carrying sovereigns in our purses immediately. What was adopted as an intermediary measure a century ago might reasonably be adopted in our time, that is, a redemption in gold bars suitable for export, and with a prescribed minimum amount at one time—a bar of 2,000 ounces, 3,000 ounces, or 10,000 ounces—whatever limit may seem advisable. Any amount larger than that duly determined as a proper and sufficient minimum might be obtained in return for paper currency of equivalent face value, and for export purposes a bar with the Mint stamp upon it would serve just as well as, indeed better than, a parcel of sovereigns. In the early nineteenth century the redemption of paper currency in terms of gold bars was carried out for a time at a rate a little

lower than the coinage equivalent, a rate established so that a free flow of gold might not be prevented even if the internal price situation had not attained the level corresponding fully to the old parity. The use of this method of restoring the metallic link between currencies is the more desirable since, if the gold stocks of the world, considerable as they are, were required to provide not only banking reserves but also large sums in coin for circulation as currency, that would produce a considerable strain. We should probably get a substantial rise in the value of gold, a substantial fall in prices of things bought with gold-standard money all over the world, if we attempted immediately to return to a circulation of gold coin replacing part of our present paper currency. The unfortunate inflation of the post-war period has left behind it a sufficient legacy of evil, particularly in connection with the rebound from the inflation of 1920 to the more moderate price level of 1922, without our adding to the world's troubles the results that would follow in the shape of a considerable further reduction in a short space of time in the general level of prices.

Regulation of exchanges, then, if the principles enunciated in the present chapter are sound, can best be achieved by establishing conditions under which exchanges will be self-regulating in accordance with the principle which was expressed by the former Russian Minister of Finance—M. Witte.

He is reported to have said: "A regulation of exchanges is not something which is established; it establishes itself; otherwise it is incapable of establishment." The rendering of the foreign phrase is by no means satisfactory, but it may serve. One might render it more freely perhaps by saying that what he intended to imply was that statesmen do not control exchanges—they are concerned with establishing conditions under which exchanges can control themselves. If they cannot do that, it is impossible to have real control of exchange. Let us hope that the conditions may soon be attained in which the exchanges between our own country and the countries with which we are in active commercial relations, may be restored to a self-regulating basis.

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