International Monetary Economics

Michael A. Heilperin

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By

MICHAEL A. HEILPERIN, D.Sc. (Econ.)

Assistant Professor at the Graduate Institute of International Studies, Geneva

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To
My Colleagues and Friends
of the Graduate Institute
of International Studies

PREFACE

THE scope of this book covers an investigation of the structure of international monetary relations, an inquiry into the nature of monetary internationalism and into the conditions which make its continued existence possible, and an investigation of the consequences of its destruction and replacement by nationalistic monetary policies.

While the only successful experience of monetary internationalism (apart from monetary unions) has been under the gold standard, the present study is not primarily concerned with that system, even though much of the following discussion will throw light upon its functioning. After defining the nature of monetary internationalism and of its opposite, the present inquiry proceeds to discuss what might be called the monetary economics of gold. It is important to determine the action of gold on prices and the part played by gold in the functioning of a monetary system in order to define, later on, its importance for monetary internationalism. There follows a detailed analysis of various problems relating to international payments and their balance, to exchange rates and parities, and to the conditions of monetary stability, which are considered on a fairly broad basis including both national economic policies and international political relations. The experience of the reconstruction of monetary internationalism which was carried out in the middle 'twenties and which collapsed so soon remains a proof of what may happen if in considering monetary matters one confines oneself to the field of purely technical monetary considerations. All economic relations have a monetary aspect; but, recipro-

cally, monetary relations exist only within the framework of an economic "system", and cannot be treated, least of all in practice, apart from other elements of that system.

Monetary internationalism is in its essence an international co-ordination of *national* monetary policies with the view to maintaining monetary stability and the smooth working of international trade and finance. The problem to the investigation of which this book is devoted, international though it be, is therefore closely linked with that of domestic monetary policies. A study of credit organization and policy (including both central and commercial banks and, more generally, the whole credit structure of the various countries) and a study of the monetary effects of public finance policy are necessary supplements to the present inquiry. Until this work is done, various aspects of the problems here analysed will not be entirely elucidated.

The discussion contained in the pages that follow is largely discursive, but with the view to laying bare the principal problems which demand a statistical treatment. I consider statistical research most important, though I can hardly accept certain of the statistical methods at present used in economic studies. Some important reservations regarding the use of index numbers, and other statistical constructions are formulated in the Appendix. Within the last twenty years the use of such devices has spread so much that the danger seems very real of forgetting, under their simplifying influence, the heterogeneous reality they are supposed to represent. Our knowledge of economic realities tends to become an index-number knowledge, while it is the changing *structure* of economic quantities that really matters most, rather than changes in *averages*. Without going into a detailed discussion of methods, two important statistical inductive inquiries are here submitted to a careful, critical examination: one by Professor Cassel, about the rate of increase of gold stocks that is necessary for the maintenance

of a stable price level; the other by Professor Charles Rist about the relation between gold and prices.

Both these inquiries are found wanting and the problem is found not to be a real issue.[1] A similar conclusion is reached about the purchasing-power-parity theory, the apparent quantitative precision of which does not stand up to thorough criticism. While economics badly needs more quantitative numerical precision, it must be noted that the concepts with which it works must themselves be so constructed as to make quantitative measurement possible. Pseudo-quantitative concepts, the use of which has become quite widespread, are a real menace for the future of economics; this is gradually being realized. The only way of dealing with this issue lies in a careful criticism of the conceptual material used.

Thus, in the pages that follow, much attention is paid to the *clarification* of economic concepts. I particularly want to acknowledge here the influence which Professor Bridgman's penetrating and challenging book on *The Logic of Modern Physics* has had upon the formation of my own ideas in that matter of concepts and definitions. I have no doubt whatever in my mind that the whole of economic theory will have to be restated some day in terms of what Professor Bridgman calls "operational concepts".

The antithesis that is so often drawn between internal and external monetary stability as objectives of monetary policy, will in turn be challenged in the pages that follow, on the grounds both of insufficient statistical evidence and of inadequate logical justification. The reality of this antithesis is rather disproved than confirmed by the theory of equilibrium in international payments which is developed in this book, while the frequently-made assertion that in pre-war days important comparative price changes in countries losing

[1] There is much difference between the views that are widely held in this matter in Great Britain and the United States, and views that are commonly accepted on the Continent. This explains the emphasis laid on that issue. *Vide infra*, pp. 68 and 69.

gold and in those receiving gold were at the roots of the working of the gold standard, appears to me to be lacking any sufficient factual support. This last issue can, of course, be decided by recourse to statistical verification. While this is a task which exceeds the possibilities of an individual scholar, it is a very proper subject of inquiry for co-operative research to be carried out by a team of able economists.

The theory expounded in this book arrives at the conclusion that the mechanism of re-establishing equilibrium in international payments must work through the application of essentially the same instruments of action whatever the monetary system adopted. The real issue, then, is not between the gold standard and free paper currency, and not between fixed parities and flexible exchanges, but between international monetary stability and monetary chaos leading to the adoption of exchange controls and ultimately to milder or more developed forms of state socialism. If "flexible exchanges" are to be associated with a long-run exchange stability (alternative to exchange chaos), then the same type of mechanisms for re-establishing equilibrium must be allowed to work as in the case of the gold standard. The real meaning of the gold standard (or indeed of any international standard) is that it allows the various currencies to be freely converted into one another at fixed rates and thus gives the best practical approximation to a world currency. The other important and distinctive feature of that system is that it can function only so long as conditions of international co-operation prevail and that the passage from internationalism to nationalism must sooner or later result in its collapse, which is not true of other monetary systems.

The experience of the 'twenties, to which reference has already been made, shows clearly how hopeless it is to make a system of monetary internationalism operate in a world dominated by economic nationalism and by nationalism *tout court*. By taking this into consideration, the analysis

that follows will lead from purely monetary relations into the field of international relations in general, and there it must stop because that field cannot be explored by an economist unassisted by a political scientist, an international lawyer, an historian and a statesman. I shall only endeavour to show clearly how some vital economic issues are *not only* economic ones. The reader will be interested to turn to the book by the staff of the Graduate Institute of International Studies in Geneva, recently published under the title *The World Crisis*. An earlier draft of one part of the present book is included in that publication.

As I complete this book on the eve of my departure from the Graduate Institute, my thoughts linger around the three happy years I spent as Assistant Professor in that institution, of which, in its early days, I was a student. Words fail me to express all my gratitude for the opportunities that were given me in that school, whose fine, generous spirit of intellectual co-operation makes it one of the greatest strongholds of freedom of thought and of the liberal attitude towards the world and men that at present exist on the European continent.

I inscribe this book to my colleagues of the staff of this Institute, in the hope that they will accept it as a modest token of my sincere appreciation of the friendship with which they have surrounded me and of the benefit I have had from my association with them. I wish to express my particular gratitude to the two directors of the Institute, Professor William E. Rappard, who has had a determining influence, first upon my training, and afterwards upon my career, and whose friendship has always been to me of unfailing support, and Professor Paul Mantoux, who from the first days of our acquaintance has been the kindest and wisest of guides. I wish to emphasize also what a privilege it has been to work for three years in almost daily contact

with Professor Ludwig von Mises, to whose helpful friendship I owe very much.

The Graduate Institute of International Studies affords a great experience of intellectual co-operation, not only between specialists in different fields coming from different countries, but also between teachers and students. I owe very much to my contacts with the latter and wish to express here my grateful appreciation to the members of my seminar, whose discussions have been of great help in shaping the ideas which are expressed in the following pages.

My best thanks go also to the indefatigable secretarial staff of the Institute, and to its competent librarian, who have all greatly assisted me in my work.

This book owes a great deal to the various economists, too many to be enumerated, with whom, throughout the last years, I have discussed the problems here analysed. I express to them collectively my sincerest thanks.

I am particularly indebted to Dr. Albert S. J. Baster, of the Economic Section of the International Labour Office, formerly lecturer at University College, Exeter, who has read and criticized to my greatest profit the manuscript of this book and has contributed many valuable comments and suggestions.

Mr. Hugh Townshend, London, has read both the manuscript and the proofs of this work and made suggestions which eliminated some ambiguities of wording and improved the style of the book, for which I am very grateful.

My cordial thanks are also due to Professor James W. Angell, of Columbia University, New York, who read parts of the manuscript and made some important suggestions.

M. A. H.

GENEVA, *September* 1938.

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CHAPTER I

THE NOTION OF MONETARY INTERNATIONALISM

(1)

THE notions of an "international monetary system" and of "monetary nationalism" are both familiar and much discussed. By the former one usually means the gold standard; by the latter, the various types of "managed currency" combined with fluctuating exchanges. The question arises, however, as soon as one proceeds to a more thorough analysis of the concepts involved and of historical experience, whether the gold standard at its best has ever been an international system and whether monetary nationalism is a quality of a particular monetary system such as a "managed currency", or of a more complicated network of economic, and even extra-economic, policies and conceptions. And this involves further inquiries: what is the condition of existence of an "international system"; can any monetary system (national) be "non-managed"; has the fact that gold was the basis of the only known "international monetary system" been the fundamental cause of its success or was it only a convenient method of administering a "system" the causes of whose success are to be found elsewhere? The questions are numerous and important and they grow in number as one proceeds to a more penetrating analysis of the processes and relationships involved. The importance of the inquiry is great, both for knowledge and for practical life; as indeed the progress of economic theory is necessary (though

not sufficient) for the improvement of economic relations in actual life. In the field of monetary affairs, improved policies can only be devised by means of improved knowledge, and upon those policies much of the future prosperity of the world depends. The monetary reconstruction of the mid-'twenties was the failure we know because of erroneous conceptions behind it; or at least to a large extent because of them. In many ways our knowledge of the working conditions of the pre-war gold standard is inadequate; various conditions, monetary, economic and political, contributed to make that experiment in *monetary internationalism* the signal success it has been; to know these conditions is a prerequisite to making another such successful experiment. International monetary stability—or stability in international monetary relations—is a good ideal, worth struggling for by all those who believe that growing prosperity amidst organized peace is the most important achievement to be obtained in the field of economic and political human affairs. To attempt a reconstruction without investigating the conditions under which the reconstructed "system" can live and prosper would be tantamount to preparing another collapse. The recent experience of the 'twenties should be a deterrent example.

In the preceding paragraph, the word "monetary internationalism" has been used. It requires detailed comment, especially since it is used so often in this book. What is the relation of the concept of "monetary internationalism" to that of an "international monetary system" on the one hand and to that of "monetary nationalism" on the other?

Let us discuss the second point first. Both monetary nationalism and internationalism are *policies*, opposed in their aims and, therefore, in their means (unless, of course as it often happens in the actual world, means are adopted while aims are still undefined and thus the normal, reasonable relationship between the former and the latter gets reversed!).

Now in a world divided into a certain number of sovereign States, policies are national. They are national not only when they are independent of policies carried out by other States, but also when national policies of the different States (some or all) are co-ordinated and harmonized with one another. It may seem a commonplace, but it is essential to realize that even policies resulting from an international agreement are national policies. What can be called an "international policy" is a set of co-ordinated national policies, the aims and means of which are combined into an alleged harmonious whole. We can then describe the individual national policies as "internationally minded" and speak of "internationalism". The difference between that and nationalism is to be found in the fact that the latter subordinates the state of international relations to the realization of purely national objectives. We shall elaborate this point later.

As regards the international monetary system, the expression is ambiguous, and in order to give it a more precise content it is necessary to sacrifice the full implications of either "international" or of "system". If the term "system" is given a vague significance instead of its usual well-defined rigorous meaning, then the expression under discussion can be used to denote the same thing as "monetary internationalism", though the latter term seems to be preferable because less ambiguous. If, on the other hand, we use the term "system" in all its rigour, then we have to modify the significance of "international" and speak of what should more properly be called a "world monetary system", i.e., the monetary system of a World State. There is a third possibility which we shall discuss presently.

In opposing *international relations* to *relations in a World State* we find the *principium divisionis* in the situation of sovereignty. The World State implies a single State sovereignty throughout the world, the organization of the world

into one Federal State.[1] Such a State would have the possibility of establishing a unified monetary system, a world currency administered by a World Central Bank.[2] Within the Federation would exist inter-state relations of the same kind, for example, as those that exist between the States composing the United States. In the field of monetary relations there exists a single currency and a single source of ultimate decisions about important matters of policy. No *international* relations exist at all in that hypothetic case. *There are international relations only where a multiplicity of sovereignties exists.* International relations are relations between sovereign States.[3] Policies of such States are national policies; they can be devised in a spirit of nationalism or of internationalism, according to the emphasis laid upon international relations as compared with *purely* national preoccupations. The climax of internationalism would consist in an agreement reached between individual States regarding their policies (monetary and economic ones in our case) such as to approximate very largely to conditions that would exist in a single World State. Only if a comprehensive international convention establishing the aims and methods of national monetary policy were to be formally adopted could one speak with any rigour of an "international monetary system". This is the third sense of that expression to which an allusion was made above. In that sense such a system has never existed in the past. The condition of its realization in the future is the willingness of the different

[1] We can, of course, speak of smaller federations of States; what we say here of a World State would apply to internal relations within such a Federation. For the sake of bringing out some fundamental concepts it is useful to speak of a World State as opposed to the multiplicity of individual States.

[2] The reader may find it useful in this context to contrast the United States' unified monetary system, now embodying a Federal Reserve System, with what would have existed had each of the 48 States of the Union sovereign powers over its particular monetary system.

[3] The word "international" is used, of course, with utter disregard of its etymological significance; but this usage is universally recognized.

States to give up a part of their sovereign rights "to regulate the currency", by accepting manifold obligations under an international monetary convention and by vesting in an international body the right and obligation of deciding whether national policies conform to the accepted standards. It is clear that we are very far away from the acceptance of such a system in practice. The pre-war system worked largely *as if* a convention of the kind described had been concluded; but as we shall see in a later chapter this was due to the acceptance of a common monetary standard and to the unquestioned prestige of London as international financial centre. We thus fall back upon national monetary policies freely adopted by national governments and national central banks. To-day sovereignty in these matters is more jealously guarded than ever, and, therefore, it is better to speak of internationally minded national policies (or *internationalism*), as opposed to nationalistic national policies, rather than of "international systems". For this reason, and in this sense, the expression "monetary internationalism" will be used throughout this book. We shall now turn to examining in detail the concept and the reality that it describes.

(2)

In his recent book on *Monetary Nationalism and International Stability*,[1] Professor Hayek defines monetary nationalism as follows:

"By Monetary Nationalism I mean the doctrine that a country's share in the world's supply of money should *not* be left to be determined by the same principles and the same mechanism as those which determine the relative amounts of money in its different regions or localities."[2]

[1] F. A. von Hayek, *Monetary Nationalism and International Stability*, London, 1937.
[2] loc. cit., p. 4.

This definition does not strike me as very happy. There is a fundamental difference between monetary relations within and between countries (i.e., States) and such relations within and between areas or localities of the same country (i.e., a State). There is such a direct economic datum as "a country's supply of money", but "the world's supply of money" is nothing else than a summation of the money-supplies of the different countries.[1] There is a central control (more or less efficient) of the supply of money in a country and this total supply gets distributed between the different regions and localities of that country, none of which is endowed with the power of regulating the currency. If we consider, on the other hand, the world at large, there is no agency controlling *its* money-supply and therefore there is no such centrally determined supply which could get distributed between the different countries in the same way as the national supply of money gets distributed between different regions of that country. The world supply of money is a secondary, calculated magnitude and is the result of various national monetary policies. The mechanism determining the supply of money in the different countries of the world is a different one from that which determines the supply of money in the different regions of one country, because in the former case the power of regulating the volume of currency is vested in many sovereignties, while in the latter it is vested in one sovereignty only. It is most important to keep this distinction in mind when discussing international monetary problems. It is also important to keep in mind that the circulation of factors of production[2] and of finished goods is free within a country and that it is subject to various restrictions in international relations. This is again due to the multiplicity of sovereignties and of national policies which plays such a great part in

[1] Except when a World State exists.
[2] i.e., "real" factors of production (goods), monetary factors (capital) and, thirdly, labour.

the shaping of relations we investigate. Professor Robbins[1] and others are right when they attribute to the existence of sovereign States the emergence of certain problems which might not exist otherwise. In economics we should have to deal only with relations in a "closed economy" were it not for the existence of independent sovereign States. The World State would be a "closed economy". One might add that international relations would not exist either, if the different sovereign States were entirely independent and entertained no relations whatever with one another. But in the real world this is even less likely to happen than the establishment of a World State. Neither the physical world nor human proclivities make the attainment of a generalized full autarchy a practical proposition. "Monadic" States are a material and human impossibility. Thus reality is a middle-ground between a single World State and a plurality of "Monadic" States; and so international problems are among the most vital. Professor Hayek's definition of monetary nationalism consists in opposing conditions that exist in the real world, divided into interdependent and sovereign States, to conditions that exist within a single State and that would probably exist in a World State were it to come into being. Such a definition is not fruitful because it is likely to give too broad limits to the notion of "monetary nationalism".

One case might be mentioned here in which the international situation *may* approximate to the situation existing interregionally in some one country. The case is one where no national monetary policy exists at all, when gold coin is the only circulating medium all over the world. But even here additional conditions have to be fulfilled to approximate to purely interregional relations: viz., that the weight of the

[1] "In the last analysis . . . it is the political factor which gives rise to the economic problem of international monetary transfer. If historical accident had not created independent sovereign states . . . no such 'problem' would have arisen". Lionel Robbins, *Economic Planning and International Order*, London, 1937, pp. 279–80.

coin cannot be changed in any one country;[1] that no restrictions can be imposed on movements of specie to and from any country; that trade must be free. Generally speaking even in this case the condition of establishing the same situation in international monetary relations as would exist in interregional relations consists in all governments desisting from the exercise of their sovereign rights in all economic matters.

If we grant the unlikeliness of anything of that sort, we must introduce the element of national policies and conduct the discussion in terms of concepts similar to those used in the first section of this chapter.

It is often thought that discussions about sovereignty are an exclusive prerogative of jurists. We must recognize that the notion and its implications carry an enormous weight in the discussion of economic relations.

(3)

The principal effect upon world economics of the multiplicity of economic sovereignties consists in the emergence of the problem of the balance of payments. Many economists rightly contend that this problem would never arise were it not for the independent working out of national economic policies. Such is for example Professor Robbins's view in his recent book on *Economic Planning and International Order*; he seems however to underrate the importance of the

[1] To change the weight of a coin ("debasement") is analogous to the modern forms of devaluation. While, as we shall see presently, the expression "changes in the *gold contents* of a currency unit" is open to criticism, it shows at least clearly the analogy in question. But what Sovereign Prince of the days gone by would have accepted an international undertaking never to debase the currency? And even if he did accept it, this would be an analogous matter to the type of international monetary convention mentioned in an earlier part of this chapter. The Latin Union was to some extent an example of a limited convention of this kind. But it all goes to show that not even a general limitation of monetary circulation to precious metals would *automatically* insure a system which would work internationally in the same manner as a monetary system works within a country in regulating the supply of money in the different regions.

reasons that cause the problem of balance of payments to arise, by limiting them to the existence of independent national *monetary* policies.[1] The economic effects of the multiplicity of sovereignties are not confined to monetary policies; trade policies and migration policies are also important elements of the situation under discussion.

The seemingly puzzling question in connection with investigating and discussing balances of payments is this: why does one pay so much attention to *international*, and no attention whatever to *interregional*, balances of payments? If one takes the different regions of a country, their trade and their financial relations could be summed up in a regional balance of payments. Such a balance would show a deficit or a surplus, and money would accordingly flow to (or from) the region in question from (or to) other regions. In watching the situation of banks in different regions one could find a certain indication of the changes in the money supply that follow the development of the respective "balances of payments". Reference has been made in section 2 above to the distribution of the national supply of money between different localities or regions. That distribution follows payments made between localities and regions. If the population of Sussex pays out more money to people or institutions, including the Government, outside Sussex than it received in payment from them, the supply of money (including bank money) in Sussex will fall; in the opposite case it will rise. This can be compensated by interregional credit, e.g., the Sussex branches of the Joint Stock banks can be indebted to the head office, or (in effect) to branches in other parts of England. Or, similarly, some State of the United States may have a "passive" balance of payments, which would involve either a shrinkage of its money supply or an increase of the debt of its banks (Federal Reserve Bank and other banking institutions) contracted in other States of the Union.

[1] loc. cit., pp. 270–80.

If we leave out the compensating credit transactions, an "unfavourable" balance of payments of Sussex will result in a reduction of the money supply in Sussex, and similarly a "favourable" balance of payments of the State of Missouri or of New York City will increase their respective supply of money.

Now it is argued that the only reason why it need not be so in international relations is that sovereign States can control their money supply and thus prevent net payments made abroad from reducing the volume of national currency or net payments received, from increasing it. The fact that sovereign States can act in this way is incontrovertible, though their action is justified by some and blamed by others.

The problem is complicated by the fact that in inter-local and interregional relations certain quantities of one and the same currency move from one place to another, without ceasing to be a generally acceptable means of payment. Not so in international relations, when one national currency has to be converted into another national currency in order to effect the payment. The amounts of national currencies exchanged for one another depend upon the position of the respective balances of payments, and upon them, in turn, depend the rates of exchange. Balances of payments came to the foreground because net payments between countries give rise to fluctuations of the rates at which one national currency is exchanged for another. If movements of commodities, money and men were as smooth and easy between countries as they are within countries it is *possible* that rates of exchange would not fluctuate and that the mechanism of such fluctuations would not have become a subject of economic studies. We shall discuss this problem later. Actually, however, factors of production do not move as easily in one case as in the other, and this has consequences for national monetary policies. In a world divided into sovereign States balances of payments are an important economic factor because of

their bearing upon exchange rates between currencies. To admit this is by no means making a concession to mercantilists. The maintenance of a stable equilibrium of balances of payments is an important condition of stability in international economic relations; and as balances of payments have always a tendency of *not* being in equilibrium, or *not keeping* in equilibrium, it is clear that they should attract the particular attention of economists. The mechanism of international payments, and the mechanism of restoring the disturbed equilibrium of balances of payments, are the basic problems of international monetary relations. And this throws us back upon the question of policies.

(4)

Policies, monetary and economic, can be directed towards different objectives, but inasmuch as it is the object of those who are framing them to maintain and increase general welfare, they will be determined by considerations of stability. It may be stability to maintain or stability to achieve; it may be stability defined by purely national considerations or stability defined in terms of international relations.

The former distinction is less relevant than the latter, because as the thing to stabilize is prosperity, as the thing to maintain is stability in a prosperous development, the two objects: (1) of *attaining* a balanced condition of economic life and, (2) of *maintaining* that condition, are closely linked to one another.

It is the distinction between purely national and international criteria of stability that is so important for monetary internationalism. Usually the dilemma is said to be one between the stability of internal (or national) price levels and the stability of rates of exchange between the different national currencies. According to that view one has to choose between keeping stable the "purchasing power of money" in terms of commodities and services within a

country, and keeping stable the purchasing power of one currency in terms of other currencies, i.e., the exchange rates. The choice of the former policy makes it possible, it is argued, to maintain economic stability within a country without exposing that stability to dangers coming from abroad. The choice of the latter policy makes it possible to maintain a fixed relationship between the different national currencies, and therefore, one argues, it creates a situation which—to some extent at least—resembles one that would exist in a World State with a single currency. We shall discuss these contentions in greater detail in later chapters, speaking of the gold standard and of "independent" currencies. Here it suffices to point to the fallacious nature of the "dilemma". Let us grant—though the contention is untenable—that stable national price levels are tantamount to national economic stability. Let us also grant—though here too, doubts are legitimate—that absolutely fixed exchange rates are a condition of international stability. It still remains to be proved that one has, in practical policy, to choose between the two, or—at least—that one has *entirely* to sacrifice the one to the other. The very *fact* of international trade ought to convey a warning to advocates of a choice! Fluctuating exchanges *must* affect the formation of prices within any one country, and do so to an increasing degree as foreign trade plays a more important part in the economy of a country. Countries which are working with imported raw materials could hardly maintain stable internal prices when exchanges of the countries from which they import raw materials fall or rise. If advocates of internal stability, as opposed to international stability, would state their case in terms of the structure of prices and not in terms of average price levels, they would see at once that their case is very weak, unless, of course, they go on to condemn the whole of foreign trade as a disturbing factor and proceed to advocate a policy of autarchy. On the other hand

it is difficult to conceive of the maintenance of international monetary stability when there are unstable conditions within the various countries. The dilemma is thus, it seems, more apparent than real.[1] It has its source in a rather over-simplified theory of the functioning of the gold standard—which we shall discuss at greater length later. However fallacious it may be, the dilemma has nevertheless gained wide currency and inspired the advocates both of monetary nationalism and of the "international monetary system". The former hold the view that the monetary policy of a country must be governed merely by considerations of national stability. What with fluctuating exchanges, with national policies inco-ordinated with one another, with commercial and financial policies also determined by nationalistic views, world trade and international economic relations become sacrificed on the altar of "national stability". Nor are staunch adherents of international stability in very much better case when they *subordinate* internal to international stability; for they make their aim appear a too expensive one to be really worth striving for, and in times of stress they render too easy the collapse of their chosen policies.

(5)

Monetary internationalism does not consist in choosing between the two alternatives and preferring international to national stability. It rather views the one in relation to the other and makes the attainment of one conditional upon the attainment of the other. As we have seen, internationalism, as defined, is based on the assumption that there exist independent and interdependent States, each of them having the right of determining its policies. The assumption is realistic and therefore establishes a proper basis for practical policy. The

[1] Cf. my "Monetary Internationalism and its Crisis", a chapter in *The World Crisis*, London, 1938, pp. 348 *et seq.*

existence in each country of a monetary system based on a common standard, and organized according to a common technical scheme, is not a sufficient condition of the workability of monetary internationalism, as the experience of the 'twenties has conclusively shown; nor is it perhaps an indispensable condition. What is important is that the monetary *policies* of the different countries should be co-ordinated and that some system of *adjusting balances of payments*, until one reaches a condition of durable equilibrium, should be workable. As regards the first condition, it means, in effect, that if the business cycle policies practised in various countries are widely different, some consisting in expansion, others in deflation, international monetary stability cannot be maintained. It means that the agencies responsible for the framing of monetary policy in the different countries must keep in touch and act in common accord in devising policies. The second condition consists largely in what is sometimes called "the rules of the game". Financial and commercial policies, not only in foreign relations, but at home also, must be so devised as to make adjustments of balances of payments, and the real transfer of net payments, possible and smooth. To compare international to interregional relations is here of but little use, as the mechanism and the general conditions are different. That point has been already discussed. Whether a common monetary standard, or concretely the gold standard, is a necessary instrument of monetary internationalism is an important problem to the analysis of which we shall turn presently. But we can say even now that conditions of monetary internationalism are wider and deeper than the technicalities of the monetary system. They include economic policies in the wide sense of the word, and the general attitude towards international relations.

CHAPTER II

THE PLACE OF GOLD IN THE MONETARY SYSTEM

(1)

AS the one successful experience of widespread monetary internationalism which the world has known thus far was under the gold standard, we must evidently inquire into the working of that system. If it has been such a success, was its success due to some special virtue of the standard adopted—or was it the result of economic policies and conditions which existed at the time? In order to be given a clear answer the question will call for a careful analysis. Before proceeding with that analysis it is necessary however to inquire into the relations between gold and prices. Much has been written about this matter, and several theories have received widespread attention and a more or less general acceptance. On the other hand the notion of gold price is perhaps more frequently used than carefully defined, and the opposition of gold values to nominal or paper values does not seem to have been a subject of careful methodological inquiries. Moreover statistical inductions have led to certain bold conclusions which are not generally integrated into the deductive system of economic theory. And yet it is important to proceed to such an integration if one wants to determine correctly the place of gold in the monetary system, and to appreciate its significance as a monetary standard and its relation to "monetary internationalism".

(2)

Let us begin by making a sharp distinction between an *all-gold currency* and a *currency based on gold* (that is, a gold-standard currency). An all-gold currency exists when all money in circulation consists of gold coin, and only then. In this case goods are paid for with a commodity money, i.e., with gold coin of specified weight and fineness, and prices are gold prices in a rigorous sense of the word. This is the only proper use of the terms "gold currency" and "gold prices".

A currency is *based* on gold when the circulating medium is convertible into gold at a specified price. This implies, as we shall see presently, the keeping of certain gold reserves by the currency-issuing authority, and limits the issuing power of that authority. In order to have a currency based on (or convertible into) gold it is not necessary to have gold coin in circulation. The system known before the war was a mixed system, combining a gold currency with a currency based on gold.

We shall discuss the latter case at greater length when speaking of the gold standard. Under that monetary system the circulating medium consists essentially in bank notes convertible into gold and in "bank money" convertible into bank notes. Prices are not "gold prices" in the strict sense of the word since payments are made in notes or cheques, and not in gold. Some confusion has been due to the fact that the pre-war gold standard was a mixed system.

It is necessary to make it quite clear that from the time when the use of bank notes became widespread onwards, the circulating medium ceased to be commodity-money. The fact that currency can be converted on demand into some one commodity (say, gold) at a fixed price, does not make that currency a commodity. It is merely a currency based on a commodity standard, and the relations between the currency

and the standard may become rather loose. Paper currency should not be said to "represent" gold held by the central bank if, e.g., only 40 per cent of the total volume of that currency is actually fully covered by gold. As for demand deposits subject to cheque, their gold cover is rarely more than 3 per cent. They should not even be considered as "representing" bank notes. The development of the bank note system, and later the development of deposit creation and of payments by cheque, have definitely taken away from currency its commodity quality. Money has become dematerialized. Hence prices became "nominal" prices instead of being "commodity" (say, gold) prices. Similarly incomes, fortunes, debts are being expressed in *abstract* monetary units, not in units representing certain weight of a commodity, say of gold. It is important to realize this in order to get a clear idea of the place of gold in a monetary system *based* on that metal.

It must be added at once that the current use of terms is somewhat loose in this field (as in so many other fields). Thus the expression "gold prices" is frequently used when speaking of prices that are established in an economy the monetary system of which is merely *based on* gold.

A corollary to the preceding remarks is the discussion of the notion of the "purchasing power of gold". Here too the current use of terms is imprecise, to say the least. Purchasing power is the power to purchase; it is the principal attribute of money, particularly, of legal-tender money. Money *is* purchasing power, rather than *has* purchasing power, and the dematerialized money constituted by bank notes and cheques is nothing but purchasing power. This is why it is a means of payment. And it is because money *is* purchasing power indifferently to the passage of time, that a money fund is a "store of purchasing power". On the other hand all economic valuations are expressed in money units—the same units in which the circulating medium is labelled—and there-

fore future commitments are also expressed in terms of monetary units. This is usually expressed, loosely again, in the phrase that "money is a standard of deferred payments".

Now money (i.e., the circulating medium) *is* purchasing power, and prices are expressed in money-units. Changes in prices affect the power-to-buy that is inherent in an instrument of payment of the value of one money-unit.[1] Hence one proceeds to say that changes in prices effect or reflect changes in the purchasing power of money.[2] On the whole it would be clearer and more correct to speak only of changes in prices, incomes, debt, etc., rather than of changes in purchasing power of money. While it is not possible to discuss that difficult problem here at any length, I should like to point out that while money has the general attribute of having a power of purchasing, this power has no primary quantitative measure. "The proof of the pudding is in the eating", says the proverb—and the proof of how much power-to-buy a unit of money does have is to be found in actual prices. To try to endow money with an objective purchasing power by the means of index-numbers of prices has hardly been a happy thought and is responsible for a considerable amount of confusion in economic thinking.

(3)

Let us now return to the notion of "purchasing power of gold". The sense of this expression would be clear if gold were the only circulating medium. In other words, for an *all-gold currency*, "purchasing power of gold" means "purchasing power of money", since gold is the only money in existence. *Not* so, of course, in a *gold-standard currency*, that is, a currency *based* on gold. Here I find myself in a strong disagreement with the authoritative definition given by the

[1] Note or cheque.

[2] One might add, that, in fact, they rather *effect* than *reflect*. Price changes are here the primary phenomenon, not changes in the "purchasing power". The latter could not happen except through price changes.

Gold Delegation in its Final Report. The definition follows:

"The reverse of the purchasing power of any currency is the price level expressed in terms of that currency.[1] The term variations in the purchasing power of gold is therefore synonymous with the term variations in the levels of prices in countries on the gold standard."[2]

The definition quoted contains a logical *salto mortale* which amounts almost to loose terminology. It is one thing to say that variations in the purchasing power of a monetary unit are the same thing as variations of the reverse of the price level calculated for the country in which prices are expressed in terms of the monetary unit in question,[3] and this under the gold standard as under any other standard; and it is something entirely different to conclude that under the gold standard the purchasing power thus determined is that of gold. The latter conclusion is entirely mistaken. Quite apart from the question whether the price level is really an expression, or even a synonym, of purchasing power of money, it is unacceptable to confuse in such a way a currency solely consisting of gold, and a currency in which there is a certain quantity of gold held by the central bank as backing for bank notes, and in which the price of gold is fixed by the monetary law of the country. As we have seen, the difference is quite fundamental.

(4)

Let us stress the point again: there is gold currency in existence *only* when the commodity gold serves as money—

[1] One might formulate serious reservations about that first sentence. Are price levels ever expressed in terms of pounds, dollars or francs, and not rather in relative figures showing percentages of change? Does it have any meaning to say that the price level of England in 1937 was *so many* pounds? We must however limit the discussion here to the second sentence.

[2] *Report of the Gold Delegation of the Financial Committee, League of Nations*, Geneva, 1932, para. 86.

[3] Which, I suggest, is a more correct formulation than the one given in the first sentence of the quoted definition.

and when *nothing but gold* accomplishes that function. Then also—and then only—prices are gold prices.[1] If only iron or only wheat served as circulating medium, then prices would be respectively iron or wheat prices. When abstract monetary units printed or written on pieces of paper (bank notes, cheques), or even "printed on metal", serve as circulating medium, then prices are abstract prices and have a precise meaning only within a schedule of other prices, or of monetary valuations in general. If we say that something costs one pound sterling in present-day England, that statement acquires an exact meaning only when we know what other prices, incomes, etc., are at the same time. Not so, of course, when only gold coin of standard weight and fineness is used as money. Then one pound means *such-and-such* an amount of gold; it has an intrinsic, not only a relative, significance. But is it so under the gold standard? What was the situation, let us say, in 1928 or even in 1913? In 1913 there was a mixed system with gold coin in circulation; in 1928 anybody who wanted to buy 400 ounces of gold in bars, or more, could obtain it at the standard price at the Bank of England against bank notes.[2] But does this mean that prices then quoted were gold prices? Not in the least! If gold had been the only money in existence, prices would have been expressed by very different and much smaller figures from what they were in fact in 1913 or in 1928. And as the mechanism of bringing money into circulation is different when only gold coin circulates, from what it is when bank notes and cheques are used, it is very likely that *relative* prices were different under the conditions prevailing in 1913 or 1928 from what they would have been if at these dates England had had a pure gold currency.[3] If one speaks of gold prices when

[1] These questions of definition will be resumed when we discuss in detail the notion of the "gold standard".

[2] See the Gold Standard Act of 1925.

[3] We need not discuss here the fact that the whole economic position of the country would have been different if neither bank notes nor cheques had been invented as circulating media!

referring to prices quoted in units of a gold-standard currency, one uses an elliptic phrase which is inaccurate and may cause serious misunderstandings. To speak of "gold prices" in a country which is *off* the gold standard and to oppose to them, as "nominal", the prices which are effectively quoted, is conducive to even worse misunderstandings. This happens whenever one speaks of changes in *gold prices* in a country where the monetary system has been previously connected with, but is now divorced from, gold. One does that quite frequently without realizing that such a procedure has a very limited validity and that, if abused, it opens the door to grave misrepresentations of what really happens in the economic and monetary processes of the country in question. The underlying reasoning is dangerously simple: the price of gold has gone up after the currency's going off the gold standard, i.e., the monetary unit has depreciated in terms of gold; nominal prices have gone up more or less (or not at all, as in England at the end of 1931); in order to ascertain the "true" prices that would exist were it not for the devaluation of currency, one must "adjust" the nominal prices by reducing them to the old gold base; this is done by applying to them a coefficient corresponding to the degree of devaluation of the circulating currency in terms of gold. It is very simple—but is it a significant and correct procedure? According to all our preceding remarks, it is not. What one has done is to replace one series of figures corresponding to prices which have really resulted from the economic process by another, *calculated* series, which represents these prices reduced in proportion to the increase in the price of gold.[1] This series does not represent gold prices in the sense in which we defined them above, and this for three reasons: (1) figures composing the series have only a statistical, but not an economic, significance; they did not result from the economic

[1] Or increased in case of a fall in the price of gold, i.e. of an *appreciation* of the monetary unit in terms of gold.

process, but from arithmetical operations applied to primary economic data;[1] (2) it is probable that if no devaluation had taken place relative prices would not have been identical with prices observed in the period following the devaluation; therefore the calculated series probably gives a wrong idea of the would-be relative prices; (3) prices quoted before the devaluation have not been gold prices—as our preceding argument has demonstrated.

(5)

It follows that we cannot consider such calculated series of "gold prices" as an expression of *actual* price movements. This narrows very much the scope for using such series. Their use is legitimate only for the sake of certain international comparisons. In the international markets commodities (and services) must appear with prices expressed in a common language. That language might well be the monetary unit used on the market where goods coming from the different foreign countries meet in competition. Whenever they actually do come to a market this in fact happens. But one may wish to test in advance the competitive qualities of goods produced in a country. Then one must calculate a secondary price series by applying to prices quoted a corrective co-efficient representing the changes in the rates of exchange of the foreign importing country. In order to save time and not to do such calculations for the many different currencies, one may adopt the simplifying device of adjusting home prices to changes in the price of gold. Such a simplification rests on the assumption that normally and almost everywhere the price of gold is fixed by monetary laws and that gold in its international movements acts as a sort of international money. This also is true only in a limited sense, and comparisons obtained by such a "reduction to a stable gold base" (or "parity"), are less precise and less

[1] *Vide infra*, chap. iii.

instructive than the type mentioned before. In a general way they may, however, be useful.

Another question is whether such adjustments to the gold price should be made for prices of individual commodities, or for an index of the "general price level". Without entering into the question whether the notion of a "general price level" has any clear meaning or not, let us observe that for the purposes here envisaged only individual prices are of interest. We want to test the competitive quality of home-produced goods on foreign markets, and that of foreign goods on the home market. We must therefore proceed to make comparisons between prices of certain well-specified goods (including substitution goods); the study of general price-averages may rather obscure than clarify the matters under investigation. One more case might be mentioned when "reduction" of nominal prices to a gold basis may be used as a simplifying device: such a case arises whenever it is necessary to evaluate a world total, such as the total value of international trade, or when one wants to compare with one another national totals (e.g., the value of total production of different countries, or the value of their foreign trade and so on). Of course, one might use some single national currency for that purpose, but gold values may be preferable when exchange rates are subject to wide fluctuations. One may have some legitimate doubts, however, about the meaning of such gold values when exchange rates between different currencies are subject to wide fluctuations, and some currencies are considered to be "undervalued" and others "overvalued" in relation to gold (a notion which we shall analyse in a later chapter).

In conclusion, prices that exist under the gold standard are no more gold prices than are prices existing under a monetary system without any links with gold. The fact that the price of gold is fixed by the monetary laws of the country, and that there is a relation between the gold

stock and the total volume of circulating medium, does not make the currency a gold one nor prices expressed in that currency gold prices. Nor can any statistical calculation convert nominal prices to gold prices.

(6)

What is then the relation between gold and prices—or, more precisely, between the changes that take place in the stocks of monetary gold of a country and changes in prices in that country? We shall attempt to reduce the problem to its logical terms and shall, in another chapter, compare the results thus obtained with the conclusions reached by some important statistical inquiries.

There can be no doubt about the existence of a quantitative relation between changes in the volume of circulating medium and changes in prices, even though this relation is not so simple as the "quantity theory" usually assumes.[1] A relation exists between changes in the total amount of the circulating medium and price changes, taking due account of changes in cash reserves held by individuals or firms; of changes in the volume of business payments caused by structural economic changes; of changes in the way in which money is put into circulation; of changes in the physical schedule of transactions; etc. It is also important to take into consideration the effect of changes in the supply of circulating medium upon the supply of investible capital funds. This last point is of considerable theoretical interest and far from being solved; it is hardly possible to discuss it in this book though it seems appropriate to refer to it.[2] To sum up, the monetary factor affecting the formation of prices consists in the

[1] In my earlier books I have accepted the "quantity equations" as valid but have now come to the conclusion that they are neither very meaningful nor methodologically quite correct. I cannot discuss this matter in detail within the scope of this book but hope to do so elsewhere. See my *Monnaie, Crédit et Transfert*, Paris, 1932, chap. ii.

[2] I expect to discuss it at considerable length in my book on the *Theory of Banking* which is in the course of preparation.

changes of the volume of circulating medium and in the changing way in which it circulates. It is the former that we must consider at present, by examining *three* typical situations.

1. When the circulating medium consists of a *gold currency only*, the relation between changes in the stock of monetary gold and the formation of prices is a direct one, since the stock of gold constitutes the whole volume of money in circulation. Changes in the gold stock are identical with changes in the volume of the circulating medium.

2. On the other extreme, the relation between changes in the gold stock and the price-changes is non-existent when the *monetary system* is *entirely divorced from gold.* (In this case there is no "monetary gold" at all.)

3. Between these two extremes we have a considerable number of intermediate positions representing the different varieties of the gold standard and of a sort of *de facto* gold standard which, as recent experiences have shown, can exist in countries formally off the gold standard.[1]

Under the gold standard there exists a relation between the stock of monetary gold and the total volume of currency in circulation, but it is more or less loose according to the organization of the monetary system.[2] Monetary circulation can consist under the gold standard of three principal elements: (a) gold coin; (b) bank notes; (c) demand deposits

[1] For example England, the United States, etc. *Vide infra*, chap. ix.

[2] Statements to the contrary which can be found in economic literature rest obviously on a misunderstanding. Thus, for example, Professor Cassel writes (*The Theory of Social Economy*, New Edition, 1932, vol. ii, p. 458): "On a gold standard there is no sharp division between the quantity of money and the stock of gold." If Professor Cassel means "an all-gold currency" then this statement is correct; but it is much more likely that the *gold standard* is really meant: and then this statement is essentially wrong. What is worse is that most of Cassel's theory on the relations between gold and prices and on the role of gold in the monetary system rests on that assumption expressed in the sentence quoted. One cannot emphasize too often the fact that a gold-standard currency is a *paper currency* attached to gold (and *sometimes* convertible into gold); it is not a gold currency. *Vide infra*, chaps. iii and iv.

subject to cheque. We may leave gold coin out of the picture, which it only affects if it is very large compared to the other two items, a case in which we come very close to the situation 1 above. There remain bank notes and demand deposits. Now the issue of notes depends on the stock of gold held by banks issuing these notes, or by the central bank where the issue of notes is concentrated in one institution. With almost the sole exception of England, where since the Peel Act the maximum amount of the "fiduciary issue" is fixed by law and all the rest of the circulation must have a 100 per cent gold cover, the relation between the gold stock and the note issue is determined by a minimum ratio of gold reserve to the note issue which is fixed by law. In either case there is a maximum note issue determined by the amount of gold in the vaults of the central bank. But there is a possibility of considerable fluctuations before this maximum is reached. Therefore an increase or a decrease of the gold stock exercises its effect by raising or by diminishing the maximum which the volume of note issue cannot exceed. If the reserve ratio is very high as compared to the legal reserves, an outflow of gold from the country is less likely to affect the note issue than an inflow; if the reserve ratio is nearer the minimum requirements, the reverse situation arises. In response to a change in the volume of gold reserves, currency in circulation may increase proportionately more or proportionately less, or may contract proportionately more or proportionately less, as the case may be, according to the situation. If gold reserves are very large as compared to the legal requirements there may even be situations where changes in the gold stock will not affect the volume of note issue at all. In deciding about their issuing policy, generally speaking, central banks can exercise discretionary powers to a considerable degree.

The existence of demand deposits subject to cheque effects a further loosening of the relations between the stock of gold and the volume of circulating medium. The relation between

the total volume of demand deposits held by a bank and the cash holdings of that bank may be fixed by law as in the United States, or by custom as in England, but in both cases what is fixed is only a maximum, just as in the case of notes issued by a central bank the gold reserves fix merely a maximum. Until that maximum (or its neighbourhood) is reached the regulation is not effective and the issuing institutions can exercise their own discretion. It is hardly necessary to add that both the legal and the customary ratios can be changed in the course of time, thus affecting the influence of the reserves upon the volume of circulating medium based upon them. Under such circumstances the relations between the stock of gold and the volume of circulating medium are ever looser and getting more so as the rôle of commercial banks as creators of deposits transferable by cheque on demand increases.

Moreover the increase of gold, the issue of notes and the increase in the volume of demand deposits through the lending operations of commercial banks differ as to the way in which new money is brought into circulation. There are also differences in the modes of retirement. Therefore, according to the structure of the total circulation, an increase (or decrease) of the amount of money in circulation may act differently upon the structure of prices, causing now one, now another, sort of changes. We are thus even further removed from a direct effect of changes in gold stocks upon the formation of prices.

We can conclude the preceding remarks by saying that the extent and the nature of the influence that changing gold stocks exercise upon the structure of prices depend very largely, even principally, upon the nature of the institutional arrangements composing the monetary system of a country (or of the different countries) and not upon any intrinsic characteristics of gold. These relations are particularly close in the case of a gold currency and non-existent when

gold is neither potentially nor virtually a monetary metal.[1] When gold is a monetary standard and not money, that is, under a gold-standard currency, the relation between gold and prices is indeterminate.[2] It exists but its nature depends on institutional factors. This is particularly important when envisaging long periods of time in the course of which the institutional set-up is subject to many changes. Thus, for example, the last hundred years have seen the spread of the use of gold as monetary metal throughout the world, the development in vast regions of the world of the use of "bank money" issued by commercial banks, and the great diminution in the use of gold as money, to mention only the most significant changes. The effect of all these factors is to make the relations between gold and prices vague, uncertain and very indirect. The less direct they are, the larger is the share of monetary policies, as compared with changes in the volume of gold reserves, in influencing movements of prices. Only an all-gold currency (or any other single-commodity currency) is automatic. The farther the development proceeds in the direction indicated the more the currency becomes managed.[3]

(7)

In the preceding discussion, the expression "gold stocks" (or "gold reserves") was used in the sense of "*value* of

[1] It is important to note that the so-called "going-off the gold standard" is *not* tantamount to the suppression of gold as monetary metal. In the latter case we should have to speak of "demonetization of gold". *Vide infra*, p. 177.

[2] Relations between gold and prices are particularly undetermined when the system existing is a *de facto* system consisting in Central Banks (or Treasuries) buying gold at prices fixed by them, while the regular gold standard is suspended. The price of gold is then subject to variations, but at the price prevailing at every particular moment, monetary authorities are buyers of gold, which as we shall see is one of the features of the gold standard. On the other hand, when the gold standard is suspended there are no longer any provisions about the gold cover of notes, and the value of gold stocks may become indeterminate. All this makes relations between gold stocks and prices very vague indeed, without making them non-existent.

[3] Cf. with the Macmillan Report (*Committee on Finance and Industry Report*), London, 1931, H.M.S.O., Cmd. 3897, para. 45.

the gold stocks expressed in monetary units". This value depends both on the physical volume of gold and on its price. One should hardly need to emphasize this, were it not that until very recently discussions of this kind were conducted essentially in terms of physical quantities of gold. This is incorrect for two reasons: (1) because it is only the *value* of gold reserves which can be related to money in circulation (of which the volume is the same as the value!); and (2) because it leaves out of account the important (and obvious) fact that the money-value of monetary gold stocks may vary, not only with varying physical volume, but also with the varying price of gold. It appears to be quite obvious that the monetary gold stocks must be measured in units of money-value in order to be comparable to the other monetary magnitudes, and that the money-value of gold stocks depends on the two variables just mentioned. And yet this has often been overlooked in discussions about the relation between gold production and gold stocks, on the one hand, and prices, on the other.[1] We shall see in the next chapter that some of the most important statistical inquiries about the relation between gold and prices tacitly assume the stability of the price of gold and compare changes in physical stocks (or in the physical volume of output) of that metal to price-changes. Such a procedure cannot but lead to laying undue emphasis on the physical component of the value of monetary gold stocks (and production), and to leaving out of account the price component. Now recent experience makes it quite unnecessary to emphasize what important changes in the size (expressed in money) of gold stocks (and production) may be due to variations in the price of the metal.

[1] Thus, for example, *The Economist* wrote the following in its Editorial of 15 May 1937 (p. 404): "The world, in fact, has learned a *new lesson*. The value of a country's gold stock does not merely depend upon the physical quantity of gold lying in the vaults of the Central Bank or the Treasury. It depends also upon the price of each ounce of gold expressed in the national currency." (The italics are mine. I fear that for many it has really been a "new lesson"!)

Note on the Composition of Monetary Circulation

It may be of interest to picture by a formula the structure of the monetary circulation. I shall assume, for the sake of simplicity, a currency based on gold by the means of legal minimum reserve requirements, and a circulation of "bank money"; also demand deposits subject to cheque, against which banks hold cash reserves (central bank money) of a minimum height determined by law or by custom. Gold reserve requirements and cash reserve requirements are, by hypothesis, determined as a percentage of central bank money or of deposits subject to cheque respectively. I shall use the following notations:

G gold reserves

M issue of central bank money

M_1 the part of M which is actually circulating

M_2 the part of M which is held by banks

a M_2 as a percentage of M

r rate of legal gold reserves as percentage of M

m amount by which the actual M falls short of the issue that can be made on the basis of G, with due regard to r.

$$(\text{Thus } m = \frac{G}{r} - M)$$

M′ volume of demand deposits subject to cheque

r′ ratio of legal or customary cash reserves against demand deposits subject to cheque as a percentage.

m′ amount by which the actual M′ falls short of what it might be on the basis of M_2 with due regard to r′.

$$(\text{Thus } m' = \frac{M_2}{r'} - M')$$

The following relations can be easily established:

$$M = \frac{1}{r} G - m$$

$$M' = \frac{1}{r'} M_2 - m'$$

$$= \frac{a}{r' r} G - \frac{ma}{r'} - m'$$

Total volume of circulating media

$$= M_1 + M'$$

$$= M (1 - a) + M'$$

$$= \frac{1 - a}{r} G - (1 - a) m + \frac{a}{r' r} G - \frac{ma}{r'} - m'$$

$$= \frac{(1 - a) r' + a}{r r'} G - m \left(1 - a - \frac{a}{r'}\right) - m'$$

$$= \frac{(1 - a) r' + a}{r r'} G - \frac{r' - a (r' + 1)}{r'} m - m'$$

The last formula shows that the total of the monetary circulation is represented by 5 variables, besides the volume of gold reserves. These variables are a, r, r', m and m'. Relations between them are far from simple, and they can vary from one set of institutional arrangements to another. The formula here given represents a frequent and rather simple case. It is not intended to prove anything, and has no causal significance; it only illustrates the fact, referred to in the chapter to which the present note is appended, that under modern monetary systems, even when attached to gold, the relation of gold to the volume of circulating media is very vague and indirect and depends upon a number of factors, every one of which is subject to its own variations.

CHAPTER III

RECENT THEORIES CONNECTING GOLD SUPPLY AND PRICE MOVEMENTS

WE have arrived at the conclusion, in the preceding chapter, that, under the gold standard, there is no clear and direct relation between stocks of monetary gold and changes occurring in them, on the one hand, and prices, on the other. Nevertheless several well-known statistical inquiries reached the conclusion that such a relationship exists. We must therefore turn now to examining the results of these investigations and see whether they challenge the conclusions of the preceding chapter.

A. Professor Cassel's Theory[1]

(1)

Professor Cassel's theory rests upon the examination of the relations between gold and prices observed during a period of time which has been selected "in such a wise that the general level of prices is the same at the beginning and at the end of it; for *in that case the increase in the stock of gold during the period as a whole has had no influence on the general level of prices, but merely corresponds with what is required in*

[1] The first formulation of that theory was published in *Ekonomisk Tidskrift* in 1904. The complete theory is to be found in *The Theory of Social Economy* (English translation published in London in 1923 and another in 1932), vol. ii; a shorter version in annex X to the *First Interim Report of the Gold Delegation*, Geneva, 1930. See also *Quantitative Thinking in Economics*, London, 1935, chap. v.

order that the growth of the stock of gold should keep pace with the general economic development."[1]

Now Cassel observed that the Sauerbeck index-number of wholesale prices stood in 1850 at almost the same level as in 1910 (77 for 1850 and 78 for 1910). This observation, linked up with the theoretical assumption just quoted, is the corner-stone of Cassel's theory. He accepts the estimate according to which the total gold stock of the world was equal to 10 billion gold marks (£490 million) in 1850. For 1910 he estimates the gold stocks as being equal to 52 billion gold marks (£2,545 million).[2] From this the *average* yearly increase of the gold stock is calculated as being equal to 2·79 or, in round figures, 2·8 per cent. Allowing 0·2 per cent for wear and tear, Cassel arrives at 3 per cent as the rate of yearly increase of the gold stock necessary to keep the price-level stable.[3] Allowing for price fluctuations due to the business cycle, Cassel arrives at the following conclusion regarding the influence of gold on the price level:[4]

". . . if the world's stock of gold had grown by exactly 2·8 per cent during each year of the period, it is clear that no one could have thought of ascribing the fluctuations of the general level of prices to fluctuations in the supply of gold. We should in that case have had an absolutely uniform increase of the world's stock of gold, and this increase would have sufficed to keep prices at the same level at the end of the period as at the beginning. It could, then, neither be said that the increase in the stock of gold was on the whole excessive or defective, nor that it had, by its irregularities, caused changes in the general level of prices."

Cassel calls "such a uniform increase in the stock of gold, leaving the general level of prices unchanged at the end of a

[1] *Interim Report of the Gold Delegation of the Financial Committee, League of Nations*, Geneva, 1930, annex X, *The Supply of Gold* by Professor Gustav Cassel (to be quoted hereafter as Cassel, 1930), p. 72. (The italics are mine.)

[2] Cassel, *The Theory of Social Economy*, 1932, vol. ii, pp. 467–8; also Cassel, 1930, pp. 71–2.

[3] Ibid., p. 476. [4] Cassel, 1930, p. 72.

certain period", a *normal* increase, and calls "*normal* gold stock" the stock that is obtained by applying to the initial stock the "normal" yearly rate of increase, and concludes that

"It is now obvious that, as far as changes in the general level of prices in the period 1850–1910 may be traced to variations in the world's supply of gold, they must be ascribed entirely to the *divergence of the actual gold stock from the normal.*"[1]

Changes which cannot be traced to variations in the world's gold stocks are in Cassel's opinion those that result from business cycle fluctuations.

In applying this point of view to the period 1850–1910, Cassel finds a close correspondence between the variations of the price level and variations of the "relative stock of gold", a term by which he denotes the *ratio of the actual to the "normal" stock of gold.* (See diagrams 1 and 2, page 35.) This confirms his view that "the secular variations[2] in the general level of prices are mainly due to variations in the relative gold stock, and for the rest to certain irregularities in the *normally uniform* increase in the demand for gold".[3]

In order to obtain a further and independent confirmation of his theory, Cassel makes an estimate of the "rate of economic progress of countries of European civilization". The following quotation sums up the procedure followed:

"In the period 1850–1907, the world's production of pig-iron increased on an average by 4·2 per cent. Now, the growth of the iron industry may be regarded as characteristic of the whole industrial development of the world. The agricultural development has of course been much slower and may perhaps be put at the figure of 1·2 per cent per year, which seems to correspond fairly well to the growth of the population and the improvement

[1] Cassel, 1930, p. 73. (Italics are mine.)
[2] That is the so-called "secular trend" as distinct from cyclical variations.
[3] Cassel, 1930, p. 75. (Italics are mine.) Among these irregularities Cassel mentions the spread of the gold standard, and, particularly in the 'seventies and early 'eighties, the resumption of convertibility by the United States. Why the demand for gold should normally be uniform is not explained.

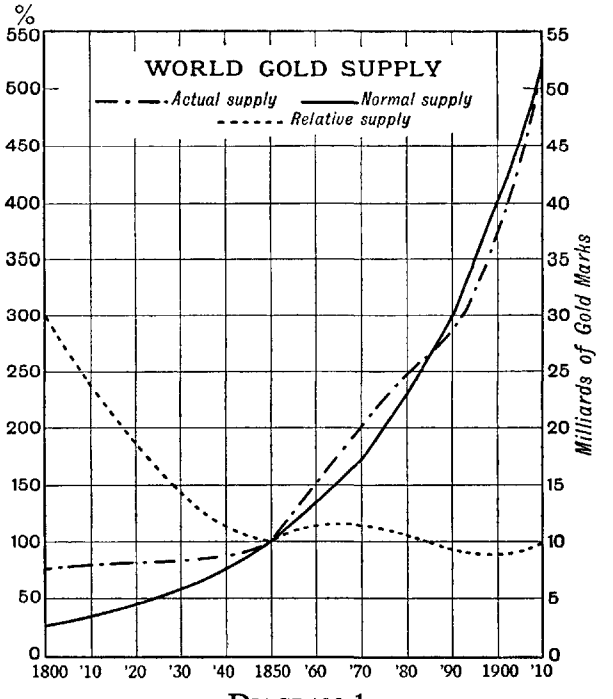

DIAGRAM 1

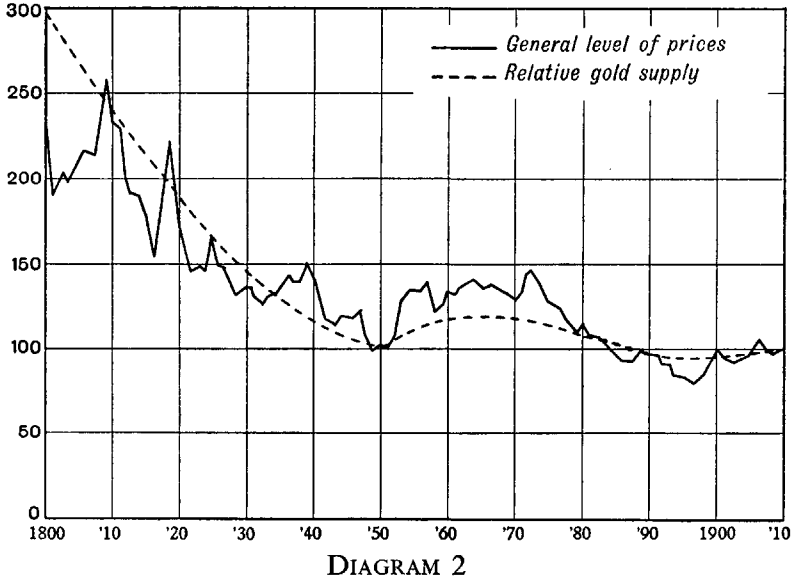

DIAGRAM 2

of its nourishment. If we assume that food represents a third of social income and that the other two-thirds of this income have grown proportionally to the industrial development, we arrive at an average rate of progress of 3·2 per cent. If, on the other hand, we give the rates for food and industrial production the same weight in our calculation of the average progress, this average would be 2·7 per cent. This figure ought to be regarded as the lower limit for our estimate of the world's average economic progress. As it seems necessary to give the industrial production a somewhat higher weight than the agricultural, we stand on fairly solid ground if we reckon with a figure of round 3 per cent as characteristic of the economic development during the period 1850–1910.

"This corresponds closely to the result of our inquiry into the world's gold supply. It is possible that the average rate of economic progress for the world as a whole, if it could be calculated exactly, would prove to have been during the period in question, not greater than 2·8 per cent per year. If the rate was some decimal points higher, this must be explained by a relative economy in the use of gold having been attained, in spite of the growing application of the gold standard, by the use of cheques and other means of making the system of payment more effective."[1]

I shall discuss the merits of that calculation later; here I want to stress only the rather incidental way in which Cassel treats the consequences of the development of banking facilities and particularly of the spreading use of cheques as means of payment in the period 1850–1910. It is a striking element of Cassel's theories that they underestimate the consequences of this development, which tends to diminish the rôle of gold in determining prices and, in any case, causes the influence of gold stocks on prices to be more and more indirect.

(2)

Having seen the substance of Professor Cassel's theory, let us now examine its validity. Criticisms of that theory fall into one of two categories: they can either admit the founda-

[1] Cassel, 1930, p. 74.

tions of the theory as sound and acceptable and confine themselves to examining Cassel's statistical estimates; or they can challenge the very foundations of Cassel's theory. Most criticisms to which this theory has been subjected belong to the former category, and result in a different estimate of the rate of increase of gold stocks which is considered necessary for maintaining a stable price level. Thus, e.g., Kitchin bases his estimates on monetary gold, not on the total gold stocks; Mlynarski and Wilcoxen introduce into their calculations both gold and silver; and so forth.[1] On the other hand, some purely statistical criticisms of Cassel's method have been formulated.[2] I shall not discuss these criticisms here, as in my opinion the very basis of Cassel's theory is unacceptable —and if this is granted, then for the purpose of this study the details of Cassel's method are not worth examining.

Let us note first of all that in 1850 the Sauerbeck index of wholesale prices of Great Britain stood at an *exceptionally low* level, around which it oscillated from 1848 to 1852 and which was not attained again until 1884. In 1910 the index was rising after a deep depression and the figure for that year is incidental in that movement. Even using Cassel's figures, the price level had reached, in the years 1848–52, its lowest level in the 84 years from the beginning of the century till 1884. The figure for 1910 is less exceptional but hardly very characteristic. Thus the whole reasoning rests on the accidental fact that index figures for two dates 60 years apart

[1] The reader will find the main criticisms of this group reviewed in the excellent book *Is There Enough Gold?* by Charles O. Hardy, Brookings Institution, Washington, D.C., 1936, pp. 18–32; also in *Monetary Policy and Economic Stabilization* by Arthur D. Gayer, London, 1935, pp. 54–60.

[2] Among the principal statistical criticisms of Cassel's theory one might quote J. T. Phinney, *Gold Production and the Price Level: the Cassel Three Per Cent Estimate*, *Quarterly Journal of Economics*, August 1933, pp. 647–79. Professor Cassel answered to some of the main criticism in *Quantitative Thinking in Economics*, pp. 110–15, but his answer is hardly convincing and conclusive. Phinney's criticism of Cassel's theory deserves much attention; the greatest part of it is, however, open to the same sort of objections, from the point of view of criteria here adopted (See also Appendix), as Cassel's theory itself.

from one another have been almost identical, both figures being rather exceptional. Of course Cassel might just as well end the period chosen for his analysis in 1884 when the index stood at 76, or in 1906 when it was exactly 77 again (while it was 78 in 1910). There is a strong touch of the accidental combined with the arbitrary about the choice of the period under investigation, and yet this choice is the corner-stone of the theory.[1]

This however is not the fundamental point in my criticism. What is even more open to doubt is the very essence of Professor Cassel's contentions, particularly his assumption that index figures for 1850 and for 1910 being equal they *mean* the same thing. Now is this acceptable? The Sauerbeck index is an unweighted average of prices; such an average is an arithmetic construction without a clear economic meaning and has been often and rightly criticized; as basis for a theory it is inacceptable. But even if it were a more acceptable index, would it be correct to consider that an average of prices quoted at one date is significantly comparable to another average of prices of the same commodities calculated for over half a century later? In the meantime the aggregate of physical production has very considerably changed, commodities have acquired a new significance, new commodities have appeared, technical methods have been improved, standards of living have risen, taste has changed, the structure of production and the structure of prices have undergone many deep changes, and so have the size and the structure of incomes, the structure of monetary systems, of commercial organization and so on. How can one, in face of a world that has profoundly changed, attribute the same significance to two crude price averages and base upon their accidental equality a whole theory of price formation? Index-numbers of prices can be constructed only in certain circum-

[1] Cf. Phinney, op. cit.; B. Nogaro, *La Monnaie et les Phénomènes Monétaires Contemporains*, Paris, 1935, Part II, chap. iii; Hardy, op. cit.

stances, and with great care and numerous limitations, if they are to give a correct picture of economic developments; in fact, in order to be truly significant they must represent changes in the total money-value of certain organically, not arbitrarily, constructed aggregates of goods.[1] The Sauerbeck index does not satisfy these conditions and limitations, and I must conclude that the theory we are now discussing is an arithmetic exercise not conducive to acceptable conclusions about the relations between gold stocks and the formation of prices. Even if the index used were perfectly correct and acceptable I should doubt that a comparison between index figures for years far removed from one another is a reasonable procedure. This last point I cannot, of course, prove. I can only appeal to the reader's common sense.

The independent computation of the "rate of economic progress" yields no better results as it is entirely based on arbitrary statements. The assumption that "the growth of the iron industry may be regarded as characteristic of the whole industrial development of the world" is one of these statements which are made without any proof or justification. The estimate of the "rate of agricultural development" as being 1·2 per cent per year is acceptable only if we are told how this is computed;[2] but it appears from the context that it is pure guesswork. Also the assumption that one-third of the social income is spent on food and two-thirds on all the remaining items of expenditure is quite arbitrary if not supported by statistical evidence. So of all the elements of that calculation only one is acceptable and that is the average growth of the output of pig-iron; the remaining elements are arbitrary. The principal misconception is however much deeper: to try to represent by a single figure the "rate of

[1] The reader will find in the Appendix a more detailed discussion of this question.

[2] Such a computation could be made by calculating the total value of agricultural production for different years upon the assumption that prices of the base year have been kept constant. This assumption limits, of course, the applicability of such a method.

economic progress" is a hopeless effort.[1] The phrase "the rate of economic progress of Europe has been between 1850 and 1910, on average, 3 per cent a year" is a completely meaningless statement even though it sounds plausible. It is one thing to say that during a certain period of time monetary expansion must have corresponded to the development of the volume of transactions settled in money, so as to prevent important changes in the order of magnitude of prices, and quite another thing to try to express by one single figure the "rate of economic progress". The former statement is based, as it were, on "circumstantial evidence" and on the assumption that there is a relation between the volume of circulating media, the volume of transactions to settle[2] and the order of magnitude of price quotations.[3] [4] It is an "*ex post*" statement. The latter statement, involving a numerical expression for the "rate of economic progress", belongs to a group of statements that cannot be accepted as significant and rational.[5]

Thus neither of the two aspects of Professor Cassel's theory strikes me as acceptable. It is, on the contrary, surprising to observe the good reception which this theory enjoyed in economists' circles. Thus, for example, Professor Hardy writes that "Cassel's work is worth careful study because of the great influence it had upon monetary thinking, and because it seems impossible to make anything that can be called inductive study of the subject except by some modification of the method which he has used". Now I have very much esteem for many of Professor Cassel's important contributions to economic theory; his work on monetary problems

[1] *vide* Appendix.

[2] Not expressible, by the way, by the means of some single figure, as it is a heterogeneous aggregate of goods and services.

[3] Not precluding changes in the structure of prices and, again, without the possibility of measuring by a single figure the "order of magnitude".

[4] In this formulation a "quantity relation" between the amount of circulating media and prices is certainly true—which does not imply an unqualified acceptance of formulae like that of Professor Irving Fisher.

[5] *vide* Appendix.

seems to me however to have been the least successful. The primary reason of this lies probably in Cassel's partiality to simple formulae and in the all too indiscriminate use he makes of arithmetical calculations. Inductive studies are certainly necessary and possible, but I differ from Hardy in that I consider a complete change of method as indispensable if such quantitative statistical studies are to yield reasonable and significant results.

(3)

Having thus dealt with the fundamental reasons why Cassel's theory is not acceptable, let us discuss some of the specific points.

(*a*) The *relative stock of gold* is obtained by comparing the actual stock of gold at any date with what it would have been had the yearly increase been from year to year uniformly 2·8 per cent. This yearly increase is based on the period 1850–1910 merely because the Sauerbeck unweighted index of British wholesale prices happened to be the same for 1850 as for 1910. We have seen already what importance can be attached to that fact and how it is that this equality of index-numbers cannot be significantly interpreted, (1) because the operation simply of averaging prices of a group of heterogeneous commodities does not lead to results which possess an economic significance, and (2) because the comparison of prices, and particularly of index-numbers of prices, has no economic meaning when the intervening period is long and full of important changes. Prices have a meaning only in the whole context of money-values to which they belong—a context which reflects relations between various elements of economic processes. It would be a different matter to find out how the price-structure and the production-structure changed between the middle of the nineteenth century and the World War. The changes that took place during that period were profound, both with regard to things produced

and with regard to the price-structure. If one carried out such an inquiry—which is not an easy one—there would be hardly any need for calculating the average rate of growth of gold stocks during this period of time, nor indeed for speaking of a "relative stock of gold". However, even if we were to admit all the elements of Cassel's theory, there seems to be no ground to assume that the "price level" would have been stable, except for business cycle fluctuations, if only gold stocks had increased at the steady rate of 2·8 a year. Nor does his theory give any justification for that assumption. Indeed, if we consider that the structure of the monetary systems underwent many changes during the period under consideration, that the gold standard has spread through the world, that the use of bank notes and cheques became very much generalized, the last two particularly in England and in the United States, then indeed the action of gold on prices must be considered as so indirect that any regularity in the relation between changes in the output of gold and price changes must strike us as accidental and due to the cancelling-out of the many different factors and influences involved.[1]

(*b*) Cassel compares the "price level" in England with the world stocks of gold. Now this is certainly incorrect; even if we granted everything else, the fact would remain that

[1] I find myself in substantial agreement with conclusions reached by A. D. Gayer in his book on *Monetary Policy and Economic Stabilization*, p. 63, though his criticisms are considerably less severe than the ones I have developed in this chapter. Charles O. Hardy says, similarly, in the book *Is There Enough Gold?*: "Other factors, such as the use of bank deposits as money, and changes in the absorption of gold by India, are brought into Cassel's analysis to account for the major deviations of the price trend from the 'relative supply of gold'. (p. 22.) If, as Cassel believes, the increase in the amount of gold stock required to maintain prices during the 60 years before the war corresponded accurately or even approximately to the growth of production, it was because for the period as a whole these other important factors cancelled each other out." (p. 24.) As a matter of fact these factors did not cancel each other out as there were considerable price movements in the course of these 60 years. Cancellation can only have existed in so far as prices were more stable than they would otherwise have been.

English prices would have to depend upon, and be compared with, English gold stocks. Compared to the other objections to Professor Cassel's analysis this one is of minor importance;[1] let us observe however that changes in the world stocks of gold can exert an influence only in so far as they affect stocks of that metal held by the monetary authorities of the different countries. What one has to consider, therefore, besides the changes in the world stocks of gold is (1) their changing distribution between different countries and (2) the relations between stocks of metal and the volume of circulating media in the different countries. I should suggest that this is the direction in which "inductive" research ought to proceed in order to yield useful results. Even then it remains to be seen what is really the relation between the volume of circulating media and the formation of prices. The relationship is certainly much more complex than admitted by the "quantity theory". Thus there is a long way to go from the size of gold stocks and changes that take place therein to the changes in the *structure and scale of magnitude of the money-values.*[2]

[1] In his study *On Quantitative Thinking in Economics*, Oxford, 1935, p. 107, Cassel says in this connection the following: "During the period within these limits Great Britain was on the gold standard and, in addition, was essentially a free-trade country. British prices, therefore, may be taken fairly well to represent gold standard prices in the world market, and British index-numbers to reflect the variations of the general price level in terms of gold." Still it does not follow that prices in Great Britain depend upon the size of *world* stocks of gold! In the same context Cassel says, rightly, that "the analysis must be confined to a period in which the general system of money has been essentially unaltered". But in the period 1850–1910 this has not been true even for Great Britain, where the great development of banking took place precisely in the second half of the nineteenth century; the fact of staying on the gold standard does not exclude the possibility of great changes taking place in the internal organization of the monetary system. If the statement that in that period of sixty years "the general system of money has been essentially unaltered" is not true for Great Britain it is much less true for the world at large; thus the condition which Professor Cassel recognizes himself as a necessary prerequisite of his analysis has not been fulfilled in the period to which he applies that analysis.

[2] This, not the "price level", is the subject that deserves our interest, though it is clear that, thus formulated, the changes cannot be expressed by a single numerical time-series. How to represent them adequately is a problem for statisticians to solve!

(*c*) Finally let us observe that Cassel assumes throughout a constant price of gold. Now we have seen that the size of monetary stocks of gold should be expressed in money units —which Cassel does—and it therefore depends both on the physical quantity of the metal and on its price. Thus the size of gold stocks can vary not only with varying production but with varying price. We shall discuss this question in greater detail in a later chapter; here it is enough to mention the matter in connection with certain conclusions that Cassel draws from his theory and which read as follows: "If we have to face in the future a gradual exhaustion of the South African gold-mines, and if no new gold discoveries make up for this loss, a serious fall in the absolute gold production is unavoidable, and we may easily come down to a gold production amounting to less than half of what is necessary for the stability of the price level". But surely this need not be the case if one can alter the price of gold; an increase in price might compensate the decrease in quantity. Is this however compatible with the nature of the gold standard? That is a question to be discussed later; let us only note in passing that the problem here discussed is not quite correctly stated if one does not make an allowance for a modification of the price of gold.[1]

(4)

The conclusions of Professor Cassel's investigations have been summed up by him frequently in various publications; the following is quoted from one of his latest writings:

"During this period (i.e. 1850–1910) deviations of the actual gold supply from the normal gold supply are responsible for the greater part of the long-term variations in the value of gold, and . . . the rest of these variations are naturally explained as a result

[1] A change of the price of gold may, of course, affect quantities produced, besides affecting their value and the value of existing stocks.

of particular and well-known variations in the monetary demand for gold."[1]

He considers that "thus there is no room for the many other explanations that have been offered, and the least that can be said of them is that nothing has been done to establish their validity."[1] [2]

Hence he attributes all the "long-term" price fluctuations from 1850 till the war to the effects of the gold standard, to the variable "value of gold"; hence follows the condemnation of the gold standard as a monetary system.

In criticizing the pre-war gold standard, Cassel claims, rightly in my opinion, that it was not an automatic system and says:

"For the sake of security central banks had to keep larger gold reserves than those legally required and were therefore in a position both to export and to import gold without letting these gold movements necessarily influence the country's volume of means of payment or its internal price level. The gold supply of a country exercised such an influence only via the policy of the central bank and its regulation of the market by means of its rate of discount and its open market operations. Thus the currency necessarily became a 'managed currency', whose value depended entirely on the policy of the central bank. True, the management was subject to the obligation that the currency should be redeemable in gold, but even if this condition were fulfilled—which was not always the case—it did not exclude temporary variations in the purchasing power of the currency. In every business cycle such variations took place on a large scale and the supposed automatic functioning of the international gold standard was further infringed by the movement of capital." ". . . it was possible to prevent gold imports or exports from having any influence on the price level of the country and on the purchasing power of its currency."[3]

[1] Gustav Cassel, *The Downfall of the Gold Standard*, Oxford, 1936, p. 7.
[2] Neither has Cassel done anything to demonstrate this sweeping statement.
[3] Ibid., pp. 3–4.

But if there are such different causes of price fluctuations, and if the value of currency depended entirely on the policy of the central bank, how is it that the Sauerbeck index of wholesale prices in England is taken to represent the "value of gold" due to deviations of "actual gold supply from the normal gold supply"? Is it banking policy and the interest rate or is it the supply of gold which determines prices? Cassel seems to arrive at two conclusions which are by no means analogous:

(1) that the supply of gold is not steadily growing, a fact which causes, *ipso facto*, changes in the "long-run level of prices";[1] and (2) that the gold standard has never been automatic and that the price level in fact depended *entirely* on the policy of the central bank.

Now these two statements cannot be reconciled without some qualifications.

Thus one might attribute the leading influence to the supply of gold and consider banking policy as a mere corollary of changes in that supply.[2] On the other hand one might consider central banking policy to be the essential factor[3] but agree that changes in the gold supply may, under the gold standard, influence that policy *indirectly* by making expansion easier or more difficult, in view of the obligation of convertibility.

This latter is the view of Professor Cassel. He admits, rather mistakenly I think, that the "average proportion between means of payment and bank reserves" is constant over time,[4] and that there is a tendency for monetary circula-

[1] Which is merely a statistical construction to be accepted for what it is worth. *Vide* Appendix.

[2] This is, for example, the position taken by Professor Rist. *Vide infra.*

[3] And, of course, the policy of commercial banks, which is more or less closely connected with that of the central bank.

[4] In *The Theory of Social Economy* (1932 edition, vol. ii, p. 494), he says that "there is no obvious reason why an increase of the gold supplies should cause a permanent alteration in the average proportion between means of payment and bank reserves. . . . We shall therefore find it quite natural that the gold supply completely controls the secular variations of the

tion to rise to the maximum compatible with existing reserves. But the means by which monetary circulation is regulated, is the bank rate.[1] Under the gold standard the bank rate was fixed in such a way as to "regulate the price level in its secular variations according to the world's gold supply, and consequently in agreement with a certain price level which is determined exclusively by this gold supply in accordance with the quantity theory.[2] On the other hand, the rate policy of the banks has not prevented 'annual' variations in the general price level."[3]

This way of putting it is open to various criticisms which I presented in the earlier part of this chapter. To say that the bank-rate policy practised under the gold standard "will produce a price level having its secular variations in inverse proportion to the value of gold"[4] is to raise the whole issue of what is the "value of gold" as distinct from the "value of the currency expressed by a certain price level and dependent upon the total supply of that currency". We have seen[5] that—except for a pure gold currency—the notion of "gold prices" and of the "value of gold" is a secondary notion, not a primary datum. What Cassel really means is that it was the desire to maintain the gold standard which resulted in a banking policy leading to price development, accounted for by the rest of Cassel's theory analysed above. He therefore

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curve of the general price level." Now the fact is that this proportion *did* change, and did change very considerably if we include, in the total of existing means of payment, demand deposits transferable by cheque.

[1] *The Theory of Social Economy*, 1932 edition, vol. ii, p. 495.

[2] In Cassel's opinion "it is sufficient for upholding the quantity theory, to assume that the total demand for gold is proportional to the general price level" (*The Theory of Social Economy*, 1932, vol. ii, p. 459); this view is shared by some economists but I think that it is inaccurate and may lead to regrettable misunderstandings. There is no mention of gold as such in the "quantity theory"; it relates the *total volume of monetary circulation* to the "general price level", not the "demand for gold". Gold can be brought into the picture only indirectly, because of institutional arrangements, and never enters into the "quantity theory" as one of the variables.

[3] *The Theory of Social Economy*, vol. ii, p. 496.

[4] Ibid., pp. 496–7.

[5] *Vide supra*, chap. ii.

makes the gold standard responsible for the observed "secular" price fluctuations. But, he continues, if the bank policy can "produce a price level having its secular variations in inverse proportion to the value of gold",[1] one can "infer from this that a bank policy, which aims at the fixing of any other price, could produce the same result", which leads him to his proposals for price-stabilization. Now here we have a theory considerably different from the one that we discussed above; the way in which the two are combined seems to be open to objection. The latter brings Cassel in effect very closely to the ideas of Knut Wicksell,[2] and I consider it as coming much nearer the truth. If Cassel had said that the pre-war gold standard involved a monetary policy which fell considerably short of keeping prices stable, nobody could object to that statement; from that he could then have easily proceeded to discussing alternative monetary policies. It is by no means certain that the pre-war policies were the only ones compatible with the maintenance of the gold standard. Cassel's deductions from an historical event are over-bold extrapolations; and combined with the quest for very simple quantitative relations they led him to formulate the theory which we analysed and found wanting. This quest for quantitative simplicity has been also the reason for the adoption by Cassel of the theory of purchasing power parities which we shall discuss later[3] and which is also hardly acceptable. In the case of the influence of gold supply on prices, Cassel's theory is not only impossible to accept, but is unnecessary for the structure of his general theory which, taken by itself, might better explain the phenomena in question. It is to be regretted that it is the less satisfactory of the two theories which has had in the last 15 years by far the greater influence in the discussion of the "gold problem".

[1] *The Theory of Social Economy*, vol. ii, p. 497.

[2] See Wicksell's *Interest and Prices* (first published in German in 1898; English translation published in 1936).

[3] *Vide infra*, chap. vii.

B. Professor Rist's Theory[1]

(1)

We have seen that Professor Cassel's theory consists in a combination of two elements: the empirical relations between the "relative stock of gold" and the "price level", and the theory about the effect of the rate of interest upon the "price level". The second element could exist without the first and would thus make Cassel's position much stronger; it is however the first, the empirical correlation, which has earned widespread attention and Cassel himself attaches a great importance to it, in his search for simple numerical formulae. These two elements are connected through Cassel's contention that under the gold standard the interest rate must be fixed in such a way as to cause the appropriate empirical relation to hold good. Hence his condemnation of the gold standard as a system under which the price level cannot be stable.

Now Professor Rist's theory is not only empirical but *exclusively empirical*; and conclusions that Rist draws from his findings are very different from these reached by Cassel. As it is a theory not merely accepted by numerous Continental economists, but one that leads to important practical conclusions, we must examine it in detail.

Let us note in the first place that Rist dismisses rather summarily that part of Cassel's theory in which the rate of interest is attributed a leading influence upon the "price level". In Rist's opinion Cassel does not base that theory on "new and scientifically verified observations"; on the

[1] See the following publications by Professor Rist:
(1) *Interprétation de la Chute des Prix depuis 1925*, article published in *Mélanges offerts à Ernest Mahaim*, Paris, 1935, vol. i, pp. 232–41; also published in pamphlet form. (To be quoted below as Rist 1935.)
(2) *Histoire des Doctrines relatives au Crédit et à la Monnaie*, Paris, 1938. (To be quoted below as Rist 1938.) This book embodies *inter alia*, the substance of several important articles published in the *Revue d'Economie Politique*, which therefore are not separately quoted here.

contrary it is based merely "upon a series of purely logical deductions, lacking any experimental support and curiously reminiscent of the dialectical method of Marx". Hence he arrives at a "series of general propositions, each of which taken separately is inexact, but which make the impression of following logically one another". This series of propositions "has the effect of distracting the attention of the reader away from the inflow of gold as element of the price level in order to fix it upon the rate of discount". Now this Rist considers as entirely wrong; in his opinion "it is not the rate of discount but the convertibility of credits into gold which makes the price level vary in relation with the supply of gold". Whereas in Cassel's opinion the object of the discount policies carried out by banks is "to allow gold to exercise its action upon prices, while maintaining the convertibility of credit", Rist considers that "all that banks are doing thus far is to help to maintain this convertibility, leaving to the price level the task of finding its own level in relation to gold".[1]

The opposition between Cassel and Rist goes, in reality, deeper, in that Cassel realizes that it is the total monetary circulation which governs the "price level" and considers the rate of interest as the factor determining the size of the monetary circulation. Not so Rist, who denies the rôle of the rate of interest and considers that "a large quantity of monetary instruments" enter circulation "without any intermediary of credits, through the simple increase of cash-holdings, by the means of notes and deposits which represent them".[2]

This view calls for certain comments. In reality the only portion of monetary instruments that is brought into circulation without the means of credit operations, is the portion which is issued in payment for gold (or, generally, for precious metals). Without credit operations, the amount of circulating medium can be increased only through an inflow of gold

[1] Rist 1938, pp. 309–10. [2] Ibid., p. 308.

into the country (which is bought by the note-issuing authority against newly issued notes). Even the change of the price of gold and the re-valuation of gold stocks could only lead to an increase of monetary circulation if followed by new credit operations.

All the monetary instruments which are not issued in payment for newly purchased gold, get into circulation by the way of credit: the discounting of bills, the buying of securities (namely government securities), the extension of credits by commercial banks to customers. And this part of the monetary circulation is governed by a number of factors, *one of which* is the rate of interest. While Marshall, and after him, Cassel and others err by attaching to the rate of interest too exclusive an importance in influencing the formation of prices, it is certainly *one* of the elements and a very important one. Other elements are open-market policies, changes in individual holdings of cash reserves and so on. The increase of circulation through the inflow of gold is certainly one of the important elements, but only in certain circumstances is it a leading one.

In order to establish his point of view, Rist is obliged to penetrate still deeper into the nature of monetary circulation. This he does in stating that:

"In our days—and particularly since the World War[1]—the circulating medium (whenever the Central Bank fulfils its obligation of convertibility) consists of the bank note or the cheque; but the standard of value is gold into which either of them is convertible and which remains in the shape of bars in the vaults of Central Banks, so that *in reality it is gold which circulates, but through the medium of paper.*"[2]

The last statement is the key to Rist's disagreement with Cassel and to his theory about the relation between gold and prices. If gold, while kept in vaults, is the thing that *really* circulates, and notes and cheques are only the outward

[1] A limitation which is hardly valid for England and the United States.
[2] Rist 1938, p. 338 (italics are mine).

appearance of this circulation, then indeed gold and gold only can exercise an influence upon prices and no other explanation is needed. But can we accept such a view? Can we say that the monetary system of England or the United States, or indeed of any modern country, is essentially a gold currency (in the sense in which I defined that term in Chapter II) and that all its other components (notes, cheques) are merely *various ways* in which gold circulates? This view would amount to a gold mysticism which is entirely unacceptable. Gold in vaults does *not* circulate since it is kept at the central banks. What circulates are notes and "bank money" (and coin if there is any in circulation). It is the volume of notes in circulation and the volume of demand deposits transferable by cheque which compose the total volume of circulation and which act upon prices, as has been shown at some length in Chapter II above and in the Note[1] to that chapter. To say that "in reality it is gold that circulates" under such conditions is to make a very unrealistic and misleading assumption. It is, however, only such an hypothesis that can dispense an economist from investigating the various factors which influence the volume of notes and demand deposits, and the effects of the changing volume of monetary circulation upon prices, and enable him to relate price-changes directly to changes in the supply of gold.

It is clear that where there exists a monetary system in which gold is only a "standard of value" and the circulating medium is related to gold through the double convertibility (*a*) of bank notes into gold (under specified conditions) and (*b*) of demand deposits (and cheques drawn against them) into bank notes, it is difficult to relate price changes directly to changes in the supply of gold. If one wants, however, to work out such a direct relation, one must resort to one of the following two procedures, each of which is subject to important reservations:

[1] *Vide supra*, p. 30.

(A) One procedure consists in declaring that changes in the volume of circulating medium are determined by a policy of which the only aim is to correlate price-changes with changes in the supply of gold;

(B) The other procedure is to base the whole argument upon an assumption which takes all importance away from the changing volume of circulating medium and relates price-changes directly to changes in the supply of gold as it were by definition.

Cassel resorts to the former procedure and it leads him, as we have seen, to adopt an over-simplified and inaccurate theory. Rist, on the other hand, adopts the latter procedure, which allows him to remain in the sphere of pure empiricism. The idea that gold confined to the vaults of central banks is that which circulates "in reality", is a necessary basis of Rist's "theory": for that "theory" does not explain in any other way *how* changes in the gold supply produce changes in prices.

(2)

Having defined the theoretical foundations of Rist's empirical inquiry, let us now examine the method and results of that investigation.[1]

Professor Rist bases his conclusions upon the comparative movement of two curves: the one is the curve of yearly increases of the world-stock of gold (as a percentage of each preceding year); the other is the curve of the gold-price level of France (see diagram 3, page 54). Rist acknowledges Cassel's influence in deciding upon the method to be used. The curve of prices leaves aside the years 1914–19, because of the "quasi-impossibility with artificially maintained exchange rates, of calculating the French gold prices". From 1920–8 they are established on the basis of the dollar

[1] See, particularly, Rist 1935.

quotations. After 1928 "the legal stabilization of the franc makes of French prices real gold prices".[1] To these two curves Rist adds a third representing "long-run price movements through the elimination of cyclical fluctuations by the means of drawing straight lines joining together maximum and minimum points of the price curve, until 1914".[2] In commenting upon the method employed for eliminating

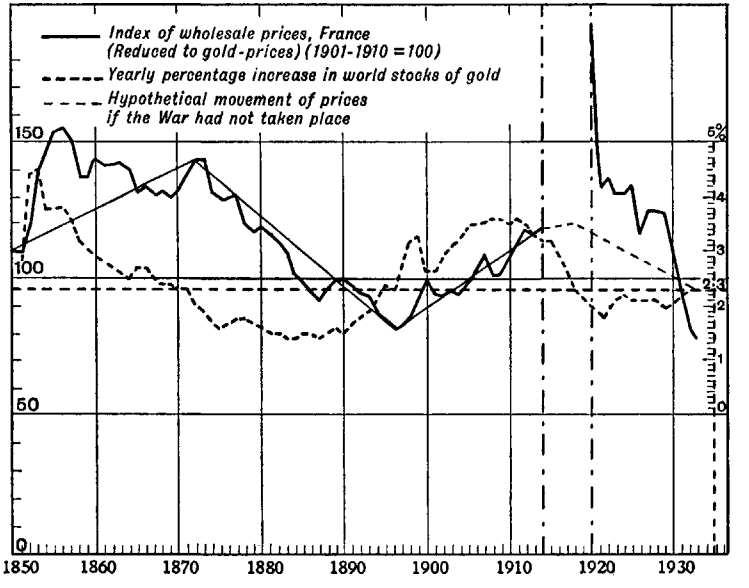

DIAGRAM 3

cyclical fluctuations Rist finds that no objection can be made to it for the period 1872–1914. As for the period 1850–72, he thinks that one might suggest dividing it up into two shorter periods 1850–6 and 1856–72 and drawing the straight lines accordingly; he similarly admits that the division might be made into periods 1850–9 and 1859–72, and that instead of ending the period in 1872 one might do so in 1869 or 1874 without much effect upon conclusions reached.

[1] Rist 1935, p. 235. [2] Ibid.

The next stage in Rist's method consists in drawing a horizontal line at the level of 2·3 per cent of yearly increases in the production of gold. Then he finds that "in the first period, as long as the increases in the production (of gold) remain above 2·3 per cent, prices are rising or remain stationary. They are falling, on the other hand, when the increases in the production of gold fall below that level. In the second period the fall (of prices) continues as long as the increases remain below that level. The third period, going until the war, is characterized by increases constantly superior to 2·3 per cent and the rise of prices is uninterrupted". This leads Rist to the following conclusion:

"The experience of 1850 till 1914 can be summed up as follows: An increase (of the gold production) smaller than 2·3 per cent does not suffice to maintain a stable or rising price level. An increase larger than 2·3 per cent maintains stable or rising prices."[1]

Having gone thus far, Rist takes another step: he makes the assumption that the 2·3 per cent increase has a permanent significance and he finds that the rate of increase of the production of gold, which has a falling tendency since 1911, falls in 1919 below that mark. From this he concludes that "the rise in prices should not have continued beyond 1919" and that "it should even have slowed down considerably between 1914 and 1919".[2] In 1919 the price level should hardly have been higher than in 1914, "if the war had not taken place". After 1919 the price level should have been falling. On Rist's diagram this hypothetical curve is shown by a broken line, reaching by 1933 or 1934 the level of "about 100 or 110 for example".[3] On the basis of these constructions and findings, Rist arrives at the conclusion that "provided our deductions are plausible, one notices immediately the enormous difference between what one might call the *probable level* of prices and the *actual level.* The difference

[1] Rist 1935, p. 236. [2] Ibid. [3] Ibid., p. 237.

between the two . . . only ceases around 1931 or 1932 if one admits that our hypothetical curve is likely."[1]

From this Rist draws very important practical inferences, which I shall discuss presently.

(3)

As we see, Rist's method of inquiry is statistically far less elaborate than Cassel's. Some of the general criticisms that were formulated in discussing the latter should be repeated here. Besides these there are however some other serious reservations to be formulated.

(1) The price curve is composed of three segments: the first is calculated on the basis of French prices *quoted* in the market (1850–1914); the second is based on *calculated* prices, quoted prices being "adjusted" by the means of the fluctuating dollar/franc exchange; the third segment is again based upon franc prices *quoted*, though the price of gold is not the same in the period 1928–35 as it was in the period 1850–1914. Thus the three segments of the curve are not comparable with one another. It is true that the first is divided from the second by a gap of 5 years—but this is due, as Professor Rist himself explains, to the difficulty of making a satisfactory computation. The methodological heterogeneity does not seem to prevent Rist from drawing *one* curve for the whole period 1850–1935. Now, as the reader will easily see in applying to this problem the concepts established in Chapter II, we can have one of two sorts of curves covering the *whole* period under investigation:

(*a*) a curve of prices expressed in francs and quoted in the market,[2] or even more correctly, of prices at which transactions were carried out at the different time moments;

[1] Rist 1935, p. 237 (the italics are in the text).

[2] I do not repeat again all the objections to price averages and index-numbers of the "general price level". *Vide* Appendix for detailed comments on that matter.

(*b*) a curve of prices "calculated" by reducing quoted prices (or prices at which transactions were made) to a common gold price. As we have seen, these are not real "gold prices", and their significance is very dubious; still they may be useful for certain comparisons. It should not be forgotten that this procedure is based on the assumption that changes in the price of gold are reflected by simultaneous and proportional changes in nominal prices. This assumption is however quite unacceptable.

Now Rist's price curve is in two segments a curve of nominal prices,[1] while the middle segment is based on calculated data, established by the means of the rates at which the dollar was quoted in Paris during the period of monetary instability, 1919–28. It is not legitimate to combine this segment with the other two into one curve.

(2) The second curve, which is supposed to illustrate the long-run price movements, is even more open to criticism. There are many methods of establishing "trends"; the one used by Rist is the simplest and the least commendable. The device of linking maxima and minima by straight lines does not eliminate effects of cyclical fluctuations and does not, therefore, establish a "trend",[2] because obviously, the maxima and minima are *effects*, not only of the "trend", but also of cyclical fluctuations. It is an open question whether one should try to "eliminate" cyclical fluctuations at all; personally I think that series resulting from such statistical "eliminations" are fanciful rather than representative of real phenomena. But if one decides to adopt such methods, one has at one's disposal very elaborate methods. That used by Rist is not acceptable even if one admits the

[1] For the distinction between gold prices and prices that exist under the gold standard, *vide supra*, chap. ii.

[2] I must leave aside the question of whether such "eliminations" are at all significant. The critical and sceptical observations which the reader will find in the Appendix apply to this problem as well. I cannot discuss further here the question whether the application of a "linear trend" is at all justified.

validity of the statistical operation as such. It must also be emphasized that the choice of periods to which Rist applies his method is arbitrary, and this arbitrariness further diminishes the usefulness of the "secondary" curve obtained.

(3) The curve calculated for the period 1914–35 and called the curve of the "probable price level" is also open to serious reservations. First of all Rist does not tell us how he established its shape; hence a suspicion of arbitrariness. But even besides this serious criticism, it is not clear what is the meaning of the curve. Had there been only gold in circulation in the previous period, and had the exact action of gold upon prices been ascertained for the case of a pure gold currency, then one could calculate a price curve which one thinks would have existed if the monetary system had remained unchanged. But in the case before us the situation is very different. Professor Rist only claims that prices are falling if the yearly output of gold increases from year to year by less than 2·3 per cent; he says nothing about the degree of that fall. There is therefore no reason to suppose that the downwards shape of the hypothetical price curve since 1919 should be what it is on Rist's diagram.

(4) So far in speaking of the "probable price level" I have granted Rist's other assumptions. But are they at all acceptable? There is no explanation of the 2·3 which is the basis of his calculation. Even Cassel's 3 per cent seems better founded. The 2·3 is a purely empirical *datum*; but then have we any reason for assuming that it has "a permanent significance"? None whatever unless it be demonstrated that this rate is an *economic constant*. Thus far Rist has provided no such demonstration, nor can I see how such a notion is at all conceivable. Rist does not even say how he obtained that rate, and we are obliged to suppose that it is derived simply from looking at the diagram. But then it depends upon the trend lines which, as we have seen, cannot be accepted, and upon an arbitrary choice of dates

for establishing these lines. How can we thus attach any meaning to that figure, 2·3, and base further reasoning on it?

(4)

In the light of these criticisms it seems hardly possible to accept Professor Rist's thesis. A theory has to explain the relation between the phenomena for which it is supposed to account. Rist's theory does not do so. He is led to attach great importance to a purely empirical relation, which furthermore is obtained through the use of statistical methods which are open to objection. Even if we were to concede to the figure of 2·3 per cent the sense and significance Rist attributes to it, there seems to be no reason whatever for using it as a basis for extrapolation. It might be (and probably would be) purely fortuitous, even if it were proved to be correct (which it is not). In order to ascertain the action of stocks of monetary gold and of changes occurring therein upon prices, we should need to know more about the *mechanism* by means of which changes in gold stocks affect prices. We are given nothing of the sort. Instead we find the view, discussed above, that under the gold standard it is gold which circulates "in reality" even though it is confined to the vaults of central banks. This is an inadequate substitute for the missing mechanism. Elsewhere Rist claims that the volume of credit (by which is meant the totality of monetary instruments created by means of extensions of credits) adapts itself to the level of prices which is determined by the gold situation. This view is equally hard to accept, considering that the changing *total* volume of circulating medium acts upon prices, not one part of it only, and this the part which does not really circulate and only serves as partial "cover" to the rest. Thus Rist is also holding a view which it would be difficult to defend (though several Continental economists hold it) that the quantity theory of money is in

effect a theory about the action of changes in the stock of precious metals upon prices.[1] The result of this general attitude is a theory which does not explain the phenomena under investigation. To affirm something is a different thing from proving it—and, in spite of the statistical inquiry, which we found wanting, Rist does not go far beyond the former.

Before showing what *practical* conclusions are drawn from that theory, let us point to a curious omission, which has also been made by Cassel in his theory examined above:[2] it is left out of consideration that the value of the monetary gold stock can be altered by changing the price of gold. This omission singularly diminishes the weight of some of the conclusions reached, because even if everything else be granted, there remains an alternative systematically ignored by both Rist and Cassel: changing the price of gold. We shall further discuss that possibility in a later chapter.

(5)

Let us now turn to Professor Rist's conclusions. The principal among them is as follows:

"The continuous fall of prices is thus nothing but normal though the intensity of that fall between 1930 and 1934 has evidently a particular character. In other words one should have recognized, as early as 1919, on the basis of past experience, the impossibility of maintaining the level of gold prices at a level which so completely disagreed with older experiences. One should have realized sooner that the level of gold prices which was adopted between 1922 and 1928 as basis of the world monetary reconstruction, i.e. the level of American gold prices, had no justification whatever (considering the rhythm of gold production) and that it was due to an extraordinary series of coincidences. Had one realized at the time that truth, one would not have tied world gold prices to the American price level. . . . One would also have renounced all hope of maintaining by the means of a

[1] ". . . des adversaires de la théorie quantitative qui sont en réalité les adversaires de toute théorie accordant à l'accroissement des métaux précieux une action sur les prix", Rist 1935, p. 233.

[2] *Vide supra*, p. 44.

systematic credit policy the level of gold prices at the height to which it was brought by the war. All the experience of a hundred years proves that the quantity of credit does not command the price level but tends to adapt itself to the level of prices which results from the relations between the production of gold and that of commodities."[1]

As regards, therefore, the "Great Depression", Rist concludes that "It is through extremely painful difficulties and resistances, that *the world returned gradually to a level of prices in conformity with the nature of things*".[2]

In order to understand how Professor Rist reaches his conclusions regarding recent monetary developments, it is necessary to consider some additions to the theory summed up in the preceding paragraphs.

First of all, Rist considers that the price level that existed in the United States during and after the war was not representative of what he calls "world gold prices". He accounts for this by the following argument:

"The issue of paper money in the United States during the World War caused, as it always does, an artificial rise in prices, *while Europe's uninterrupted shipping of gold to that country, made it possible to maintain the convertibility of paper into metal. Under any other circumstances that maintenance of convertibility would have been impossible.* One had therefore to consider American prices as gold prices. They were not however *world* gold prices as one thought because of a very natural optical illusion."[3]

What does this mean? It means that Rist makes a distinction between gold prices, which are prices that exist in a country where paper money is convertible into gold, and "world gold prices". The latter notion is left undefined but we can suppose that "world gold prices" are prices in gold-

[1] Rist 1935, pp. 237 and 238.

[2] Rist 1938, p. 282. (Italics are mine.) The italicized phrase reads in French as follows: "le monde est revenu graduellement à un niveau de prix conforme à la nature des choses".

[3] Rist 1935, p. 234. (Italics are in the text.)

standard countries when convertibility exists in most countries of the world and when there is no "maldistribution" of gold, i.e. no accumulation of the metal in some one or few centres.[1]

Secondly, Rist introduces a certain notion of "normality", of conditions that are "in the nature of things" and against which it is hopeless and vain to fight. Amplifying, in a later statement, his observations about American gold prices during and after the war, Rist exemplifies his attitude in a striking way:

"If somebody," he says, "had maintained in 1922 or 1925, that it was impossible for American prices to stay at the level they had reached by then, one would have considered him—particularly in the United States—as being a visionary. And yet a clear view of that situation would have rendered the greatest service in showing the vanity of an individualistic or co-ordinated effort at fighting against the inevitable."[2]

It is particularly important to note that Rist considers a co-ordinated action to be in this case as ineffectual as an individual policy.[3] He clearly considers that there is a price level corresponding to *the nature of things* and from which no lasting deviation is possible. This naturally correct price level must "correspond to what seems to be called for by the relation between the world production of gold and the world production of commodities".[4] The difficulty of finding out what is the rate of the world production of commodities is realized by Professor Rist; he finds a way out of it by adopting the Snyder "Index of world production",[5] which

[1] This distinction is rather confusing because there is no strict delimitation possible between "world gold prices" and the other "gold prices". I suggest that the definitions given in chap. ii above are preferable, since they are clear cut and do not give rise to either "illusions" or misunderstandings!

[2] Rist 1938, p. 282.

[3] This sweeping view appears to me unacceptable. *Vide infra*, p. 71. Cf. also my study of *Monetary Internationalism and its Crisis*, published in *The World Crisis*, London, 1938, pp. 350–1.

[4] Rist 1935, p. 238.

[5] Carl Snyder, *Overproduction and Business Cycles*, in the *Proceedings of the Academy of Political Science*, vol. xiv, No. 3, New York, June 1931.

shows that world production is rising very regularly; all irregularities in the movements of prices being due to monetary factors, or in Rist's view, to the changing rate of gold output. Rist adopts Snyder's "Index" with a slight reservation: "This curve," he says, "is not perfect, but we must be satisfied with it as long as we have no better method of measuring the production of commodities and its growth."[1]

Having then circumvented the difficulty (or impossibility!) of *measuring* changes in the total world production of goods, Rist is left with the exclusive action of the supply of money upon prices. As we have seen, however, in countries where paper money is convertible into gold he reduces the supply of money to the supply of gold; he considers all the other components of monetary circulation as merely different ways in which gold circulates.[2] All this follows from Professor Rist's basic ideas about the nature of money and of monetary systems based on gold. These are views which do not correspond to the realities of the world in which we are living[3]—but one cannot deny their consistency. With Rist's various assumptions which have been explicitly stated in the preceding pages, but particularly with his conception of the rôle of gold in a monetary system tied to that metal, stands or falls his theory of the relations between gold and prices.

(6)

It may be interesting, in conclusion, to contrast once more the theories of Rist and of Cassel. Professor Rist refuses to admit any particular rate of increase in the production of gold as "*normal*"; his own, 2·3 per cent rate he considers as a purely empirical datum. While considering this rate as

[1] Rist 1935, p. 238. Snyder's "Index" is one of the statistical constructions the basis of which is discussed in the Appendix and found open to serious objections. It should not be used at all; it is better not to have any index of production than to be misled by one that is void of any economic significance!

[2] *Vide supra*, p. 51. [3] Cf. with the analysis given in chap. ii above.

important, and basing on its extrapolation his conclusions relative to post-war developments, he draws different conclusions from Cassel's, from the fact that there are deviations between that rate and the effective rates of increase in the production of gold:

"In saying that the normal price level has been lower than the real level, I don't maintain in the least that the gold supply was insufficient. It is the level of gold prices which has become completely falsified through the war, through the issue of paper currency by all the great countries and through the artificial concentration of gold in the United States, that is through a series of measures resulting all of them from the will of men. To say that the production of gold in the world for the last twenty years called for a price level different from the actual level, and that the crisis is the means by which we come closer to a level corresponding to what that production demands, is not to declare that gold is insufficient. . . ."[1]

In other words, while Professor Cassel considers that the production of gold was insufficient to maintain the stability of prices at the level which they happened to have attained and that an *undesirable* deflation was the outcome, it is the opinion of Rist that the actual price level was *wrong* and had to be adjusted to the gold situation *even* at the cost of a severe deflation. The diagnosis made by both economists is similar, but conclusions drawn from it are exactly opposite. It may be said that each of these two distinguished scholars gets conclusions which are consistent with his general theoretical position. Neither of them however succeeds in *proving* the diagnosis, i.e. that gold *does* exercise such an influence upon prices. Cassel thinks that the "great deflation" was inevitable under the gold standard and therefore desires to see the abolition of that monetary system; for Rist it was necessary because demanded by the gold situation, that mystical criterion of economic developments. Neither of them considers that (1) the "great deflation" might have

[1] Rist 1935, p. 241.

been due to other causes and (2) that if their diagnosis were correct, equilibrium might have been restored through a simultaneous change of the price of gold throughout the world. Cassel attempts to indicate a mechanism through which gold acts upon prices, though it is an over-simplified one; Rist gives no mechanism whatever. It may not be unfair to conclude that the "inductive theories" do not add much to our knowledge of the relations between gold and prices.

CHAPTER IV

PRINCIPLES OF THE GOLD-PRICE RELATIONSHIP RESTATED. THE GOLD PROBLEM

(1)

THE preceding chapter has been, in a sense, a digression. It was necessary in order to test the points of view adopted in Chapter II; if it had been discovered that the "inductive" investigations yield conclusive results about the relation between changes of the gold stock and changes in prices, it might have become necessary to revise the thesis previously advanced that the relation between gold and prices is mediate and indirect whenever gold is not the only circulating medium. But we have seen that these statistical inquiries *do not* yield such results. The correlations obtained are based on the use of statistical methods more or less open to objection and upon more or less doubtful theoretical assumptions or simplifications. In my criticism I tried to limit myself to fundamentals. One could discuss many other aspects of the methods adopted, which, important though they are, lose most of their interest if the very basis of the methods used is faulty. Thus Kitchin[1] bases his estimates

[1] Joseph Kitchin, *The Supply of Gold Compared with the Prices of Commodities*, published as Annex XI to the *Interim Report of the Gold Delegation of the Financial Committee*, Geneva, League of Nations, 1930, pp. 79–85. See also Kitchin's *Memorandum on Gold Production* presented to the Study Group on the International Functions of Gold, Royal Institute of International Affairs, London, 1930. The paper and the discussion that followed its presentation are published in *The International Gold Problem*, Oxford, 1931, pp. 45–83. (See particularly pp. 65–68.) Kitchin's estimates are based, except for the fact that he takes monetary gold only into consideration, on the same principles as Cassel's, and are subject to the same reservations and criticisms. It may be of interest to quote the following

on monetary gold only, not, like Cassel, on the total gold stock and production, while Mlynarski[1] introduces silver also into his calculations. In this way Kitchin obtains the rate of 3·1 per cent instead of Cassel's 2·8 per cent, and Mlynarski the rate of 0·78 per cent. It is suggested however, on the basis of the long analysis that precedes, that no dis-

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critical observations by Mr. R. G. Hawtrey formulated in the course of the discussion at Chatham House: "The calculation that has been made, first by Professor Cassel and afterwards by Mr. Kitchin, as to the actual need for the absorption of gold is based on a period in both cases dating from somewhere about 1850, and ending somewhere about 1910. The period chosen seems to me to be such that it cannot possibly throw any light upon the need for monetary gold at all. In 1850 or thereabouts, there was one gold standard country in the world, namely Great Britain. There was one bi-metallic country in which gold predominated, namely, the United States. All Europe, apart from England, and I think the independent town of Bremen, used either silver or else the bi-metallic standard in which silver predominated. . . . The period, therefore, in which the absorption of gold was averaging 3·1 per cent of the monetary supply was one in which practically the whole commercially advanced world was transformed from a silver standard to a gold standard. Therefore, any demand for gold was something that had no relation whatever to the normal monetary growth at all. It is also the case that the same period saw a great development of credit instruments and credit organization, which would tend to economize gold to an enormous extent. What it amounts to is that of that period, on account of the last reason, you cannot say quite definitely that the absorption of gold was far above the normal during those sixty years; but you can say that if it was anywhere near normal it was purely fortuitous; that the effect of the quite abnormal demand for gold due to the putting of these countries on the gold standard was offset by the equally abnormal development of credit substitutes. For these reasons, it seems to me that the 3·1 per cent is actually based on no evidence whatever." (*The International Gold Problem*, pp. 76–7.) One might add to these judicious remarks that the very notion of what a "normal" absorption of (or demand for) gold is has no definite meaning; if we replace in the last sentence the word "abnormal" by "exceptional", then it might be argued that we have nothing but "exceptional" situations in a world of continuous flux and change; which further strengthens the case against methods such as used by Cassel, Kitchin, etc.

Comparing Cassel's and Kitchin's estimates, Professor Mlynarski comes to the conclusion that they are fundamentally different, owing to the fact that the former considers the total supply of gold and the latter merely the supply of monetary gold. The argument though elaborate and interesting does not carry conviction. See *The Functioning of the Gold Standard* by Dr. Feliks Mlynarski, being a Memorandum submitted to the Gold Delegation, Geneva, League of Nations, 1931, particularly pp. 41–46.

[1] See the Memorandum on *The Functioning of the Gold Standard*, pp. 38–41; in spite of introducing this correction into Cassel's estimates, Mlynarski is an acute critic of the method as such and does not really offer the modified estimate as an alternative answer to the question: "What yearly increase of the monetary metals is needed to secure stable prices?"

cussion along these lines can be fruitful. It is to be regretted that, for a number of years, the discussion of the rôle of gold has been sidetracked upon this fruitless line, and that this gave rise to policies which we shall discuss in a later chapter when speaking of what might be termed a "gold economy standard"; policies which preceded the collapse of monetary internationalism after the World War.

The question whether there is enough gold or not has hitherto always been answered with reference to such "inductive" studies and to such simple statements about what constitutes an "adequate gold production" as those due to Cassel or Kitchin. Rist might have drawn similar inferences, were it not for his view that the supply of gold is always adequate, being the principal criterion itself, and that it is for prices to be fixed upon a level corresponding to the gold situation. "Gold cannot be wrong, prices can", might be a *résumé* of Rist's argument against Cassel quoted at the end of the last chapter. Cassel would answer to this with an accusation "Gold has been always wrong since the middle of last century and probably earlier". As we have seen Rist and Cassel are very close to one another in their estimation of the effect of gold upon prices under the gold standard. If Rist fights Cassel's theory about the effect of the rate of interest upon prices, he does not provide any alternative theory; gold mysticism takes its place. I have quoted a certain number of Rist's views in that connection; they are far more common on the Continent than many British, American and Scandinavian economists may realize, and they explain certain monetary controversies and certain profound divergencies of views about policies. If Cassel believes in the possibility of maintaining stable prices through monetary management and considers that this is unattainable under the gold standard; and if Rist considers price stabilization as impossible and deflation as necessary under certain conditions in order to maintain the gold

standard, which he considers to correspond to the very nature of things, then it is clear that policies they advocate *must* clash. And everybody who remembers the Monetary and Economic Conference of London, 1933, knows how dramatically the two conceptions *did* clash, and with what disastrous effects. It is therefore necessary that it should be realized how deep are the differences of views that still exist between leading economists about the very nature of money; this is the principal reason why so much space has been devoted to the discussion of two theories which may appear to be incidental to the main line of argument represented in this book.

Let us go one step further. Neither the diagnosis of Cassel nor that of Rist appears to stand up to a careful examination; and if it is incorrect then their conclusion may be wrong also.[1] This implies, in the first place (concerning Cassel), that *the maintenance of reasonably stable prices does not necessarily conflict with the maintenance of the gold standard,* and, in the second place (concerning Rist), that *the adjustment between the production of gold and the "price level" does not necessarily have to be made by the means of a sharp or protracted deflation* (or, in the opposite situation, by the means of a price inflation).

As regards the *first point* it will be observed that there is a more or less considerable margin between the minimum reserve requirements (by which both central banks and commercial banks are limited in their issuing activities) and the actual reserves held against notes or "bank money" respectively. Within this margin banks have full discretionary

[1] The reader might find it useful to get acquainted with the interesting Memorandum by Professor Louis Baudin, *Quelques observations relatives à l'influence des variations de la production de l'or sur les mouvements de longue durée de prix*, presented at the International Conference of Business Cycles Institutes, Pontigny, France, 2–6 September 1938 (mimeographed). This paper, which I read after the greater part of the present book had been completed, contains a very careful inquiry into the problem of the gold-price relationship and arrives at conclusions similar to those which are reached here.

powers for their policy. It is therefore only, if, after having expanded to the maximum, banks (central and commercial) fail to maintain stable prices, that the argument about the incompatibility of the gold standard and the stability of prices can be upheld. Cassel argues, quite consistently, that in the long run the possibilities of expansion are always exhausted, but the claim has hitherto been left unproven, particularly since the ideas about adequate reserves change and *in the long run* gold serves as basis for an ever-increasing circulating medium. Still, the fact remains, that at any given moment there is a limit to monetary expansion on the basis of given stocks of gold. When one approaches this limit, the "gold problem" arises.

It is of importance to point out in the present context: (1) that the various national monetary systems allow for the issue of a larger or smaller volume of circulating medium on the basis of a given quantity of gold; so that gold movements between countries may increase or diminish the maximum of monetary circulation for the whole gold-standard world;[1] (2) that various countries may pursue different policies with regard to the amount of currency and bank money their monetary institutions issue on the basis of the gold stock they hold; thus the result of the differences of policy may be that certain countries reach the limit of expansion which they can carry out, while other countries fall far short of the maximum. Thus the *distribution* of gold as between the different countries may create a gold situation which amounts to a real scarcity of gold in certain countries without there being a real scarcity of gold in the world. The problem of maldistribution of gold is as important in practice as that of "absolute scarcity".

The same is true for the reverse situation. Gold may be (or may appear to be) plentiful, as it may be (or appear to be)

[1] Cf. F. A. von Hayek: *Monetary Nationalism and International Stability*, pp. 32–3.

scarce. And this abundance may be the effect of "maldistribution" of gold or of a real plethora of gold, according to the situation.

The phenomenon called "maldistribution of gold" is, of course, the effect of the state of international commercial and financial relations, and can be placed in its proper perspective only after a careful study of the problems connected with these relations and with their outcome—balances of payments. We shall only note here that if the "gold problem" is due to "maldistribution" the situation is essentially different from that which exists if gold is *everywhere* abundant or scarce.

If the latter is the case we must turn to the second of the two points mentioned on page 69 above. Is it necessary then, in order to maintain the gold standard, to cause or to accelerate a deflation of prices, if gold is scarce, or an inflation, if gold is plentiful? I have pointed out in earlier parts of my analysis that the assumption of the constancy of the price of gold, and the limitation of the discussion to physical output, is misleading. The quantity of gold is much less important for the monetary system than is its money-value. And the value of a given physical volume of gold (expressed in terms of money-units, of course) varies with that volume, but varies also with the price of gold. Therefore the situation of scarcity or abundance may be changed by changing the price of gold. A simultaneous change of the price of gold in the different countries, leaving intact the parities between the various monetary units, *may be* an alternative to either a deflation or to an inflation. However, in order to avoid disturbances, action must be taken *concurrently* by the various countries. Rist should have considered that possibility before declaring deflation as *inevitable*; for *if* all the rest of his theory is correct, then a world-wide change of the price of gold would have restored "equilibrium" more quickly and more smoothly than the deflationary

process, without playing havoc with the whole economic activity.[1] One important qualification must be made however: if the monetary situation is due to maldistribution of gold and not to an absolute scarcity or superabundance, then the change of the price of gold may cure nothing and be the source of new difficulties. As long as the causes of the maldistribution continue to act, the "equilibrium" obtained by changing the price of gold will be precarious. On the other hand it may well be that after forces making for maldistribution have ceased to operate, an absolute scarcity or superabundance of gold may appear *as a result* of changing the price of the metal. If we thus distinguish between *an international gold problem*, consisting in maldistribution, and a *world gold problem*, consisting in absolute scarcity or plethora of gold, we may well conclude that changing the price of gold may be a solution for the latter; as long, however, as the former problem exists it is difficult to diagnose the "world situation".

(2)

Two notions employed in the preceding section require a careful definition: one of them is "maldistribution of gold", the other, "scarcity or superabundance of gold" (that is, "adequacy of gold supply"). Both, but particularly the former, are (along with so many other economic concepts) more frequently used than carefully defined, so that there results a great deal of misunderstanding and idle discussion.

The notion of an insufficient or excessive supply of gold presents itself in the first place nationally, because monetary organization and policy are primarily national; in the second place, the notion may apply to the world at large if the situation is everywhere one of scarcity or plethora. Now what

[1] But then the view that is common to Rist, Cassel, Sir Henry Strakosch and others, that the "great depression" was caused by the monetary factor only (or mainly), cannot be accepted. The phenomenon was much more complex than that, as is generally admitted to-day.

does the notion itself mean? It is a relative notion of course, since gold can be either less or more plentiful than that which is considered as being its adequate supply. One can say that the supply of gold is adequate if it allows the monetary authorities of the various countries to adopt whatever policy with regard to issuing currency *they regard* as necessary for the maintenance of stability in the economic process. Gold is considered as scarce if its supply, combined with the customary or legal reserve requirements (whichever are larger), imposes on the monetary authorities an *undesired* restrictive policy; its supply is superabundant, on the other hand, if it imposes an *undesired* policy of monetary expansion.[1] The notion, as we see, is relative and furthermore includes not only the absolute gold situation but also the views of monetary authorities on the nature of policies which could ensure the stability of economic development. As long as the supply of gold does not directly influence policies, there is no clash between the maintenance of the gold

[1] See the interesting paper by Mr. D. H. Robertson, *How do we want Gold to behave?*, presented to the second meeting of the Chatham House Study Group on the International Functions of Gold, and published in *The International Gold Problem*, pp. 18–24 (and discussion, pp. 24–46). As Professor Gregory remarked in opening the most enlightening discussion that followed, the paper dealt rather with the question of "How prices are to behave". Obviously the "behaviour" of gold interests us only inasmuch as it affects the policy of money-issuing authorities and therefore, indirectly, prices. (In the same discussion Dr. W. H. Coates remarked that: "We only want gold to behave in relation to prices; we should not mind what gold did if we had not got a gold standard.") The following observations by Professor Gregory confirm and amplify (and very likely have influenced) the statement to which the present footnote is attached: "What we want is this: we want a gold supply which is not so large that all the assets of the central banks will be 100 per cent gold: we do not want a gold supply so small that the central banks will be driven into a panic on account of declining gold reserves. We want the supply of gold to behave in such a way that we can rationally treat the problem of currency—whether the appropriate increase of supply be 3, 2 or 1 per cent is another point. But it seems to me that the problem of managing the currency and price level in a rational way depends on the supply of gold in the next half century. They are very elastic limits—if the supply of gold is not going to be so small that the central banks behave as in 1929, or if the supply of gold is not so large that central banks will be forced to keep a reserve of 100 per cent. If the supply of gold lies within those limits, I think we can retain a gold standard and yet allow such price policy as we desire to see developed."

standard and the maintenance of economic stability (inasmuch as that maintenance depends upon monetary policy!). Considering, furthermore, how indirect the relation between the gold stocks and the volume of circulating medium is in modern monetary systems (*vide* Chapter II), how it differs between one system and another, and how these relations are changing throughout time, it appears entirely vain to lay down any definite figure for the rate of growth of the stocks of gold that is necessary if that metal is to be adequately supplied. Other factors, and factors subject to continuous changes and variations, affect the situation, and only the examination of such actual situations can make it clear whether gold is plentiful or scarce. Only in extreme situations does the gold-supply affect directly the issue of money and hence, indirectly, prices. Whenever this happens, i.e. *whenever the supply of gold interferes with monetary management, we hear of "the gold problem"*, and of solutions to it: economizing gold, sterilizing gold, changing the price of gold.[1]

Let us now turn to the concept of "*maldistribution* of gold". What is the precise meaning of that term? It implies that the distribution of gold in the world is wrong, that there is too much of it in certain countries and too little in others. This sounds plausible but is not sufficient as a definition. For what is to be the criterion of the "too much" or "too little"?

The fact that a large proportion of the world stocks of monetary gold is held in a very small number of countries can be considered, of course, as a presumption in favour of the idea that "something is wrong somewhere". As we

[1] The following observations by Mr. R. G. Hawtrey are worth quoting: "I hope that my scepticism as to the 3·1 per cent will not be confused in any way with lukewarmness with regard to the primary necessity . . . of providing a machinery either for economizing gold or absorbing gold, as may be necessary. What we are aiming at is to prevent not merely a world scarcity of gold, but also a world redundancy of gold. . . . In either case you have to be prepared to shield the monetary systems of the world from being disturbed owing to quite fortuitous changes in the supply of gold." (*The International Gold Problem*, p. 76.) See also the *Report of the Committee on Finance and Industry*, London, 1931 (the so-called "Macmillan Report"), particularly paras. 148, 150, 288.

cannot determine however *a priori* in what proportions gold *should* be distributed between the various countries, we cannot infer the existence of maldistribution of gold merely from the statistics of its distribution. We need further criteria, and we may well use those which we discussed in the earlier part of this chapter. We shall say therefore that there is *too much* gold in countries where no corresponding expansion of money in circulation is considered as necessary or opportune and where either an *undesirable* monetary expansion takes place, or, more frequently in practice, additions to the gold stock are not followed by an expansion of currency. In these countries, therefore, we have what is called "sterilization of gold".[1] Similarly there is *too little* gold in a country where the central bank is prompted by the gold reserve situation to adopt a restrictive monetary policy, or new means of "economizing" gold,[2] which weakens the stability of the national monetary system in question, and makes it less shock-proof.

We have now in hand all the elements needed for the definition. *We call maldistribution of gold a situation which exists when a shortage of gold in certain countries is co-existent with a redundancy of gold in other countries.*

Thus defined, the maldistribution of gold is the result of the state of international commercial and financial relations and of *cumulative* gold movements towards some, and away from other, countries. When discussing the equilibrium of balances of international payments we shall see the conditions under which such a situation arises.

It must be noted that it would be wrong to say that the maldistribution of gold is the cause of a situation where gold

[1] The methods of sterilization will be analysed later. The following definition is given by Mlynarski: "A sterilization of gold takes place when the Central Bank does not use the gold it has for the greatest possible expansion of credit." (See *The Functioning of the Gold Standard*, op. cit., p. 45.) This definition, though not quite rigorous, may suffice for the present discussion.

[2] *Vide infra*, chap. ix.

is superabundant in certain countries and not sufficiently plentiful in others. To say that is to commit an error which is not infrequent in economic literature and which consists in (*a*) describing a certain situation; (*b*) giving that situation a name (independently of its description); and (*c*) calling (*b*) the cause of the situation described under (*a*). The only way to determine whether there is maldistribution of gold or not is to see whether gold is simultaneously scarce in some countries and redundant in others. No other criterion of maldistribution exists. Therefore "maldistribution" is the name and not the cause of the described situation.

In order to avoid any misunderstandings, let us stress the fact that "maldistribution" occurs only when gold movements are cumulative and not self-reversible. Wherever the "classical" mechanism of adjustment of balances of payments under the gold standard operates, movements of gold cause a temporary scarcity or redundancy of gold in countries which respectively lose or gain gold, but forces are set in motion which tend to restore a balanced situation. "Maldistribution" is the result of a situation in which the compensating forces, tending to restore "equilibrium", do not work.[1]

(3)

Let us now turn to the problem of "gold prices". The definition given in Chapter II differs from the generally adopted use of the term, and, in particular, from the notion of "gold prices" employed by the authors of the inductive studies discussed in Chapter III. Its advantage is that it is clear-cut and non-equivocal. By adopting the current definition according to which gold prices are prices expressed in units of a gold-standard currency, Rist is conducted to the somewhat vague distinction between "world gold prices" and gold prices which are not "world" prices. In the light of the preceding definitions, we could say that after the war

[1] *Vide infra*, chap. viii.

there existed a maldistribution of gold, and that in the United States there was a redundancy of gold which partly expressed itself in a higher level of prices as compared with the 1914 prices. According to my definitions, these prices were *not* gold prices, since the monetary system of the United States, though attached to a gold base, included a substantial note circulation and a still more substantial volume of "bank money". Rist, as has been pointed out before, does not define the two notions of gold prices which he uses; we could probably say however, without misrepresenting his thought, that gold prices are "world gold prices" whenever there is *no* maldistribution of gold in the world. It will be observed that a certain degree of "maldistribution" exists whenever there is no absolute freedom in the movements of goods between countries and whenever some other conditions are not satisfied; so that for practical purposes we can hardly ever speak of "world gold prices". This contributes to the weakness of theories based on that notion and makes it preferable not to use it. It is even preferable to be careful in using the expression of "world prices", since this apparently clear term covers a very vague and non-constructible concept.[1] The following very judicious comments by Professor Mlynarski are worth quoting in this connection:[2]

"Gold never possesses a general purchasing power uniform in the whole world. Actually its purchasing power varies from country to country, being regulated by local production of commodities and money. The level of world prices is not and cannot be a uniform level in all countries, but signifies only an average level; that is, it is a statistical fiction. If we speak about a level of world prices we state merely that there exists an interdependence between the local levels of prices and this dependence is in a state of equilibrium, i.e., the divergences do not exceed the natural limits resulting from differences in the costs of produc-

[1] Or, to use Professor P. W. Bridgman's terminology, a "non-operational" concept. Cf. Professor Bridgman's *The Logic of Modern Physics*, New York, 1932, chap. i.

[2] Mlynarski, *Gold and Central Banks*, pp. 26–7.

tion, transport, customs-duties, etc. The level of prices in that country which plays the most important rôle in the international exchange of commodities, services and capital is a centre towards which the prices of all other countries must gravitate. The maintenance of this international equilibrium is a very complicated process and an average index of economic progress and of the inflow of gold cannot be regarded as a practical guide."

The discussion of the meaning of "gold prices" is not merely a terminological hair-splitting. Economic policy often suffers from the terminological inaccuracy of economic theory; furthermore ill-chosen terms occasionally cover imprecise concepts—and this is fatal for any science! If one speaks of "gold prices" one is, very naturally, led to think of "prices expressed in gold".[1] Hence *my* definition of "gold prices" limits the use of that term to a system where *all* money in circulation is gold. In a system in which there are notes and "bank money", prices are expressed in terms of "abstract" monetary units, not in terms of gold, *even* if the actual monetary system is that of the gold standard.

When one speaks of "gold prices" one is inclined to link prices to gold even in systems where gold does not act *directly* upon prices. The conceptions discussed and criticized in Chapter III are the outcome of the use of inadequate concepts, while the use of the term "gold prices" in the sense rejected here, easily results in further inaccuracies in the definition of the "gold standard". The detailed discussion of the problem "Gold and Prices" is indeed a necessary preamble to discussing the nature of the monetary system attached to (or based on) gold. A further preamble to the study of that system, as indeed of any system realizing "monetary internationalism", is an investigation of the notion and significance of the *balance of payments.*

[1] The following quotation from Adam Smith may be considered as a very rigorous definition of gold (or silver) prices: "By the money-price of goods . . . I understand always the quantity of pure gold or silver for which they are sold, without any regard to the denomination of the coin." (*Wealth of Nations*, Book I, chap. v, p. 48 of the Cannan Edition.)

CHAPTER V

THE BALANCE OF PAYMENTS

A. Fundamental Concepts

COMMERCIAL and financial transactions carried out from country to country are what compose the network of international economic relations, or rather the substance of these relations; the framework within which they take place is, on the other hand, determined by a number of measures adopted by States individually or collectively, measures of commercial, financial and monetary policy, which are what in fact distinguishes "nationalism" from "internationalism".[1] Whatever the framework established by national policies, the fundamental components of economic intercourse between countries remain the same. In a short enumeration they can be summarized as follows: (*a*) Trade; (*b*) Movements of capital;[2] (*c*) Movements of short-term funds.[3] Nor should movements of men from country to country be ignored since they are a most important item in economic relations and in economic processes that take place internationally, just as their interregional movements are very important in the economic processes of any single country. However, within the compass of our present inquiry the human factor of international migration, will have to be left aside, except in so far as it influences payments that are to be made from country to country.

Trade, capital movements and money transactions all have

[1] *Vide supra*, chap. i.
[2] Or long-term lending, *vide infra*, pp. 91 *et seq.*
[3] Or cash and short-term credit transactions, *vide infra*, pp. 97 *et seq.*

their causes in the working of national economies and in the interdependence and interrelations that exist between them within the larger entity—the world. Once they take place, they give rise to payments. And the ways and means by which the payments are made, and accounts settled, influence in turn the size and structure of the transactions themselves. Phenomena discussed under the present heading are all interdependent, with causal relationships going more often than not in either direction, from A to B *and* from B to A. The study of international payments is a study in economic interdependence, not only of countries in the world, but also of the different elements composing the economic life of any country.

An inquiry into these matters can be carried out according to various principles; it would exceed the scope of the present study to analyse the different approaches that have been made to the problem of international payments in connection with the theory of international trade or with the theory of monetary phenomena.[1] I shall limit myself to a restatement of the fundamental concepts and relations which are necessary tools for the subsequent sections of this book.

Transactions, commercial and financial, are continuous flows of varying intensity. Their result is, at every moment, a net payment from country to country. It is the foreign exchange market which reflects the changing situations that arise daily. It is on this market that the problem of international monetary stability presents itself most directly.

[1] The reader will find a most enlightening discussion of the exceedingly large bibliography of this subject in Professor Jacob Viner's *Studies in the Theory of International Trade*, New York and London, 1937, particularly in chaps. vi and vii, pp. 290–436. Other recent books to be consulted include: Gottfried von Haberler, *Theory of International Trade*, London, 1936; Bertil Ohlin, *Interregional and International Trade*, Cambridge, Mass., 1935; Ragnar Nurkse, *Internationale Kapitalbewegungen*, Vienna, 1935; Carl Iversen, *Aspects of the Theory of International Capital Movements*, Copenhagen and London, 1936. See also J. W. Angell, *The Theory of International Prices*, Cambridge, Mass., 1926, particularly chap. xvi, and Jacob Viner, *Canada's Balance of International Indebtedness*, 1900–1913, Cambridge, Mass., 1924.

However the study of what happens there demands an insight into the deeper workings of the economic process.

Transactions between individuals result in an exchange of commodities and services, in debts incurred and repaid, in cash received or disbursed, whether those individuals reside in the same country or in different countries. Similarly if we take countries as a whole, and consider the total of transactions concluded by individuals, corporations and public bodies in any country with individuals, corporations and public bodies abroad, we have the aggregate of trade transactions, of credit operations and of cash payments from country to country. Some of the payments made on these different accounts cancel out; there remain residuals which constitute international settlements proper. There are several ways of representing the phenomena in question, of picturing and summarizing them. An important device is to make a statement of all the transactions that have taken place in the course of a period of time, generally a year. The statement may include some or all transactions that gave rise to international payments. If it includes all transactions, it *necessarily* balances; if it includes some of them it results in a surplus or a deficit, unless the items left out, if any, cancel out. One may, on the other hand, include all items that produce an increase or decrease of international indebtedness whatever the time when these obligations fall due. Thus Professor Viner opposes the "balance of international indebtedness" to the "balance of payments"; by the former term he designates "the difference between the totals of debit and credit international transactions" of a country, by the latter, "the difference between *immediate* debit and credit obligations, and not . . . the difference between *all* debit and credit transactions".[1]

[1] Viner, *Canada's Balance of International Indebtedness*, pp. 21–2. Iversen uses the term "balance of foreign indebtedness" in a different sense; in his terminology "it comprises all foreign assets and all foreign debts of the inhabitants of a country at a particular moment irrespective of their being due or not". (*International Capital Movements*, p. 38.)

It is important, no doubt, to distinguish between transactions that give rise to immediate payments and such that create an obligation to make a payment in the future. For our purpose this distinction is not fundamental. Some of the payments that take place from country to country are the result of current transactions, such as e.g. purchases of goods against cash, or money transfers from country to country; others are due to past contracts such as the purchases of goods on credit, or long-term credit operations. The distinction that really matters in the present context lies in the nature of transactions, not in the fact that one takes into consideration payments that were made and received (*a*) at any one moment, and (*b*) over a period of time. For the purpose of appraising the financial situation of a country and of forecasting the future development of her "balance of payments", even for the purpose of deciding whether to adopt certain policies or not[1], a clear picture of a country's financial assets and commitments (in her relations with other countries) is of a very great importance. Computations of that sort are certainly a most valuable source of information, though the question involved is distinct from that of the mechanism of international settlements.

Let us now turn to the notions of "balance" and "settlements". Payments *to be* received in a country from abroad and those *to be* made abroad at each particular moment of time do not generally cancel out; there remains a *balance to be settled.* Means for that settlement can be obtained either by new commercial transactions or, more immediately, by short-term credit operations. Under the gold standard, shipments of gold take place in certain circumstances to settle momentary deficits in international payments. More will be said about this in discussing foreign exchanges. An important question arises in connection with the momentary or permanent character of that excess of payments to be made abroad

[1] *Vide infra*, chap. viii.

over payments received from abroad; it is the question of lasting stability *versus* instability in international economic relations as defined by the existence or absence of a stable equilibrium in international payments.[1] Stable equilibrium admits, by definition, deviations from it in one direction or in another, such that they cancel out over a longer period of time. If deviations from equilibrium, i.e. deficits in international payments experienced by some country, are not momentary and soon compensated by excess receipts, a situation of cumulative unbalance arises, which in order to be cured may require changes in the structure of foreign trade, or important financial measures, and which may lead to instability in foreign-exchange markets and to more or less important changes in the relative valuations of currencies in terms of one another.

It is the *process* of international settlements which sets daily in motion the various forces making for stability—or instability—while behind the settlements are the various commercial and financial transactions. Over a longer period of time international transactions get settled one way or another and payments received and payments made cancel each other out, compensate one another, *are balanced.* Thus one should speak about the *structure of international payments*, not about their balance, when referring, not to a momentary situation, but to a period of time. The yearly computations, now published in most countries,[2] are precisely such summaries of international payments showing their structure; they are generally computed on the basis of a classification which takes into consideration the origin of payments, i.e. the nature of transactions from which they resulted. To call such summary statements "balances of

[1] I prefer this expression to that, more currently used, of "equilibrium of the *balance* of international payments"; when payments are in equilibrium, their balance is nil.

[2] See the *Balances of Payments* published yearly by the Economic Intelligence Service of the League of Nations.

payments" is hardly correct; yet the name has been generally accepted and it would be idle to suggest a change. We must merely keep in mind that in speaking of a "balance of payments of some given country for some given year" one means a statement of the size and structure of payments actually made and payments actually received by a country during a given year, and not balances *to be* paid, balances giving rise to international settlements. The former "balances of payments" always balance; the latter correspond to the proper use of the term and represent a momentary, changing reality, best reflected in foreign-exchange markets.

This distinction between situations arising at any moment, and recapitulative statements covering past periods appears to be both justified and important. In order to supplement the observations that precede, it may be of interest to quote the following remarks by Professor Aftalion:

"Normally . . . and except in the case of insolvency, the balance of payments is in equilibrium. But for insolvency all operations must have been settled. . . . In the end if the balance of accounts showed a deficit, one had to settle that deficit by shipping gold, by sending abroad foreign securities held, or by new borrowings. If the balance of accounts shows a surplus it is likely that one did not fail to utilize that surplus: purchases of gold, of foreign securities, of houses, of new foreign balances; in other words gold imports or new foreign investments. If one knew all the exchanges of commodities and services, and all the capital and gold movements, the balance of payments would present itself in strict equilibrium. Thus, considering that a certain number of these movements remain unrecorded, one has the right to add in the table of the balance . . . the sum necessary to bring the balance of payments into exact equilibrium. When there is no insolvency, the thing that interests us in the balance of payments is not whether its equilibrium is achieved but how it has been achieved."[1]

Professor Aftalion uses the expression "balance of payments" to designate all payments that took place over a

[1] Albert Aftalion, *L'Equilibre dans les Relations économiques internationales*, Paris, 1937, p. 9.

period of time between a country and countries abroad. To this he opposes what he calls "balance of accounts" (commodities and services) which includes obligations due to international trade and to *past* debt contracts. It thus includes *a part* of international transactions while the "balance of payments" includes their totality. Aftalion's "balance of accounts" is not the same as the "balance of payments" in the sense of a momentary situation; I doubt therefore whether it is a useful concept. The passage quoted gives the impression that once the "balance of accounts" has been found to show a deficit or a surplus the problem arises how to meet the former or employ the latter. Now this is precisely what never really happens. The process of adjustment, of making payments, of settling deficits and employing surpluses is a continuous flow of transactions induced by fluctuations of prices, of exchange rates, of rates of interest, and of other changing economic conditions. The process can approach that described by Aftalion in the lines quoted only in a totalitarian State where all transactions with countries abroad, all foreign payments, are centralized and monopolized by the State. In the free economic process the distinction between "balance of accounts" and "balance of payments" is as unnecessary as the impression it conveys is inadequate. Once there is an unbalanced situation in international payments reflected in quotations of foreign exchanges, the adjustment can be made by the means of changes occurring in any and in all the items of commercial or financial relations; not only in gold movements and short-term lending, but also in trade items and long-term lending. Similarly the disequilibrium may be brought about by changes occurring in any group of international economic transactions.[1] To discuss international payments otherwise than in relation to a continuous and complex stream of transactions, carried out daily and even hourly, is very

[1] *Vide infra*, pp. 121 *et seq.*

dangerous and conducive to innumerable fallacious conclusions.

B. Classification of Transactions resulting in International Payments

Let us now turn to the classification of transactions that result in international payments.[1] One may adopt several principles of classification; the one chosen here is based upon the distinction between (1) commodities and services; (2) capital; (3) short-term funds.[2] Gold forms a separate chapter in my classification for reasons which will become more evident in the course of the following chapters. The main headings of my classification are as follows (a detailed discussion of items included under each heading follows below):

(1) Trade in commodities and services;
(2) Capital movements;
(3) Transactions with short-term funds;
(4) Gold movements.

The basic differences between my classification and that used by the Economic Intelligence Service of the League of Nations[3] are the following:

(*a*) The League's "Standard Scheme"[4] includes *gold* in the same group as Commodities and Services, while I consider it to be a separate main item, on account of the monetary significance of gold movements.

(*b*) The "Standard Scheme" includes "Interest and Dividends" in the group "Commodities, Services and Gold",

[1] It must be noted that when I speak of "payments", I mean credit and debit transactions which, unless they compensate one another, give rise to net settlements. Even the "compensation" occurs mostly through transactions on the foreign-exchange market.

[2] Cf. with my earlier treatment of this question in *Monnaie, Crédit et Transfert*, Paris, 1932, chap. viii. See also my *Monetary Internationalism and its Crisis* published in the book *The World Crisis*, London and New York, 1938.

[3] See *Balances of Payments*, published yearly by the League of Nations.

[4] Ibid., pp. 46–9 (in the 1937 edition).

as a group of services; in my classification it is included in the group of capital movements.[1]

(*c*) In the second main group of the "Standard Scheme", long-term operations are included along with short-term operations, as the two subdivisions; in my classification the two are considered as main divisions, considering that they represent functionally very different elements in the economic process.[2] The fundamental distinction that exists between monetary capital, on the one hand, and cash and short-term funds, on the other, is too often overlooked or deliberately underestimated in economic discussion—and in practical life—and yet it is very important. The former are funds available for investment, for financing larger productive processes, funds representing purchasing power in the producer's goods (or "capital goods") markets. The latter are ready cash, available at the utmost for short-term financing of trade.[3]

As regards the best existing computation of "balances of payments" due to the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce,[4] it is based on a classification which is different both from the "Standard Scheme" and from my own suggestions. In view of the importance of the American work in this field, I want to indicate the main differences between the American classification and the other two.

The schedule used by the United States Department of Commerce includes interest and dividend payments and war-debt receipts in the group "Trade and service items", while "short-term banking funds" are included in the group of "Capital items". In this it comes very close to the Geneva

[1] *Vide infra*, p. 91.

[2] Cf. with my article on *Economics of Banking Reform* in the *Political Science Quarterly*, September 1935, where the distinction between long- and short-term credit is discussed in relation to the problems of banking.

[3] I expect to give a full treatment of that distinction and of all that it implies in my forthcoming *Theory of Banking*.

[4] And particularly to Mr. Amos E. Taylor and his staff.

"Standard Scheme". On the other hand it approaches my classification in making a special group of gold movements. It is true that silver and currency are included in the same division, which is less acceptable for silver than for currency. The latter may very well be included in the same category as gold. As regards silver, its position in the United States is rather peculiar. Wherever silver is a monetary metal it takes, evidently, the place of gold in my classification; wherever both are monetary metals they can both be included in the same category. On the other hand wherever silver is demonetized it belongs simply to the item "commodities". One might argue that since 1933 silver is to a certain extent

"Standard Scheme"[1] *(League of Nations)*	*U.S. Department of Commerce*[2]	*Heilperin*
I. Goods, Services and Gold:— 1. Merchandise 2. Interest and Dividends 3. Other services (including Immigrant remittances, Tourist expenditures, etc.) 4. Gold II. Capital items:— 1. Long-term operations 2. Short-term operations	I. Trade and Service items (including Interest and Dividends; War-debt receipts; Tourist expenditures; Immigrant remittances, etc.) II. Gold, Silver and Currency III. Capital items Reported movements of Short-term banking funds Reported Long-term capital movements	I. Trade in Commodities and Services: Merchandise Services (including Tourist expenditures) II. Gold (including Currency and Silver *if* it is a "monetary metal") III. Capital movements Long-term operations; Interest, Dividends, Amortization; Immigrant remittances, Gifts, etc. IV. Movements of Short-term funds Commercial credit Short-term transactions connected with Long-term operations Other Short-term operations

[1] For full particulars see the *Balances of Payments*, League of Nations.
[2] For full particulars, see *The Balance of International Payments of the United States*, published yearly by the Bureau of Foreign and Domestic Commerce of the U.S. Department of Commerce.

a monetary metal and if this is admitted the American classification is on that point analogous with my own.

There are some further differences in less important points, among which I want to mention only one: while both the League and the United States Department of Commerce include immigrant remittances and funds under the heading of services, I consider that they are capital movements, just as money gifts are movements of capital. One must not consider that capital movements necessarily create international indebtedness; immigrant remittances are not credit operations—and yet they are capital movements.

The three classifications may be summarized in the table facing (where only the main subdivisions are included).

C. Analysis of International Economic Transactions

Classifications are never an aim in themselves but a means of getting a clearer insight into a tangled mass of phenomena. The summary statements of international payments, made between a country and countries abroad, classify the different items according to the origin of the payments and into larger divisions grouping payments due to economically similar causes. The significance of the latter grouping lies in the organic links that can be established between the different categories of transactions. Before we can gain any real insight into the conditions of international economic (and monetary) stability, we must inquire into the economic significance of particular types of international transactions and into their organic interrelations.

(1) *Trade in Commodities and Services*

The notion of "invisible" imports and exports is fortunately disappearing from economic text-books. Trade statistics are, of course, only more or less complete,[1] while the record of tourists' expenditures and similar items are even

[1] The "Standard Scheme" includes under the heading "Merchandise" the item "contraband"!

more difficult to appraise exactly. The work of compiling "balances of payments" consists largely in making estimates of items about which direct evidence is fragmentary.[1] The notion of the balance of trade is too well known to be discussed here. One can only wonder that the atavistic point of view, dating from the days of Mercantilism, still prevails to-day. One may wonder even more that in an age when trade in services has assumed such large proportions, and when capital and short-term transactions constitute a large part of international economic relations, one so often hears references made to the balance of "visible" trade as a determining factor in shaping international monetary situations and influencing stability. The daily press and sometimes even the financial press often gives the impression, when referring to these matters, as though it still lived in the eighteenth century—while the public remains ill informed about the real meaning and significance of the economic factors it reads about, such as the balance of trade.

The "balance of trade", which usually shows a deficit or a surplus and which cannot be reasonably expected to behave otherwise, results in the need for individual countries to make or to receive payments. But it does not follow that a country whose trade is "active", i.e. which sells abroad more commodities than it buys abroad, has an excess of payments to receive over payments to make. There are all the other items of the schedule of transactions resulting in international settlements—the point is really hardly worth arguing since it is enough to look at the "Standard Scheme" or any other such table to be convinced that it is absurd to attach too much importance to the balance of trade. It is only in connection with the other elements and with regard to special situations that the balance of trade acquires a significance of its own. We shall revert to that question later.

[1] Cf. *The Balance of Payments of the United States*, and Viner, *Canada's Balance of International Indebtedness.*

As regards services, the notion surely ought not to embrace payments resulting from older capital investments, or other financial payments not increasing the outstanding foreign indebtedness of countries which receive them. To include interest and dividend payments, immigrants' and emigrants' funds and remittances into the group of services is, in my opinion, misleading and creates a wrong impression about the economic character of such payments. They are not the *quid pro quo* in paying for goods or services bought; they are a capital movement, which unless otherwise compensated (*vide infra*), must cause ultimately a shift in trade which will accomplish the "real transfer" of the sums involved.[1]

(2) *Capital Movements*

Transactions included under the present and under the following headings are, in effect, movements of purchasing power. From this point of view they are similar to each other and fundamentally different from transactions consisting in the purchase of goods and services. *Because* capital movements and transactions in short-term funds consist in transmitting purchasing power (in the present case across national boundaries), there arises in connection with such transactions the problem of transfer,[2] whenever they are not compensated by other financial operations in the opposite direction. "Purchasing power" can be either moving back and forth, which involves purely financial compensations, or it can be used to buy commodities and services. These latter establish a link between capital and short-term movements, on the one hand, and trade, on the other.

What shall we now include in the concept of capital

[1] See my *Monnaie, Crédit et Transfert*, chap. viii, particularly pp. 107–16, and Iversen, *International Capital Movements*, particularly chap. i, sect. 3.

[2] The word "transfer" is used here in the sense of "transfer commodities and services" corresponding to the financial net payment to be made, not in the more usual sense, where "transfer" means the carrying out of a foreign-exchange operation.

movements? The concept of capital is used in economic theory in different senses which do not coincide and the clearness with which it is defined leaves much to be desired. The protracted discussions about "capital" which fill from time to time the pages of economic reviews and journals are often simply due to the fact that participants in these discussions are talking at cross-purposes.[1] Generally speaking, however, there are two main notions of "capital"; the one is used in "pure theory", the other, almost invariably, appears in the "theory of international trade". Very often they are mixed up with each other. The former notion is that of "real capital"; the latter is that of "monetary capital". If one adopts the former, one calls certain material goods "capital", though various economists select various collections of goods; if one adopts the latter, "capital" consists of certain *funds* of purchasing power, though here also there is no universally recognized notion. Personally, and for the reasons the discussion of which would exceed the limits of the present inquiry, I favour the monetary concept of capital. Its adoption enables many misunderstandings to be cleared up, and reduces the confusion that still reigns in this field; and, what is particularly important from the point of view of the subject we are concerned with, it allows us to make away with what is surely an artificial distinction between the "general theory" and the "theory of international trade".

In the terminology which I have adopted, "capital" is the fund of purchasing power made available for investment. It is to be distinguished from monetary funds whose destination has not yet been decided upon by the owners. These funds are cash and short-term deposits. One has to note that the organization of credit does not make possible a sharp division between the two types of funds

[1] I expect to deal in greater detail with this question and some of the questions that follow in my forthcoming *Theory of Banking*.

—which is one of the great factors in economic instability. When purchasing power over which its owners are keeping full right of disposal is used for the purpose of starting new production processes, this need *not* lead to difficulties provided that the owners are saving *de facto*; if they should however ask for repayment of their deposits on demand,[1] either they could not be paid back, or productive processes would have to be discontinued, or both, with great detriment to confidence on the one hand, and to production and the returns therefrom on the other hand.[2] Both in transactions at home and in international relations it may happen and, under institutional arrangements that exist to-day, it does happen, that savings are used for consumption by those who borrow them from the original savers, while some short-term funds are used, by the borrowers, to finance productive investment. Thus credit transactions may lead either to dissaving or to an increase of new capital investments beyond what has been voluntarily saved. In other words the actual size of cash balances and the distribution of income between consumption and saving, and of saving between investment and hoarding may be affected by lending and borrowing of individual savings.[3] This is true also in the sphere of international relations. Movements of capital and of short-term funds between countries lead to similar consequences as the movements of funds from creditor to debtor in one and the same country. This question, which can only be mentioned here, has hardly ever been explored in spite of

[1] Meaning a *net* repayment which results from both repayments and the making of new deposits.

[2] In a fuller development of these ideas, we should find here the elements of the "monetary theory" of business cycles.

[3] My use of the term is more in conformity with that of Mr. Robertson and of Mr. Keynes in the *Treatise of Money* than with the latter's use of the term in his *General Theory*. The use of the term "savings" in the sense "Income *minus* spending on Consumption", and the admission that savings can be either hoarded or invested, seems to me to be much more fruitful than the newer definition of Mr. Keynes, according to which savings are always equal to investments.

the close bearing it has on national and international economic and monetary stability.

As has been already mentioned, institutional arrangements make a sharp distinction between capital and short-term funds very difficult, if not sometimes impossible. Some recent theories of "liquidity" would seem to make the whole distinction disappear in a haze of intermediate positions.[1] They are based mostly on the confusion of "liquidity" of a short-term asset, and the possibility of selling an investment. An asset is liquid if within a short period of time it is converted back into cash through the very working of the economic process. A bill of trade is "liquid" because when the commercial transaction it represents is completed it will be repaid and will cease to exist. The fact that in the steady or rising tide of business a new transaction will cause the creation of a new bill of trade and that the total of bills outstanding may be constant or increasing does not affect the "liquidation" of the particular bill through the process of trade. The situation is different when a share, a bond, a house or a piece of land are sold on the respective markets. The possibility of converting such an investment into cash depends on the willingness of a saver to invest his savings into this type of an investment. Once an investment is sold, only the person of its owner has changed; the investment remains; it is not "liquidated". What may also have changed is its money-value. A bond presents an analogy with a bill of trade in that it is a contract of debt which, when the time comes, and unless there is default, will yield a fixed amount of money to its owner; only the period of time is more or less long and always longer than the period for which a bill of trade is issued. Investments not involving a contract of debt are not fixed in money value; they are indeed durable commodities. They are more or less *marketable*, not liquid.

[1] See, e.g., J. M. Keynes's views of "liquidity preference" in his *General Theory of Employment, Interest and Money*, London, 1936, particularly chaps. xiii and xv.

While "liquidity" is a property of the asset, "marketability" is dependent upon the situation on the market in which the asset is to be sold. In fact it is not the asset which is more or less "marketable", but the market which is more or less receptive, wider or narrower.

The observations that precede, while they are a digression from the main line of our argument, are intended to clarify the concepts employed; they are not supposed to give anything like a full treatment of the many questions referred to.[1] Let us now turn to our discussion of the principal items composing international economic transactions.

Capital movements include, in the "Standard Scheme", the following items:[2]

(1) Amortization of debts;
(2) Purchases and sales of real estate and of securities;
(3) New capital issues (loans floated abroad);
(4) Participation in new capital issues (foreign participations in new domestic capital issues and vice versa);
(5) Other long-term investments.

To this I am adding the following two items:

(6) Interests and Dividends;
(7) Immigrants' remittances, gifts, etc.,

which as has been said before, constitute capital movements too. In supplementing these earlier remarks, it may now be observed that these last two items represent movements of purchasing power, in the same way as new loans, except that they are not to be paid back. There can be, I think, no question about their being items belonging to the category of movements of capital, not to that of goods and services. Less evident is the inclusion in this group of transactions of item (2): purchases and sales of real estate and of securities.

[1] I am obliged to refer the reader again to the *Theory of Banking* which I hope to publish shortly after the present book and where I expect to submit these questions to a detailed analysis.

[2] *Balances of Payments*, the items listed here belong to the section of "Capital items" labelled "Long-term operations".

To be quite precise one should subdivide securities into shares and bonds and exclude the latter from item (2). Shares are titles of property over enterprises, and can be therefore assimilated to goods, while bonds are titles of debt and represent financial claims. The question, therefore, is whether transactions in real estate and in shares should be considered as capital movements or, on the contrary, included into the trade items? In my opinion the former is more justified than the latter, though the case is surely one which could be legitimately decided either way. My reasons are twofold:

(1) Purchases of real estate and securities are a capital investment in the true sense of the word; if they involve a transaction between inhabitants of two countries, then it is an international capital transaction. It does not necessarily follow that it must result in a net increase of investment in the world, for

(2) Such purchases may release home capital for new uses and put the foreign capital in its place into the older investments. Now the released home capital can be either used for financing new investments, or can be hoarded, or dissaved and used for consumption expenses.

In supplementing point (1), we may add that it sometimes happens that national *entrepreneurs* build houses, etc. for the express purpose of selling them afterwards to foreign capitalists. In such a case an increase in home investment is due to the anticipation of an inflow of foreign capital into the market for these special types of investment. Securities also can be (and often are) issued with the hope of selling them eventually to foreign capitalists.

The fact that houses and securities yield income in succeeding years and that such income creates, if they belong to foreigners, future foreign claims on the country in question, is sometimes also employed as an argument in favour of including such purchases in capital transactions. But then the principle of classification is different from the one

employed here. If the condition of including an item in the group of capital transactions is the creation of claims in the opposite direction for the years that follow, then indeed not only should the transactions we are now discussing be included, but interest and dividend payments as well as gifts and the like should be kept out. But is this not mixing up two principles of classification? The distinction between capital and goods is one thing; the distinction between transactions that create sources of yearly income and result in yearly payments abroad, and other transactions, is another thing. The one is of a direct economic significance as it keeps apart two functionally different elements of the economic system; on this is based my classification. The other is very relevant to anticipations of the future and to the framing of policy—but this is an entirely different question.[1] I am discussing this question with some insistence because in my opinion it is extremely important to make it quite clear what is the exact economic significance of the various types of transactions that give occasion to payments between countries.

(3) *Movements of Short-term Funds*

While international capital movements can be superseded by capital movements in the opposite direction, houses previously bought can be sold again, and securities also, there are transactions which are, by their very nature, short-term and reversible in the short run. These are operations with cash and with demand deposits. The general economic distinction between monetary capital and cash (or short-term funds) is in this connection also the principle of classification. Short-term credit operations can be carried out in connection with international trade or with international capital movements. The former is carried out with the help of "commercial credit", whose dimensions vary with the varying value of international trade (if financial and commercial habits are

[1] *Vide supra*, p. 82.

stable). On the other hand, the transactions listed on page 95 above may result in temporary deposits made with foreign banks and in movements of short-term funds between countries.[1] Such transactions are a corollary of the long-term operations, just as commercial credits are a corollary of international trade.[2]

By far the most important movements of short-term funds, from the point of view of international monetary relations, are those which result from purely financial transactions, disconnected in their origin from any other international economic operations.[3] It is such *independent* movements of short-term funds that deserve particularly careful attention.[4] Why do they take place at all?

People move their short-term balances abroad, or, what amounts largely to the same thing, prefer to keep their cash reserves in one currency rather than in another, for one of two reasons:

(*a*) They may be attracted by more favourable terms offered to them by foreign banks, as regards the rate of interest paid on demand or short-term deposits. Other things being alike, a capitalist will prefer to deposit his cash

[1] Cf. with Ragnar Nurkse *Internationale Kapitalbewegungen*, Vienna, 1935, p. 226.

[2] Similarly letters of credit delivered to tourists and travellers are a short-term credit of operation linked with the international sale of services. One could extend the list of short-term transactions which depend upon the other types of international operations. These links exist, of course, also in *internal* economic relations that take place within the boundaries of any country.

[3] This distinction is also made by Nurkse in his *Internationale Kapitalbewegungen*, op. cit., p. 225: "Zunächst ist eine Unterscheidung zu treffen zwischen *induzierten* und *autonomen* Kurzkreditbewegungen, je nachdem die Kapitalübertragung als blosse Begleiterscheinung des Standes der anderen Zahlungsbilanzposten ausgelöst wird, oder ob sie als relativ selbständiger Faktor einsetzt und ihrerseits auf die Zahlungsbilanz bestimmend einwirkt." ("In the first place a distinction must be drawn between *induced* and *independent* movements of short-term credit, according to whether the transfer of capital will be carried out as a mere accompaniment of the situation of other items of the balance of payments, or whether it constitutes a relatively independent factor and exercises an influence on the balance of payments.")

[4] See my *Monetary Internationalism and its Crisis*, sects. 17–20.

where the rate of interest is the highest. Therefore, *ceteris paribus*, a change in the relative rates of interest paid on deposits by banks of different countries, will induce a movement of short-term funds from country to country. Those balances will be moved away again, either when their owners find some use for them, or when it becomes more advantageous to hold them in a third country, or to repatriate them. This type of movements plays a large part in the mechanism of maintaining a state of equilibrium in international payments.[1]

(*b*) People may move their balances in search of greater *safety*. This is what happens when, in a changing world, the condition of *ceteris paribus* is not fulfilled. Political conditions, national economic policies, social and psychological factors, may induce here and there, at certain times, a lack of confidence in the economic and monetary future of the country. The fear of political difficulties, of social troubles, of certain economic policies (such as higher taxation, or excessive credit creation, etc.) may induce capitalists to move their balances to safer surroundings. What is important is that these considerations of comparative safety may, and occasionally do, outweigh considerations of comparative returns. One then speaks of "non-economic" causes of movements of short-term funds. Whether they are non-economic or not depends, of course, on the sense attached to that word. Movements of funds of the kind we are discussing at present are influenced by anticipations regarding the future of the cash and demand deposits in question. They are just as economic as considerations relating to comparative returns. One may prefer to earn a smaller yield or no yield at all in conditions which assure (or seem to

[1] Inasmuch as movements of short-term balances occur to bring the international payments into equilibrium and are the result of the position of the balance of payments, Nurkse considers them as "induced", not as "independent", movements. Here lies the difference between Nurkse's distinction and my own.

assure) safety for the capital fund, than a larger revenue combined with more or less important risks of capital loss. Whether reasons for such movements of balances are due to political, to social or to economic conditions and to anticipations about their future development, the motive is always the fear of a loss. That loss may be caused by an inflation and rise in prices; by a devaluation (combined or not with an inflation); by high taxation; by expropriation. The menace of war may mean the possibility of an inflation while social unrest may mean the possibility of one or another form of expropriation. In either case it may be preferable to convert one's liquid resources into another currency and to shift them to another country.[1] In periods of political unrest or economic instability, or both, the "independent" movements of short-term funds assume more or less considerable proportions and become the greatest single factor making for monetary instability. Not only are such movements then frequent and erratic; the volume of the "nomadic" funds becomes at the same time larger than ever. This fact is easy to account for. In periods of instability, when anticipations of the future are uncertain and when pessimism prevails, home investments are deferred and cash balances increase. Funds of purchasing power wait for an appropriate moment to be invested, and as that moment gets postponed the non-invested savings (or hoards) keep accumulating. It is those funds which are easily induced into more or less panicky movements from country to country, from currency to currency. They owe their existence and their mobility alike to the uneasiness about the present and about the future, in short, to the prevailing lack of confidence.

We shall see in a later chapter how short-term credit operations are an equilibrating factor in international settlements,

[1] From the point of view of international payments it is immaterial whether one keeps the foreign currency at home or in the respective foreign country. In the former case, however, hoarding may take place more easily than in the latter.

when they form a part in a working system of Monetary Internationalism; but we must devote due attention to the fact also that in periods of instability their effect is to aggravate the situation, to unsettle it even more than would be the case if such movements had not occurred. In the recent crisis in international monetary relations these "independent" movements have played a most prominent part. It will be no exaggeration to say that they constitute the central problem of Monetary Internationalism.

D. Interdependence within the "Balance of Payments"[1]

As has been mentioned before, an inquiry into the mechanism of international payments is a study of economic interdependence. Let us emphasize this word; "interdependence" means "dependence on each other"; it is therefore to be carefully distinguished from a one-way causal relationship. The attribution of one-way causality to phenomena which are in fact interdependent has given rise to much futile discussion (some people contending that the relation of cause to effect is in one direction, and some that it is in the other, when in fact it works both ways). This is particularly true of the *transfer* discussions. It seems to me quite vain to try to establish either that capital movements are the cause of commodity movements or that, on the contrary, they are the effect of the state of the balance of trade. As will be seen later, movements of short-term funds or movements of gold under the gold standard, or both, are "induced" by the state of international payments at any moment of time and are the means of making an immediate, though provisional settlement. We shall also see that movements in exchange rates, themselves resulting from the state of international payments, may influence the terms of trade and therefore the volume of international trade transactions (both in com-

[1] Cf. Iversen, op. cit., chap i, sect. 4; my *Monnaie, Crédit et Transfert*, chap. viii.

modities and services). Besides that, however, it is necessary from the long-term point of view that the balance of trade, the balance of capital transactions and the balance of movement of short-term funds give a total of zero (under the gold standard we must also add the balance of gold movements), since in the long run all payments due are made (or cancelled by operations in the opposite direction).[1]

In the simplified assumption that short-term transactions and gold movements cancel out, in the long run, the balance of trade must be equal to the balance of capital movements (but with a contrary sign). An excess of imports (payments to make abroad, on balance), must then be compensated by an inflow of capital (payments received from abroad). Similarly an excess of exports must go together with an outflow of capital. Under the simplified assumptions made, these relations *must* take place. Yet one may ask: what if they do not take place? Then a position of instability results, and we must drop our assumptions, which imply a condition of durable stability.

If we include movements of short-term funds, but leave out gold, we shall have the following possible situations:

Trade	*Capital*	*Short-term Funds*
(1) export surplus: T_e	export surplus C_e	export surplus, if $C_e < T_e$ import surplus, if $C_e > T_e$ balance zero, if $C_e = T_e$
(2) export surplus: T_e	import surplus C_i	export surplus equal to $T_e + C_i$
(3) import surplus: T_i	import surplus C_i	3 cases analogous to (1)
(4) import surplus: T_i	export surplus C_e	import surplus equal to $T_i + C_e$

Cases (1) and (3) call for no special explanation. As to cases (2) and (4) they would happen if a country having an

[1] I am speaking here, of course, of payments, not of the state of international indebtedness, so that the problem of repudiation does not arise.

export surplus went on importing capital while keeping funds on short-term in foreign banks; or if having an excess of imports over exports a country went on lending on long term abroad, realizing a *net* export of capital while increasing its short-term debt.[1] These two situations are characteristic of unstable conditions.

The case including gold movements will be discussed in a later chapter.

All the relations outlined are purely arithmetical ones. They are fundamental relations. There can be no doubt about their existence since they result from the very notion of "balance of payments". The only question is how the different items of the balance of payments get adjusted to one another in a proper way. This adjustment always happens; but while it can be made in a way compatible with the maintenance of stable economic and monetary conditions on a national and international scale, it may also involve great disturbances, financial, monetary and commercial.[2] Hence the importance of the problem of maintaining the equilibrium of international payments. If the mechanism works automatically the problem is essentially one of knowledge and of intellectual curiosity; if the mechanism demands management, knowledge becomes a prerequisite to action.

[1] Such was, for example, the case of England during a part of the post-war period.

[2] It is thus rather unimportant to demonstrate that *transfer* is always theoretically possible. Of course it is! The only question is whether it can be carried out *without* financial and monetary difficulties that may lead to a complete collapse and without more or less important trade disturbances. It is here that lies the *real* problem.

CHAPTER VI

THEORIES OF FOREIGN EXCHANGES

(1)

OUR discussion of foreign exchanges will be conducted in two stages: the first represents the *general case* of currencies not linked to gold; the second stage is the *special case* of the gold standard. This way of treatment is the application of conclusions reached in the foregoing analysis of the monetary economics of gold. It resulted from that inquiry (1) that gold currency is a special case of currency in general and (2) that linking currency to gold (as in the system of the gold standard) is a particular form of management adopted for a paper currency.[1] Historically the evolution has gone from metallic to paper currencies and finally to "abstract" bank-money: but each new development has widened the scope of "money" and has reduced its less-developed forms to being merely particular cases. Economic theory must explain general phenomena on the basis of the widest conception of money, and then make appropriate allowances for particular cases, such as gold currency or gold-standard currency.

The theory of foreign exchanges is closely linked to the study of the balance of payments: "in studying the subject as a whole, it is above all things necessary to form a clear view of what is meant by international indebtedness, of the

[1] *Vide infra*, chap. ix.

elements of which it is constituted, and the various phenomena which it represents".[1]

Operations in foreign exchanges consist in the conversion of one national currency into another, which is necessary in order to make payments from country to country. This problem does not present itself in connection with inter-regional payments in one and the same country, even though there exists the cost of banking transfer or of sending currency from place to place. On the international scale the problem would not be so important if certain conditions of homogeneity were realized; they include: (*a*) similarity or even identity of monetary policies in the different countries; (*b*) what we might call a "homogeneous distribution of confidence throughout the world", so that no capital movements, for example, would take place because of differences in comparative anticipations concerning the economic and political stability of the different countries; (*c*) freedom of international movements of commodities, of monetary funds and of men. The non-fulfilment of these three groups of conditions is at the basis of the existence in international relations of problems which do not exist interregionally.[2] Were it not for these considerations, we could discuss payments from country to country in the same way as we discuss payments from one place to another in the same country, and assimilate dealings in foreign exchanges to making payments between different places in the same country. Some economists favour this approach to the problem of foreign exchanges even under existing conditions.[3] In my opinion

[1] Viscount Goschen, *The Theory of Foreign Exchanges*, fourth edition, London, 1932, p. 8. This work, first published in 1861, still remains a classical study on the subject.

[2] Cf. with chap. i above.

[3] e.g., Professor Ohlin in *Interregional and International Trade*, pp. 385–6. Ohlin quotes the following statement by R. G. Hawtrey, which sums up this point of view most clearly: "The essential function of exchanges is not to relate debts payable in different *currencies*, but to relate debts due in different *places*. And exchanges are quoted between different places in the same country which use the same currency unit." (*Currency and Credit*, second edition, 1923, p. 105.) This nationally

it is preferable to draw a distinction between the foreign exchanges, on the one hand, and the technical costs of transferring money from place to place, on the other, and to explain the foreign exchanges in relation to the supply and demand of national currencies in terms of one another. The literature of the subject is enormous and cannot be analysed, nor even quoted, in the present study. I shall merely endeavour to give a summary picture of the processes involved.

(2)

The various transactions listed and classified in the preceding chapter result in payments to be effected from country to country. Such payments can be made either by sending cash or by remitting bank money (in the form of bills of exchange payable on sight, or of bank transfers).[1] Foreign exchange markets are places where demand and supply of the currencies of various countries and of bank balances in these countries meet. Resulting prices are foreign-exchange quotations.[2]

All payments to be made abroad create a demand for foreign currency or for bank balances abroad and a corresponding supply of national currency or of bank balances at home. The corresponding supply of foreign money and demand for national money results from payments received from abroad. Payments received and payments made are

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quoted exchange rate would be the cost of transferring money from one place to another, a cost which used to be more or less high once upon a time, and still is in certain countries, but disappeared with improvements of banking organization. In the third edition of *Currency and Credit* (1928), however, where the part dealing with Foreign Exchanges has been rewritten, Mr. Hawtrey says: ". . . where debtors and creditors deal with banks in different countries, having different currencies, the mechanism of settlement becomes exceedingly complicated", thus emphasizing the difference between the international and the interregional problem.

[1] We leave gold out of consideration at this stage of our discussion.

[2] Professor Albert Aftalion writes in *Monnaie, Crédit et Change*, Paris, 1927: "Le cours de change n'est pas autre chose que le prix en monnaie nationale des monnaies étrangères, le prix qu'il faut payer pour disposer d'une certaine quantité de monnaie à l'étranger." (p. 251.)

due to exports and imports, to capital movements, to short-term credit operations. While it is, therefore, incorrect to relate the state of supply and demand in the foreign-exchange markets to trade only, it is quite correct to relate it to the total of international transactions.

Let us assume, for the sake of simplification, the existence of only two countries, and let us further assume that prior to the moment when our reasoning starts there is in existence a certain rate of exchange between the two national currencies. This rate is, e.g., five A francs for one B dollar (or, reciprocally, one-fifth of a B dollar for one A franc). If during the following day the payments from A to B total 1,000 francs and payments from B to A total 200 dollars, then at the prevailing price, it will be easy for B debtors to acquire A money and for A debtors to acquire B money. The transaction is accomplished by the mechanism of the market, where A debtors acquire balances in B (or B currency) and use them to pay their B creditors, while these B balances are offered for sale by B debtors who want to acquire balances in A to pay their debt there. In other words, the money of A debtors is finally used for making the payments due to A creditors, and similarly in country B. As already mentioned the operation presents no problem if the amounts due in one direction are equal at the existing rate of exchange to the amounts due in the other. In that situation we have a balance of payments equal to zero, or to use the more familiar phrase, a balance of payments in equilibrium, and we have equilibrium as well in the foreign exchange market.

Such a situation however is unlikely actually to occur: on a given day either payments exceed receipts or receipts exceed payments. Let us now further assume that there is neither arbitrage nor forward trading. Then the price of A money in terms of B money will not remain stable; there will be a movement of exchanges until equilibrium between the reci-

procal supply and demand of the two currencies is reached. This will happen either when the rate of exchange has moved sufficiently to equalize the two monetary sums which were unequal at the old price, or when new transactions are carried out which fill the gap. Let us examine these two solutions.

(*a*) Supposing that payments from A to B are again 1,000 francs but payments from B to A are only 100 dollars. There will be a relative scarcity of dollars, since at the old rate the B debtors would need 200 dollars to make their payments; and there will be a relative superabundance of francs since the demand for franc-balances would at the old rate be only 500 (in order to make a payment equivalent to 100 dollars). This situation of supply and demand will cause the rate of exchange to move "against" the franc; it will become necessary to pay more francs for one dollar. The rate at which 1,000 francs will be exchanged for 100 dollars is, of course, 10 francs to the dollar, though the actual development would show a tendency of the franc to fall from 5 to somewhat over 10 francs for a dollar. In reality we never get such situations, since compensating transactions take place and tend to smooth out the day-to-day fluctuations, but this over-simplified "model" provides some elements of explanation.

(*b*) New transactions are likely to be carried out in response to changes taking place in the exchange rates or as a result of policies adopted in consequence of these changes.[1] Exports of the country whose currency depreciates in terms of the other country's currency are likely to be stimulated and imports discouraged, while changes in interest rates may induce a compensating flow of short-term funds. Thus the situation described under (*a*) may get reversed not only by accident, but as consequence of the very effects of the changes in quotations.

If one takes into consideration a longer period, daily

[1] *Vide infra*, chap. viii.

fluctuations of exchanges would be due principally to the unequal distribution over time of the various transactions and financial maturities, while new transactions, induced directly or indirectly by movements of exchange rates, would tend to reduce them to mere oscillations around some equilibrium rate.

Let us now drop one of our assumptions and introduce *forward transactions.* "Forward Exchanges are Foreign Exchanges bought or sold for future delivery (hence the American name 'futures') against payment on delivery."[1] Such transactions consist in concluding contracts of purchase and sale of foreign exchanges to be carried out in the future; their object is to get a safeguard against future exchange-rate fluctuations, or to speculate in anticipation of them. According to what the anticipations of the market are, forward exchanges will be quoted at a rate higher or lower than the "spot" rate about which we have spoken so far; the difference between the two rates is called a "premium" if the forward rate is higher, or a "discount" if it is lower. If somebody who has a payment to make abroad in, let us say, two months' time, buys forward exchange for the corresponding amount in order to safeguard himself against the appreciation of that foreign currency, he will have to pay a premium, which will be the higher the more widespread the anticipation of a rise of that exchange rate is, and the greater the anticipated rise. The difference between the "spot" and "forward rates" is a sort of insurance premium.

Without entering into more technical details, let us point out that forward transactions have, in general, a tendency to smooth out fluctuations of exchange rates over time. It is only in periods of monetary instability that they are liable to aggravate the situation by being used for purely speculative purposes.

[1] Paul Einzig, *The Theory of Forward Exchange*, London, 1937, p. 21. The reader will find in that work a very complete discussion of forward-exchange problems and of many foreign-exchange problems in general.

Let us finally drop another of our simplifying assumptions, and consider the case of many countries, many currencies and many foreign-exchange markets. If each market were to develop independent quotations of rates of exchange between the national currency and foreign currencies there would be in the world a perfect maze of divergent quotations of rates of exchange between any two currencies. The operations of *arbitrage* intervene to establish a connection between the different markets and quotations and to correlate the various rates between any two currencies. Arbitrage operations consist in buying assets on the market where they are cheaper and in selling them where they are more expensive. This amounts, in the case of foreign-exchange arbitrage, to a movement of short-term funds between the various markets the effect of which is to equalize exchange rates. Owing to arbitrage transactions one can speak of *world rates of exchange*, and one can be certain that momentary divergencies between rates quoted in different markets will set into motion equalizing operations. Arbitrage can be carried out not only in spot transactions but also between forward and spot exchanges.[1]

(3)

The summary picture of the mechanism of foreign-exchange operations given in section 2 was intended primarily for the general reader[2] and has been included here in order to define certain fundamental notions which will be further used in later parts of our inquiry. Let us now revert to the theoretical aspects of the problem.

It follows from our discussion that foreign-exchange quotations result from the momentary position of the balance of payments. This conclusion is quite obvious since exchange

[1] See Einzig, op. cit., chap. xv.

[2] An excellent elementary account of these problems is to be found in the *A B C of Foreign Exchanges* by George Clare and Norman Crump, tenth edition, London, 1936.

rates are brought about by international payments in the way defined above. To say, however, that fluctuations in foreign exchanges depend upon changes in the balances of payments is not a complete and not a very satisfactory explanation of the phenomenon. For why are there changes in the balance of payments? What items changed, how much did they change, are the changes lasting or momentary, are they likely to be offset by future changes in the same items or are they cumulative, can they be compensated by changes taking place in other items, can compensations come about automatically or if not, what policies are necessary to bring them about? All these questions are most important and only by answering them do we come to grips with the real problems.

There is a well-established opposition, in the theory of foreign exchanges, between the so-called "*balance of payments theory*", the "*purchasing power of money theory*" and the "*psychological theory*". The first type of theory relates foreign-exchange rates to the state of the balance of payments; the second to commodity prices prevailing in the different countries, the third to individual estimations and anticipations.

The "*balance of payments theory*" is true within its limitations but has been much abused. It has been all too often adopted by the neo-mercantilists who postulate an "active balance of payments" as condition of monetary stability.[1] As we have seen it is the *equilibrium* of the balance of payments which is the condition of stability; an excess of receipts over payments in one country must be accompanied by an excess of payments over receipts in some other country (or countries); thus if the neo-mercantilists were right, world-wide monetary stability could never be realized. It is a nationalist, not an internationalist, point of view which

[1] See the criticism of that view in *The Theory of Money and Credit* by Ludwig von Mises, London, 1935, pp. 249 *et seq.* See also Albert Aftalion, *Monnaie, Crédit et Change*, pp. 251–65.

lies behind that distortion of the balance of payments argument. Furthermore it is often overlooked by the advocates of this theory that the state of the balance of payments is not only the cause, but also the result of the rate of exchange. While the rates established at any moment on the market are the result of the position of the balance of payments, that position results in turn, in part at least, from past fluctuations of exchange rates. As has been shown above on a simplified model, fluctuations of the exchange rate[1] induce directly or indirectly new transactions and therefore changes in the structure of the balance of payments. Thus the "balance of payments theory" explains *only* how foreign-exchange quotations get established: *at every moment the rate of exchange is the result of the momentary position of the balance of payments, i.e. of the supply and demand of the various national currencies in terms of one another.*[2] But the balance of payments is in itself the result of changes which are continuously taking place in the various types of transactions between countries, and which are determined in part by the very rates of exchange.

The "*psychological theory*"[3] seems to be principally the result of a misunderstanding. Nobody will deny the psychological character of individual appreciations, choices, anticipations and decisions. In general economic theory this is embodied in the "subjective" value theory. A thorough

[1] Or—under the gold standard—shipments of gold; *vide infra.*

[2] As Aftalion puts it: "Les partisans de la théorie (de la balance des comptes) . . . subordonnent le cours du change à des facteurs purement *quantitatifs*, aux quantités de devises offertes ou demandées sur le marché et même seulement aux quantités de devises qui ont leur source dans la balance des comptes." (Op. cit., p. 252.) The last qualification is either unnecessary if "balance des comptes" is meant to include *all* international payments of a country, or it is wrong if the term has a narrower scope. Otherwise, Aftalion's summary statement is quite correct. He concludes that this theory is "a quantitative theory of foreign exchanges". This is true also; but, of course, the *causes* which determine the supply and demand in the foreign-exchange markets may be, and in fact are, *qualitative*, that is, include such elements as anticipations of the future, or what are often called "psychological factors".

[3] See Aftalion, op. cit., pp. 290–347.

study of the "psychology of men engaged in the pursuit of economic activities" is still missing and it is to be hoped that a collaboration between economists and psychologists will succeed in the future in elucidating these problems. But whatever are the *motives* of human behaviour, it is their material, quantitative effects that interest us in economic theory. There are, as it were, two stages of the phenomenon: *first stage*: individual appreciations, evaluations, preferences, choices, fears, anticipations; *second stage*: the individual as buyer or seller of goods, services, funds of money. The second stage results from the first; but only in the second stage do we reach problems relating to market transactions, processes which form the subject matter of economic theory. By saying this I do not intend to diminish the importance of the "first stage"; on the contrary, for the purpose of obtaining a full understanding of the phenomena under investigation it would be fatal not to take it into account—and no economic policy could ignore it! It is important however, in order to avoid confusion, not to mix up the two stages, while realizing that they are connected one with the other. For economic *theory* human desires, feelings, appreciations become of interest only when they find expression in the shape of supply and demand—of *monetary* supply and demand in all but quite primitive forms of economic intercourse. In formulating economic *policy* it is however very important to know how the psychological elements may, in their endless flow and change, affect the developments of supply and demand in all the various markets for goods, services and monetary funds.

The foregoing observations apply to the whole field of economic theory and policy; a particular application of them will be found in the theory of foreign exchanges. Psychological factors enter into the determination of the size of commercial transactions, of the flows of capital and of money; they enter into the anticipations as to the future

course of events which are reflected in forward transactions. A full explanation cannot ignore these elements. But they all have to be expressed by a demand for, or supply of, the various national currencies in order to lead up to the establishment of rates of exchange. These latter result from quantitative expressions which the psychological and other elements combined obtain on the market: quantities supplied and quantities demanded at different prices; supply and demand curves; a market price.

If I said before that the "psychological theory" of foreign exchanges is the result of a misunderstanding I meant just that it consists in opposing one aspect of the problem to another when both aspects are important, and that its advocates fight the "quantitative" theory on two incorrect assumptions: (1) that it ignores the psychological elements and (2) that these elements can *replace* the quantitative elements in explaining the establishment of rates of exchange.[1]

The "*purchasing power of money theory*" of foreign exchanges relates fluctuations in exchange rates to changes in prices quoted in the countries concerned. We shall deal with it further when discussing below the problem of monetary parities. The theory can be traced far back in the history of economic thought, but has received particularly wide currency, as a theory of monetary parities, since reformulated by Professor Cassel. The purchasing power of money theory of foreign exchanges ascribes the fluctuations of rates of exchange between various currencies to changes in prices expressed in terms of these currencies; to quote Professor von Mises, "the rate of exchange is determined by the purchasing power possessed by a unit of each kind of money; it must be determined at such a level that it makes no difference whether commodities are purchased directly with one kind of money or indirectly, through money of the

[1] ". . . le change ayant son fondement dans les estimations de la dernière unité, c'est toute la théorie du change qu'on peut considérer comme une théorie psychologique", Aftalion, op. cit., p. 295.

other kind".[1] This is further amplified in the following polemic observations:[2] "The balance of payments theory forgets that the volume of foreign trade is completely dependent upon prices; that neither export nor import can take place if there are no differences in prices to make trade profitable. The theory clings to the superficial aspect of the phenomena it deals with. It cannot be doubted that if we simply look at the daily or hourly fluctuation on the Exchanges we shall only be able to discover that the state of the balance of payments at any moment *does* determine the supply and the demand in the foreign-exchange market. But this is a mere beginning of a proper investigation into the determinants of the rate of exchange. The next question is, what determines the state of the balance of payments at any moment? And there is no other possible answer to this than that it is the price level[3] and the purchases and sales induced by the price-margins that determine the balance of payments." In relating exchanges to prices, one must, of course, consider chiefly the prices of goods entering international trade and of goods which may enter international trade if their price differentials between the countries concerned are sufficiently large. The following observations formulated by Alfred Marshall in his evidence before the Committee on Indian Currency[4] are very judicious and worth quoting in this connection:

[1] Ludwig von Mises, *The Theory of Money and Credit*, op. cit., p. 250 (first published in German in 1912).

[2] Ibid.

[3] We find the word "price level" used in the English translation of Professor von Mises's book where the word "Preisgestaltung" is used in the German text (*Theorie des Geldes und der Umlaufsmittel*, second edition, Munich and Leipzig, 1924, p. 235). I note this in passing because (1) Professor von Mises criticizes elsewhere the statistical notion of a " price level" and (2) because it is not necessary to introduce that notion in order to propound the present theory of exchanges. The situation is different for the purchasing power *parity* theory. *Vide infra*, pp. 133–4.

[4] See the *Minutes of Evidence* offered by Alfred Marshall to the Committee on Indian Currency (in January 1899), reprinted in the *Official Papers by Alfred Marshall*, London, 1926, pp. 292–304 (questions 11,787–11,792).

"What do you take to be the general relation between the Indian exchange and prices in India and England?—India is so large that prices at her ports differ widely from up-country prices; and, partly for this reason, much of the produce of India is very little connected either as a cause or effect with the course of trade. But, broadly speaking, the Indian exchange, both before and after the closing of the mints, has indicated the proportion between rupee prices at Indian ports and sterling prices at English ports; and, subject to allowance for freights, etc. between India and England, the rule holds that the exchange, or the gold price of the rupee,[1] is the ratio of sterling prices to rupee prices. . . ."

" . . . If the exchange is not by telegraph, something must, of course, be allowed for interest. It is worth the while of an English importer of say, jute, to pay this price a rupee if the jute that he can get with a rupee will sell *net* in London for this price. By *net* is meant, after paying all the expenses; i.e. including insurance, interest for the time the capital is locked up in transit, and remuneration for himself."[2]

The theory which relates exchange rates to prices quoted in the respective national currencies is the more satisfactory the more important are commercial transactions as sources of international payments in comparison with the other sources of such payments. The larger are the payments due to capital movements and movements of short-term funds (other than commercial credit) the less acceptable is this theory of foreign exchanges. One may argue that in *the long run* all financial payments must either cancel out, or be compensated by commercial transactions;[3] this view seems to be entirely justified[4]

[1] Since, at the time of Marshall's evidence before the Committee, England was on the gold standard! A more general way of putting it would have been: "the sterling price of the rupee". Thus in answer to the next question Marshall says: "The Indian exchange is quoted as the sterling price of the rupee". (Op. cit., p. 295.)

[2] *Official Papers by Alfred Marshall*, pp. 293–5. Marshall takes into consideration in his argument only commodities enjoying a world market and possessing a world price. This is quite a proper limitation, but diminishes very much the significance of the theory. Without such a limitation, however, the theory would be incorrect.

[3] Unless they are repudiated.

[4] This is the attitude I have adopted in my earlier book, *Monnaie, Crédit et Transfert*, chap. viii.

since if payments are not deferred by the means of new loans, they must be met by a surplus of exports of the debtor country over that country's imports. It is true now, as it was in the beginning of the nineteenth century, that "our foreign expenditure . . . must eventually be discharged with the produce of the labour and industry of our people".[1] This, however, is a long-run development, and to a much larger extent now than a century ago. On the other hand the rate of exchange is a very short-run phenomenon, and even a monetary *parity* is only a *medium*-run one. Under such circumstances the purchasing power of money theory of foreign exchanges offers merely one of the elements of a full explanation; an exceedingly important element, but one that acts together with several others which, from the short-run point of view, may be much more determining.

In no case should one consider the relations between prices in the various countries and the corresponding rates of exchange of one currency for the other to be a one-way causal relationship, changes in prices causing changes in rates of exchange and the latter being merely a consequence of the former. Fluctuations of exchange rates may affect, and often *do* affect, internal prices, by changing the prices of imported goods.[2] If one envisages the balance of payments in its entirety, one observes that other components of it besides trade are affected by fluctuations of exchange rates.

When we take into account *all* the types of transactions to which international payments are due, we cannot but find that the rate of exchange is the result of supply and demand in the foreign-exchange market. That supply and that demand are due in turn to various causes, of which, particularly under stable conditions, commercial transactions form

[1] David Ricardo, *Reply to Mr. Bosanquet's Practical Observations on the Report of the Bullion Committee*, 1811, para. 46. (*Economic Essays of David Ricardo*, edited by E. C. K. Gonner, London, 1926, p. 141.)

[2] Cf. L. Baudin, *La Monnaie et la Formation des Prix*, vol. i, Paris, 1936, pp. 496-8 (where further bibliographical references are to be found).

one of the most important. But there are also to be considered capital movements and short-term credit transactions, the fluctuations of which may bring about very important changes in the respective volumes of supply and demand in the foreign-exchange market. Both these groups of operations depend little if at all on comparative prices of commodities in the respective countries. It is therefore impossible to agree with the advocates of the purchasing power of money theory of foreign exchanges when they say, in Professor von Mises's phrase, that "it is . . . the purchases and sales induced by the price-margins that determine the balance of payments".[1]

Rates of exchange between currencies depend upon the situation of supply and demand in the foreign-exchange markets; and the supply and demand depend in turn upon a variety of causes, some of which determine the volume of import and export trade, others capital movements, others short-term credit operations. Among these causes one finds previous movements of exchange rates, and anticipations of future rates.

(4)

Up till now we have ignored gold movements; the conclusions reached till now are valid for *any* monetary system, whether tied to gold or some other monetary metal or not. Now we shall assume the gold standard and inquire into the meaning of international movements of gold in the theory of foreign exchanges.

The features of the gold standard which we must particularly emphasize in the present context are: (1) the freedom of importing and exporting gold and (2) the fixing by law of the price of gold and the obligation of the central bank to buy and sell any quantity of gold that is demanded or

[1] Ludwig von Mises, *The Theory of Money and Credit*, p. 250. See also above, footnote 3, p. 115.

offered at that price. The buying and the selling price of gold may not be quite identical.

We shall assume, for the purpose of the present argument, that all the countries concerned are on the gold standard. Then the price of gold as expressed in terms of each of the national currencies is fixed by law and gold can always be sold for determined amounts of national currencies at the mints or at the central banks. The comparison between the price of gold expressed in one currency and its price expressed in another yields a ratio which is called the gold-parity between the two currencies (*vide infra*). In effect, however, if one has a certain quantity of gold in one place and wants to use it for making a payment elsewhere, this costs freight, insurance and lost interest, and thus a payment in gold yields less units of the foreign currency than would be obtained through a parity calculation. If the parity between currency B and currency A is 1 to 5, i.e., if a certain quantity of gold costs 100 units of B currency and 500 units of A currency, and if the cost of sending gold from a place *b* in B to a place *a* in A is 1 per cent, then if the payment is made by sending gold, 100 units of B currency will be worth only 495 units of A currency instead of 500. Similarly, if a payment is made from *a* to *b* in the form of gold, 500 units of A currency will be worth only 99 units of B currency instead of 100, which means that 100 units of B currency are then worth 505 units of A currency.

Let us now bring together the mechanism of the foreign-exchange markets described in section 2 and the new elements just introduced. So long as the exchange rate between the A and B currencies moves away from "parity" by less than 1 per cent people will buy and sell foreign exchange and the mechanism described will work. But if the rates should move beyond that limit it would become cheaper to buy and ship gold instead of buying foreign balances or notes. If, e.g., the exchange rate for B currency in terms of A currency is

(in our hypothetical numerical example) 5·03 it is cheaper to buy balances in B than to send gold; but the situation is reversed if the rate moves to 5·06; then one ships gold. Similarly one will ship gold from B to A when the rate falls below 4·95. This means that exchanges can fluctuate only between 4·95 and 5·05; if within these limits a market price cannot be obtained, no foreign-exchange transactions take place, but gold is being bought and shipped instead. Movements of gold from country to country get substituted for foreign-exchange fluctuations. Now these two limits, *within* which exchanges move and *beyond* which gold moves, are called *gold points* (the lower or upper gold point, or, which amounts to the same, the gold-import or gold-export point). If the rate reaches 4·95 (in our example), gold flows into country A; if the rate reaches 5·05 gold flows out of the country, and this goes on as long as the rate stays at one or the other of the gold points.

The gap between the gold points depends upon (1) transport costs; (2) the insurance premium on gold in process of transport; (3) the duration of transport resulting in loss of interest. It further depends on the margin between the central bank's selling price and its buying price of gold, if the two are not identical. Gold points are the nearer the more rapid and secure and the less costly transport is and the greater the political and social security in the area of transport; and reciprocally, gold points are the further apart when transport is slower, more expensive and less secure and when there is political and social unrest in the territories concerned.

Under the gold standard, exchanges can move only within narrow limits; they are stable but not fixed, since within these limits they can and do move. That stability is due to the fact that payments can be carried out by the means of a commonly accepted commodity (i.e. gold); the cost of shipping that commodity determines the maximum cost of

making international payments. This limits the rôle of the foreign-exchange market to providing cheaper means of making international payments; if the market is unable to provide them, it is temporarily replaced by shipments of the internationally accepted commodity: gold. The mechanism described in section 2 can *always* equalize the supply and the demand of means of payments for foreign settlements, if exchange-rates move sufficiently. The applicability of the gold-standard method is limited by the supply of gold available for shipment abroad. There is an analogy between a continuous loss of gold by a country and a continuous depreciation of its currency in terms of other currencies. The loss of gold, if cumulative, must lead to an abandonment of the gold standard and to a depreciation of the national currency. If this is to be prevented, i.e. if the gold standard is to be maintained or if an inconvertible paper currency is not to depreciate continuously, forces must be set into motion which will reverse the direction in which net payments between countries are to be made. We shall analyse and discuss in another chapter[1] the methods of maintaining stability in international payments and, in consequence, stability of exchange rates.

(5)

Before discussing the stabilizing mechanism let us briefly consider the various *causes of instability*. According to the "purchasing power of money theory" of exchanges, only price-changes can affect the exchange stability. An inflation causes an outflow of gold, perhaps its total loss, and then the abandonment of the gold standard and a depreciation of the exchanges. One usually says less about *deflation* as a cause of exchange instability than about *inflation*. This is justified inasmuch as under the rule of the gold standard a deflation is likely to be checked in time by the inflow of gold

[1] *Vide infra*, chap. viii.

which it would cause. There is no doubt about the disturbing effect upon exchange stability of large and cumulative price movements in *some* countries. But the problem of exchange instability is more complicated than that, and in order to answer it we must turn once more to the transactions in which international payments originate.

The values involved in international, as in national, economic transactions are subject to continuous variations. Hence day-to-day quotations of exchange rates vary also. At some moments the balance of a country's payments may show a deficit, at other moments it may show a surplus; exchanges fluctuate accordingly. Only if there are certain lasting causes of deficits or of surpluses will the currency depreciate or appreciate on the foreign-exchange market. Since under the gold standard the movements of exchanges are replaced to large extent by gold movements, gold normally moves out of a country or into it in response to a deficit or surplus of her balance of payments and the direction of the gold flow keeps on as long as the particular position of the balance lasts. The "mechanism" of adjusting balances of payments and of restoring their equilibrium whenever it is disturbed, consists in inducing compensatory operations which would tend to convert a deficit into a surplus and a surplus into a deficit, so as to make all payments exactly balance over a period of time. This may be done by the types of transactions shown in the table on the opposite page.

The "mechanism of adjustment" which will be discussed presently, has this in common with direct government policies such as exchange restrictions, trade restrictions, export subsidies and the like: that it affects the various transactions in the ways listed opposite. What varies principally is the *method*—and the difference is *fundamental* for the development of international economic relations.

Besides the day-to-day fluctuations due to the irregularities in the "normal" currents of business, there may be certain

In case of a Deficit	*In case of a Surplus*
Stimulation of exports (goods and services)	Stimulation of imports (goods and services)
Restriction of imports (goods and services)	Discouragement of exports (goods and services)
Stimulation of foreign investments at home	Stimulation of national investments abroad
Discouragement of national investments abroad	Discouragement of foreign investments at home
Encouragement of entries of foreign short-term deposits	Stimulation of movements abroad of short-term balances
Discouragement of purchase of short-term deposits abroad by nationals	Discouragement of entries of foreign short-term deposits

systematic causes of disequilibrium in the balances of payments and certain causes which produce very large positive or negative balances which are hard to compensate.

In a free economy[1] the principal cause of a cumulative deficit in a country's international payments is to be found in inflation.[2] Reference to it has been already made. A sustained policy of inflation leads a gold-standard country to a cumulative loss of gold and finally to the abandonment of that system; then the national currency can freely depreciate. In a country whose currency is not convertible into gold, inflation leads to its continuous devaluation in terms of foreign currencies.

A process of inflation affects a country's balance of payments not only because rising prices affect the volume of imports and exports. Capital movements and, even more so, movements of short-term funds, tend to aggravate the deficit

[1] The problem of exchange restrictions and the like is discussed in chap. x below.

[2] Except, of course, if a parallel policy of inflation is pursued by all the countries.

and to depreciate the inflated currency even more than would be required by the "purchasing power of money theory". Cases of acute inflation provide also a good demonstration of the fact (mentioned above) that it is not only prices which affect rates of exchange, but rates of exchange may, through their fluctuations, affect prices. Statistical records of modern monetary history provide many illustrations of that latter type of causation.

It does not follow (contrary to an opinion which is often expressed in economic literature) that inflation is the *only* cause of serious maladjustments in the balances of payments, and that equilibrium in international payments can be taken for granted provided that no inflation is taking place. The condition of stable equilibrium consists in the possibility of compensating rapidly changes that occur in certain items of international transactions by appropriate changes in other items. In actual economic practice this is possible only if the other items are sufficiently flexible and if the changes that take place in some items are not too large in comparison with the items that are to be adjusted.

Maladjustments or disturbances of this type can be brought about *inter alia* by the following circumstances:

(1) large movements of short-term balances;
(2) large and sudden capital movements such as sales of securities or real estate;
(3) cessation of new lending operations;
(4) important changes in the structure of foreign trade.

Now if the disturbance is due to large payments resulting from movements of short-term funds, the adjustment must occur either through changes in long-term capital movements or in trade transactions. Similarly if the disturbance originates with capital movements, a temporary adjustment can be sought by the means of short-term credit transactions, while a lasting adjustment must result from changes in trade items. Finally if the disturbance originates in the structure of

trade, the gap in international payments can be bridged over by the means of short- or long-term financial operations until the structure of trade is in turn adapted to new circumstances. The burden of long-term adjustment falls on trade items, though momentary adjustment can best be realized by short-term credit operations.

CHAPTER VII

MONETARY PARITIES

(1)

WHILE the rate of exchange corresponds to any momentary situation in the foreign-exchange market, a monetary parity represents a longer-run relation between monetary units of different countries. A parity between two currencies is the price of one expressed in terms of the other, which is maintained effectively over longer periods of time allowing for minor fluctuations due to changes arising daily in the foreign-exchange market. Thus a parity is a sort of equilibrium rate of exchange, a centre of economic gravity around which actual quotations move; it is a rate of equilibrium by comparison with which a currency may be overvalued or undervalued in relation to another, a rate which will tend to be restored once the market quotation has diverged from it. This last feature of a monetary parity is particularly important; if the parity does not represent a rate around which, and in the close neighbourhood of which, most of the effectively quoted rates are to be found, then it does not represent an economically interesting relation. Hence the question arises, how is a parity determined, what is the "operational" meaning[1] of that concept?

Before attempting to give an answer to this question, we must define with precision another concept, that of a monetary *standard* (or currency standard). In brief, *a monetary*

[1] See footnote (1) p. 77.

standard is a commodity[1] *the price of which, in terms of the national monetary unit, is fixed by the monetary law of the country and held stable by the monetary authorities of that country.* It may be gold or silver, it may be a foreign currency,[2] it may be, theoretically, any commodity susceptible of having its price stabilized through the policy of monetary authorities.

When two countries adopt the same monetary standard the situation which results is one in which the *same commodity* has its price fixed in terms of two different national monetary units; if, further, that commodity enjoys freedom of trade between the two countries, the national monetary units in question become related to one another through the medium of their common standard. If A and B are each separately equal to C, they are also equal to one another. If gold is the monetary standard in the United States and in Switzerland and if a certain quantity of gold costs, e.g. 10 dollars in the United States and 50 francs in Switzerland, then 10 dollars will be equal to 50 francs. This equality results from the fact that gold bought for 10 dollars in the United States can be sold for 50 francs in Switzerland, both prices being guaranteed by the respective monetary laws.[3] Thus the parity between the two currencies is, in our example 5 to 1, i.e. five francs for one dollar.

In the case of a common standard, parities between

[1] In an earlier treatment of this subject I have distinguished between "commodity standards" and "composite commodity standards", which were represented by index numbers of prices. In this latter case the monetary authorities would keep stable a price index. I have more recently abandoned this point of view, mainly because of taking now a more critical attitude with regard to the concept of "price level" and to index numbers of prices. The reader will find in the Appendix the statement and brief justification of my criticism. Thus I am now limiting the notion of "monetary standard" to single, real commodities only. See my *Monnaie, Crédit et Transfert*, chap. iii.

[2] *Vide infra*, chap. ix. A *foreign* currency *is* a commodity, which is traded and has its price, even though the *domestic* currency usually *is not* a commodity.

[3] A qualification regarding the costs of transport, etc., should be made here. *Vide supra*, chap. vi.

national currencies are determined by the prices of the standard commodity which are fixed by the respective monetary laws. The maintenance of these parities[1] depends upon the maintenance of the common standard and of the provisions of the respective monetary laws regarding the definition of the monetary unit in terms of the standard.[2] In the last instance it depends upon the functioning of the "mechanism" of adjusting balances of payments and of preserving their durable equilibrium.[3]

(2)

The parity as defined above comes very close to the so-called "mint-par" of which it is a generalization.[4] Let us see at present whether parities between national currencies can be defined in the absence of a common standard, or indeed even in the absence of national monetary standards. This assumption implies a definition of "parity" in terms of the various elements which constitute the economic life of countries concerned. In order to provide a numerically determined result, these elements must find a clear numerical expression. There has been, to my knowledge, only one attempt to define a monetary parity in such a way; and this, though it is due to several economists writing independently, is particularly well known under the name of "purchasing power parity" given to it by Professor Cassel.

Considering the reciprocal trade between two countries,

[1] It is necessary, of course, to allow for fluctuations of exchange rates around the parity within the limits of gold points (or more generally of standard commodity points).

[2] This is tantamount to fixing the price of the standard commodity in terms of the national monetary unit.

[3] *Vide infra*, chap. viii.

[4] It is of interest to quote here the following judicious observations by Professor Jacob Viner: ". . . when the balance of payments is even the exchanges will be somewhere within the export and import points. The mint-par has significance for the exchanges only as a base point from which to determine the specie export and import points. Equilibrium between the amount of foreign bills demanded and offered is as likely to be reached at any one as at any other rate within the limits of the specie points." (*Studies in the Theory of International Trade*, p. 379.)

A and B, Cassel arrives at the following conclusions regarding the relations between the two respective currencies:

"Clearly, there must be a position . . . where A buys from B exactly as much as it sells to B, and where the balance of trade will be in equilibrium. We assume that all commodities are immediately paid for; in other words that the one country extends no credit to the other, at least not for a period longer than is technically necessary for adjusting the mutual payments. This position, then, represents the equilibrium position for the rate of exchange, for in any other position a constant scarcity of foreign currency would be felt in one of the countries, and the price of this foreign currency would of necessity rise. Only a rate of exchange at which the balance of trade is in equilibrium can possess a permanent stability. This rate of exchange is termed the *purchasing power parity*. . . . A direct comparison between the purchasing power of money in two different countries is not possible in an exact sense. If everything in France is nominally—that is to say, reckoned in the currency unit of the country—about one hundred and twenty-four times as dear as in England, then it is obvious that the public will find that the French currency is only a hundred and twenty-fourth part as valuable as the English. . . . The natural rate of exchange for the pound sterling, measured in French francs, thus lies in the neighbourhood of 124. At this rate of exchange the purchasing power of money in the two countries is approximately the same. The rate of exchange must . . . fix itself in such wise. . . . that when one currency is changed into another a certain sum represents approximately the same purchasing power."[1]

This notion of parities is based on the assumption that "other nations as a rule buy the currency principally because it represents purchasing power on the internal market".[2] This is partly correct, of course, but other motives can play their part too, e.g. one may buy foreign currency in order to pay one's debts or to earn on it a higher interest than one can earn at home, or one buys it because one finds the economic, social and political outlook of the foreign country more

[1] G. Cassel, *The Theory of Social Economy*, vol. ii, pp. 657–8 and 659–60.
[2] Ibid., p. 516.

reassuring than that of one's own country, and so on. More fundamentally, that theory is based upon the over-simplified idea that international trade is the only source of international payments and that its structure depends entirely upon the internal price levels of the respective countries.[1] Both these assumptions are incorrect. Capital movements and short-term credit operations now play a very important part in international economic relations and are often responsible for one-third or one-half of payments made from country to country. To reduce the balance of payments to the balance of trade is an over-simplification amounting to a very serious mistake. Nor is there any reason to suppose that developments in the field of international trade influence parallel developments in that of international finance. Thus one of the main intellectual pillars of the purchasing power parity conception falls down. The other pillar, according to which payments between countries depend principally (or, rather, exclusively) upon price levels prevailing in these countries, is no stronger. It is clear that financial transactions are only to a very small extent (if at all) related to price movements. They are determined by the alternative considerations of returns or of safety. Now larger returns may be a consequence of certain price developments in the country in which

[1] Cassel admits that conditions at variance with these assumptions may cause deviations of quoted exchange rates from purchasing power parities: "The normal level of exchange rates is . . . determined by the purchasing power parity. . . . In actual practice, deviations from the normal level fall into two categories, the first consisting in the effect of external circumstances which arise only by way of exception, and the second resulting from constant fluctuations in the market situation. . . . Among the exceptional factors which result in a big deviation of the rate of exchange from its purchasing power parity, there is, above all, the under-valuation of a currency as a result of an anticipated internal depreciation. . . . A second cause of the undervaluation of a currency lies in measures taken to hinder its export, such as export embargoes, special high prices for foreign buyers, and so forth." (*The Theory of Social Economy*, vol. ii, pp. 615–16.) "The most important temporary deviations from the purchasing power parity are, in normal currency conditions, caused through international movements of capital." (op. cit., p. 524.) While admitting all this, Cassel considers all the "deviations" from the purchasing power parity as minor or exceptional, and in doing so systematically underestimates the importance of all international transactions other than commercial ones.

capital is invested—but the relation is neither necessary, nor direct, nor regular. The fact that there are financial transactions detracts very much from the influence that price changes can exercise upon international payments. Let us grant, however, the assumption which makes of trade transactions the essence of the balance of payments, and see whether *then* prices are the only determining factor. Cassel's theory has been often criticized on the ground of taking into consideration all prices and not only prices of goods entering international trade.[1] The criticism should in fact go even deeper. What prices can be expected to be equalized all over the world by the means of the rate of exchange? Certainly not prices of goods which do not enter international trade. Nor indeed prices of goods which, though they enter international trade, have no world market. We are then left with goods having a world market and a world price. They are commodities of standard quality which can be the object of international *arbitrage*. It is that arbitrage which tends to equalize their price all over the world, due allowance being made for transport costs and for tariffs. If, after having introduced these necessary corrections, one finds that the goods in question have the same price in all countries, after translating one currency into the other by the means of the rate of

[1] Cassel answers his critics in the following, rather unconvincing, statement: "After the theory of purchasing power parity focused attention on the significance of the relative price level of the two countries in question, it was often pointed out, especially by statisticians, that the equilibrium position of the rate of exchange must be determined exclusively by the price indices of commodities imported and exported. We now see where the error of this reasoning lies. If we assume that prices of all the export commodities of country B are doubled, whilst all other prices in B remain unchanged, it would not be possible for the rate of exchange to be reduced by a half, as a much smaller fall in the rate would bring out the latent export possibilities of a mass of other commodities of country B, and would prevent a further fall in the exchange. This restrictive influence is reinforced through the difficulties placed in the way of imports from A by the fall in the rate of exchange, and its combined effect is so great that the doubling of the prices of exports in question is unable, by a long way, to depress the rate of exchange to half its value. However, the general internal purchasing power of the B currency has, of course, fallen, and to that extent one must expect a corresponding fall in the rate of exchange." (*The Theory of Social Economy*, vol. ii, pp. 662–3.)

exchange, this is just the result of arbitrage transactions which consist in buying the commodity in the markets where it is cheaper and selling it in the market where it is most expensive.[1] The fact that rates of exchange equalize nominal prices expressed in various national currencies in the case of commodities having a "world price" is an element of the very notion of "world prices".[2] To say that it is prices of commodities having a world market which determine parities between currencies, would be absurd. As regards other prices, however, which are not being internationally equalized by the rates of exchange, the ratio between their statistical averages cannot possibly have any clear significance. If this is granted we can still argue that price-changes affect to a varying extent international trade and the amounts of international payments due to it, but there is no reason for expecting any precise quantitative relation to hold good, nor indeed for defining monetary parities in terms of price levels.

Finally, as regards the causal relationships involved, Cassel maintains that causation goes only in the direction from prices to parities. Even if we should grant the rest of the theory, this one-way causality could not be accepted in the light of what we know about the effects of exchange fluctuations upon prices. In any country internal prices depend on prices of imported commodities to an extent varying with the varying importance of foreign trade for that country's national economy. An appropriate central bank policy may counteract, to some extent, the effects upon prices of foreign-exchange fluctuations which result then in changes in the relative prices of goods entering that country's foreign trade in comparison with the prices of the remaining ones. Whatever the final outcome of the process, one cannot deny that foreign exchanges affect internal prices. From this

[1] The principle is the same as for currency arbitrage. A "*world price*" is just a price resulting from international arbitrage operations; only goods fitted for these operations have a "world price": wheat, rubber, etc.

[2] Cf. Marshall's observations quoted above, pp. 115–16.

point of view also, the purchasing power parity theory is unacceptable.

The foregoing observations dispose of the basis for the purchasing power parity theory. Let us discuss in addition the statistical concepts and methods involved.

As regards the notion of "price level", enough has been said about it in discussing the connection between gold output and prices. For the present purpose it is sufficient to note that given a certain schedule of prices, index-numbers calculated on its basis may differ very widely, according to what methods of averaging and weighting have been used. The arbitrariness of weighted index-numbers takes all objectivity away from the result of calculations. As has been pointed out in the preceding chapter, the purchasing power of money theory of foreign exchanges need not necessarily employ the price level concept because its objective consists in explaining tendencies of change and their causes; it is therefore sufficient for that theory to consider changes in prices. Not so for a theory of parities. A parity must be a numerically precise magnitude with which particular quotations can be compared; in order to obtain such an exact figure concrete price-magnitudes must be compared, and since the purchasing power parity theory consists in comparing the purchasing power of money in various countries as expressed by price-averages, the use of index-numbers becomes unavoidable. Hence a misleading appearance of precision covering up not only more or less arbitrary methods, but also rather confused concepts. As has been observed before,[1] money *is*, rather than *has*, purchasing power, and attempts at representing the "general purchasing power of money" by calculated price-averages are misleading if they are not fallacious. The widespread use of such methods is not to be considered as its own justification! Incidentally, the theory propounded by Professor Cassel cannot provide us

[1] *Vide supra*, pp. 17–18.

with a precise formulation of parities; it can only indicate a change of parity made necessary (according to that theory) through changes in national price levels. Cassel recognizes this himself when he says that ". . . an exact comparison between the purchasing power of money in different countries is not possible. We have no trustworthy measure for the absolute purchasing power of a currency in its own country. . . . If changes in internal purchasing power of the currencies take place the new purchasing power parity arising out of these changes may be calculated by multiplying the old purchasing power parity by the ratio of the changes in the internal purchasing power of the currencies."[1]

If an old parity has been R_1, and the price levels, at the time, were P^1_A and P^1_B in countries A and B respectively, and if the price levels moved to new positions P^2_A and P^2_B, then the new purchasing power parity will be

$$R_2 = R_1 \frac{P^1_A}{P^2_A} \Big/ \frac{P^1_B}{P^2_B}$$

It is necessary, of course, to know R_1 and to be certain that it was a parity corresponding to the comparative purchasing power of money in countries A and B. It is clear that R_2 depends on the method of calculating the index-numbers, P^1_A, P^2_A, P^1_B, and P^2_B, and that given a certain R_1, one can obtain a great number of various R_2 according to the methods of calculation used. What is more important is that all these R_2 are not approximations to some parity that exists but cannot be directly ascertained, but are merely various statistical constructions calculated on the basis of a given list of prices. The purchasing power parity theory holds its ground no better statistically than logically.

In appraising Cassel's theory it is important to remember that he first formulated it in 1916 and further developed it in the period of great inflations immediately following the

[1] Cassel, *The Theory of Social Economy*, p. 660.

World War.[1] In that period, inflations and the more or less considerable rise of prices which they produced were the primary cause of the prevailing international monetary instability. Under these conditions advocates of the purchasing power parities were justified in considering the price movements as the primary and most important factors in the situation and everything else as minor, complicating factors. As Cassel put it: "Important changes in the internal purchasing power of money have a much greater influence on the rates of exchange than any other alterations in the real conditions of international trade that come into consideration."[2] However, the factors which were minor ones in the age of great inflations may, under different conditions, become very important and even more active than smaller changes in internal prices. A theory must bring out all the factors both major and minor, and in allocating their order of importance one must be careful not to confuse historical accident with logical necessity.

The purchasing power parity theory has been frequently applied even during the present period of international monetary instability. In search for new parities one often proceeds by applying the formula indicated above[3] to pre-depression parities and to price movements (expressed by changes in index-numbers) that have taken place since that time.[4] In the present conditions however, capital movements and short-term credit operations play such an important part in international economic relations that the purchasing power parity hardly represents (even if we grant its economic and

[1] See Gustav Cassel, *Memorandum on the World's Monetary Problems*, International Financial Conference, Brussels, 1920, Report No. XIII (3), chap. v.

[2] Cassel, *The Theory of Social Economy*, vol. ii, p. 661. Not even under the particular conditions then prevailing, however, did causation go exclusively from price movements to exchange fluctuations; it is well known that it was going also in the direction *from* exchange fluctuations *to* prices. See e.g. Aftalion, *Monnaie, Crédit et Change*.

[3] *Vide supra*, p. 134.

[4] See, e.g., the article *The Exchange Triangle* published in *The Economist*, London, 30 May 1936, pp. 492–3.

technical bases) the "natural" or "normal" parity between currencies. Hence its application in looking for a new parity for the French franc, for example, in 1936, was entirely out of place and the result obtained by that method has proved not to be lasting.

(3)

Since the purchasing power parity between currencies is found to be an inadequate conception, is there any alternative to suggest? Is there any method, more satisfactory, of finding out what parity between two currencies corresponds to the various elements constituting a given economic situation? And, more generally speaking, is there such a thing as a "natural" or "normal" parity between units of the various national currencies?[1]

We have seen that the mint-par between two currencies on a common standard is a clearly defined notion resulting in a precise numerical relation. Its basis is the simple fact that two things, each of which is equal to a third, are equal to one another: the price of a certain quantity of gold being 100 units of one currency and 200 units of another, it follows that the parity between these two currencies is 1 to 2. The problem consists merely in *maintaining* that relation, in which case exchange quotations between the two currencies would merely oscillate around the parity; whether this will happen or not depends upon the developments that occur in international transactions and upon the resulting position of the balances of payments of the respective countries. Hence the maintenance of parities depends upon the maintenance of a long-term equilibrium[2] in international payments, a

[1] One speaks also of an "equilibrium rate of exchange", e.g. Professor H. S. Ellis in his recent article published under this very title in *Explorations in Economics. Notes and Essays Contributed in Honour of F. W. Taussig*, New York and London, 1936. This terminology has the advantage of connecting the problem of parities with that of equilibrium in international payments.

[2] *Vide infra*, chap. viii.

problem which we shall presently examine. If that long-term equilibrium cannot be maintained then the parity cannot be maintained either. When currencies are on the same standard a "mechanical" reaction may set in to bring equilibrium back every time it is disturbed; thus gold movements from country to country start, in the system of an international gold standard, a series of measures the effect of which is to restore equilibrium in international payments. When the various currencies are not based on a common standard there is no mint-par between their respective units; but even in that case certain measures can maintain a durable equilibrium in balances of payments provided that the various countries pursue appropriate policies. The question that arises in either case is whether such measures can be adopted in practice without creating undue internal difficulties and whether the international situation allows their adoption. The most important of these measures[1] consists in influencing short-term capital movements. This is only possible if a differential change in the rate of interest attracts foreign deposits[2]; we have seen that this may not be the case in view of a lack of confidence in the country which needs the inflow of foreign funds. If the anticipation is that the parity can in no case be maintained, not only will there be no *inflow* of foreign funds, but there will be an *outflow* of funds both foreign and domestic[3]. A flight of capital induced by an anticipation of devaluation is a well-known phenomenon; a lack of confidence in a currency may well provide in the end its own justification. In other words, if there is no confidence in the possibility of maintaining a parity, that parity is very likely to be abandoned in the end. This need not be the case if domestic policies, such as balancing the

[1] *Vide infra*, chap. viii.

[2] It is assumed in this chapter and in the next that no large Governmental interventions are taking place in the foreign-exchange markets, such as are carried out by the British Exchange Equalization Account and similar institutions in other countries. *Vide infra*, chap. x, section D.

[3] *Vide supra*, pp. 99–101 and 124.

budget, and so on, restore confidence before it is too late.[1] If nothing of this kind happens devaluation may follow devaluation provoked time after time by massive flights of capital.[2]

A further means of equilibrating international payments consists in influencing price movements. Stability of exchange rates supposes that prices in the various countries remain in a certain relation to one another, but the relation has nothing precise about it, and it is only when the competitive position of a country on international markets is weakened that one notices divergencies in price movements that took place elsewhere. The effect may be a falling-off of exports and, *ceteris paribus*, a disturbance of equilibrium in international payments of the country. The adjustment may be obtained through an appropriate price policy, but if its size is considerable and if its direction is downward it may not be possible without great internal difficulties. It must be observed that the maladjustment may be due to price movements at home, or to price movements abroad, or to foreign devaluations. In a case of great historic importance the maladjustment was brought about by the revaluation of a national currency to a higher parity (England in 1925). If the maladjustment cannot be easily removed through internal price adjustments it may happen (and so it does in actual practice) that movements of short-term funds will occur in a way which may aggravate the disequilibrium of the balance of payments, and the maintenance of the parity will ultimately be impossible. Thus the price factor plays a part, and even an important one, in the problem of maintaining parities—but a part which is very different from that attributed to it by the purchasing power parity theory. *If* a price adjustment is to take place at all, its size is not given by any *a priori* con-

[1] See the article by Professor Rist, *The Financial Situation of France*, *Foreign Affairs*, July, 1938.

[2] As exemplified by the experiences of France from 1936 onwards.

sideration but must improve the competitive position of particular industries[1] of the country on markets to the required extent. Here it becomes necessary to make a general methodological observation similar to that made when discussing the problem of the adequacy of foreign gold supplies.[2] There is no direct method of ascertaining whether price developments in various countries go in step or not; it is only when certain consequences in the field of international trade follow, when a country sees the competitive position of its industries getting weaker, that the inference concerning relative price developments is made. Thus it would be arguing in a circle to say that a country is losing foreign trade because its prices are too high, since we only know that prices must be too high because the country can no longer compete with success in foreign markets. When such a situation is found to exist one concludes that either prices must be adjusted or the parity modified, and we speak of an "overvalued currency". Now the notion of "overvaluation" or "undervaluation" of a currency in foreign exchange markets is only clear if we accept a certain, numerically precise, parity as normal and if this parity is established by comparing prices in the various countries; hence the dependence of these notions upon the concept of purchasing power parities, of which they are merely corollaries. But as the concept of purchasing power parities has not been found acceptable upon careful examination, we must also, regretfully, dismiss from our vocabulary notions of over and undervalued currencies. We can only speak about situations where the combination of a certain price situation with certain parities contributes to the maintenance or to the destruction of the long-run equilibrium in a country's balance of payments. All the rest, though a very tempting way of speaking

[1] That is, of industries "on the margin of export", those of which the product would be diverted from the home market to the export market through the inducement offered by a small change in price.

[2] *Vide supra*, pp. 75–6.

and reasoning, and one which is very much employed, is unfortunately based on unacceptable assumptions and must be abandoned. This view is rather challenging and tends to replace a pleasingly simple and precise instrument of thought and action by a more clumsy one, but I hope to have proved that the advantages of the former are illusory and that the latter, though it appears to be much less satisfactory, is made of a sturdier substance.

Whether a situation of disequilibrium can best be corrected by price adjustments or by parity adjustments is a question which we shall discuss presently.[1] Here it suffices to point out that unless the necessary internal or external correctives are introduced, capital movements of the type described above[2] will happen and further upset balances of payments and, ultimately, monetary stability. Now it does not seem possible, in the light of the foregoing analysis, to say in advance what parity will correspond most closely to given conditions and will win general confidence. Therefore we arrive at another way of looking at the problem. There is no *a priori* rate of exchange which can be considered as representing the normal or natural parity between the respective currencies, for there is no legitimate way of calculating such a rate on the basis of the various economic data. This is the fundamental and inescapable conclusion that follows from our analysis. From this it further follows that the test of a parity is in the way it operates. A parity is appropriate if the mechanism of adjusting balances of payments can function on its basis.[3] It is not an appropriate one, if its maintenance involves price "adjustments" which are impracticable, or a "crisis" of confidence, or both[4]; in any of these cases the parity must be changed. The choice of a parity

[1] *Vide infra*, chap. viii. [2] *Vide supra*, pp. 137 and 138.

[3] Such a parity can be legitimately called an "equilibrium rate of exchange". Cf. with footnote (1), p. 136.

[4] The practicability of price adjustments or the seriousness of the crisis of confidence can, strictly speaking, be only estimated *a posteriori*.

is a matter more of judgment than of reasoning; it is an art rather than a science, as is the case of very many items in the field of economic policy. The proof of the adequacy of a parity is to be found in its operation.[1]

[1] This conclusion is one the challenging character of which I realize. If admitted it upsets many accepted usages of exposition, analysis and action. It is certainly less elegant and intellectually less satisfactory than the conception based on purchasing power parities—but I believe it to be more correct, and correctness is the supreme criterion of a scientific theory. My views are here in opposition to the greater part of the literature on the subject. I wish to note that my point of view is very similar to that adopted in a recent article by Dr. J. W. Beyen, President of the Bank for International Settlements in Basle. See *Het vraagstug van der natuurlijke pariteitsverhanding tusschen verschillende munteenkeden* (*The problem of the natural parity relation between various monetary units*), published in the *Economisch-Statistische Berichten*, No. 1128, Rotterdam, August 1937. See also Professor Aftalion's book *Monnaie, Crédit et Change*, Paris, 1927, pp. 338–40.

CHAPTER VIII

EQUILIBRIUM IN INTERNATIONAL PAYMENTS

A. Introductory Remarks

THE problem of maintaining the equilibrium of balances of international payments, and of restoring it once it has been disturbed, is one of the most-discussed questions in the field of international economics. The interest attached to it can be accounted for by the national and international difficulties which disequilibrium in international payments brings about if it is sudden and large or protracted and cumulative. It is the frictions caused by deficits in international payments of a country which have brought the problem of balances of payments[1] into the important position it occupies in international relations, and which have provided the incentive for an extensive literature of the subject, which I cannot hope to discuss or even quote in the pages that follow.[2] As has been pointed out by various writers, the problem of international payments acquires an importance which that of interregional payments does not possess, on account of the existence of various national monetary systems and of more or less unco-ordinated national monetary and, more generally, economic, policies.[3] This plurality of currencies results in the problem of foreign exchanges, which is an international and not an interregional one[4] and

[1] Or, in the older literature, of the balance of *trade*.

[2] *Vide* footnote, p. 80 for a list of some important recent books, each of which contains valuable bibliographical references. Particularly important in this connection is Viner's *Studies in the Theory of International Trade*, chaps. vi and vii.

[3] *Vide supra*, chap. i.

[4] *Vide supra*, p. 105.

is closely linked with that of balances of payments. We have seen that fluctuations of foreign exchanges are due to changes in international payments; and that these fluctuations tend to equalize the demand and the supply on foreign-exchange markets, and thus equalize payments made and payments received by a country. As Professor Angell rightly points out, "if the foreign-exchange rates are free to move without limit in either direction their movement will in itself keep the two current streams of credit and debit payments always equal. . . ."[1] We shall see presently, however, that under flexible exchanges the problem arises of a possible cumulative devaluation of a currency and of its avoidance, and that the exchange fluctuation itself sets in motion forces affecting the size of transactions from which international payments result.[2] The *problem* of equilibrium in international payments has its fullest significance upon the assumption of stable exchanges. The question can then be formulated in the following way: given stable exchanges, or given the desire to keep exchanges stable, how can equilibrium be restored in international payments once it has been disturbed? The restoration of equilibrium in international payments is thus a *means* of maintaining monetary parities by rigorously limiting exchange fluctuations. This in turn is inspired by the consideration that wide exchange fluctuations are undesirable, a position that calls for investigation. The limitation of movements of foreign exchanges calls for a "mechanism" for adjusting balances of payments, and one finds that various "mechanisms" can be constructed as abstract models but that only some of them can operate in the actual economic world.[3] Most writings on this subject fall therefore into one of two groups: (1) construction of "models" of "mechanisms" that are conceivable *in abstracto*

[1] James W. Angell, *Equilibrium in International Payments: the United States, 1919–1925*, in *Explorations in Economics*, p. 14, footnote (2).
[2] Cf. p. 108, *supra*.
[3] *Vide supra*, p. 137, footnote (2).

and (2) inquiry into the nature of "mechanisms" that actually did operate in given circumstances.[1] The fundamental problem is not complicated: if payments to be made and payments to be received at a particular moment do not cancel out, and if equality is not obtained through a continuous modification of the exchange relation between the respective currency units,[2] then transactions must occur which will compensate the deficit and restore the balance (since over longer periods of time, payments received must be equal to payments made). Let us for the sake of clarity group the various questions that arise in this context and investigate each group separately. Before proceeding to this examination let us first explicitly state an important assumption that underlies all the reasonings to follow. We are going to discuss processes that are taking place in a free economic community, where there are no governmental interferences, other than tariffs, in the economic relations between countries. More precisely, it is assumed that individuals are not interfered with in either the commercial or the financial transactions which they wish to carry out.[3]

B. The Notion of Long-run Equilibrium in International Payments

Payments are said to be in equilibrium when amounts received are equal to amounts paid. It is generally claimed that over longer periods of time international payments are of necessity in equilibrium, even though they are in disequilibrium at any particular moment of time. This is what we assumed in Chapter VI. However, one may wonder why this should be so; in answering the question we shall examine what happens in the case of each of the principal types of

[1] *Vide infra*, p. 159, a bibliographical footnote on inductive studies.
[2] *Vide supra*, pp. 107–8.
[3] This is an assumption which, in fact, underlies the whole of this book except in chap. x, where it is explicitly dropped.

monetary systems if this assumption is not realized. There remains a net balance to be paid in cash whenever payments are not in equilibrium.

(*a*) *Gold Currency*

In this case we assume that gold is the only money in circulation in the various countries; we further assume that no changes will be made anywhere in the price of gold and that, therefore, there are fixed parities (mint-par) between the various gold currencies. Every net payment between countries is made in gold, and results in a reduction of the amount of circulating medium in a country which has a deficit in its balance of payments, and in a net increase in the amount of circulating medium in countries having a surplus in their balances of payments. We shall discuss later[1] the repercussions of these changes upon the various transactions between the countries concerned and the various policies that may be adopted in response to gold movements. Let us merely point out in the present context that should a country have a persistent deficit in her international payments, the deflation caused by losses of circulating medium may become very drastic. By reason of the frictions that this involves, the country which is going through such an experience may be tempted to change its monetary system. If this should be the case and if the country in question should abandon the system of gold currency, international frictions will follow. Thus while payments in gold can always momentarily restore equilibrium in international payments, changes in international economic transactions themselves must take place if a breakdown of the monetary system is to be avoided. As it happens, however, losses of gold may set in motion some "mechanism", which will be discussed presently, and help to obtain an appropriate adjustment of commercial and financial transactions.

[1] *Vide infra*, pp. 152 *et seq.*

(*b*) *Gold Currency Standard*

In a monetary system linked to gold but in which there are means of payment other than gold in circulation,[1] the situation will be somewhat different. The difference will consist mainly in the internal effect of gold losses and acquisitions, and in the nature of the "mechanisms" that they call into play. We shall discuss this in greater detail in the next chapter; here it is sufficient to emphasize that, while under this system also international payments are always ultimately equalized through gold movements, the maintenance of the system depends (just as in the case previously examined) upon the reactions that gold movements will have, directly or indirectly, upon commercial and financial transactions. Gold movements are not in themselves the final equilibrating factor.

(*c*) *Free Paper Currencies*

Here payments will be equalized through movements of foreign exchange quotations. An inconvertible paper currency can usually serve as means of payment only in the country in which it has been issued; therefore all net payments abroad made in the currency of the paying country must eventually be either spent or held in that country. If the receiving country wishes to do neither, exchange rates will move "against" the paying country and the depreciation of that country's currency will go on until the situation gets reversed. This may occur either as a result of new spontaneous developments in international transactions or as a result of the action of one or another of the "mechanisms of adjustment". If no such mechanism works, then the depreciation is likely to become very considerable, and the disequilibrium in international payments a chronically recurrent one, while adjustments of balances of payments

[1] *Vide infra*, chap. ix.

through further devaluations play havoc with international economic relations.

We are thus led to the following conclusions:—

If one is ready to accept any international or national friction, no problem of disequilibrium in international payments can arise. The problem of maintaining equilibrium is therefore only one of *method*; it arises if one wants to produce readjustments without any friction or with as little friction as possible. The frictions that are particularly disturbing to national and international economic processes are respectively a cumulative deflation of internal prices and a cumulative depreciation of currencies. It will be demonstrated in a further section of this chapter that under conditions of international co-operation both can be avoided simultaneously.

C. "*Mechanisms of Adjustment*" *in a System of Fixed Parities*

As it has been pointed out above, there are two different ways of approaching this question. One is to indicate the mechanism by which policies adopted in response to a break of equilibrium can bring about compensatory operations, and thus durably restore the disturbed equilibrium of the balance of payments. The other approach consists in demonstrating that disequilibrium releases through its very existence forces which tend to bring about the necessary adjustments in international transactions. The one type of approach arrives at a theory of what I propose to call "*induced re-equilibrium*", while the other arrives at a theory of "*automatic re-equilibrium*".[1] This terminology will be justified by the discussion that follows. It will become clear too that the two theories are complementary, not alternative, and that one needs them

[1] In using the term "re-equilibrium" for "restoration of equilibrium", I adopt a term introduced by Professor Aftalion, *L'Equilibre dans les Relations Economiques Internationales.*

both in order to explain empirically-known phenomena in a completely satisfactory way. It is to be regretted that most writers on the subject so little realize the complementary character of the various approaches to the problem of re-equilibrium in international payments.

(*a*) *Induced Re-equilibrium*

This theory is the old, basic theory of the mechanism bringing about equilibrium in international payments. It has been formulated for the case of the gold standard and we shall discuss it in greater detail when analysing that monetary system. The mechanism in question is intimately connected with the international movements of gold which take place in response to each particular movement of the balance of payments. Losses of gold are followed by a policy of increasing the bank rate, which has a twofold effect upon the monetary situation: (1) The increase of the bank rate tends to reduce the portion of monetary circulation which is backed not by gold but by commercial paper, and thus tends to restore the percentage of gold cover of the total amount of central bank money; (2) That same increase of the rate of interest tends to attract short-term funds from abroad. Now the currency restriction tends to bring about a fall of prices and thus makes imports relatively more expensive and exports cheaper. This is accentuated by the reverse tendencies taking place in countries receiving gold; there a lowering of the rate of interest induces an increase of the monetary circulation and a rising tendency of prices, and further encourages movements of short-term funds *out* of the gold-receiving country and towards the gold-losing one.

The classical "mechanism" realizes all these effects by the single means of changes in the bank rate. Under modern banking conditions additional policies may be called for, since the monetary circulation not covered by gold is only to a small extent backed by commercial paper and to a very

large extent by government securities. In order to obtain the reduction in monetary circulation which the "classical" theory demands, "open market" operations must supplement the movements of interest rates. It will be noted that there is, both in the "classical" and in the "modern" version of this mechanism, a considerable amount of judgment to be exercised by the central banking authorities; thus the mechanism in question is by no means an automatic one.[1]

A question which requires careful attention is the following: does the described mechanism work *mainly* through changes in internal prices in the respective countries, or *mainly* through movements of short-term funds? The question is easily put but cannot be easily answered. Short-term funds can move very rapidly in response to differential changes, even small ones, of interest rates. Price-changes, on the other hand, require time. It will furthermore be noted *first* that the "quantity theory" of money in its crudest form is not exact, and the further one is removed from a situation in which it might be verified, the less direct and the less rapid will be the response of price movements to changes (usually not very considerable), in the volume of circulating medium; and *secondly* that the effects of price-changes upon the "terms of trade" and thus upon the size of import or export surpluses may be a further slow process; on the other hand the readjustment of balances of payments to an equilibrium position is a short-run or a medium-run process. Logic would thus seem to give movements of short-term funds the priority over price movements as motor of the mechanism of re-adjustment. But our reasoning was based on explicit assumptions regarding the comparative speed with which the various factors work—and these assumptions may be

[1] The reader will find it useful to supplement this very summary statement by the excellent treatment of the subject in Jacob Viner's *Studies in the Theory of International Trade,* chap. vii, pp. 388–436.
The "automatic" mechanism which operates in the case of a "simple specie currency" will be discussed in the next section of this chapter.

verified or not by the actual processes. The final answer lies with experience, not with reasoning; nor can any general rule be stated. One may only emphasize that adjustment through short-term credit operations works more quickly and that it is likely that important price adjustments would have to take place only in the case of protracted disequilibria. These may be due to some fundamental change in long-term credit transactions or to some previous developments affecting the size and structure of the external trade of the country in question. Thus if the lending habits change and a country cannot obtain in the future the accustomed amount of new long-term credits, some lasting changes in the structure of that country's foreign trade have to take place, and the instrument of adjustment is a change in prices. If, moreover, prices in the particular country have become so high in comparison with prices abroad as to weaken that country's competitive position, a price adjustment would have to take place in order to restore equilibrium. In such cases, short-term credit operations cannot lastingly restore the equilibrium of international payments; if they take place, however, basic adjustments can be made gradually, occasioning less friction than is caused by sudden and important movements of internal prices.

We thus get a better insight into the meaning of the phrase "international price equilibrium". Prices are internationally *co-ordinated* if in no country prices move "out of step" with prices in other countries (under prevailing stable exchanges), thus changing the competitive position of that country's industries and disturbing the equilibrium of its balance of payments. The mechanism here described provides an instrument by means of which price movements in various countries can "keep in step".

It can be said that long-term equilibrium in international payments exists if short-term credit operations are always sufficient to restore the balance whenever it is disturbed. Thus

Professor Angell gives a definition, which in the light of the foregoing analysis appears to be judicious and acceptable, and according to which international payments of a country are in equilibrium if "the net balance of the aggregated commodity, service, interest and dividend and long-term capital operations, so far as these operations entail actual payments, is zero."[1] Or, reciprocally, "a country's international payments are out of equilibrium whenever short-term funds are moving to or from it, net (that is, whenever the net balance of all the *other* international payment items is greater or less than zero)".[2] In other words, international payments are in durable equilibrium if, in order to maintain that equilibrium, and in the absence of any *new* disturbances, no changes in the structure of foreign trade or credit operations are required.

(*b*) *Automatic Re-equilibrium*

While *induced* re-equilibrium is obtained by the means of policies adopted in response to symptoms of disequilibrium, such as gold-flows from country to country, *automatic* re-equilibrium is a *direct* consequence of the maladjustment of international payments. There may be two conceptions of this type of adjustment: (1) There *are* symptoms of maladjustment such as flows of gold, but no policy needs to be adopted since the consequences (or symptoms) of maladjustment bring themselves the cure that is required; (2) The disequilibrium has direct consequences which prevent even the appearance of the symptoms of maladjustment, considered as the "normal" ones. The first case is that of the "classical" mechanism of adjustment working within the monetary system of a "simple specie currency"[3] where there

[1] James W. Angell, *Equilibrium in International Payments*, p. 17.

[2] Ibid., p. 14. Of course no such definition can be quite rigorous and one must keep in mind, here, that short-term credit transactions occur also otherwise than in response to disequilibrium in international payments. *Vide supra*, p. 101.

[3] See Jacob Viner's *Studies in the Theory of International Trade*, chap. vi, pp. 290–387.

are no credit operations whatever.[1] The second represents the most "modern" tendencies that prevail in investigations of equilibrium in international payments.

(1) The mechanism of adjustment in the case of simple specie currency, e.g., the pure gold currency, is in its essence very clear and direct: the net deficit in international payments is paid by gold shipments; this amounts to a contraction of the circulating medium in the country losing gold and to an expansion in the other country (or countries). In consequence, prices tend to fall in the former and to rise in the latter country, which discourages the former country's imports and encourages her exports, while the reverse happens in the latter country. Thus as the result of changes in the terms of trade brought about by price movements, the balance of trade is brought into equilibrium again. The country which originally had a deficit in foreign payments may now realize a surplus which will start the mechanism moving again in the opposite direction. We assume throughout this reasoning that the only international economic transactions are trade operations and that the balance of payments is identical with the balance of trade. Thus the situation is over-simplified as compared with empirically-known situations. When we move on to more complicated assumptions, we must introduce an element of policy (except for the most recent theory which will be discussed presently), and we thus find ourselves in the case which was previously analysed. It is important to note that it is *only* under such simplified conditions that gold movements "automatically" restore equilibrium in international payments. This point is very vital in appreciating the "automatic" or "non-automatic" character of the gold standard. We see that not even gold currency (as distinct from the gold standard[2]) can

[1] This qualification is indispensable; whenever there are credit operations the bank-rate *policy* appears in order to influence their size and direction.

[2] See above, p. 16, and below, chap. ix.

provide an automatic mechanism of re-equilibrium in international payments unless no credit operations take place. As for a currency which is only linked to gold, the element of management comes in to an even larger extent, as we shall see presently when analysing the nature and scope of the international gold standard.

(2) The modern school of thought, representing what has been called here "the theory of automatic adjustments", consists of "those who postulate shifts in international demand schedules to right or to left without any necessary intermediation of gold-flows".[1] Iversen traces this point of view to an article written in 1889 by C. F. Bastable,[2] in which, in opposition to John Stuart Mill, the fact is brought out that changes in purchasing power of the respective countries brought forth by the disequilibrium in balances of payments may in *themselves*, and without the help of any additional policy, effect changes in the volume and direction of trade between these countries.[3] Thus to formulate the problem briefly, the question consists in finding out whether gold movements on the one hand, and price-changes on the other, are indispensable in order to bring international payments into a new equilibrium. According to the theory which we are now discussing, neither of the two elements is absolutely necessary for an equilibrating mechanism to work. This point of view has been brought to the foreground of economic debate in the course of the Reparations discussion.[4]

[1] James W. Angell, op. cit., p. 15.

[2] *On Some Applications of the Theory of International Trade*, *Quarterly Journal of Economics*, 1890. Quoted in Iversen, *International Capital Movements*, p. 202.

[3] As Bastable puts it in the article quoted above, the inhabitants of the creditor country "having larger money incomes will purchase more *at the same price*", and thus bring about the "necessary excess of imports over exports". Iversen, op. cit., p. 203.

[4] See the discussion between Ohlin and Keynes in the *Economic Journal* for 1929. Ohlin, in fighting Keynes's argument about the difficulties of transfer, introduces shifts in demand schedules as a factor making the transfer of reparations easier. Cf. Viner, op. cit., pp. 307–11 and 326–38; Ohlin, *Interregional and International Trade*, particularly chap. xx; Keynes, *A Treatise on Money*, London, 1930, vol. i, chap. xxi.

More recently Harrod[1] and Whale[2] make an extensive use of the same mechanism. While there are various *nuances* as between the different presentations, the essential process here involved consists in changes that are supposed to take place in reciprocal demand schedules that exist in each of the countries for the other country's products. Thus the country whose balance of payments shows a deficit would buy less goods of the other country (assuming two countries in presence) while the latter country would increase her importations from the former. Since these surplus imports will be financed through the spending of sums due by the debtor country, no price-changes are necessary in order to bring about the adjustment.

This is indeed a very summary statement of the process and the reader will find it useful to turn to the literature quoted in the last few footnotes. My object here is not to give a detailed exposition of this mechanism but merely to indicate its principal elements. While there can be no doubt that changes in demand schedules, brought about by payments from country to country, affect trade between these countries in a way which tends to re-establish equilibrium of international payments, this mechanism cannot explain the entire process of adjustment. It represents a factor which is always at play, but which is only one of several forces acting in the direction of re-equilibrium.

It is certainly *conceivable* that the net payment will be made by the means of an appropriate change in the balance of trade brought forth by shifts in demand schedules, without either gold movements or price changes, but is it *likely* to happen? It will be observed that changes in the structure of trade require time, while gold shipments in response to a certain situation in the foreign-exchange market take place on a very

[1] R. F. Harrod, *International Economics*, 1933, chap. vi, also *The Trade Cycle*, Oxford, 1936, pp. 145–58.

[2] P. B. Whale, *The Working of the Pre-War Gold Standard, Economica*, February 1937.

short notice; it is therefore likely that gold movements will take place even before changes in the structure of trade could occur. Inasmuch as gold movements affect the supply of money in the countries concerned, price movements are thus likely to take place with a more or less considerable time-lag. Is it possible that these changes in the supply of money should affect the volume and direction of trade between the particular countries without first causing price-changes? This will depend upon the particular shape of the various demand curves. If the increased demand by the "creditor" country for foreign goods offsets the decrease of internal demand on the markets of the "debtor" country; and if the increased internal demand on the markets of the "creditor" country offsets the fall in exports formerly bought by the "debtor" country; then the price structure will remain intact in both countries.[1] The off-setting would have to take place, however, not only in total values, but in each individual market as well. That this might happen is just conceivable but the probability of its happening is very small. In the contrary case changes in price *structures* are inevitable. It seems reasonable to conclude that: (1) Changes in national price structures are practically unavoidable if equilibrium is to be realized through adjustments of the balance of trade; (2) The fact of net payments from country to country may affect the size and direction of trade between the countries concerned even in the absence of major price movements; changes in the structure of prices would then take place in each country as a consequence of changes in demand schedules; (3) The need of price movements is considerably reduced when the mechanism of re-equilibrium works primarily through credit operations (but in this case it ceases to be automatic).

At the root of the problem, and here the various approaches to it coincide, lie changes which disequilibrium in international payments brings forth in the various national money

[1] Provided that there are no disturbing time-lags.

markets. These changes *must*, even in the absence of any special policy, alter the structure of international trade and of internal demand. Both result in price movements. Thus far everything can be said to be automatic. In an economic system, however, in which credit exists, the automatic process will be supplemented and probably impaired through various elements of credit policy. In consequence of the policies adopted, the *internal* supply of money will be modified as compared to what would happen under the system of a simple specie currency, and furthermore *international* credit operations will take place (under the influence of changes in the bank rates); a certain part of the burden of adjustment will thus be taken away from international trade and assumed by international finance. In the combination of all these factors lies the complementary character of the automatic and the induced adjustments to which reference has been made above. Purely automatic methods of obtaining re-equilibrium can work only—the point is sufficiently important to be repeated—in a system of simple specie currency (the same in the various countries) which ignores all credit instruments.

D. Exchange Fluctuations as Instrument of Re-equilibrium

We have assumed so far that rates of exchange between the various national currencies remain fixed throughout the whole process of restoring equilibrium in international payments. When this is the case, all the necessary adjustments must be brought about by means of either commercial or financial transactions. As has been pointed out in a previous chapter,[1] exchange fluctuations tend to restore equilibrium of international payments by equalizing demand and supply on foreign-exchange markets. The question is to know how durable such a re-equilibrium will be and what effect exchange fluctuations exercise upon the constituent elements of the

[1] *Vide supra*, p. 107 *et seq.*

balance of payments. The changing situations in the foreign-exchange markets and the fluctuations of exchange rates are interdependent, not connected by the link of one-way causality; fluctuations of rates set into motion "mechanisms of adjustment" which operate mainly through alterations in the volume and direction of trade. It will be seen that these mechanisms tend to limit the amplitude of exchange fluctuations. Let us assume, in the first place, that there are no international credit operations but merely commercial transactions. The direct effect of one national currency depreciating in terms of the other (as result of a deficit in that country's international payments) is to alter the relation between prices prevailing in the two countries. Let us call the country whose balance of payments shows a deficit (or debtor) country A, the other country B. If prices in B remain stable in terms of B currency, they will increase in terms of A currency; and, reciprocally, A prices, if nominally stable, will fall in terms of B currency. Of course, nominal prices in A will tend to rise, and prices in B to fall as result of the indicated price-changes; but for B it will nevertheless be relatively more advantageous than before to buy in A, and for A it will be relatively less advantageous to buy in B. Thus the balance of trade will tend to show a surplus of exports in A and a surplus of imports in B; this will reverse the original situation and exchanges will now tend to move *against* B. The depreciation of the A currency in terms of the B currency will have been stopped by changes in the balance of payments (here identical with the balance of trade) and in due course the A currency will appreciate again. We shall thus have exchange fluctuations around some "equilibrium rate" and not a progressive and lasting devaluation of the A currency.

Thus far the process described has been "*automatic*"; it can be supplemented however by appropriate monetary *policies*. Thus the monetary authorities of the country having

a deficit in its international payments may adopt a restrictive credit policy at home and cause a fall in nominal prices; similarly the monetary authorities of the country having a surplus in its balance of payments may adopt a more liberal credit policy and cause a rising price-tendency at home. In acting this way the respective policies would achieve voluntarily what is obtained automatically under a simple specie currency[1] and would speed up the process of adjustment described above.

If we complete the picture by introducing international financial operations, the adoption of certain appropriate policies becomes imperative. As we have seen, a system of freely fluctuating exchanges does not eliminate the possibility of a long-run stability (as distinct from fixity) of exchange rates. If this is the object of policy we find ourselves in a position which is not vitally different from the one described in the preceding section of this chapter. It is quite conceivable that the fluctuation of exchanges around an equilibrium position should (by keeping international payments balanced) be itself an instrument of maintaining a long-run exchange stability. This conception of exchange fluctuations as a mechanism of re-equilibrium is very important, since it conflicts with the view according to which exchange chaos is the only alternative to fixed parities. Now for various reasons fixed parities may appear to be preferable to a long-run stability of fluctuating exchanges; this latter possibility must however not be overlooked since it represents an interesting intermediate solution. If it is adopted as a declared objective of policy, capital and money movements may continue on the basis of anticipated long-term exchange stability; in the contrary case the *anticipated* instability will disorganize financial operations and thus become a *real* instability. *Thus*

[1] Under the gold standard (as opposed to an all-gold currency) this result is obtained by a combination of automatic factors and of appropriate policies.

the real opposition is that of organized versus *disorganized international monetary relations, not that of one method or organization* versus *another method* (that is of one monetary system *versus* another system). The choice of methods must then depend on various other considerations, not on that of a long-run stability of foreign exchanges.[1]

The mechanism of re-equilibrium through exchange fluctuations can be greatly assisted by a bank-rate policy consisting in an increase of the bank rate in the country whose exchange is depreciating and in a lowering of the bank rate in the country whose exchange is appreciating. This is a policy analogous to the one which is adopted under the gold standard in response to movements of the metal. In both cases the bank rate is changed when symptoms of disequilibrium are ascertained; but while under the gold standard it is movements of bullion which indicate that international payments do not balance, under the system of free paper currencies, it is movements in exchange rates.[2]

E. Elements of a General Theory of Re-equilibrium in International Payments

In the preceding two sections I have endeavoured to give a brief outline of the principal "mechanisms" through which international payments are or can be equilibrated once their balance has been disturbed. As has been pointed out above, the various mechanisms that operate under conditions of fixed parities can work together; what *actually* happens in any particular situation can be ascertained only by means of empirical inquiries. While some such investigations have been carried out,[3] very much remains still to be done. This

[1] *Vide* the following section of this chapter. [2] *Vide supra*, pp. 120–1.

[3] Jacob Viner's *Canada's Balance of International Indebtedness*, is a "classic" among "inductive" studies relating to this problem. Let us mention also the important studies by: John H. Williams (*Argentine International Trade under Inconvertible Paper Money, 1880–1900*, Cambridge, Mass., 1920); H. D. White (*The French International Accounts, 1880–1913*, Cambridge, Mass., 1933); W. E. Beach (*British International Gold Move-*

is indeed a fitting subject for institutional research: in order to make the results of such inquiries readily comparable they ought to be carried out by a group of scholars in agreement amongst themselves on the methods to be used and on the problems to be investigated. In the absence of more and better knowledge of actual processes, most detailed discussions of the "mechanism" of re-equilibrium remain in the sphere of the intellectually conceivable; they are precious tools of thought for inductive research. The most that can be said is that actual situations represent variously set-up compounds of these multiple hypothetical methods of adjustment. It is only when our empirical knowledge is more developed that really significant results will be obtained through applying and testing the various abstract "models". In the present study I should like to bring out certain fundamental similarities between the various "mechanisms", in particular the analogies which exist between "mechanisms" moving on the basis of fixed parities and those which work through exchange fluctuations. Some elements of this comparison have been already mentioned in section D of this chapter and in the light of these observations there appears a possibility of formulating a theory of re-equilibrium which would apply to *any* monetary system. This is what I shall now attempt very briefly to do.

The basis of the theory is to be found in the notion of the balance of payments. Since payments made and payments received by a country must balance over longer periods of time, every temporary deficit must be made good through an appropriate surplus following later on. Thus operations must be stimulated which will result in payments to be received by the country whose balance has been showing a deficit while operations giving rise to payments made

ments and Banking Policy, 1881–1913, Cambridge, Mass., 1935); F. D. Graham (*International Trade under Depreciated Paper. The United States, 1862–79, Quarterly Journal of Economics*, vol. xxxvi, 1922); R. S. Sayers (*Bank of England Operations, 1890–1914*, London, 1936).

by that country must be to a certain extent discouraged. This is really a principle of arithmetic and it is valid for any monetary system. If, on the contrary, the tendencies which have resulted in a deficit of receipts are allowed to go on or even are amplified, disequilibria will go on growing, the effect of which may be a complete collapse of monetary stability. What exactly is implied by this notion of "collapse" will be explained presently. A "mechanism of re-equilibrium" is just a method of obtaining the necessary compensation of a deficit by a surplus. Let us now go one step further. International economic transactions are either commercial or financial, the latter consisting of movements of either capital or short-term funds. Therefore *any* mechanism of adjustment must operate through the medium of operations which have been listed above on page 123. There is no other way of obtaining equilibrium in international payments.[1] It follows that under any monetary organization the country experiencing a deficit in its balance of payments must adopt certain policies or allow a certain automatic process to take place; and that the country whose balance of payments shows a surplus must similarly adopt appropriate policies *or* make the operation of an appropriate automatic process possible. If this is not the case, deficits and surpluses will become cumulative and symptoms of disequilibrium will grow in strength and ultimately result in the collapse already mentioned.

Symptoms of disequilibrium in international payments can be only one of two kinds:[2] (*a*) flows of gold (under the gold standard);[3] (*b*) depreciation of one currency in terms of the other. If deficits and surpluses are cumulative, then (*a*) losses of gold[3] by the country in deficit will go on until this

[1] Will the reader please turn to sect. 5 of chap. vi in conjunction with the present phase of our analysis.

[2] Assuming, as we do, the continued existence of free exchange markets.

[3] Or, more generally, of the commodity used for money or for the monetary standard.

particular monetary system breaks down,[1] or (*b*) the depreciation of the currency of the country in deficit will continue without limitation and monetary instability will set in. It will be noted that even if one starts from the situation (*a*) one ultimately lands in the situation (*b*) provided that the cumulative character of the maladjustments lasts long enough. Now currency depreciation, to which there is no known limitation, destroys all regularity in flows of capital and introduces into the economic process more or less wide and erratic movements of short-term funds. The destruction of confidence brings an end to financial and monetary stability; considerations of safety and not considerations of returns guide financial operations henceforth.[2]

If the disintegration of international monetary and financial relations, i.e. the collapse of monetary stability, is to be avoided, a "mechanism of re-equilibrium" *must* be made to act. This brings us back to the limited number of operations by the means of which it *can* act. In actual life they will all be combined within the same process, but emphasis may be greater now on one of them, now on another. Adjustments may be sought principally through changes in the orientation of international trade or through modifications in the flow of capital and of short-term funds. What instrument of adjustment will mostly operate depends on the nature of particular situations. More precisely, it depends on the structure of the balances of payments of the countries in question and on the causes that brought about the disequilibrium in international payments that is to be "cured".

Most of the "mechanisms" described in the economic literature, and summed up above, work on the assumption that international trade is the principal source of payments that take place from country to country. This easily leads to confusing the balance of trade with the balance of payments and to reducing the disequilibrium in the latter to that

[1] *Vide supra*, p. 121. [2] *Vide supra*, p. 98 *et seq.*

in the former. Whenever this is done, conclusions obtained cannot be applied, without more or less serious qualifications, to cases where financial transactions are an important source of international payments. In the assumption that *no* financial transactions whatever are taking place, the whole readjustment in international payments has to be obtained through export surpluses realized by the country in deficit. If the adjustment is to be made under a system of simple specie currency, the deficit of the balance of payments causes a change in the supply of money in the countries concerned and thus affects trade (*a*) directly *via* shifts in demand schedules brought about by changes in the supply of money; and (*b*) indirectly through price changes resulting from movements of specie from country to country. The greater the price adjustment, the quicker will the necessary alteration in the balance of trade be obtained. It will be observed that the necessary price adjustment will be smallest when trade is free[1] and that *progressive* protectionism may seriously interfere with the process of re-equilibrium. Let us now move to a more complicated system, where paper money and bank money exist along with specie, and where there is more or less scope for credit policy, but let us maintain the assumption that no international financial transactions take place. It is clear that, in order to obtain a new equilibrium in international payments, policies must be adopted which will in effect stimulate exports and discourage imports of the country (or countries) in deficit, while the opposite effects must be obtained in the country (or countries) experiencing a surplus. The appropriate policy is one of credit restrictions in the country

[1] Import tariffs imposed by the country in deficit, would of course help adjustment. But why should countries with a deficit in international payments have a monopoly of protectionism? and would they have it in fact? To the latter question the most likely answer is in the negative. Tariffs imposed by the country in deficit would be likely to provoke retaliatory measures and in the end adjustment would be rendered more difficult rather than easier. Therefore the argument favouring import tariffs as an instrument of readjustments does not appear to be a strong one. Cf. *The Macmillan Report*, Addenda I and III.

in deficit and of credit expansion in the country having a surplus. This may be obtained by modifying appropriately the bank rate or by applying open-market policies aiming at the same results. In the latter case the short-term rate of interest is likely to move also, in the end, in consequence of the changed situation on the respective money markets. The choice of method will have to depend ultimately on the nature of assets held against the portion of notes not covered by specie. If they consist of commercial paper, changes in the bank rate will rapidly affect their volume; if on the other hand they consist of government securities, open-market operations will be more effective. Of course when resorting to open-market operations one must apply them in a proper way; that is in order to restrict the monetary circulation in the country in deficit and to expand it in the other one. In actual practice this method has been all too frequently used to hamper rather than to help the mechanism of adjustment in its action; the typical example is that of central banks *buying* securities when gold is flowing out of the country, thus counteracting the necessary restriction of circulating medium. Such policies and the reasons for which they are adopted will be dealt with later; here it suffices to point out that (1) these policies, by making the mechanism of re-equilibrium inoperative or diminishing its efficiency, tend to prolong and to aggravate disequilibria, and (2) the fact that open-market operations have in the past been used in a wrong way does not constitute any valid argument against using them at all. I insist on that last point since it deals with an argument that is often made against open-market operations by those who prefer the instrumentation of bank-rate policy. Both types of policy are important means of action and can be used in combination with one another or the one in preference to the other according to the situation in which re-equilibrium is to be obtained.

The time has now come to drop the assumption which con-

sisted in limiting international economic relations to commercial transactions. Under modern economic conditions capital movements and short-term credit operations play too important a part to be left out of consideration. On the contrary, they ought to be introduced into the problem of international settlements with a far greater emphasis than is generally the case. I have pointed this out when discussing the question of monetary parities and it is of great importance again in the present context. If financial transactions are important components of international economic relations, then trade adjustments cannot be regarded any longer as the only, or even as the principal, factor in the process of re-equilibrium.[1]

International long-term credit operations, i.e. capital movements, can hardly be regarded as an instrument of re-equilibrium, though, as has been pointed out before,[2] a change in their volume and direction may become an important cause of disequilibrium in international payments. It is therefore short-term credit operations which we must now envisage. We have seen what part they play in the various "mechanisms". We know also that under conditions of prevailing confidence these transactions are principally determined by differences between rates of interest quoted in the various money markets. Thus the bank-rate policy comes into the picture again; this time there is however no alternative policy that could bring forth the necessary movement of short-term funds. It is very likely that the bank-rate policy

[1] The position of the problem here is different from the position of the *transfer* problem. It clearly results from the notion of balance of payments that a *net* capital payment must be made by means of an export surplus in the balance of trade of the paying country and of an import surplus in the balance of trade of the receiving country (unless transfer is deferred through credit transactions). In the problem of transfer (or, as some authors call it, of *real* transfer) the solution depends upon the mechanism of obtaining an export surplus. For our present problem, however, it is indifferent whether equilibrium in international payments is obtained by the means of a "real transfer" of the balance due on current account or through financial operations.

[2] *Vide supra*, p. 124.

carried out under the pre-war gold standard[1] affected international credit operations much more than national prices, and that the adjustments were more often made through movements of money-funds than through changes in balances of trade. Thus far, however, we have no adequate knowledge of what really was taking place during that long period of monetary stability and I have therefore no means of proving the contention I am putting forth. This contention I wish to complete by a second, equally hypothetical, namely that in the absence of credit operations gold movements and price fluctuations would have been much larger and the process of re-equilibrium much slower than was the case in reality. In order for all this to be achieved short-term interest rates must move up in countries with a deficit balance of payments and down in countries with a surplus. The movement of interest rates affects not only the international flow of money but also the monetary situation within each country and, more slowly, national price movements and international trade. Thus all the various re-equilibrating forces are set into motion, while open-market operations may speed the process up, if properly applied.

Let us now ascertain whether this interest-rate policy is *indispensable* for obtaining re-equilibrium or whether, on the contrary, a mechanism is conceivable which leaves the rate of interest quite outside the process of adjustment. Should the interest rate become dissociated from the mechanism of re-equilibrium, then, under normal conditions of confidence, international credit operations would cease to operate as an instrument helping to bring about equilibrium of international payments. As far as I can see it, there is no means of attracting to a country short-term balances other than offering them a sufficiently high reward, and this can be achieved only by means of an appropriate bank-rate policy. If now, international credit operations cease to take

[1] *Vide infra*, chap. ix.

place, the whole load of adjustment is thrown upon the balance of trade. Important consequences follow. Credit operations of the type which we are considering here reduce the net deficit (and surplus) in international payments and reduce in consequence the size of net balances which have to be settled and the volume of "real transfer" which has to carry out the final settlement.[1] The suppression of compensatory credit transactions has the contrary effect. Now it is clear that the greater is the size of adjustments to be brought about by trade items, the greater will be the need for changes in the supply of money on the respective national markets and for differential price movements. These changes in the supply of money *may* be carried out through open-market operations under conditions which were specified above. Whenever this method can be applied the bank rate need not be changed immediately the mechanism of re-equilibrium begins to work. It will however be noticed that the change of rates is thus merely postponed. Relative changes in the supply of money call sooner or later for changes in short-term interest rates; these cannot be indefinitely avoided if re-equilibrium is to be obtained. Movements in interest rates can only be avoided if one adopts measures the final effect of which is to make the functioning of the mechanism of adjustment impossible. It is hardly necessary, after all the foregoing analysis, to emphasize further the fact that international payments are not likely to be brought into equilibrium if neither short-term credit operations, nor changes in the supply of money and in national prices, are allowed to take place.

The argument here advanced must be completed by a reference to the conclusions that were reached about fluctuating rates of exchange as an instrument of adjustment. As we have seen, this type of mechanism is not vitally different from the one which operates on the basis of fixed parities.

[1] *Vide* footnote (1), p. 165.

Just as the "mechanism of adjustment" (operating through the triple instrumentality of changes in international flows of short-term funds, changes in national money supplies and price movements), is necessary in order to limit specie movements, so it is necessary in order to limit the depreciation of the currency of the country in deficit. No advocate of adjustment through exchange fluctuations does in fact advocate unqualified and unlimited currency devaluations as the means of restoring equilibrium in international payments. But if fluctuations are to be limited and reversible, the same type of fundamental adjustment is necessary as in the case of fixed parities. If this is granted, as I think it must be, then the opposition between "flexible exchanges" and movements in interest rates and prices, as alternative methods of obtaining equilibrium in international payments, must be abandoned as more apparent than real. It is a pseudo-opposition which, though at first glance suggestive, does not stand a thorough analysis.

We are thus led to a most important conclusion: *The process of re-equilibrium is essentially the same for all monetary systems.* This conclusion should not seem surprising in fact, since evidently adjustments must ultimately be brought by a limited number of economic operations, the nature of which does not depend on the monetary system adopted. The real opposition is one between international monetary and economic stability and international monetary instability leading to a disorganization of both commercial and financial relations between countries. The mechanism which we are led to consider as an indispensable condition of stability has hitherto been considered as an exclusive feature of the gold standard; and it was assumed by many writers that by abandoning that monetary system one could maintain stability through the use of other methods. This view has to be given up. Under *any* monetary system, free paper currency not excluded, the described mechanism must

be allowed to function if stability is to be maintained. Every escape from it is a step on the road to disorganization.

There is in the same context another misapprehension which ought to be dispelled. It is usually claimed by those who advocate the system of "flexible exchanges" in opposition to that of fixed parities, that the latter imposes upon countries which are practising it the strains of repeated deflations, or rather of an alternation of inflations and of deflations. This strikes me as a rather fanciful representation under normal conditions. Price movements which enter into a process of adjustment of international payments are not likely to be of an amplitude which would seriously disturb economic activity and amount to a deflation (or inflation).[1] If we had the necessary quantitative information about the pre-war times, we could settle the matter conclusively. While waiting for an adequate documentation to be produced we must depend on the logic of the economic system and be very careful not to exaggerate what probably consisted of relatively minor price movements; very likely the greatest part of current adjustments was carried out (as I pointed out before) by credit operations. The underestimation of the part played by international movements of short-term balances had led to an exaggeration of the rôle of price movements and of their size. A further source of confusion is the lack of differentiation between current adjustments of transactions carried out with a view to maintaining long-run equilibrium in international payments, and adjustments to violent breaks of equilibrium due to special causes and to exceptional circumstances. Under "normal" conditions[2] there is no need to choose between stable prices and stable exchanges. Not only *can* both be stable at the same time, but it clearly follows from all the foregoing analysis that they

[1] A similar attitude is adopted by Professor von Hayek in *Monetary Nationalism and International Stability*, pp. 23–4.

[2] i.e. whenever there is no exceptional maladjustment of the type to be examined in the next section of this chapter.

must be stable simultaneously, if equilibrium is to be preserved.[1]

F. Re-equilibrium in the Case of Major Disturbances

We have left out of consideration, so far, the problem of re-equilibrium that arises in case of major disturbances, such as have been referred to in the last section of Chapter VI.[2] The various causes of serious maladjustments which have been listed there can be summed up, for the present purpose, under the following three headings: (*a*) divergent price movements in the various countries; (*b*) changes in the volume and direction of international capital movements; (*c*) movements of short-term balances from country to country in search of safety. Various considerations relating to these three groups of changes in international economic relations have been made throughout the preceding four chapters.[3] Here it is necessary merely to bring together the principal elements which can explain the origin of, and the cure for, major maladjustments in international payments.

(*a*) If *price movements* in different countries take place quite independently of one another and we then get ever further away from an "international price equilibrium"[4] cumulative changes in balances of *trade* are due to take place. This must not, and is not likely to, happen when price movements take place but are internationally co-ordinated. I am not speaking of price fluctuations which are a part of a process of adjustment and bring about equilibrating changes in balances of trade; the price movements referred to in the present context are not fluctuations of a minor amplitude but cumulative tendencies of prices to rise or to fall over longer

[1] A similar thesis is developed at greater length in the two very interesting books anonymously published by a well-known Belgian economist and banker under the title *La Crise de l'Etalon-or*, Brussels, 1935, and *Révision de Valeur*, Brussels, 1937.

[2] *Vide supra*, pp. 121–5.

[3] See particularly chap. v., sect. D, pp. 101–3.

[4] *Vide supra*, p. 150.

periods of time.[1] Thus if two countries practise in the downward phase of the cycle, the one an expansionist policy, the other a deflationary policy, frictions are likely to occur, since prices in the former country will rise in relation to prices in the latter: which is bound to affect trade between them. Unless other transactions compensate this development of balances of trade, the strain on foreign exchanges may become considerable. It will be noted that to pursue such divergent price policies is possible in the long run only when the individual countries in question disregard the rules governing mechanisms of adjustment and adopt policies which are in contradiction with those rules. The characteristic feature of the "rules of adjustment" is that they demand the adoption of policies which go counter to the disturbing tendencies; policies which, on the contrary, strengthen these tendencies, such as inflationary or deflationary ones, make the functioning of mechanisms of re-equilibrium difficult or impossible while they accentuate the causes of disequilibrium. The situation is, of course, different when *all* the countries adopt an expansionist, or when they all adopt a deflationary, business cycle policy. Here the problem of re-equilibrium meets that of business cycle theory as a basis of policy. The divergencies existing between leading theories thus become real causes of disequilibria in international payments and of instability in international economic relations, inasmuch as some of these theories become the guide to action in some countries and others in other countries.

(*b*) The sudden diminution or cessation of *international capital movements*, particularly of new foreign loans, may be, and has been, an important source of disequilibrium in balances of payments. Since such changes occur only in conditions of economic or political instability, their causes

[1] As in a business cycle. The "long-run" price movements which theories discussed in Chapter III try to connect with gold production, are not intended here either.

cannot be analysed in detail apart from the historic context in which these changes have taken place. As in movements of short-term funds, considerations of safety play a very important part in causing the sudden and large changes. Occasionally, exceptional anticipations of profits in some national market may keep in that market funds that would otherwise seek foreign investments and even attract funds from the "debtor" countries. Such was the case during the last phase of the 1927–9 boom in New York stock market. Insecurity may be due to political or to economic reasons. In consequence of what I have called before a "heterogeneous distribution of confidence in the world" there may occur geographical changes in the currents of investment or changes in the volume of capital as compared with that of short-term funds.[1] Should this last change take place, effects are likely to be particularly disturbing to monetary stability.[2]

Adjustment to changes in *capital movements* must be made through changes in trade balances, since short-term credit can, by definition, provide only temporary relief. Moreover the reasons which bring about changes in capital movements are likely to affect short-term credit operations as well, in such a way that the maladjustment in international payments will be increased rather than diminished. Adjustment through international trade can be most easily obtained if the disequilibrium is relatively small in comparison to the value of trade transactions; and again, the fewer the obstacles that are put in the way of international trade, the easier it will be. The larger is the relative size of the maladjustment and the more drastic and active is protectionism, and the less easily can the adjustment be obtained.[3] Much will also depend upon the nature of exports and imports of the country in deficit and on the respective

[1] Cf. with pp. 92–3 above. I expect to deal with that problem at greater length in my forthcoming *Theory of Banking*.
[2] *Vide supra*, p. 100. [3] *Vide* footnote, p. 163.

elasticities of demand for various goods in question.[1] Should a country be unable to obtain the necessary adjustment then only two courses remain open: either financial assistance by means of international action, or else a cumulative loss of gold in the case of a gold-standard country and cumulative exchange depreciation in a country forced off the gold standard or in a country with a system of inconvertible currency. We shall see presently how exchange control comes to be adopted in consequence of a continuing situation of the second type.

(*c*) As regards the disequilibrating effects of *movements of short-term funds* little needs to be added to what has been said about it in Chapter V.[2] Since it is most unlikely that long-term lending could bring in an element of compensation, the whole burden of adjustment falls on the balance of trade. Here the same observations can be made as have been formulated in connection with changes in capital movements. The maladjustments brought about by massive movements of short-term balances are the most difficult of all to adjust on account of the size they can have and of their suddenness. Since they are due to lack of confidence, only a restoration of confidence can bring an end to them; exchange controls, which are most often introduced in response to "flights of capital", stop a symptom without curing the ill and this explains to a large extent why they are so difficult to abolish.[3] When credit operations are directed by considerations of safety, not of comparative yield, one most

[1] It will be noted, as an example of great adaptability of foreign trade to changing conditions, that Germany had in 1927 a surplus of merchandise *imports* of *2,890* million Reichsmark, while in 1930 there was a surplus of *exports* of *1,644* million Reichsmark. (League of Nations, *Balances of Payments, 1931 and 1932*, Geneva, 1933, p. 99.) See the interesting comments on that German experience by Jacques Rueff in his lecture *Défense et illustration de l'étalon-or* published in *Les Doctrines monétaires à l'Epreuve des Faits*, Paris, 1932, and reprinted in *Travaux du Congrès International des Sciences économiques, Paris, 1937*, vol. i, Paris, 1937, pp. 275–307.

[2] *Vide supra*, pp. 97–101.

[3] *Vide infra*, chap. x.

important element of mechanisms of re-equilibrium cannot operate, and monetary disequilibrium is likely to follow. Now the lack of a "homogeneous distribution of confidence", and, more important still, the changeability of conditions of confidence, are a consequence of either political unrest or of particular national economic policies. Those two factors are at the root of most disturbances in international payments connected with long- or short-term financial operations. Both are amplified by a spirit of nationalism and attenuated or even eradicated by a spirit of internationalism, of international co-operation and co-ordination. The same applies, of course, to divergencies in price developments that take place in the various countries. Thus the following conclusions may be formulated. Major disturbances in international payments are either caused or amplified by nationalism, economic and otherwise. Unless equilibrium can be restored through commercial transactions (which economic nationalism tends to hinder), monetary instability inevitably develops, leading up to the abandonment of free economic intercourse between countries.[1]

[1] *Vide infra*, chap. x.

CHAPTER IX

SOME CURRENCY SYSTEMS AND MONETARY INTERNATIONALISM

THE analysis of the preceding chapter has led us to the very important conclusion that the process of restoring equilibrium in international payments does not depend in its structure on the monetary system adopted. Whatever the monetary organization, certain operations have proved to be indispensable if re-equilibrium is to be obtained; they depend—and this is the reason of their absolute necessity—on the very structure of the economic transactions which result in payments from country to country. The fundamental opposition is therefore, in this context, not between one monetary system and another, but between stability and instability in international monetary relations. In the present chapter we shall discuss the principal contemporary currency systems from the point of view of international monetary stability, that is, of monetary internationalism[1]; in the following chapter we shall then analyse some problems resulting from monetary nationalism and from the instability that it engenders. The scope of our present discussion will be limited to the gold standard, foreign-exchange standards and free paper currencies.

A. The International Gold Standard

(1)

Definitions of the gold standard are abundant and while they are not uniform there is little disagreement as to the

[1] *Vide supra*, chap. i.

nature of the system. A critical examination of the literature of the subject would bring out, however, important divergencies in the emphasis with which now this, now that, feature of the gold standard is stressed by the various writers on the subject. Some of the principal characteristics of the gold standard have already been referred to in the preceding chapters; here it is merely intended to recapitulate and systematize these various considerations.

According to the definition suggested when discussing the problem of monetary parities, a currency standard is a commodity the price of which in terms of the national currency is fixed by the monetary law of the country and maintained stable by the monetary authorities of that country.[1] Substitute "gold" for "a commodity", and the result is the definition of the gold standard. The essential feature of that system is the fact of fixing the price of gold in terms of the national monetary unit and the maintenance of that price by the central bank or the treasury, according to the way in which the monetary system is organized. It will be observed that gold-standard currency is *not* gold currency but paper money[2] administered in such a way as to keep the price of gold stable. Convertibility, i.e. the obligation of the monetary authorities to buy and to sell unlimited quantities of gold against bank notes, which is an important feature of the gold standard, can be explained by the historic process which has led from gold currency to the gold standard. Besides this "genetic" explanation, however, it will be observed that convertibility is a *necessary* feature of the system, since this is precisely the instrument by means of which the price of gold is stabilized. More than that: the obligation for the central bank to buy and to sell gold at a certain price is a more fundamental feature of the system than the long-run fixity of that price. A currency remains linked to gold as long as gold can be bought and sold in

[1] *Vide supra*, pp. 126–7.

[2] *Vide supra*, pp. 16 *et seq.*

unlimited quantities at a price controlled by the monetary authorities—even should that price be changed by the competent authorities at a subsequent date. Thus our definition of "monetary standard" ought perhaps to be qualified by saying that the price of the standard commodity is fixed by law or by the authority to which the function of determining that price has been delegated. Should this wider definition be adopted, then a country might be said to be on the gold standard even if the price of gold were not fixed by law but merely determined by the monetary authorities. In order to avoid confusion, I find it preferable to draw a distinction between a country being on the gold standard and its having a monetary system linked to gold; the former term should continue to designate the traditional notion of the gold standard as a system under which the price of gold is fixed by the monetary laws of the country, while the latter should be used to describe a situation where currency is linked to gold in a less determined way. By introducing this second notion one avoids the mistake of considering that by "going off the gold standard" a monetary system necessarily loses all its connection with gold,[1] and then the price of gold becomes indeterminate. As long as the monetary authorities control that price it is not indeterminate even though it has ceased to be fixed by law. When all links between a monetary system and gold are severed we say that gold is de-monetized, not that the system is "off the gold standard"; if this happens, the price of gold ceases to be controlled by monetary authorities and begins to behave like that of any other commodity. Let us emphasize again that a gold-standard currency is a *paper* currency linked to gold through the legal determination of its price. This way of looking at it, while at variance with the traditional views about that system,

[1] Cf. with *Current Issues of Monetary Policy* by T. E. Gregory, Memorandum submitted to the Berlin Congress of the International Chamber of Commerce, 1937, para. 9.

corresponds much more closely to economic realities and has the advantage of stressing the non-automatic character of the gold standard.[1] As long as the central bank fulfils its obligation of keeping the price of gold stable in terms of the monetary unit, it is free to pursue various courses of policy and be guided by various additional criteria. In fact the only real limitations to the freedom of action of central banks result from international relations, and it is only in these relations that one can find a justification of, and arguments for, the gold standard. In an isolated community ("closed economy") there would be no point in establishing the gold standard except as a transitory system leading from an all-gold currency to a paper currency having no link with gold whatever.

(2)

What is then the *international* significance of the gold standard? Let us begin by quoting the following judicious statement by Professor Gregory:[2]

"When a whole series of countries possess currency systems which have a fixed relationship with gold . . . an international gold-standard system comes into existence, not in any formal fashion, but as a matter of fact. The only intelligible meaning to be assigned to the phrase 'the international gold standard' is the simultaneous presence, in a group of countries, of arrangements by which, in each of them, gold is convertible at a fixed rate into local currency and the local currency into gold, and by which gold movements from any one of these areas to any of the others are freely permitted by all of them."

The fundamental feature of the "international gold standard" is that it represents a *common* standard upon which the

[1] It is, of course, increasingly realized that not even the pre-war gold standard was automatic and that the gold standard is a managed currency system. See, e.g., Leo Pasvolsky, *The Necessity for a Stable International Monetary Standard*, International Chamber of Commerce, Paris, 1933, pp. 17–18; T. E. Gregory, *The Gold Standard and its Future*, London, 1934, p. 21.

[2] T. E. Gregory, *The Gold Standard and its Future*, pp. 7–8.

various national monetary systems are organized. The consequence of having a common standard is the possibility of establishing precise *parities* between the various national monetary units.[1] As we have seen the notion of *parity* has a precise meaning wherever the various national currencies are based on a common standard. This is indeed the only precise meaning that that notion can have, since the conception of purchasing power parities has been found wanting.[2] In order to make possible this clear definition of parities it is indispensable that the standard commodity should be allowed to move freely from country to country subject neither to tariffs nor to any sort of quantitative restrictions. Only if the status of free trade is applied to it, can a standard commodity become a *tertium comparationis* between the various monetary units and relate them reciprocally in a clear and unequivocal way. Hence the freedom of international movements of gold is an essential feature of the international gold standard. It is even more important that gold should move freely between countries than that its price should be fixed by law and kept stable. England after 1931 remained nearer the gold standard than would have been the case had the former legal price of gold been maintained but an embargo on gold exports introduced. The gold standard not only makes it possible for the various national currencies to have precise parity relations with one another, but also limits considerably the fluctuations of exchange rates. As has been shown in Chapter VI, gold movements are substituted for further exchange fluctuations once these latter have reached the so-called gold points. Thus the international gold standard minimizes the disturbing effects

[1] The *Macmillan Report* points out, similarly, that "the primary objective of the international gold standard is to maintain a parity of the foreign exchanges within narrow limits". (The proper wording of this important declaration should be "to maintain a parity and keep fluctuations of foreign exchanges within narrow limits".) *Committee on Finance and Industry Report*, London, 1931, H.M.S.O., Cmd. 3897, para. 39.

[2] *Vide supra*, chap. vii.

which the plurality of national currencies can have upon international commercial and financial relations, and provides the best practicable approximation to a world currency. This result is achieved because the price of gold is fixed in all countries having adopted the gold standard and because (and as long as) it is a commodity enjoying free trade. Under these circumstances it is a commodity which can always be sold abroad at a fixed price and therefore whenever there is a deficit in the balance of payments this deficit can be temporarily compensated by additional sales of gold. This is another way of describing the compensatory effect of international gold movements and it helps, I believe, to place the function of these movements in its proper perspective. It is needless to repeat here what has been said in the preceding chapter about the need for gold-flows from country to country to be reversed in due time if the system is to go on working.[1]

The last observation touches upon a very vital aspect of the international gold standard. There is surely a great need, if the system is to go on, for a proper relation between the amount of gold that is available to meet momentary deficits in the balances of payments and the size of these deficits. This is a more important relation than that between "gold reserves" and the total note issue. It clearly follows from the preceding analysis that while convertibility is necessary in order to keep the price of gold stable, the principal occasion for converting notes into gold results from the necessity of shipping gold abroad. It is ever more realized to-day that internal monetary stability is not guaranteed by the fact that there is a certain relation between gold reserves and the note circulation; the maintenance of a minimum reserve may prevent a run-away inflation but serious monetary disturbances may occur without reserves falling below their minimum level. I am not making a case *against*

[1] *Vide supra*, p. 146.

minimum reserve requirements—I am merely stressing the fact that their significance should not be exaggerated. What must be made quite clear is that the function of gold reserves is not to "guarantee" the "value" of bank notes, but to make it easier to maintain international monetary stability.[1] Once this is realized, more importance will be attached to the relation between the size of gold reserves of central banks and the size (measured in money units) of international transactions, and particularly, of deficits in international payments. Now, clearly, no gold reserves will be sufficient in the long run if deficits in balances of payments are lasting and gold losses cumulative. Unless the mechanisms of re-equilibrium can function, the gold standard must sooner or later break down, together with international monetary stability. Gold, in order to carry out its function, must circulate, not accumulate; whenever the latter happens instead of the former, one may safely infer that the mechanism of re-equilibrium does not function correctly.[2]

The notion of "a proper relation" between gold reserves and the size of deficits in international payments is not a precise one and no attempt should be made to express it by some numerical magnitude. All that can be said is that if values involved in international transactions should get out of proportion with the value of available monetary gold the system may break down. Now, the value of international *trade* depends not only upon quantities of goods traded but also upon prices of these goods, while the size of movements

[1] Cf. with the *Macmillan Report*: ". . . gold reserves should be held, not primarily against note issues, but to meet temporary deficiencies in the balances of international payments . . ." (para. 148); "its [the central bank's] primary duty indeed remains to maintain the value of its notes at par with gold, but it fulfils it, not by its obligation to change them into gold coin, but by freely shipping gold bullion or selling foreign gold balances to maintain the par value of its exchange. The sole use of a gold reserve to-day is, therefore, to enable a country to meet deficits in its international balance of payments, until the appropriate measures can be taken to bring it again to equilibrium." (Para. 285.)

[2] *Vide supra*, p. 76.

of short-term funds (to the instability of which attention has repeatedly been directed in the preceding chapters) depends, among other factors, upon the prevailing conditions of confidence and upon the monetary organization. In order to keep the values of international transactions in line with the value of gold reserves, it is therefore necessary: (*a*) to prevent cumulative tendencies of prices to rise, i.e. every form of price inflation; (*b*) to discourage both the accumulation and the international movements of large short-term balances. It will be observed that neither of these requirements has been fulfilled in the first post-war decade. We shall revert to the second of them in the section dealing with the gold-exchange standard, concentrating our attention here upon the question of prices. The larger the monetary expansion based on a given stock of monetary gold, the higher the prices and, *ceteris paribus*, the higher the value of international trade. Thus monetary expansion leading to a rise of prices and carried out on the basis of a constant gold reserve makes the system more vulnerable. While it does not matter much from the national point of view how large gold reserves are, it is important in the interest of international stability that they should not be too small. Hence the question of reserve requirements receives a new and different justification. By making it impossible for the monetary circulation to rise above a certain multiple of gold reserves held by the monetary authorities one limits the possibility for prices to rise and thus makes it easier for gold reserves to meet disequilibria in international payments.

Now, as we know, the size of gold stocks depends upon their physical volume and upon the price of gold. By altering that price one could make monetary inflation possible while staying on the gold standard, and this on a world-wide scale. Thus the gold standard is a safeguard (at least a moderately effective one) against inflation only if the price of gold is kept constant over long periods of time. The "adjustment" of

the price of gold of the kind suggested in Chapter IV[1] can only be advocated as an emergency measure adopted to meet important modifications in the production of gold.

"Gold-standard inflation" is conceivable in four cases, of which a change in the price of gold, carried out concurrently by the various countries, is one. This case presupposes a substantial measure of co-operation between central banks and governments. A second case, also referred to, is that of a general lowering of the ratio between gold reserves and the monetary circulation. This too presupposes central bank co-operation. This case is different from the first in that it weakens the resistance of the system to disequilibria in international payments.

The third case results not from co-operation but from its absence. It is the consequence of large accumulations of gold in some countries due, in turn, to the failure of mechanisms of re-equilibrium to operate. We find here one of the symptoms of disorganization of international economic relations; "sterilization of gold", carried out in response to such accumulations by countries which do not wish to experience the inflation that would otherwise follow, is another such symptom. We shall discuss them in the next chapter dealing with problems resulting from economic nationalism.

Finally, the fourth case is the consequence of a large increase in the production of gold. This case is the converse of that in which gold is getting "scarce" and a price deflation impending; and, as in that other case, the remedy might be found in a world-wide change of the price of gold.

It follows that co-operation between central banks may be very useful, but that it may also be harmful as an instrumentality of world-wide inflation. Hence if one advocates it, one must supplement the plea by pointing out the objects assigned to co-operative and co-ordinated policy. The

[1] *Vide supra*, pp. 71–2.

following principle recommended by the Macmillan Committee may well be quoted in the present context:

"It should be an object of policy to secure that the international gold standard should bring with it stability of prices as well as that it should guarantee stability of exchange."[1]

This recommendation combines the international and internal objectives of the gold standard; the *Macmillan Report* rightly emphasizes that the two are quite compatible with one another.

We have seen that the problem of "adequate" gold reserves acquires a new significance when one considers the international function of gold as an instrument of meeting temporary deficits of balances of payments. The foregoing analysis needs however to be supplemented by some additional considerations.

(1) It has been demonstrated that the supply of monetary gold has only an indirect influence, and an indeterminate one, upon the formation of prices. It is therefore quite mistaken to consider gold stocks and gold production as determining factors of the "level" and variations of prices. Nevertheless gold movements must be of a size corresponding to disequilibria of international payments; hence the above-mentioned relation between the size of gold reserves on the one hand and prices as one of the factors affecting the value of international transactions, on the other. This consideration supplements our findings in Chapter IV. While it is quite possible that the value of gold stocks should fall in comparison with the volume of monetary circulation and with the various money-values, and while this is not in itself abnormal, or, in Professor Rist's phrase, contrary to "the nature of things", it follows inevitably that the system becomes less resistant to disequilibria in international payments and less shock-proof. It is this consideration, and this

[1] The *Macmillan Report*, op. cit., para. 47.

consideration only, that constitutes an argument for having as large gold reserves as possible, and not only in one or in some countries, but in all the countries having adopted the gold standard.

(2) Since the principal monetary function of gold is that of meeting deficits in international payments, it is quite in keeping with the conception of an international gold standard that convertibility should be limited in such a way as to discourage "internal drains" of gold without obstructing international movements of the metal. This was achieved after the war by means of suppressing the convertibility of notes into coin while retaining the obligation for the central bank to buy and to sell gold in bars (the so-called "gold bullion standard").[1] This is usually presented as being one of several measures intended to "economize" the use of gold. This question of gold economies will be dealt with presently; here I only wish to stress the fact that the transition from the "gold coin standard" to the "gold bullion standard" is in complete accordance with the views that are developed here about the internal and the international significance of the gold standard.

(3) Whether minimum gold reserve requirements should be maintained or not in a modern gold-standard system is a question which has been much argued but has hitherto remained unsettled. The argument in favour of their maintenance consists in the limiting effect which minimum requirements exercise upon the volume of monetary circulation. This result could be, however, obtained through appropriate central-bank policies, while there is much scope for credit expansion even under the system of minimum reserves. It is further argued that it is necessary to maintain the minimum reserve requirements in order not to shake the confidence of the public and avoid a crisis of confidence. This argument is quite forceful as regards the suppression of minimum

[1] A reform first recommended by Ricardo.

reserve requirements carried out independently by some one country; one might doubt, on the other hand, whether an internationally co-ordinated action would bring about the same unfavourable results.

Arguments *against* minimum reserves go rather more deeply into the structure and operation of the monetary system. If fractional gold reserves are held against central-bank money, then the conversion of notes into gold results in a more-than-proportional reduction of the note circulation, since the legal ratio must be maintained; this makes it necessary in certain circumstances to increase the rate of discount beyond what would otherwise be its level. Thus the fact of making a net payment abroad causes a diminution of the national money supply that is larger than the payment made. Conversely, in the country receiving a net payment in gold the total amount of circulating medium can be increased by more than the amount received. Furthermore minimum reserve requirements are not the same in the various countries, so that international gold movements not only tend to create disproportionately great changes in national money supplies, but also affect the total amount of money in the world and its international distribution.

This type of argument is developed in a particularly striking way in Professor Hayek's well-known book on *Monetary Nationalism and International Stability* where it is combined with an analogous argument against fractional reserves of central-bank notes held by commercial banks against deposits. The "ideal" system would be, according to Professor Hayek, one in which there would be in every country a completely homogeneous currency with a 100 per cent gold backing.[1] He realizes however its impracticability and suggests as alternatives the two following remedies:

(1) To adopt a system of "international par clearance" in order to secure an absolute fixity of exchange rates,[2] and (2)

[1] Op. cit., p. 81 *et seq.*

[2] Ibid., pp. 81–2; this point will be discussed presently.

to make the gold reserves of all the central banks "large enough to relieve them of the necessity of bringing about a change in the total national circulation *in proportion* to the changes in their reserves", in order "that any changes in the relative amounts of money in different countries should be brought about by the actual transfer of corresponding amounts from country to country without any 'secondary' contractions and expansions of the credit superstructure of the countries concerned. This would be the case only if individual central banks held gold reserves large enough to be used freely without resort to any special measures for their 'protection'."[1]

With these suggestions I fully concur. Let us add that the price of gold can be so fixed by international agreement as to make gold reserves sufficiently plentiful and that if minimum requirements were abolished there would be less reason than ever for premature "protective" policies. We are thus led to the conclusion that, while gold reserves should be as plentiful as possible, no minimum ratio should be fixed.

(3)

Much has been written about "rules of the game" of the gold standard though no list of such rules has ever been satisfactorily compiled. The reason for it is perhaps best expressed in the following quotation from the *Macmillan Report*.[2]

"It is difficult to define in precise terms what is implied by the 'rules of the game'. The management of an international standard is an art and not a science, and no one would suggest that it is possible to draw up a formal code of action admitting of no exceptions and qualifications, adherence to which is obligatory on peril of wrecking the whole structure. Much must necessarily be left to time and circumstances."

[1] Op. cit., p. 86. [2] Op. cit., para. 47.

In spite of these reservations, the *Report* recognizes that "there are 'rules of the game' which, if not observed, will make the standard work with undesirable, rather than beneficial consequences".[1] Where now are we to look for these rules?

In the first place it is important not to confuse "rules" with objectives of the system. If "rules" are not adhered to the system gets into difficulties and collapses; on the other hand the system may be more or less well fitted to achieve various objectives.[2] "Rules of the game" means: principles according to which the system is to be administered. Now the system is in itself very clear: (1) fixation of the price of gold and its maintenance through central banking policy and (2) freedom of international movements of gold. Whether the first result is obtained by converting notes into gold coin or by selling only gold bars against notes, is an important but a technical matter, and there are many more technicalities of central bank administration, and of the gold trade which are not negligible in the management of the system. But is this what we have in mind in inquiring after the "rules of the game"? I think not. We have seen that a condition which must be fulfilled if the gold standard is to go on working consists in the reversibility of gold-flows that take place between countries. If this condition is not fulfilled the system begins to work badly, the phenomenon of gold maldistribution and that of price disequilibrium appear, and finally the system breaks down under the strain, not without there having first been more or less important internal and international frictions. Thus the "rules of the game" are conditions which must be preserved and policies that must

[1] Op. cit., para. 46.

[2] I am formulating this observation in view of the fact that in the *Macmillan Report* the following point is included in the list of "principles" or "rules of the game" of the gold standard: "It should be an object of policy to secure that the international gold standard bring with it stability of prices as well as that it should guarantee stability of exchange." (Para. 47.) Now, this is clearly an objective, not a rule!

be adopted in order to maintain the reversibility of the international gold movements. Here we meet problems that have been analysed at length in Chapter VIII, for this reversibility of gold movements is nothing else than a symptom of good functioning of the mechanism of re-equilibrium of international payments. Thus we get back to the fundamental proposition of international monetary economics, i.e. that the maintenance of a system (of *any* system!) of monetary internationalism depends upon the smooth functioning of the mechanism of re-equilibrium of international payments. Any monetary system aiming at the maintenance of international stability must be administered in such a way and under such conditions as make the working of these mechanisms possible and easy. It follows from the preceding chapter that these conditions are not limited to the monetary system but include general economic policies as well. The latter may even be the most important of all. Thus the problem of the gold standard is closely linked with the general problem of maintaining stability in international monetary relations. What differentiates the gold standard from other systems (hypothetical or real) of monetary internationalism, working on the basis of stable exchanges, is the fact that the mechanism of adjustment is set into motion in response to movements of gold across national boundaries, rather than to some other indicator of disequilibrium. Once the mechanism begins to operate, its action is, as we have seen, essentially the same in all monetary systems. Any policy which helps the adjustment is conforming to the "rules of the game", while any policy which obstructs the mechanism of re-equilibrium is contrary to these "rules".

(4)

Reference has been made already to the policy of introducing *economies in the monetary use of gold*, one consequence of which was the adoption of the so-called gold bullion

standard in the course of the post-war monetary reconstruction. Much has been written about the "new gold standard" of the 'twenties;[1] its principal distinctive features are gold economies and the spread of the gold exchange standard. The latter will be analysed in a later section of this chapter.

The monetary reconstruction of the 'twenties has been carried out in a situation which was both unfavourable for the introduction of a system of monetary internationalism and very unstable. Since I am not proposing to discuss in this book recent monetary history, I shall only mention some essential characteristics of that situation in order to place the problem of "economizing gold" in its proper perspective:

(1) Economic nationalism was steadily growing.
(2) There was a considerable maldistribution of gold in the world.
(3) Gold production was slowing down.
(4) Prices in gold-standard countries were very much higher than in 1914, yet the price of gold remained unchanged in terms of some of the principal currencies.

It is in these circumstances that the call for making economies in the monetary use of gold has become loud and widespread. The situation would have looked very different, of course, if one had proceeded from the outset to increase the price of gold and to create conditions favourable to the resumption of its international circulation. However, this would have required the adoption by the United States of two unpopular measures, the need for which would hardly have been understood. One of them was a radical change of commercial policy away from protectionism; the other, a devaluation of the dollar in terms of gold. Simultaneously

[1] See, e.g., the *Report of the Gold Delegation of the Financial Committee, League of Nations*, Geneva, 1932; T. E. Gregory, *The Gold Standard and its Future*; R. G. Hawtrey, *The Gold Standard in Theory and in Practice*, London, 1933; A. D. Gayer, *Monetary Policy and Economic Stabilization*; F. Mlynarski, *The Functioning of the Gold Standard*; W. A. Brown, Jnr., *England and the New Gold Standard*, London, 1929, to quote but a few out of a vast number of books on the subject.

the pound would also have been devalued instead of being forcibly brought back to the pre-war parity. The United States would have consented to lose a substantial part of its gold holdings. Only after all this had been done would the time have been ripe for reconstructing the gold standard. To be precise, the question of devaluing the dollar in terms of gold could have been left in abeyance until *after* the return to a "normal" international circulation of gold, and carried out only if the prophesied "scarcity" of that metal had really been observed.

In the actual course of events, however, nothing was done to make the functioning of a system of monetary internationalism possible. The gold standard has been reconstructed amidst growing economic nationalism, while the "maldistribution" of gold not only failed to be remedied but grew steadily worse. Instead economies in the use of gold were introduced and at the same time great stress was laid upon the maintenance through central-bank policy of a stable "price level" in the gold-standard countries. The two principal economies in the use of gold consisted in the adoption of a gold bullion standard and in the generalization of the gold exchange standard. The "new gold standard" was devised mainly at the Genoa Conference of 1922.[1]

Now I wish to argue that the new system was intrinsically less stable, more vulnerable than the pre-war gold standard and that this would have been true even if the gold exchange standard—a particularly great cause of instability—had not become widespread. If one considers the "level" of prices, the maldistribution of gold and the volume of short-term funds available for international movements, gold reserves were indeed in most countries relatively small as compared with the volume of international transactions. Now this would not have mattered much under fairly normal

[1] See the interesting criticism of the Genoa resolutions by Professor Jacques Rueff in *Défense et Illustration de l'Etalon-or.*

conditions, but international economic stability has never been strongly rebuilt in a world of expanding protectionism. Gold *circulation* of the pre-war type has not been re-established; I mean circulation of the metal which would set into motion the mechanism of re-equilibrium described in the preceding chapter. On the contrary, the idea of stabilizing the "price level" led to the adoption of open-market operations of a type exactly opposed to those which would have been required for the maintenance of a long-run equilibrium in international payments. As a result of the policies adopted the monetary circulation was prevented from falling and the bank rate from rising in the countries losing gold, while the monetary circulation was kept up and the bank rate down in countries receiving an inflow of the metal.[1] Under these conditions mechanisms of adjustment of balances of payments could not, of course, work properly, and deep-rooted maladjustments inevitably developed.

The doom of the "new gold standard" was brought about by the obsession of an impending "scarcity" of gold[2] and by the attempt to achieve price stability *against* the "rules of the game" instead of achieving it *in accordance* with and under the limitation of these rules.

[1] The following observations by Professor Gregory are worth quoting in this connection: "It is . . . probably the case that the Central Banks have not sufficiently considered the dangers involved in the devices of which much has been heard during the recent decade: i.e. 'offsetting' and 'sterilizing'. By the first device gold or foreign-exchange losses are prevented from affecting the basis of credit by an extension of the earning assets of the Central Bank (its loans and discounts); by the second device accretions of gold are prevented from raising the price level by a sale by the Central Bank of some of its earning assets. But, if one set of countries sterilizes gold imports and another group offsets gold exports, the international price and income structure is *prevented* from adjusting itself rapidly, for prices and incomes will not fall in the one case and will not rise in the other." (*The Gold Standard and its Future*, p. 37.) Let us add that these policies making changes in the bank rates unnecessary hinder also compensatory short-term credit operations.

[2] Thus, e.g., Professor Mlynarski, a keen critic of many of the monetary misconceptions of the post-war decade and one of the first denouncers of the gold exchange standard, writes in *The Functioning of the Gold Standard*: ". . . economy in the use of gold for monetary purposes is of *primary and decisive importance* for the future of the world". (Op. cit., p. 68; the italics are in the text.)

(5)

It has been pointed out in the preceding chapter[1] that international price "equilibrium" is a necessary feature of the long-run equilibrium in international payments based on fixed parities between the various currencies.[2] As we have seen, there is no *a priori* criterion of the existence of an international price "equilibrium"; neither should that notion be considered as representing a precise numerical relation. All it means is that if price developments in the various countries follow divergent lines, this is likely to be reflected in the competitive position of various national industries in international markets. This will result in changes in the orientation of international trade and finally in a chronic disequilibrium of international payments. In order to avoid such a development, it is necessary that price movements that take place in the various countries should be "co-ordinated". Now all this applies to the gold standard, just as it would apply to any other monetary system designed to maintain equilibrium in international payments on the basis of fixed parities.

The widespread use of the notion of "price level" and of index-numbers designed to measure numerically its fluctuations, and the adoption of the theory of purchasing-power parities, have considerably contributed to the presentation of the question of international price relationship in an incorrect perspective. The first misapprehension concerns the identity of prices. Clearly neither prices nor, indeed, their "levels" need be the same all over the world in order that the international price "equilibrium" should be realized. Not only do we know empirically that this was never the case during the years of successful operation of the pre-war gold standard, but it is obvious that it *could* not happen. The identity of

[1] See, in particular, pp. 138-9 and 150 above.

[2] See in conjunction with the present discussion *The Gold Standard and its Future* by T. E. Gregory, chap. i.

prices throughout the world exists only for goods having a world market, that is, subject to international arbitrage, and even there, allowance must be made for the cost of transportation and so forth. The existence of import tariffs carries us further away from an identity of prices, while other restrictions to trade, such as import quotas, tend to destroy the world market for the commodities to which they are applied and the very notion of a "world price" of such commodities. Furthermore, there is a great variety of goods which never or very rarely enter international trade and for which no price-arbitrage is possible. Thus there is no reason to expect that prices quoted throughout the world for individual commodities or services are equalized through appropriate rates of exchange between the various currencies; and since this is true of individual prices, it must be equally true of statistically constructed "price levels". The theory of purchasing-power parities has been discussed in Chapter VII; its great danger lies in the fact that it furthers the idea that "price levels" can and must be equalized by exchange rates and that whenever this does not happen some currency is either undervalued or overvalued in relation to others. This view does not stand up to a careful examination.

Since such is the situation, what are we to understand by "international co-ordination of prices"? We know that it does not mean "identity of prices". Nor does it imply a complete parallelism in their movements. On the contrary, the functioning of mechanisms of re-equilibrium may require that short-term price movements should take place in *opposite* directions in the countries concerned. As has been pointed out before, these movements are not likely to have a considerable amplitude, nor to cause internal economic disturbances in countries in which they occur.

We are thus left with long-period tendencies of prices to rise or to fall or to be stable. The notion of co-ordination of prices in the various countries implies that these long-run

tendencies should be the same in all the countries; the gold standard provides a mechanism of keeping price movements in the various countries in step with one another.[1] This happens by means of gold movements taking place in response to the situation of the balance of payments and influencing monetary policy. An outflow of gold would be likely to ensue in a country which adopted a policy of monetary inflation, and if that country follows the "rules of the game" the outflow of gold must bring that inflationary policy to an end and even cause a restrictionist policy to be adopted in its stead. Similarly, to envisage but one among many other possible combinations, if all the countries but one should go in for a parallel monetary expansion, that one country will experience an inflow of gold in response to the development of its balance of international payments, and if it follows the "rules of the game" it will have to adopt in turn a policy of expansion. Thus, as long as its currency is based on an international standard, a country cannot adopt a monetary policy considerably at variance with that of other countries. What it amounts to is that under a system of monetary internationalism, such as the gold standard, money values (i.e. price structures) in the various countries are co-ordinated and a mechanism is provided to keep them co-ordinated. This brings us closer to the situation that would exist if there were a unified monetary system throughout the world. Since, however, monetary policy is a prerogative of national authorities, there must exist, if that co-ordination is to be achieved and maintained, an agreement determining the "rules of the game", i.e. appropriate policies to be adopted in the various circumstances. Whenever there is no international co-ordination of national price structures, movements of short-term funds are likely to have disturbing rather than equilibrating effects upon the balance of international payments; this is particularly true whenever stability

[1] As must, indeed, any conceivable system of monetary internationalism.

of exchange rates is sacrificed to the pursuit of "independent" national policies.[1] International monetary instability inevitably follows. Thus we are once again facing the choice between monetary stability based upon an international co-ordination of national policies and of national price structures, on the one hand, and monetary instability combined with national "independence" in the field of economic policies, on the other.

It is possible under a system of monetary internationalism that a country which is an important monetary and financial centre should exercise a more or less considerable influence upon price developments in other countries provided that its monetary management enjoys confidence abroad. Such was, in the main, the position of England in the pre-war gold-standard world. Whenever all the countries do not tacitly accept the intermediate and long-run price policies which have been adopted by one of them, an international agreement must be reached on these matters lest international monetary stability may be endangered. This is why in the post-war world international monetary co-operation became so important a problem, while it was but little discussed before 1914. The "great depression" proved how an absence of agreement on basic lines of policy results in a disintegration of international monetary relations. If an economic depression is met by some countries with a counter policy of monetary (and economic) expansion and by other countries with a policy of "letting deflation take its course", monetary stability can hardly be expected to last. It is interesting to note that in the years 1931–5 the exchange rates were fairly stable (and could have been *quite* stable) within the group of countries which adopted an expansionist policy and within the group of countries which followed a policy of deflation. While there was no absolute parallelism of price developments within either of these groups, the co-ordination was

[1] *Vide infra*, chap. x.

sufficient to maintain that exchange stability.[1] The fact that one group of countries was *on* the gold standard and that the other was *off* the gold standard is here of secondary importance. It would have been quite possible to adopt an expansionist policy *on* the gold standard had the development of the financial position of Great Britain between 1925 and 1931 been healthier, had sterling not been *forced off* the gold standard, and had an agreement been reached between England and the United States on methods of fighting the depression. Even in 1933 it would have been possible to have a policy of monetary expansion in the gold-standard countries had the United States remained on the gold standard and had all the countries on that standard "played the game" according to its "rules". In this case prices would have risen in the United States and gold would have flowed out of the country; in the other gold-standard countries gold reserves might have increased and the monetary policy would have accordingly been influenced; an agreement between the United States and France would, of course, have made things still easier.[2] The French deflation of 1933–6 was mainly due to the desire to keep the price of gold at its former level, while its price in terms of the other leading currencies was increased.[3] Paradoxically, countries which stayed on the gold standard after 1933 and kept the old

[1] This further illustrates both the reality and the elasticity of the notion of "international price equilibrium".

[2] A country having a very large stock of gold could start an independent policy of expansion if it were prepared to lose a part of its metallic reserves. Under the gold-standard system losses of gold would impose a limitation upon that expansion while other countries would be helped by inflowing gold to join that policy. After a certain time all countries would again follow a similar line of policy and losses of gold by the first country would be checked. It is to be regretted, in the interests both of economic and monetary stability and of science, that President Roosevelt omitted to carry out such an "experiment".

[3] In consequence, the franc appreciated in terms of the other currencies which not only weakened the competitive position of French industries, and influenced French imports and exports but caused disequilibrating movements of short-term funds to take place, thus further endangering the equilibrium of the French balance of payments. The same was true to a varying extent of the other "gold bloc" countries.

parities were carrying out an "independent national monetary policy", while the "sterling area" and the United States (after January 1934) became the new nucleus of monetary internationalism.

All this goes to show that the problem of monetary internationalism is wider than that of the gold standard and that, since under the gold standard various intermediate and long-run monetary policies can be adopted, it is essential to reach an international agreement about the aims of these policies.[1] The gold standard provides by itself only a mode of organization and an instrument of action.

Too much passion has been put in recent years into the discussion of whether to have the *gold standard* or not. The real problems are: (1) what should be the objectives, under a régime of monetary internationalism, of long-run and intermediate-run price policy, and more fundamentally, (2) whether one should adopt a régime of monetary internationalism with the "discipline" which it calls for, or a régime of national "independence" of monetary policies with the instabilities to which it is likely to lead.

(6)

Let us conclude this rapid survey of the international gold standard by briefly discussing the problem of an international gold clearing, which represents perhaps the future mechanism of the gold standard. The theory of this proposal is very simple: instead of shipping gold from country to country, which involves transportation costs and risks, why not make gold payments by means of earmarking gold in favour of the receiving central bank without moving it? If in addition an institution were entrusted with the function of keeping gold accounts for the various central banks we should obtain in the field of international monetary relations an organization comparable to that which exists within a

[1] This was fully realized by the authors of the *Macmillan Report*.

country, where the central bank acts if necessary as a clearing-house for the various banking institutions. The British clearing system is particularly enlightening.[1] The idea is not quite a new one; it became a practical proposition since the creation of the Bank for International Settlements, an institution which is extremely well fitted to play the rôle of a gold clearing-house. It will be noted that the "Young Plan", submitted in June 1929, which is the basis of the Hague Agreements of January 1930, not only included proposals for the creation of the Bank for International Settlements but suggested at the same time that this new institution might vitally contribute to suppressing the costs and the risks inherent in shipping gold from country to country. Accordingly the Bank was authorized[2] to "(*a*) buy and sell gold coin or bullion for its own account or for the account of central banks; (*b*) hold gold for its own account under earmark in central banks; (*c*) accept the custody of gold for account of central banks". Thus the set-up for an international gold clearing came into existence; if the system were to be fully developed gold shipments would be replaced by entries in the books of the Bank for International Settlements.

The first consequence of adopting the "gold clearing standard"[3] would be the reduction of the cost of moving gold from place to place, since "materially" gold would not move at all; it would remain where it happened to be, only it would be earmarked for the Bank of International Settlements which in turn would hold it for the account, now of one, now of another, central bank. This consequence is however not the principal one, and would not in itself justify

[1] It is also most instructive to compare the present system of inter-local payments in the United States with the complicated procedures that were used prior to the establishment of the Federal Reserve System.

[2] Bank for International Settlements: Statutes, Art. 22, a, b, c.

[3] This is the term used by Professor Mlynarski in *The Functioning of the Gold Standard*, chap. vi, where the reader will find a somewhat different treatment of this subject.

the adoption of a system involving a considerable reform of actual practices. The most important consequence of introducing the "gold clearing standard" would be the possibility of suppressing the gold points and eliminating even those small fluctuations of foreign exchanges which exist under the gold standard.[1] By this means one would come even closer to an international currency than under the traditional gold standards and, as Professor Hayek justly remarks,[2] "one of the main causes of international movements of short-term funds" would thus be removed.[3]

This suggested reform of the gold standard is diametrically opposed to that which consists in making possible a wider range of exchange fluctuations than is the case in the traditional system. The most important proposal of the latter type is that, due to Mr. J. M. Keynes, of widening the gold points.[4] Which plan is the more useful? The answer must depend upon the validity of the argument advanced in favour of allowing greater fluctuations of exchange rates to take place under the gold standard. It is argued that price structures have grown much more rigid since the beginning of the century and that it is impracticable, therefore, to throw the whole burden of adjusting balances of payments upon price movements; a part of the adjustment should be made through fluctuations of exchanges. The practical consequences of these wider fluctuations would be minimized by resorting to forward exchange operations.[5]

[1] Cf. with the judicious comments by Professor Hayek in *Monetary Nationalism and International Stability*, pp. 84–5.

[2] Ibid.

[3] That the adoption of an international gold clearing must not necessarily lead to entirely fixed exchanges is demonstrated by Professor Mlynarski (op. cit.). There is however little point in making this reform while maintaining a certain range of exchange fluctuations.

[4] See J. M. Keynes, *A Treatise on Money*, vol. ii, pp. 319–31. Mr. Keynes's general position with regard to monetary internationalism will be discussed more fully in chap. x.

[5] While this is the crudest form—and the basic one—of this argument, Mr. Keynes's own justification of the proposal for widening gold points runs in terms of a more subtle reasoning. *Vide infra*, chap. x.

The last point is, however, inaccurate. Forward transactions involve the payment of a "premium", the size of which depends on market anticipations. The fluctuations of the "premiums" contain in themselves an element of uncertainty for trade which must not be disregarded.[1] It must also be observed, and this is a very important consideration, that the greater is the range of possible fluctuations of exchange rates the greater the incentive for speculation, i.e. for movements of short-term balances of a usually disequilibrating character.

Most important of all is, however, the question whether the basis of the whole argument is valid or not.

It is quite true that the price and cost structure has become increasingly rigid through the action of trade unions and of cartels. This makes it impossible, or at least very difficult, to make downward price adjustments of any considerable size. But under what circumstances are such adjustments called for? We have seen that there is a strong theoretical presumption *against* the contention that such adjustments are necessary for the normal operation of mechanisms of re-equilibrium; the matter will be further clarified when we have better factual information about the price movements that actually took place under the pre-war gold standard in response to movements of gold from one country to another. If this is granted there remain only adjustments to *exceptional* situations, such as result from an arbitrary fixation of a too high parity for a national currency, or from devaluations carried out abroad, or from exceptionally important downward price movements abroad or from a previous inflation at home. Thus the adjustments under consideration fall into one of two categories: (*a*) adjustments to former exchange manipulations; (*b*) adjustments to a situation resulting from the disruption of the international price "equilibrium". Now

[1] A similar argument is developed in *Révisions de Valeurs*, the anonymous book already quoted, pp. 100–1.

there is no reason why in these two groups of cases the adjustment should not be made by the means of a change in parities; it will however be observed that the need for adjustment would not have arisen in the absence of former violations of the rules of monetary internationalism. Here we certainly face a situation which it is better and easier to prevent than to cure.

If we leave aside these situations resulting from economic and monetary nationalism and from a lack of international co-operation and consider the "normal" conditions of monetary internationalism, the need for large price adjustments does not seem to arise. Thus the argument in favour of more widely fluctuating exchanges[1] loses its main supporting element. In that case one may hold that even the minor fluctuations of exchange rates which take place within the limits of the "traditional" gold points can be dispensed with and the "gold clearing standard" appears in its full importance. It must be noted that under *absolutely* fixed exchanges, international payments in gold will be probably larger than under the pre-war gold standard. This cannot have much importance however if the "rules of the game" are adhered to, i.e. if mechanisms of re-equilibrium are allowed to operate and if gold *circulates* (in the books of the Bank of International Settlements) instead of getting accumulated.

A limitation on the system of gold clearing is obviously imposed by the state of international confidence and of international relations in general. The fear of or preparation for war makes national authorities unwilling to keep abroad gold which in case of war may be most needed for making international cash payments. This is probably the principal reason why the gold clearing operations of the Bank of International Settlements, grown though they have, remain up to now very limited.

[1] See, in particular, the recent book by Professor Charles R. Whittlesey, *International Monetary Issues*, New York, 1937, entirely devoted to an argument in favour of "flexible" exchanges.

B. Exchange Standards

(1)

The foregoing analysis can be applied, *mutatis mutandis*, to any metallic standard. Let us now briefly examine the consequences that result from the adoption, as monetary standard, of the currency of another country instead of a metal.[1] In such a case the monetary system will possess the following characteristics (in accordance with the definition of "monetary standard" used in this book):

(1) The monetary law of the country fixes the price of the foreign currency adopted as standard in terms of the national currency; in other words the parity between the national currency and that which is chosen to be its standard is defined by law;

(2) The monetary authorities (usually the central bank) of the country in question are entrusted with the task of maintaining that price (i.e. that parity). In order to do so it is indispensable to make the national currency convertible into the standard currency, while the central bank (or another competent authority) must buy at the legally determined price any amount of the standard currency that is offered to it. In order to be able to do so it must hold reserves of the standard currency. The analogy with relations that exist under the gold standard is striking; this was to be expected since these relations follow from the adopted definition of the monetary standard.

(3) Deficits in the balance of payments are met by means of payments in the standard currency; a diminution of the standard currency reserves held by the central bank follows.

[1] There is little reference in economic literature to exchange standards *in general*. One of the few is to be found in Mr. Keynes's *Treatise on Money*, where the following definition is proposed: "I define an *Exchange Standard* as a Managed Representative Money the objective standard of which is the legal tender money of some other country." (Vol. i, p. 18.)

Surpluses in the balance of payments result similarly in an increase of these reserves.

The first two points do not call for any special comments, while with reference to the third point we must further examine the operation of Exchange Standards.[1]

It will be observed, in the first place, that monetary reserves will be held on deposit in the country whose currency is adopted as standard. Thus, instead of gold reserves, the central bank will hold balances of a foreign currency. Since the *net* payments resulting from the position of the balance of payments will be made or received in the standard currency, inflows and outflows of gold will be replaced respectively by increases and decreases of the balances of standard currency held by the central bank. Let us assume that a country A, is on the sterling standard and examine the process of international settlements in three stages.

(1) Settlements between country A and England. It is clear that if A's payments to England exceed England's payments to A the balances held in London by the central bank of A will be reduced, and that in the contrary case they will be increased.

(2) Settlements between country A and other countries which are on the sterling standard. Net payments will be made by means of transferring in London sterling balances from the account of one central bank to that of another. If all the countries on the sterling standard hold their monetary reserves at the Bank of England, that Institution will become a clearing-house for international settlements (limited to countries on the sterling standard). Thus an international sterling standard would be a sterling clearing standard.[2]

(3) Relations with countries *not* on the sterling standard.

[1] The Gold Exchange Standard, which is a hybrid monetary system will be examined in the next section.

[2] The reader will observe the similarity that exists between this hypothetical function of the Bank of England and the function that the Bank for International Settlements might be called upon to exercise under a "gold clearing standard".

Among various theoretical possibilities let us choose the following one which might have the greatest practical importance: let us suppose that the currency chosen as standard by some countries is itself based on some standard; what will be the process of settlement with other countries which are on that latter standard? To make this very general enunciation clearer, let us assume that in our example the pound sterling is on the gold standard; what will then be the relations between sterling-standard countries and the other gold-standard countries? Since the sterling balances can be, under such conditions, converted into gold, a net payment to be made by sterling-standard countries to gold-standard countries will result in an outflow of gold from London, while there will be an inflow of gold to London in the opposite case. The *net* change that will occur in the size of the gold reserves of the Bank of England as a result of that association will correspond to the net aggregate payments or receipts of all the sterling-standard countries.

(2)

An international exchange standard assures the fixity of exchange rates, not only between each of the currencies based on that standard and the currency chosen as standard (which follows from our definitions), but also between the currencies of the various countries having adopted that standard (similarly to the position under the gold standard). There is, of course, in this system nothing comparable to "gold points", and unless special measures are taken to the contrary,[1] no fluctuations of exchange rates can take place between currencies based on the same exchange standard. In this respect the system operates more like the "gold clearing standard" than like the traditional gold standard.

It has been repeatedly pointed out in the preceding pages

[1] Such as the legal fixing, in each country, of a buying price of the standard currency different from its selling price.

that mechanisms of re-equilibrium must work in essentially the same way under any monetary system. What varies from one system to another is the nature of the stimulus which sets the mechanism into motion. Under the gold standard it is the flows of metal in and out of the country which act as "starters" for the process of adjustment. In the present case it will be the changes that take place in the balances of the standard currency that are held by the respective central banks. As regards the measures to be adopted in response to an increase or to a decrease of these balances, they neither need be nor can be different from those adopted under the gold standard.

The last observation applies to relations between countries which have adopted the same exchange standard for their currency. But what about relations between any of these countries and the country whose currency is chosen as standard? To use our former example, what about the relations between the country A and England, the A currency being on the sterling standard?

For A the situation is clear and it is the same one as in the former case: changes in the size of its sterling balance will induce the monetary authorities to adopt measures intended to restore equilibrium in A's international payments. As regards England the situation is more complex, since, under our assumptions, it belongs to two currency groups, of one of which it is the centre (sterling-standard countries) and of the other of which it is a member (gold-standard countries). Now in England's relations with countries on the sterling standard, disequilibrium in international payments will result either in the growth of sterling balances belonging to the latter countries, or in the depletion of these balances. This will result automatically in an expansion or in a restriction of England's monetary circulation provided that two conditions are fulfilled: (1) there must be no "offsetting" operations; (2) sterling balances held in London by central banks

of the sterling-standard countries must be "idle". A comparison will make the situation clearer. Let us compare balances held in London by a sterling-standard country to gold deposited with the Bank of England under earmark by a foreign central bank. Clearly such gold cannot be allowed to affect the monetary circulation of England; what may affect that circulation, however, *ceteris paribus*, is an addition to gold earmarked (on account of England's deficit in international payments) or a diminution of the amount of that earmarked gold (on account of a net payment to be made by the country in question to England). The same applies in the case of exchange-standard countries holding their monetary reserves in the financial centre the currency of which they use as a standard for their own.

It follows that an exchange standard, if properly operated, is a monetary system not less costly than the gold standard.[1] It must be realized that the maintenance of fixed exchanges is an objective which demands the maintenance of monetary reserves, i.e. of a stock of the substance chosen to be the monetary standard, and this involves costs, since monetary reserves are an asset which yields no income. If monetary reserves are invested in order to become an earning asset, not only do they cease to be liquid, which may endanger monetary stability, but the mechanism of re-equilibrium in international payments is prevented from working with its full efficiency. If, in our example, A's sterling balances kept in London are invested, their increase or reduction will have no effect upon the monetary situation of England; thus the burden of adjustment weighing on the country A will be increased and in due time serious difficulties may arise. These observations will be recalled presently when discussing the "gold exchange standard".

[1] Particularly if there is no actual gold circulation within the gold-standard country, as in the case of the gold bullion standard. But, as has been pointed out above, the analogy that is most striking is that between an exchange standard and the gold clearing standard.

The analysis of international price relationships under the gold standard can *a fortiori* be applied to exchange standards. The country which administers the currency chosen as standard by other countries enjoys a position of undoubted leadership. If that country pursues a price policy of which the "members" of the "system" do not approve, and from which they wish to dissociate themselves, that "system" will ultimately break down. Its collapse may cause serious difficulties to the country whose currency serves as monetary standard to the others, since it may involve a rapid conversion of balances held in that "standard currency" into other currencies or into gold. In either case, movements of short-term funds will take place and the monetary stability of the country from which the function of monetary leadership has been taken away may become very precarious indeed.

Thus exchange standard systems require, even more than does the gold standard, some international agreement on national monetary (and, generally, economic) policies. If mismanaged, the system may collapse into complete chaos. Mr. Hawtrey is right when he observes that "an exchange standard works very well so long as conditions in the foreign countries in whose currencies the reserves are held are normal, but there can be no certainty that this will always be so".[1]

Thus in addition to the two conditions stated before,[2] one must point out that under an International Exchange Standard the country whose currency is chosen as standard cannot have a *full* sovereignty over its monetary policy, but must act in agreement with countries taking part in that "system". The disintegration of the system is the penalty for violating this rule.[3]

[1] R. G. Hawtrey, *The Gold Standard in Theory and in Practice*, p. 104.
[2] *Vide supra*, p. 206.
[3] We shall see presently that this rule was entirely ignored in the "gold exchange standard", partly owing to the ambiguous character of that system.

(3)

Let us complete the foregoing discussion with the two following observations.

Exchange standards depend, just as does the gold standard, upon a *precise* determination of the price of the standard in terms of the national currency. If a *de facto* relation is maintained by the central bank (or another monetary authority), but subject to administrative alterations, we shall speak of a currency linked to another, not of the latter being the standard of the former. Thus the "sterling area" which developed after England went off the gold standard was a group of countries linking their currency to sterling and *not* a group of countries on the sterling standard. The transition from the former situation to the latter would have been obtained if the various countries belonging to the "sterling area" had adopted *legal* parities between their currencies and the pound sterling.

Another important distinction must be made between adopting an exchange standard or linking, more loosely, one currency to another, and making use of foreign-exchange operations as an instrument of monetary management. As Mr. Keynes rightly points out, one can adopt what he calls "exchange management" in a monetary system based on an exchange standard, but also in other monetary systems.[1] Thus the gold standard (or another metallic standard) can be managed and often *is* managed with the help of foreign-exchange operations carried out by the central bank on the home market and on foreign markets. To use the terminology

[1] See J. M. Keynes, *A Treatise on Money*, vol. i, p. 18: ". . . where the objective standard is not a foreign money but (e.g.) gold, but where, nevertheless, the method of managing the Money in question so as to conform to this standard consists, wholly or mainly, in maintaining reserves at foreign centres and in buying or selling foreign exchange at stated rates rather than in buying or selling gold on the spot at stated rates, this I should designate as *Exchange Management*. The objective standard at which Exchange Management aims may be an Exchange Standard; but not necessarily so."

adopted throughout the present book, "exchange management" consists in short-term credit operations, i.e. in transfers of short-term funds from one currency into another. Under the gold standard this may reduce the size of gold movements required to make the necessary adjustments in international payments. "Exchange management" is a planned intervention carried out by the central bank on foreign-exchange markets; in order to be able to adopt this method of action a central bank must hold balances in foreign currencies; in doing so under the gold standard, one does not come any nearer to the exchange standard, since gold remains both the standard and the *ultimate* means of making international settlements.[1]

C. The Gold Exchange Standard

The gold exchange standard occupies a rather peculiar position between the gold standard and exchange standards. Historically it developed as a method of operating the gold standard; this evolution, however, rendered it in many respects similar to exchange standards. Under this system it is gold which remains the monetary standard, since it is the price of gold and not the price of a foreign gold-standard currency which is defined by the monetary law. There are, however, various important differences between the gold-exchange standard and the gold standard as defined and analysed in a previous section of this chapter. While, under the system we are now examining, the central bank is still bound to redeem its notes, it can decide whether it will redeem them in gold or in foreign exchange (of a gold-standard country). Thus under the gold exchange standard convertibility of notes into gold is often "indirect"; the central bank maintains the price of gold by buying the metal

[1] A monograph, both descriptive and analytical, on "Exchange Management in Recent Monetary History" would be of the greatest use for getting a better insight into international monetary relations.

at the legally prescribed price and by selling *either* gold *or* foreign exchange convertible into gold. While one could say that the gold exchange standard consists in the exchange management of the gold standard,[1] this method of management, very different from the traditional methods, introduces important modifications into the structure of the monetary system. The functioning of the gold exchange standard must be governed by the same principles as that of any exchange standard. These general "rules" have been analysed in the previous section.[2] Their application to the particular case which is now under discussion can be formulated in the following way:

(1) As regards countries on the gold exchange standard:
   (*a*) Their central banks must consider changes in their balances held in gold-standard countries (including any cash holdings of gold-standard currency which they may possess) as tantamount to changes in gold reserves. In taking into consideration the *total* of their reserves (gold and gold-standard exchange) their policy must be determined in exactly the same way as it would be under the traditional gold standard. In the contrary case the smooth working of the mechanism of re-equilibrium would be endangered.
   (*b*) They should keep foreign balances used as reserves at the central banks of the respective gold-standard countries so as to be certain of their liquidity;[3] furthermore an agreement should be concluded with governments of the countries where gold-exchange reserves are held, insuring the central banks who own these reserves, against any risk resulting from the monetary policy of the countries

[1] *Vide supra*, pp. 209–10.
[2] *Vide supra*, pp. 206, 208.
[3] Other important consequences of that "rule" are referred to below.

in question.[1] It must be guaranteed that balances will always on demand be redeemed in gold at the price prevailing at the time when the balances were acquired, and that this gold will be free to leave the country at any time. If no such convention exists the country having adopted the gold exchange standard might see its monetary stability endangered should the country where its monetary reserves are held change the price of gold, suspend convertibility or impose an embargo on gold exports.

(2) As regards gold-standard countries in which monetary reserves of the gold-exchange-standard countries are held:

(*a*) The central banks may be unable to carry out a policy required by the rules of the gold standard, if countries on the gold exchange standard do not accept the principle of holding their foreign balances with the central bank. Hence it is most important to reach an agreement on this point.

(*b*) Since these countries are debtors of foreign central banks to the extent of reserves held in their banks, they must either keep a 100 per cent. gold reserve against these balances which can be withdrawn at any moment without notice, or else reach an agreement with the monetary authorities of the respective gold-exchange-standard countries regarding withdrawals of gold. Of course, if point (*a*) is not carried out and foreign monetary reserves are held with banks other than the central bank, no safeguard can be obtained against sudden withdrawals of gold. This introduces into the monetary conditions of the gold-standard countries in question an

[1] The Convention concluded on January 20th 1930 at The Hague between the Swiss Government and the Governments of countries represented at the Hague Conference, regarding the Bank for International Settlements, might serve as a model for such an Agreement.

element of instability and of risk. The gold exchange standard increases the volume of international short-term indebtedness which may give rise to considerably increased movements of short-term funds from one country to another, unless counteracted by some explicit agreements. It will be observed that the agreement mentioned under point (1) (*b*) stands in contradiction, as to its aims, to the agreement now suggested. At the best a compromise could be reached, leaving both types of countries to face risks greater than those which exist under the traditional gold standard.

(*c*) It is important that balances held as monetary reserves by foreign countries should not enter the economic processes of the country where they are held. The reasons for this have been indicated in the foregoing analysis of exchange standards. Let it be emphasized that inflationary tendencies of a world-wide character may follow (and have followed in the twentieth century) the violation of this rule. If monetary reserves of certain countries are held in the form of ordinary balances with commercial banks of the gold-standard countries, a double expansion can take place on the basis of existing stocks of monetary gold: In the gold-standard country there exists the usual "inverted pyramid of credit": gold, bank notes, demand deposits ("bank money"); now a part of the top stratum of that pyramid can become the basic stratum of another such pyramid in a country on the gold exchange standard. Every short-term credit made by a gold-standard country to one on the gold exchange standard may thus become the basis of a credit expansion in the latter *without* causing the least credit contraction in the former!

This is a further argument in favour of monetary reserves of foreign central banks being held exclusively with the central bank of the respective gold-standard country. It also further justifies the demand for a high gold reserve to be held against such balances. Finally it leads to a third requirement, to wit, that no interest whatever should be paid on the balances in question (since they cannot and should not be invested in any earning asset).

The fulfilment of the foregoing "rules" demands a large degree of international co-operation, much larger indeed than that which is required under the gold standard.[1] One should never adopt the gold exchange standard without concluding beforehand a detailed international convention regarding the principles on which it will be operated.

The gold exchange standard as generalized after the war has added considerably to the risks of monetary instability, since not only has such a convention never been adopted (nor indeed discussed!), but the principles analysed above have been continuously and systematically violated.[2] In this case, as in so many others, it is not the nature of the system which is the cause of trouble, but the way in which that system is operated. Hybrid though it is, the gold exchange standard need not be harmful if it is properly managed; under that system much harm can be done, however, if its management violates the elementary requirements of monetary internationalism. It is particularly dangerous to adopt empirically a system without analysing sufficiently its structure and determining the appropriate rules to be adopted for its administration—and yet this is what the Genoa Conference did with regard to the gold exchange standard. It was

[1] Cf. with the *Macmillan Report*, op. cit., paras. 292–5.

[2] See the penetrating criticisms of the gold exchange standard that can be found in the publications already quoted: Mlynarski, *The Functioning of the Gold Standard*; Rueff, *Défense et Illustration de l'Etalon-or*. The literature on the subject is, of course, very abundant.

recommended, it is true, that a conference of central banks should be called; but no recommendation was made to the effect that the gold exchange standard should not be adopted anywhere before such a conference had worked out an appropriate monetary convention and before that convention had been ratified by the countries concerned; nor was it indicated that there was any need at all for determining what the "rules of the gold exchange standard" should be.

Granted that the gold exchange standard can do no harm if it is properly managed, can it do any good? In other words, why should it be adopted in preference to the gold standard? Our theoretical analysis does not provide us with any answer to that question; let us look for a moment to monetary history. The gold exchange standard existed before the war and the best discussion of its merits will be found in the book on *Indian Currency and Finance* published in 1913, by Mr. Keynes, from which the following observations may be quoted:

"Gold is an international, but not a local currency. The currency problem of each country is to ensure that they shall run no risk of being unable to put their hands on international currency when they need it, and to waste as small a proportion of their resources of holdings of gold as is compatible with this . . . it is as an attempt to solve this problem that the Gold Exchange Standard ought to be judged."[1]

This can be applied, no doubt, also to the post-war situation.[2] The gold exchange standard was adopted in order (1) to economize on the monetary use of gold and (2) to make it easier for countries not disposing of sufficient gold reserves to return to some form of the gold standard. Let

[1] J. M. Keynes, *Indian Currency and Finance*, London, 1913. Reprinted in 1924, pp. 29–30.

[2] The book in question was reprinted in 1927, a fact from which one may infer that its author considered that it had a bearing upon the methods of monetary reconstruction which were being discussed (and practised) at that time.

us see under what conditions these objectives can be attained and with what consequences.

In the *first* place it is just as easy (or just as difficult) for a country to secure gold as it is to secure foreign balances. This follows so clearly from the structure of international economic relations that it does not seem necessary to argue the point. I refer the reader to Chapters V and VI. From this point of view, therefore, it is not easier for a country to adopt the gold exchange standard than it would be to adopt the gold standard.

In the *second* place, it is certainly more costly to keep monetary reserves in the form of gold than it is to keep them in the form of interest-bearing assets. If a country acquires the monetary reserves which it needs in order to adopt the gold standard by contracting a foreign loan, the burden on its economy is less if it is possible to invest these reserves abroad and earn all or part of the interest that has to be paid on that loan. In this respect the gold exchange standard offers undoubtedly a financial advantage over the gold standard. There are, however, two reservations to be made; the one is that in investing monetary reserves one infringes the previously discussed "rules" of the system and renders easier both inflationary tendencies and international movements of short-term funds.[1] The other reservation

[1] It is interesting to note that the Gold Delegation of the Financial Committee of the League of Nations, after pointing out in its Report (op. cit.): (1) That "the gold exchange standard (and practices based upon it) . . . in recent experience have hampered the working of the gold standard. In addition to the inflationary tendencies previously mentioned, such large amounts of short-term foreign balances as were actually built up just before the recent depression created a situation of dangerous currency instability, since these balances were transferred rapidly from one financial centre to another", and (2) that "recent events and particularly the depreciation of sterling upon which so many gold exchange standard systems were based have entailed heavy losses upon many countries", nevertheless concludes that "the gold exchange standard still offers the cheapest, and in some cases almost the only, method by which countries which are unable themselves to afford the heavy expense of a gold standard system may yet participate in the advantages of stable exchanges . . ." (paras. 220 and 221). Did the authors of that important Report fail to realize that it is *because* it was to be a *cheap* system that the gold exchange standard had the unfavourable consequences emphasized in that very document?

consists in questioning the soundness of adopting the gold standard (or gold exchange standard) on the basis of any foreign loan. If conditions of economic internationalism—conditions which are necessary for the maintenance of long-run equilibrium in international payments—are fulfilled it must be possible for a country to secure gold or foreign balances without contracting loans *ad hoc*. Should this, on the other hand, not be possible in a given situation, then, I think the presumption is against that country's ability to *maintain* the gold (or gold exchange) standard introduced with foreign financial assistance. Recent monetary history seems to confirm rather than to contradict this view.

In the *third* place, it is difficult to see how, if the gold exchange standard is properly managed, the total amount of monetary gold needed in the world can be diminished, other things remaining the same, through the mere fact of its adoption. This effect can only occur if the gold exchange standard is made an instrument of inflation. If gold in country A (on the gold standard) serves as basis for the monetary circulation of that country and if one part of that circulation serves, *as though it were gold*, as basis for the monetary circulation of country B (on the gold exchange standard), then indeed one can "economize" on the monetary use of gold. All goes very well as long as the effects of inflation do not make themselves felt and as long as countries on the gold exchange standard do not avail themselves of the right to convert their foreign balances into gold. But since both these things are sooner or later likely to happen, the economy in the use of gold is associated with an increased instability of the monetary system. It is impossible to encourage gold economies by the means of the gold exchange standard *and* to avoid inflationary developments all at the same time.[1] The introduction of the gold bullion standard

[1] Though this was apparently the desire of the Gold Delegation in its Report. (See paras. 215–21.)

has largely reduced the demand for gold for the purpose of internal circulation, while the lowering of minimum reserve requirements (or the abandonment of any precise lower limit to these requirements) can effect real "economies" without having these unfavourable consequences on the stability of the system.

In view of the discussion above, there seems to be no positive feature of the gold exchange standard which neither the gold standard nor an exchange standard would possess, while the possibilities of bad operation leading to monetary instability are likely to be greater under this system than under either of the other two.

D. Free Paper Currencies

Let us now deal briefly with some international problems arising out of the operation of monetary systems not based on any standard. "Free paper currencies" is a phrase in which the emphasis should be placed on the word "free" since, as has been pointed out before, both gold-standard and exchange-standard currencies are "*paper* currencies". "Free" means in this context, "not based on any standard". It implies, from the internal point of view, that the monetary authorities are not limited in their freedom of action by the obligation of stabilizing the price of some "standard". But this is not a very important point, since from the exclusively internal point of view the obligation of stabilizing the price of the "standard" on *some* level is not an important limitation upon the freedom of action of the central bank (except in so far as it excludes the adoption of a policy of cumulative inflation). As has been pointed out above,[1] the adoption of a standard for a currency introduces limitations mainly from the point of view of international relations. In the three preceding sections of this chapter we have seen how inter-

[1] *Vide supra*, p. 178.

national monetary stability can be achieved under monetary systems based upon standards of various types. Since we have now to consider a system not based on any standard, the question immediately arises whether international monetary stability can be achieved at all between countries having free paper currencies.[1]

A discussion of the various objectives which can be aimed at by monetary management lies beyond the scope of the present inquiry. Two questions must, however, be dealt with, to wit: (*a*) whether durable stability of exchange rates between the various currencies can be achieved in the absence of a monetary standard, and (*b*) whether the long-run equilibrium of international payments can be obtained through fluctuating exchange rates.

The second question has already been dealt with in Chapter VIII and I refer the reader to that analysis.[2] The following conclusion was there reached: exchange fluctuations *may* restore equilibrium in international payments and *may* provide a method for maintaining long-run equilibrium in international payments, *provided* that the various countries adopt policies which are in substance very similar to the gold-standard policies, particularly as regards changes in short-term interest rates. The main difference consists then in the fact that a wider range of fluctuations of exchange rates replaces international movements of gold. It has also been pointed out that in order that this mechanism should operate smoothly it is necessary that a long-run stability of exchange rates is anticipated. If this condition is not fulfilled, movements of short-term funds of a disturbing character are likely to set in and to bring about monetary instability. Thus in a régime of fluctuating exchanges there exists an abstract

[1] Relations between "free paper currencies" and gold- or exchange-standard currencies will not be discussed here. They can be easily constructed on the basis of this whole chapter.

[2] *Vide supra*, pp. 156-9. See also the treatment of that question in my earlier book *Monnaie, Crédit et Transfert*, chap. iv.

possibility of monetary internationalism; it depends however on three conditions:

(1) On the maintenance of a long-run stability of rates of exchange; their short-run fluctuations should amount to mere oscillations around a position of "long-run equilibrium";

(2) on a co-ordination of price policies in the various countries so as to preserve the international price "equilibrium";[1]

(3) on the proper functioning of the short-run elements of the "mechanism of re-equilibrium".

If these conditions are satisfied, then exchange fluctuations can be allowed to take place within the framework of monetary internationalism. When we pass, however, from the "abstract model" to actual economic experience, there arise certain reservations and doubts. The principal among them concerns the usefulness of having this type of exchange fluctuations rather than their fixity. If the three above-mentioned conditions are satisfied, exchange fluctuations cannot be made to cover "autonomous" national policies; if such policies take place, exchange fluctuations will cease to represent mere oscillations and will become irreversible, one-way modifications. But exchange fluctuations of such a type are likely to provoke unsettling movements of short-term funds and disturb long-term capital movements as well as international trade. Experiences made in the course of the last twenty years provide many striking illustrations of this point. While one can admit the abstract possibility of having simultaneously both fluctuating exchanges *and* a system of monetary internationalism, the past record of actual monetary developments seems to indicate that this abstract possibility has a low probability. It seems to be much more likely that a choice between fluctuating exchanges and monetary internationalism is inevitable except where exchange fluctua-

[1] *Vide supra*, pp. 193 *et seq.*

tions are limited by the operation of an international standard.[1]

No argument that I know of, favouring fluctuating exchanges[2] is free from one of the following assumptions:

(1) that the "abstract model" corresponds with a large degree of probability to empirical conditions;

(2) that monetary internationalism is of secondary importance compared to the maintenance of "internal stability" by means of "autonomous" national policies;

(3) that exceptionally great disturbances are to be faced to which adjustment can hardly be reached without more or less important modifications of monetary parities.

As regards these assumptions, I have already dealt with the first, the second will be discussed in the next chapter since it is that of economic nationalism, and the third corresponds to circumstances which are by definition exceptional and call for substantial changes in various economic relations; they do not correspond to "normal" conditions. As has been pointed out before, it is particularly important to apply, inasmuch as it is possible, policies capable of preventing the emergence of such conditions of acute disequilibrium.[3]

Let us return to the "abstract model". In order to carry it out in actual practice a stern discipline in the field of internal economic policies and a large degree of international agreement and co-operation are indispensable. If they can be obtained, then it is possible to realize with a system of free paper currencies not only a long-run stability of exchange rates but maybe even their complete fixity. Since, in my opinion, the former can hardly offer any advantages over the latter and since even the former requires a determination of long-run "equilibrium rates of exchange"[4] around which the fluctuating exchanges would oscillate, let us envisage now

[1] e.g. fluctuations of rates of exchange between gold points.
[2] *Vide infra*, chap. x, sect. B.
[3] Cf. with sect. F of chap. viii, pp. 170–4; see also pp. 201–2.
[4] *Vide supra*, pp. 136 and 140.

the problem of *whether* and *by what means* parities can be determined and maintained in the absence of a common monetary standard.

In the case of a common international standard, the price of that standard is defined by law in each particular country[1] and thus a *tertium comparationis* gets established which allows mutual parities between each pair of national currencies to be determined by a simple exercise in arithmetic. The element of arbitrariness, of "fiat", consists in determining the price of the standard in terms of the individual national currencies.[2] It will be noted, incidentally, that under a common standard (the gold standard for example), no international agreement is needed for determining parities; each country fixes the price of gold in terms of its national monetary unit.[3]

Now in the case of free paper currencies the process of determining parities is much more complicated and the necessary amount of co-operation very much greater than when currencies are based on a common standard. Since there is no means of defining currencies in terms of a *tertium comparationis* one must define parities *directly*, which involves a more complicated procedure and a much greater need for agreement. The difficulty is increased by the fact that there is no possible recourse to a criterion such as that provided by the concept of "purchasing power parities."[4] Thus the process must involve an all-round agreement on an arbitrary set of relations; their arbitrariness could be only reduced by the application of a process of "trial and error". They would thus be the outcome of a more or less prolonged period of "experimentation", during which short-term funds, moving

[1] The more usual but less instructive formulation would be as follows: "the national monetary unit of each particular country is defined by law in terms of that standard."

[2] *Vide supra*, chap. vii.

[3] The usual, incorrect formula: "gold contents of the monetary unit", represents an anachronism carried over from the era of "hard money".

[4] *Vide supra*, chap. vii.

from country to country in search of speculative gains, might delay or prevent any determination of parities. Considering how much easier it is to solve that problem if one adopts an international standard for the various currencies, one may doubt the wisdom of adopting a system of free paper currencies. This attitude is further accentuated by the consideration of the difficulties inherent in the maintenance of these fixed parities. We have seen before that it is movements of the standard from country to country which limit or suppress the fluctuations of exchange rates. There is only one alternative solution, which consists in replacing movements of the standard by movements of short-term balances.[1] Thus the various central banks (or treasuries, according to the organization of the internal monetary administration) would have to keep balances of various foreign currencies as their reserves and calculate all the time the value of these reserves expressed in terms of the local currency. Variations of that total would stimulate appropriate monetary policies just as under the gold standard. Under that system not only is the handling of the mechanism more clumsy than it is under the gold standard, but it requires more mutual confidence and therefore a higher degree of co-operation between the various countries than is the case under the gold standard. The system is less easy to administer and more vulnerable, and in trying to find a remedy for these two drawbacks one is inevitably led to the adoption of an international standard. Under the conditions prevailing in the world, the fixity of exchanges is most easily achieved and most safely preserved when the various currencies are based on a common standard. It is likely, furthermore, that under a system of free paper currencies it is the claims of national "autonomy" that will triumph over those of international stability.[2] Thus we may

[1] This is not to be confused with the mechanism of "exchange standards"; it is true that there also gold movements are replaced by movements of balances, but of balances of the currency used as standard and exclusively of that currency.

[2] Cf. with chap. x, sect. B.

conclude that monetary internationalism is likely to be neither smoothly worked nor durably maintained on the basis of national systems of free paper currencies; and that the adoption of an international monetary standard is most important for the maintenance of the long-run equilibrium in international payments.[1] [2]

[1] As defined above, pp. 144–7.
[2] Cf. with F. A. von Hayek, *Monetary Nationalism and International Stability*, chap. iii.

CHAPTER X

MONETARY PROBLEMS ARISING FROM ECONOMIC NATIONALISM

A. Introductory Remarks

IN the present chapter some problems will be dealt with which arise when the "international mechanism" analysed in Chapter VIII is prevented from functioning and when, in consequence, international monetary stability is either endangered or destroyed.

The principal interferences with the working of the "international mechanism" are due to the adoption of either of the following policies:

(1) economic nationalism in the narrower sense of the word, defined as "the policy of national self-sufficiency";[1]

(2) a search for national economic "autonomy" as regards, in particular, trade cycle developments. This may be called economic nationalism in a wider sense of the word.[2]

The first type of policy represents a corollary and a symptom of political nationalism and is determined by political, not by economic, objectives. The second is a

[1] William E. Rappard, *Economic Nationalism*, published in *Authority and the Individual*, Harvard Tercentenary Publications, Cambridge, Mass., 1937.

[2] May I be excused for quoting the following observations from my study on *Monetary Internationalism and its Crisis* (published in *The World Crisis*, London, 1938): "The essential difference between nationalism and internationalism lies in the conception of the relative importance of a country as compared with the world at large. Internationalism situates a country within the framework of a collectivity of inter-dependent though politically sovereign States; it looks for the solution of an individual country's problems within the network of international relations. Such is not the case in nationalism for which a country stands supreme and foreign relations are mere accessories or impediments." (p. 347.)

result of certain doctrines relating to methods of obtaining economic stability within a country.

Thus, certain political considerations and certain economic doctrines converge towards the destruction of monetary internationalism. This consideration must be kept in mind when envisaging the conditions of maintaining that monetary order and of re-establishing it once it has been destroyed.

Whenever the mechanism of re-establishing equilibrium in international payments is prevented from functioning, two consequences inevitably follow. In the first place, the international circulation of whatever constitutes the monetary standard (e.g. the circulation of gold under the gold standard) gets disturbed and accumulations develop in certain countries while others see their reserves depleted. In the second place, if the monetary standard is given up by certain countries or by all of them, in consequence of maladjustments brought about by that deficient circulation of the standard commodity, exchange instability inevitably develops. Such are the two stages of the disintegration that take place in international monetary relations when the "international mechanism" gets out of order.[1] Now instability of foreign exchange quotations is a very undesirable phenomenon on account of the disturbances which it creates in international trade, in long-term credit operations and, particularly, in international movements of short-term funds. As has already been pointed out, these latter disturbances tend to intensify to a very large degree the fluctuations in foreign exchange rates; thus a "vicious circle" easily develops, which the advocates of flexible exchanges and those of fixed exchanges alike are anxious to prevent.

Monetary internationalism, in realizing the importance of the mechanism of re-equilibrium, aims at the maintenance of conditions which make its smooth operation possible. Thus

[1] In the case of free paper currencies there would exist, of course, only the "second stage".

it is closely linked with economic internationalism based on the observance of certain rules[1] and on a friendly collaboration between the competent authorities of the various countries. It will be observed that international co-operation either prevents major economic disturbances from taking place or can reduce their impact upon the working of the "international mechanism".

Monetary nationalism, on the other hand, as a corollary of economic nationalism (in both the wider and the narrower meaning of that phrase), contributes to making the functioning of the international mechanism more difficult while at the same time instability of exchanges, a consequence which then inevitably develops, is considered to be undesirable. It is in this contradiction that one finds the origins of exchange control. We shall see presently that exchange control represents a device which not only eliminates exchange instability in a nationalistic world but brings forth, through the internal logic of the system, other types of restrictions on international transactions and becomes an important instrument both of autarchy and of State socialism. The important point, which will be argued more fully in a later section of this chapter, consists in realizing that exchange control is a *necessary* consequence of the endeavour to combine exchange stability with economic nationalism. It is also important to realize that a policy aiming at self-sufficiency can be carried out much more easily with exchange control than without it. The same applies in a varying degree, to policies of national economic "autonomy". Since this is the platform on which monetary nationalism has received most support in some leading academic circles, it is by inquiring into this question that I shall start the present phase of this investigation. This will be followed by a further elucidation of the causes of exchange control and of the "internal logic" of that system. The establishment of exchange equalization (or stabilization)

[1] Either tacitly or explicitly admitted.

funds, which in turn will be briefly examined, has been another method of safeguarding a certain degree of exchange stability amidst conditions working in favour of instability. Exchange Equalization Funds, however, can be used, as exchange control cannot, with the view of making a transition towards monetary internationalism.[1]

B. National Monetary "Autonomy"

The crudest form of the argument in favour of "insulating" a national economy by means of fluctuating exchanges from "undesirable" foreign price developments has been already referred to in the preceding chapter. This argument was advanced by Mr. Keynes in 1923 in his well-known and much-discussed *Tract on Monetary Reform*[2] and has exercised a great influence upon the monetary thought of the past fifteen years. While the argument has been further refined in Keynes's *Treatise on Money*, it is worth while to quote *in extenso* its first version.

"Since . . . the rate of exchange of a country's currency with the currency of the rest of the world (assuming for the sake of simplicity that there is only one external currency) depends on the relation between the internal price-level and the external price-level, it follows that the exchange cannot be stable unless *both* internal *and* external price-levels remain stable. If, therefore, the external price-level lies outside our control, we must submit either to our own internal price-level or to our exchange being pulled about by external influences. If the external price-level is instable, we cannot keep *both* our own price-level *and* our exchanges stable. And we are compelled to choose. . . .[3]

[1] A problem which should also be mentioned in the present context is the "gold problem". Since it has however been already dealt with, may I refer the reader to Chapter IV, particularly pages 70–6. As regards the most recent phase of that problem, reference should be made to the *Seventh* and *Eighth Annual Reports of the Bank for International Settlements*, Basle, 1937 and 1938, which contain a considerable collection of factual material and an excellent analysis of the situation.

[2] In sect. 2 of chap. iv, entitled "Stability of Prices *versus* Stability of Exchange".

[3] J. M. Keynes, *A Tract on Monetary Reform*, London, 1923, pp. 154–5.

"The right choice is not necessarily the same for all countries. It must partly depend on the relative importance of foreign trade in the economic life of the country. Nevertheless, there does seem to be in almost every case a presumption in favour of the stability of prices, if only it can be achieved. Stability of exchange is in the nature of a convenience which adds to the efficiency and prosperity of those who are engaged in foreign trade. Stability of prices, on the other hand, is profoundly important for the avoidance of the various evils described in Chapter I."[1]

The reasoning can be found variously formulated in most writings advocating fluctuating exchanges and stable internal prices. Let us examine its validity. Its basis is the very simple equation:

$$P_A = E_{A,B} \cdot P_B$$

where P_A and P_B denote respectively the "price level" of country A and that of country B and $E_{A,B}$ is the exchange rate between the two currencies. Let us leave aside the implication regarding the resulting identity of price levels—that question has been discussed in the preceding chapter and need not be taken up again here. What I wish to point out is that the whole reasoning is based on the concept of purchasing power parities, which as we have seen presents various serious shortcomings and does not stand up to a careful examination. This disposes of the basis of Mr. Keynes's argument. Furthermore, the concept of price level is used here as though it were a precise and unequivocal numerical magnitude; since this is not the case, a second element of the argument must be abandoned. Two consequences follow:

(1) Even if the theory of purchasing power parities were acceptable, various changes in individual prices could occur without provoking exchange fluctuations;

(2) since, however, exchange rates depend on various other elements besides the prices in the various countries of goods entering international trade, the range of price movements

[1] J. M. Keynes, *A Tract on Monetary Reform*, London, 1923, pp. 155–6.

which are compatible with the maintenance of stable exchanges may be considerable and certainly is undetermined.

Since the reader has come across similar considerations in the preceding chapters, I will not continue this line of argument. There is only one case in which the maintenance of exchange stability is not compatible with internal price stability[1] and that is if the world at large experiences a considerable and more or less sudden, rise or fall of prices. The dilemma exists, generally speaking, between, on the one hand, adapting the national price developments to those which occur abroad and, on the other hand, giving up the stability of exchanges. Now situations in which the evolution of prices throughout the world might interfere to an appreciable extent with the internal economic stability of a country are quite exceptional save for business cycle fluctuations. Even there one should beware of exaggerations; international relations have been so disorganized ever since 1914 that the large price movements which have been taking place during the last twenty-five years cannot be considered as "normal" cyclical fluctuations. As Professor John H. Williams rightly observes:

"Under more normal conditions . . . it will probably be found that the dilemma between the aims of external and internal monetary stability is more apparent than real, and that it arises very largely out of a too literal acceptance of the abstractions of gold-standard theory."[2]

In the light of the whole argument of the present book this matter hardly needs further comment; my insistence on the weakness of this conception that there is a dilemma between price stability[3] and exchange stability is due only to the

[1] Which must be distinguished from a "constant price level". What is meant here by price stability is that the development of prices does not disorganize economic processes, i.e. does not interfere with internal economic stability.

[2] John H. Williams, *The World Monetary Dilemma, Proceedings of the Academy of Political Science*, New York, April, 1934, p. 65.

[3] Not *price level* stability.

continuous re-appearance of such arguments as Mr. Keynes's in economic literature[1] and to the practical harm that can be done by a widespread acceptance of that apparent dilemma as true.

In the *Treatise on Money* Mr. Keynes advances a different type of argument in defence of his thesis that, even under the gold standard, a wider range of fluctuations must be admitted than those determined by the traditional gold points.[2] After pointing out that, under a régime of fixed exchanges, there would be a tendency of interest rates to be the same all over the world, because funds would move from the low-interest places to the high-interest ones, thus bringing about the equalization of rates by a process of arbitrage, Mr. Keynes points out that nevertheless "circumstances may exist in which, if a country's rate of interest is fixed for it by outside circumstances, it is impracticable for it to reach investment equilibrium at home. This will happen if its foreign balance is inelastic, and if, at the same time, it is unable to absorb the whole of its savings in new investment at the world rate of interest. It will also tend to happen even when the foreign balance is elastic, if its money costs are sticky. There are moreover all sorts of other reasons why the day-to-day preservation of local investment equilibrium may require some departure of the local rate of interest from the international rate."[3]

This reasoning appears, on the first glance, to be much less vulnerable than the one previously discussed. Nevertheless, I think that it cannot be accepted as valid. A detailed discussion and criticism of Mr. Keynes's argument would take us into the heart of an important economic debate in which the last word is far from being said. For the present purpose this can be dispensed with since there is *one* con-

[1] Professor Whittlesey's book on *International Monetary Issues*, New York, 1937, is largely based on that argument.
[2] *Vide supra*, pp. 200–1.
[3] J. M. Keynes, *A Treatise on Money*, vol. ii, pp. 303–4.

sideration which disposes of the very basis on which Mr. Keynes's argument rests. I refer to the assumption that the interest rate, from which it depends whether "investment equilibrium" is reached in a country or not, is the prevailing bank rate. Now it should be observed that the former rate must be that which is quoted on the capital market, considering that it equalizes (or fails to equalize) the demand for and the supply of, savings[1]; the bank rate, on the other hand, is a *money* rate of interest. I have pointed out in Chapter V that a clear distinction should be made between cash and short-term funds on the one hand, and long-term funds, saved and made available for investment (which I called "capital"), on the other hand[2]; while both represent funds of purchasing power, these two types of funds differ as to their economic significance, i.e. as to the part that they play in the economic process. The supply of and demand for "short-term funds" are not determined by the same factors as the supply of and demand for "capital"; it is therefore reasonable to expect that prices quoted respectively on the money market[3] and on the capital market should not at any particular moment of time be identical, even though they may be indirectly connected with one another (owing particularly to institutional arrangements which make it easy to use "short-term funds" as though they were "capital" and *vice versa*). It is equally reasonable, in view

[1] In the *Treatise on Money* savings and investment are defined in such a way that they are equal only at a certain rate of interest. In his later book (*The General Theory of Employment, Interest and Money*) these definitions are replaced by others which imply permanent equality between savings and investment.

[2] I emphasize here again the importance of that distinction which is not generally made, or at least not sufficiently stressed, in the economic literature. I expect to deal with that question at length in my forthcoming *Theory of Banking*; here it is impossible to do more than to draw the reader's attention to the distinction and to its importance. *Vide supra*, p. 79 and pp. 91–5.

[3] i.e. market for short-term funds. In the current usage both "money" and "capital" markets are meant when one speaks of the "money market". I suggest that this usage might be changed with a great gain to clarity.

of the foregoing argument, to consider that "investment equilibrium" is not governed by the bank rate. Hence Mr. Keynes's argument, being based on an inacceptable hypothesis, cannot be admitted as valid.[1]

Thus far the case for "national monetary autonomy" is not very strong. It does not appear that stable exchanges should endanger the internal economic stability of any country. Let us examine, however, one more argument before dropping this subject. This argument can often be encountered amongst advocates of fluctuating exchanges, and it refers to business cycle policy.[2] Its principal elements are the following:

(1) owing to the necessity for national price structures[3] to keep in touch with one another under a system of fixed exchanges, that system favours the international spread of cyclical movements; if a country wants to preserve itself from cyclical fluctuations coming as it were from abroad, it cannot maintain fixed exchanges with foreign currencies;

(2) if a country wants to carry out a policy of reflation while no such policy is being adopted abroad, the maintenance of an international monetary standard would result for that country in a drain of monetary reserves which, if it "played the game" according to the rules, would cause a restrictive credit policy to be adopted and reflation to be

[1] While I think that this disposes of the matter under discussion, it might be useful to add another observation. Mr. Keynes assumes in the reasoning quoted above that there is a perfect international mobility of short-term funds, but that either foreign balances may be inelastic or money-costs may be sticky. Now this possibility of imperfect mobility must be applied also to short-term funds. In actual experience rates of interest will not be equalized through interest arbitrage because of varying degrees in risk involved in holding balances in the various countries. *Changes* in rates will, *ceteris paribus* induce movements of short-term funds from country to country, but rates will be equalized throughout the world only if the "international distribution" of confidence is "homogeneous".

[2] The reader is particularly referred to two books by R. F. Harrod, *International Economics*, Cambridge, 1933, and *The Trade Cycle*, Oxford, 1936.

[3] Those who advance this argument, or indeed *any* argument in favour of monetary nationalism speak of "price *levels*".

stopped. As Mr. R. F. Harrod, one of the principal exponents of the doctrine of monetary autonomy, puts it:

"If a country is resolutely determined to combat trade depression by all means in its power, depreciation of its currency may be the inevitable consequence of measures it takes."[1]

Now the question is, of course, open to discussion whether it is worth a country's while to adopt such a policy or not, and whether the international instability which is most likely to ensue from the adoption by a country of an independent business cycle policy will be compensated by the effects, which after all are not certain, of such a policy for that country's economic conditions both at the time of the particular emergency and later on.

The point at issue is really this: one must not overestimate the beneficial effects that might follow from an independent national policy,[2] nor underestimate the consequence that will follow in the field of international relations.

As Mr. Harrod himself admits, a policy of using exchange depreciation as an instrument of national policy is open to serious objections:

"It would . . . probably provoke reprisals. And not altogether unjustifiably. For it is of its nature predatory. It involves an attempt to use the external world as a lever to hoist up the country's own prosperity without regard to the depressing effect which the process may have on the world outside."[3]

With that view I find myself in entire agreement; whatever the efficiency of a policy of exchange depreciation might be as regards the improvement of the internal economic conditions of a country (and that effect is by no means as certain as it is considered to be in certain quarters),[4] there is no doubt as to the highly disturbing effect

[1] R. F. Harrod, *The Trade Cycle*, p. 188.

[2] See the interesting criticism of "independent currencies" in Professor Hayek's *Monetary Nationalism and International Stability*, chap. iii.

[3] R. F. Harrod, *The Trade Cycle*, p. 188.

[4] The name of Professor Irving Fisher is prominently linked with these ideas.

it is bound to have upon other countries and upon the state of international relations. Furthermore, and this point is only mentioned briefly here since I have dealt with it at greater length before, the exchange instability which results from such national policies as we are now discussing is bound to affect international financial transactions, discouraging long-term lending and disorganizing movements (of an increasing volume) of short-term funds.

Mr. Harrod might agree with all that, since he recognizes that "greater international monetary co-operation is urgently required",[1] but he reconciles this last-quoted view with his argument for free exchanges by the following considerations, which I find it difficult to admit as valid:

"It is impossible to lay too much emphasis on the distinction between a depreciation which occurs as the natural and inevitable result of strenuous internal measures undertaken by a country to secure higher activity and greater employment at home, and depreciation artificially engineered as a means of stimulating activity."[2]

Of course, if depreciation has to have any beneficial effect at all on the economy of a country which adopts that policy, it must be accompanied by a policy of reflation at home; but where is one to draw the line? And will the attitudes of foreign countries and the effects on international finance be different in one case from those in the other? One may be permitted to doubt it. The choice between exchange *instability* and exchange *stability* remains as acute as ever; the former must almost certainly disorganize international relations, without necessarily being useful to any country for any length of time, while the latter does not exclude any policy of fighting trade depressions provided such policy is based on international co-operation. Speaking of "cheap money" as a means of reflation, Professor Gregory rightly observes

[1] Ibid.
[2] Ibid.

that "in so far as it (i.e. 'cheap money') depended upon the deliberate action of the monetary authorities, it would have been possible, given international agreement, to arrive at a co-ordinated policy in this respect even without the abandonment of the parities hitherto prevailing".[1] This statement represents a point of view the importance of which I consider as capital. There can be no doubt whatever in the light of both theoretical and empirical knowledge that the results which could be obtained through international co-operation exceed both in kind and in durability those that can be brought about by independent national policies leading up to an international anarchy.

The doctrine of monetary nationalism has been inspired considerably by such exceptional experiences as the artificial re-valuation of the pound in 1925 and its consequences, and by developments in more recent years caused by the complete absence of international co-operation throughout the last depression. It is dangerous, however, to draw conclusions from conditions where co-operation was missing and where national emergency policies were adopted as a *pis-aller*, to the absolute advantage of such policies as compared with policies of economic internationalism.

Mr. Keynes is in a somewhat ironical mood when he says that:

> "The lack of an international standard of value is assumed to be just one more of those foolish hindrances to international mobility, such as tariffs, which can only serve to impoverish the whole world in the misguided attempt to benefit some separate part of it."[2]

If that sentence were to be taken literally and therefore not in the spirit in which it was written, it would, in my opinion, correctly represent the situation. And Mr. Keynes himself seems to recognize the fundamental merits of

[1] T. E. Gregory, *Current Issues of Monetary Policy*, p. 1.
[2] J. M. Keynes, *A Treatise on Money*, vol. ii, p. 301.

monetary internationalism, when he arrives, in a later part of the book, at "the tentative conclusion that subject to certain safeguards and compromises for securing a reasonable measure of domestic autonomy, the ideal currency for the immediate future should probably conform to an international standard".[1]

C. *Exchange Control*

The subject of exchange control is very vast and it will be treated here only in brief outline and only from a particular point of view. Neither the intricate technicalities of the various methods of control nor the important problems of administration and enforcement will be dealt with here; what will, however, be analysed, is the way in which exchange control fits into the general system of international monetary relations, and the nature of some of its ultimate consequences.

Exchange control has been variously defined; Dr. Einzig, for example,[2] includes under this denomination *all* interferences by monetary authorities on the foreign exchange markets, a definition which I find too wide to be useful. In order to reach a definition which covers the more restricted field of interventions usually implied by the phrase "exchange control",[3] let us look back at the operation of the foreign exchange markets and of the "mechanisms" whose action

[1] Ibid., vol. ii, p. 388. In this connection the following might be quoted too: "In the main . . . the case for an international gold standard—or some intelligent and scientific modification of it which can still claim the name—must stand or fall, I think, by the answer we give to the question whether the ideal standard of value—whatever it may be in other respects—should be of an international character. For if we attach great importance to our standard of value being an international one, then it is improbable for many years to come that we could secure international adhesion to any standard of value which was not in some way linked to gold." (Ibid., vol. ii, p. 300.)

[2] Paul Einzig, *Exchange Control*, London, 1934.

[3] This term is much more often used than clearly defined; thus the important *Report on Exchange Control*, submitted by a Committee composed of members of the Economic and Financial Committee of the League of Nations, Geneva, 1938, provides no explicit definition whatever.

maintains the long-run equilibrium of international payments. Two points need particularly to be recalled in the present context:

(1) the rate of exchange is a price resulting from the position of demand and supply in the foreign-exchange markets;

(2) mechanisms of re-equilibrium stimulate some operations and discourage others by means of discount policy and of influencing the volume of circulating medium, and thus provide the correctives that are necessary in order to equalize over longer periods of time payments made by a country and payments received by it and thus to maintain the long-run stability of monetary parities.

These two points are characteristic of a situation in which dealings in foreign exchange are free, and, more generally, in which international commercial and financial transactions can be freely conducted.[1] Whenever mechanisms of adjustment fail to operate, stability of exchange rates is endangered.

Now, whenever "exchange control" is introduced, the situation gets profoundly modified.

Exchange control consists in the centralization of all dealings in foreign exchange in the hands of a public authority (treasury, central bank or an institution created *ad hoc*). The State (through one of its organs) assumes the exclusive right of buying and selling foreign exchange at rates fixed by its authority. These may be rates corresponding to the parities which existed at the time when exchange control is being introduced, but they may be other rates.

Thus the exchange rates cease to be market prices[2], and, since they are legally imposed, it follows that the freedom of market dealings must be given up. It is the authority to which the administration of the control of foreign exchange

[1] This is compatible with the existence of tariffs, particularly if they are stable.

[2] i.e. prices which *result* from the relative positions of supply and demand.

is entrusted that must so determine the supply of and the demand for foreign exchange as to preserve the stability of the legally prescribed price. This is *bound* to produce far-reaching consequences. These will be the greater the more permanent the system of exchange control becomes; it takes time for all the consequences to develop, and if the control, after having been introduced for reasons of acute emergency, is quickly abandoned, only some of them will follow. Much will also depend, as will be shown presently, on the general attitude of the government with regard to the economic life of the country.

It is clear that exchange control constitutes an *interference* with the working of the price mechanism; other forms of governmental (or central-bank) intervention on foreign exchange markets may *utilize* that mechanism (and, in fact, often do so).

Experience has shown that the fixation of a legal price for some goods or other does not in itself suffice to maintain at that level the prices actually quoted. If at the legal price demand exceeds supply, there will be a tendency to trade in that commodity (or foreign currency) on other, unofficial and illegal, markets. Such practices were very widespread in the first post-war period of monetary instability, nor are they wholly absent in the second one. Their effect is to stultify to a greater or lesser degree the fixing of rates by the authorities and the operation of exchange control. In order to prevent this as far as possible, it is necessary that the government should be able to control both the supply of, and the demand for, foreign exchange. The power to do this is secured (1) by forbidding all unauthorized exports of gold and foreign exchange (and by limiting also, of course, the amounts of national currency that may be exported freely from the country); (2) by making illegal the sale of foreign exchange *by* anybody except authorized agents and *to* anybody except to these agents, and by introducing severe

penalties for infractions of that prohibition; by imposing an obligation on all who receive payments from abroad to sell the corresponding amounts of foreign exchange to the central bank or other authorized agents.

These regulations centralize all the trade in foreign exchange in the hands of the government. Since, however, "leakages" are possible in spite of severe penalties, a further regulation tends to make it not worth while to smuggle the local currency out of the country and to sell it abroad at a more or less depreciated rate. This is the interdiction on re-importing the national currency from abroad (except some small amounts). Thus the foreign market for the smuggled currency becomes very restricted, since such currency has to be smuggled back in order to be spent.

Other measures, of an administrative character and of growing complexity, follow the same lines. All this, however, does not go far enough. In order to control efficiently the supply of, and the demand for, foreign exchange, it is indispensable that the government should also have control over foreign trade and foreign financial transactions. Not only is it therefore necessary to have a special authorization to conclude an *import* contract, since the carrying out of such contracts involves outward payments, but it is necessary also that the government should be informed of *export* contracts so as to prevent exporters from depositing in foreign banks the proceeds of their sales instead of selling this foreign exchange to their national central bank. Thus the whole of foreign trade comes under governmental supervision.

As regards financial transactions, all new ones involving payments abroad are under control and practically eliminated. New transactions involving an inflow of foreign exchange are, of course, also subjected to control. To former foreign commitments, such as interest and dividend payments to foreigners, restrictive measures are applied: either payment is made in full, but its transfer into foreign currencies is

discontinued; or a part only is transferred; or amounts due are reduced and that reduction is the price paid by foreign investors for the possibility of receiving abroad the payment of one part at least of what remains. Various "moratoria" are declared. The institution of "blocked accounts" is introduced; these are accounts owned by foreigners; by "blocking" them one prevents their owners not only from converting them into a foreign currency (this being subjected to restrictions in any case), but even from utilizing them freely for purchasing goods and paying debts within the country. This last point calls for some comment. Why should a foreign owner of a bank balance in a country having exchange control not be free to use his money as he wishes to, provided this money does not leave the country? Because he might use it to pay for foreign imports of that country's merchandise or to pay foreign debts, either his own or somebody else's. Thus a new source of "leakage" might develop, if the owner of the aforesaid balance utilized it on behalf of a foreign importer or debtor who reimbursed him abroad in a foreign currency, and the supply of foreign exchange might diminish in the country practising exchange control.[1] A further "refinement" consists in allowing various "degrees of freedom" to "blocked accounts" of various origins, and in authorizing, in certain cases, the purchase of foreign exchange with the blocked money at specified rates, which corresponds to a larger or smaller depreciation of the national currency. Thus a system develops in which the national money supply gets divided into parts which are inconvertible one into another, and the utilization of which is variously restricted. Foreign-exchange rates are differently quoted for the various parts of the money supply, but since there is no possibility of arbitrage there can be no tendency towards

[1] The possibility that exports might be greater if foreigners could freely employ their balances is not considered as a sufficient counterpart of the "risks" involved.

equalizing these rates. The homogeneity of the national currency is destroyed. A given number of units of the national currency is worth a varying number of units of another currency according to the sort of account from which they come and according to what use can be made of them.

In the present context I want to emphasize not so much the administrative complexity of the system, its obvious interference with economic internationalism, and the more or less considerable degree of expropriation to which it gives rise,[1] as the degree of government control that it involves. In the end, every single foreign transaction made by the nationals of the country, and every single transaction, whether foreign or domestic, made by a foreigner must be agreed to by the authorities. And, since the system can only be worked if no "leakages" are allowed to happen, the policing must be excellently organized and penalties must be severe enough to act as an efficient deterrent. One may find that capital punishment is a rather exaggerated penalty for an offence in the field of foreign exchange dealings; fierce though it is, it is quite in keeping with the internal logic of the system. It is difficult to escape the impression that exchange control, if allowed to develop indefinitely in the direction in which its "logic" carries it, must involve a transition from a liberal to an authoritarian form of political organization within the country which practises that system. Ultimately, *exchange control leads to State Socialism.* This is the reason why the introduction of such a system and the degree of its development depend upon the general political and social orientation of the country in question. In a liberally constituted country, exchange control will be introduced more hesitatingly and abandoned more readily than

[1] It might be added that a further development consists in prohibiting nationals from owning bank-balances, securities, etc. abroad, and in enforcing the sale of such assets to the competent national authority at a prescribed rate.

in a country with an authoritarian government. What must be, however, particularly emphasized is that while a liberal government may find itself induced to adopt exchange control under the stress of circumstances, particularly in response to "flights of capital", it may keep that system by the effect of inertia and of pursuing the path of the least effort; and that the country may wake up one day to the realization that under the inexorable logic of the system of control adopted, its government has ceased to be liberal. It is therefore of vital importance to realize *what one is doing* in introducing exchange control—and to realize it soon enough, so that one either resists the temptation to introduce it, or abandons it before too much harm is done—unless, of course, State Socialism is what one desires and intends to have.[1]

The allotment of foreign exchange by the competent authority involves further interventions of the State into economic life and necessitates a more or less substantial degree of State planning of economic activity. As the League of Nations' *Report on Exchange Control*[2] points out, the intervention of the State with regard to allotting foreign exchange takes place at four different stages; decisions must be reached concerning:

(1) how much to allot for different purposes;
(2) how to distribute this amount among different countries;
(3) how much to allot, *pro rata*, for imports of each particular commodity;
(4) allotment among individual firms.

The last point is of interest only inasmuch as it gives ample opportunities for discrimination and abuse. The second point gives rise to discrimination in the field of international economic relations, further increased by systems of bilateral

[1] Thus Socialists or Fascists are consistent in advocating exchange control, while Liberals are not.
[2] Op. cit., para. 73, pp. 38–9.

clearings and agreements of various kinds.[1] Points one and three call for an economic *plan*; if the control of foreign exchanges is merely a temporary emergency measure there may be no need for a plan, and decisions would be reached partly empirically and partly arbitrarily. But if the system lasts, a plan of action must almost necessarily be worked out, and this may make exchange control a powerful weapon in the hands of a government bent on economic planning, particularly in the direction of *autarchy*. In any case, monetary autonomy can be much more "safely" pursued under the "shelter" of exchange control. In consequence, internal prices get out of touch with foreign prices, the international "price equilibrium" is utterly destroyed and the competitive power of national industries on foreign markets *may* be (and usually is) diminished to a point which calls for either subsidizing the export trade or losing foreign markets. Thus a system of exchange control tends to become associated with a more or less elaborate system of export subsidies.

Exchange control is usually adopted in response to instability resulting from major disturbances in international payments. The reader is referred in this connection to Chapter VIII, Section F, which supplements the present discussion. As may be inferred from the preceding analysis, nationalism, political and economic, is at the root of the major cumulative price-maladjustments and of the major "crises of confidence", and out of these two there tends to develop instability which ultimately leads to the adoption of exchange control. We have seen what the "internal logic" of

[1] It must be added that the allotment of foreign exchange by a governmental agency almost inevitably leads to a "lack of foreign exchange", about which much has been heard recently in connection with the "raw materials problem". That question of "lack of foreign exchange" has been dealt with at some length, along with several other consequences of the adoption of exchange control, in my study on *The Monetary Aspects of the Raw Materials Problem and the Revival of International Trade*, published by the International Institute of Intellectual Co-operation, Paris, 1938. (See in particular chap. iii.)

that system is and how it tends to become a lasting mode of economic organization even if adopted at first in response to an exceptionally difficult situation. Since that system tends to cause economic and monetary internationalism to disintegrate further, it is difficult to give it up once it has been adopted. Exchange control is, in the last analysis, an effect of nationalism; only a return to international co-operation can help to abandon it. The system will be more lasting and more completely developed if the government of the country which has adopted it wants to use it as an instrument for furthering State Socialism and (or) autarchy; it will remain less developed if the government wishes to re-establish eventually a free exchange market. In theory both things are possible; in actual practice the former is the more likely to happen. If it does, the chain becomes complete: nationalism, political and economic; disintegration of international economic relations and the growth of their instability (depreciation of the currency); adoption of exchange control and the development towards State Socialism.[1]

D. Exchange Funds[2] and the Future of Monetary Internationalism

The establishment, in 1932, of the British Exchange Equalization Account[3] followed in 1934 by the establishment of a Stabilization Fund in the United States and in 1936 of one in France, not to mention several others, has started a new type of monetary administration, which is the result of instabilities often referred to in the course of this chapter[4]

[1] To complete this very brief outline, the reader might consult the *Report on Exchange Control* of the League of Nations.

[2] The present chapter provides only a very general outline of this problem. The reader will find much important additional material in the publications quoted in footnotes.

[3] See N. F. Hall, *The Exchange Equalization Account*, London, 1935, and F. W. Paish, *The British Exchange Equalization Fund, Economica*, London, February 1935, February 1936 and August 1937.

[4] *Vide supra*, chap. viii, sect. F, pp. 170 *et seq.*

and may become an important instrument for rebuilding monetary internationalism. Exchange Equalization (or Stabilization) Funds are large governmental funds intended for systematic, planned intervention in foreign exchange markets. The purpose of their establishment was the desire to reduce exchange fluctuations in that period of great instability by discouraging speculation and by counteracting the various more or less fortuitous causes of exchange fluctuations, without however interfering with exchange movements brought about by divergent movements of national prices and other factors whose influence on the exchange situation has a more durable character. Used with these objectives in view, Exchange Funds are an instrument of stabilization in an unstable world; and while they may fall short of achieving a long-run *de facto* stability of exchanges, their operation can introduce into international relations an element of stability which otherwise would be missing. It must be observed, however, that since the objectives of governmental interventions may change and a Fund may be used in furtherance of other aims than the maintenance of stability, there exists in a "system" based on the operation of Exchange Funds an element of arbitrariness and uncertainty.

Exchange Equalization (or Stabilization) Funds and exchange control are the two principal modes of government interference in the operation of foreign-exchange markets.[1] The contrast between the two is most illuminating. Exchange Funds *use* the market mechanism and intervene as buyers or sellers of more or less important quantities of gold or foreign exchange and thus influence prices, i.e. exchange rates. Exchange control, on the other hand, suppresses the market mechanism altogether and replaces it by a system of concentration of foreign exchange in the hands of a governmental agency and its allotment by the government.

[1] Though by no means the only ones.

The various other restrictions and interferences discussed briefly in the preceding chapter result from that method of intervention. This opposition of methods is quite general in the field of economic policy.[1] Now interferences based on the suppression of the price mechanism always lead to further direct interventions of the same arbitrary kind, and the free market economy tends to be replaced, in consequence, by the economic planning of State Socialism. The so-called "crisis of capitalism" is probably largely due to the fact that governmental and other interferences have made the functioning of the price mechanism more difficult and less reliable. It would take us too far away from the main line of our argument to discuss further this important matter; it seemed nevertheless worth while to draw the reader's attention to the wider issue involved in contrasting such technical devices as exchange control and stabilization funds.

It is beyond the scope of this book to discuss in detail the technical operations of Exchange Funds and to give a historical account of their past functioning.[2] The theory of these funds presents, on the other hand, very few problems that have not already been discussed in various parts of this book. Since Exchange Funds are rarely disposed to supply information about their activity and since, on the other hand, a certain part of that activity can be traced, the exchange-fund literature is to some extent an exercise in economic detection. This *secrecy* of Exchange Funds has been often criticized and there is little to be said in its favour. It was defended on the grounds that information about these operations would incite speculation, but this argument is hardly strong enough if one considers that one of the purposes of Exchange Funds is to fight speculation; moreover estimates made of their

[1] Similarly, tariffs (if they are not prohibitive or unstable) do not interfere with the operation of the price system, while quotas and prohibitive tariffs do.

[2] The reader will find much valuable information on both these points in the investigations quoted in footnote (3), p. 245 and in the great number of articles published in various economic periodicals.

operations have been fairly accurate, which proves that secrecy, besides being of a very doubtful utility, cannot really be achieved.[1] It must be added that the "veil of secrecy" is more recently being lifted, at least to a certain extent.

That question of secrecy, though much discussed, is, of course, merely a side issue. The two more important questions which we must elucidate are the following: (1) What are the relations of Exchange Equalization Funds to monetary internationalism and to monetary nationalism respectively? and (2) whether the functions of those funds could not be carried out by central banks?

As regards the *first* question, everything depends upon the policies adopted. Exchange Funds are nothing else than considerable intervention funds depending on the treasuries and usually administered by the central banks. They can carry out large-scale offsetting operations[2] and in this respect they are simply large-scale open-market operations. It has been pointed out before that such operations can help or hinder the functioning of mechanisms of re-equilibrium; in the former case they are in accordance with monetary internationalism, in the latter case they are opposed to it. Now *under stable* conditions there is no justification for offsetting

[1] Thus, N. F. Hall considers that "the decisive factor in the decision to keep the operations of the Account secret was probably a desire not to give gratuitous information to speculators. Secrecy, therefore, instead of increasing misapprehensions about the purpose of the Account, should, except in the minds of speculators, have allayed them, because it has probably reduced the scale upon which it was necessary for the Account to operate." (Op. cit., pp. 23–4.) The opposite view (which I find more convincing) is defended as follows by Professor Gregory: "The so-called necessity for 'secrecy' rests upon the assumption that an Exchange Fund can really operate in the dark. But, of course, the market must know, and in fact, does know, when and how the Fund operates—and speculation is just as likely to be aggravated by rumours that the resources of a particular fund are exhausted as it is to be deterred by the view that a particular fund has resources enough to withstand any attack on it." (*Current Issues of Monetary Policy*, p. 5.) See also F. W. Paish, op. cit., *Economica*, August 1937, p. 343.

[2] T. E. Gregory, *Current Issues of Monetary Policy*, p. 5: "An *unwanted* inflow of funds can be sterilized and an *undesired* outflow of funds can be neutralized." (Italics are mine.)

operations, unless one adopts the policy of national monetary autonomy; but when the world is passing through a period of instability, when adjustments are difficult to make on account of growing restrictions on trade and of a cessation of foreign long-term lending, and when disturbances are large because of great international movements of short-term balances caused by crises of confidence, a case can be made for taking certain *exceptional* measures. It is important that large inflows of short-term funds, even if followed by an inflow of gold, should, in such circumstances, exercise no influence upon the internal monetary situation of the country to which they come, the same being true for an outflow of such funds. Therefore a case can be made out for sterilizing inflowing short-term funds and the gold inflow which follows. While sterilization must be considered as harmful when monetary internationalism operates, one can make out a case for it in a system where international economic relations are disorganized and unstable. As regards, on the other hand, outflowing short-term funds, the situation is different according to whether it is a "flight of capital" or a repatriation of funds to the countries from which they formerly fled. In the latter case, the same reasoning applies as in the case of inflows of such funds from abroad. If the inflow has been "offset" the outflow can easily be "offset" too and the internal situation of the country of "refuge" will have remained unaffected by the whole process. Here appear some functions proper to be exercised by Exchange Funds. In the case of "flights of capital" the situation is different. What is then of primary importance is not the offsetting of adverse effects which the "flight" might have upon the economic life of the country from which it takes place (by means of open-market operations), and not the prevention of the "flight" (by means of exchange control), but doing away with the causes of the uncertainty to which the outward movement of short-term funds is due. So long as the causes remain in

operation, offsetting operations can bring no lasting remedy —while in the meantime the carrying out of some adjustments, which might be both necessary and feasible, would become less urgent and therefore be neglected.

Thus the operations of Exchange Equalization Funds can prevent an inflow of short-term balances to a country and their later outflow from exercising any influence upon the internal monetary developments in that country; but they could not be very helpful (and would be rather harmful) in countries experiencing an outflow of short-term funds seeking safety abroad.

Furthermore, Exchange Funds, if they are sufficiently large, can discourage speculation from upsetting foreign-exchange markets; this is a very important function in times of instability.

That brings us to a point, which I think, is *the* essential one in the present context. In a situation where the various national currencies are not on a common standard, and where international conditions are unstable, the operation of Exchange Funds can diminish the size of exchange fluctuations and eliminate momentary and accidental fluctuations.

If the various currencies are not based on a common standard and if conditions are *unstable*, no lasting parities can be determined, and Exchange Funds can reduce fluctuations of exchanges but not eliminate them altogether. We have seen at length in the preceding chapters that exchange-rates cannot be stable nor can their movements be reduced to mere oscillations unless international payments are maintained in a condition of long-run equilibrium by appropriate "mechanisms"; wherever that is not possible, exchange instability inevitably develops. Exchange Funds can through their operations limit that instability, but they cannot do more than discourage speculation and eliminate haphazard fluctuations. An Exchange Stabilization Fund cannot *replace* a mechanism of re-equilibrium.

If, on the other hand, while there is no international standard, mechanisms of re-establishing equilibrium in international payments function smoothly, Exchange Equalization Funds can preserve the parities which have been agreed to. This brings us back to considerations which the reader will find in the last section of the preceding chapter, where monetary internationalism under free paper currencies was analysed;[1] under that system Exchange Funds, set up in the various countries, could act as technical instruments for maintaining parities.

We have thus far examined the rôle of Exchange Funds as instruments of international stabilization. They can, on the other hand, become very effective weapons of monetary nationalism in helping to insulate national price developments, and economic activity in general, from developments which are taking place abroad. Exchange Funds are an instrument which can be used in various ways—the result will depend on the use that is decided upon. The following observations by Mr. Norman Crump seem to me worth quoting, since they give a very able summary of the situation:

". . . the whole object of the Exchange Account is to insulate our internal credit system from the effects of pressure in favour of or against sterling, whenever such insulation is desirable. . . . Admittedly a monetary system of this kind calls for very careful management, for at times it may be right to allow exchange movements to affect the internal credit base. Our prices may be out of line with those of other countries, or our home activities may need either a stimulus or a curb; and in those circumstances insulation would be definitely harmful. Still, we have a complete system of insulation against the shocks due to fortuitous movements of foreign funds and we have learned how to use it."[2]

Let us now, in conclusion, briefly consider the question whether specially constituted Exchange Equalization

[1] See in particular p. 223, above.
[2] Norman Crump, *The Development of Exchange Funds, Lloyds Bank Monthly Review*, January 1937, p. 13.

Accounts are needed for the purpose of achieving the results described and discussed above. Opinions on this subject vary considerably. The view is very widespread, particularly in England, that with the introduction of the Exchange Equalization Account, a new "elastic form of the gold standard"[1] has been established, "a new, delicate and complicated piece of financial machinery, originally intended as a stop-gap, but which may become a permanent part of the mechanism of our own and other countries."[2] But other economists are doubtful as to the novelty of the system and claim that a central bank could do anything that the Exchange Funds are doing, provided it were empowered to do so. The relative merits of fixed and of fluctuating exchanges have already been discussed; one might just add to this, in the present context, that their "elasticity" can be administered equally well by a central bank as by a special monetary fund. It is, therefore, very doubtful if one should give to the latter the credit for the possibility of operating a system of flexible exchange. What constitutes a more plausible argument in favour of setting up a separate Exchange Fund in a country in which the central bank is a *private* institution, is the desire of entrusting the function in question to a public authority rather than to a private organization. This point of view may be accepted or not, but at least it constitutes an argument in favour of a separation of functions. I wish to quote, in concluding the discussion of this question, the following observations by Professor Gregory, with which I find myself in entire agreement:[3]

"... it is undesirable to create organizations which are capable of acting at cross-purposes with the Central Bank. So long as the Central Bank in fact acts for the Fund, it might just as well act in its own name: in the case of differences of opinion between a

[1] N. Crump, op. cit., p. 12. [2] Ibid., p. 13.
[3] T. E. Gregory, *Current Issues of Monetary Policy*, p. 5. See also the interesting discussion by N. F. Hall, op. cit., chap. vii.

government and the Central Bank, the existence of an institution, which might, e.g. by the sale of Treasury Bills, contract supplies of open-market funds or e.g. by the repayment of such Bills, expand them, in opposition to the views of the Central Bank, would simply help to bring about a state of anarchy in the money market. Orderly money market conditions require the existence of a single and unique centre of authority, and this should be the Central Bank. If public opinion requires that this institution should be under public control and direction, let this be done by an unequivocal and unambiguous act of state. Nothing is to be gained by the division of functions between two authorities when what is really intended is the 'insulation' of the local money markets from (short-term) outside influences through the creation of larger reserves than those previously maintained."

The amalgamation of Exchange Funds with central banks in the sense indicated in the last sentence of the foregoing quotation would help the realization of the demand for larger central bank reserves which was implied by our discussion of the gold standard. This brings us to the last question to be examined here, that of reconstructing monetary internationalism. International monetary co-operation can start again on the basis of Exchange Equalization Funds without waiting for a previous stabilization of currencies; this has been demonstrated by the development of monetary relations after the conclusion of the "Tripartite Agreement" (soon extended to three more countries).[1] As long as the deeper causes of instability remain it is difficult to hope for more than a further consideration of that type of co-operation and its extension to certain other countries. Should countries composing the "sterling-bloc" either explicitly adopt the sterling standard, or join the "Tripartite Agreement", an important further step towards monetary internationalism would be taken. The next stage of reconstruction goes beyond purely monetary considerations. It covers commercial and financial relations. The "Tripartite Agreement"

[1] England, the United States, France; Belgium, Switzerland, the Netherlands.

should in time be extended so as to cover these matters too. Monetary internationalism cannot survive for any length of time unless it is based on economic internationalism.[1] A final point bears on the autonomous monetary policies and the strife for autarchy. The latter is justified by political, not by economic motives. If governments decide to adopt such a course of policy, even at an economic loss, there is no *economic* argument that could dissuade them from it. Monetary and economic internationalism are likely to be confined for some time to come to relations within a more or less limited group of countries, considering that there are countries which will not easily abandon the path of nationalism. This cannot be helped and it does not prevent the reconstruction of monetary internationalism within the group of countries which wish to have it.[2]

The adoption of "autonomous" monetary policies is due to two main reasons:

(*a*) The lack of correspondence between the phases of the trade cycle in which various countries find themselves at a certain time; the result is that countries in depression tend to insulate themselves whenever they wish to carry out more safely a policy of reflation, while countries going through a phase of prosperity or at least of good business conditions do the same in order to maintain that prosperity. "Cheap money" policies are adopted on a national scale, and promote monetary nationalism, in spite of the fact that, as has been pointed out before, they could achieve the same ends in agreement with one another and at the same time consolidate international stability. It will, of course, be observed that it is precisely that orientation which—by

[1] Not to be confused with "free trade". It must be also added that international relations between more or less socialistic States, where stability of exchanges can be realized by means of exchange control are not dealt with in the present book.

[2] The argument for such a limited internationalism is developed more fully in my study on *The Monetary Aspects of the Raw Materials Problem and the Revival of International Trade*, chap. iv.

destroying what (for the lack of a better word) has been called the international price-equilibrium—makes these discrepancies between the cyclical movements in various countries possible. Thus a vicious circle tends to develop which can best be broken through the abandonment of "autonomous" policies and the re-establishment of international co-operation.

(*b*) Divergencies of doctrines relating to the nature of policies to be adopted at the various phases of the trade cycle. Inasmuch as the policies of the various countries are not inspired by the same doctrine, major differences of policy may develop.[1] Thus it becomes a matter of the utmost importance that a more general agreement should be reached among economists on theories underlying the various nationally-adopted monetary and economic policies. The realization of better international economic relations depends (at least to a certain extent) upon the further progress of economic science and upon a wider acceptance of its findings. It is most important that there should be more and more co-operation between economists of various countries as regards both research and discussion.

The outlook for monetary internationalism will ultimately depend upon the wish to co-operate, and the spirit of international solidarity, on the one hand, and upon a further progress of knowledge, on the other.

Let us envisage in conclusion the technical features with which a reconstructed system of monetary internationalism could most usefully be endowed. For reasons stated before, my personal preference is for fixed exchanges. It is true that, in pure theory, exchange fluctuations of a limited size and linked with long-run stability of the foreign exchanges are reconcilable with monetary internationalism. But it seems to me that the abstract model is not susceptible of being carried out in practice in a world in which exchange fluctua-

[1] Cf. with pp. 68–9 above.

tions are likely to incite international movements of short-term funds of a disturbing character (movements caused by the fear of currency depreciation or by the hope of speculative gains). Furthermore a system of flexible exchanges demands, on the whole, more international co-operation than a system of fixed parities. Finally, it results, I think, from the foregoing analysis that—with the exception of major disturbances and in the absence of "autonomous" national policies—internal economic stability can be quite well maintained under a system of fixed parities. To this I should like to make two reservations: (1) a return to fixed parities cannot be safely effected at present; (2) fixed parities may occasionally, in the case of major accidental difficulties, have to be replaced by more flexible exchanges. In these cases Exchange Funds (or, if the amalgamation has been carried out, central banks) would come prominently into action in order to secure a maximum of stability and the greatest possible smoothness of adjustment to changed circumstances.

It is most important that the return to fixed parities and to an international standard should not be attempted before enough economic and financial co-operation has been achieved between countries. The failure of the reconstruction of the 'twenties should demonstrate that "monetary reconstruction" is not merely a matter of monetary technique.

As regards, finally, the acceptance of a common standard, its main significance lies in that it allows a clear definition of parities and in that we have much experience in achieving on its basis a long-run equilibrium in international payments. Gold is most likely to be again chosen as international standard, but I should advocate the adoption of the gold-clearing method of administering the gold standard. Reasons for it have been indicated above.[1] The Bank for International Settlements should be closely associated, from the very outset, with the new monetary reconstruction. Considering

[1] *Vide* pp. 198 *et seq.*

that this institution is admirably equipped for that function, it should administer the proposed international gold clearing. Since gold comes into the system only as an expedient of great practical usefulness, no exaggerated importance must be attached to the fact that it is gold and not some other asset that constitutes the monetary standard. The fixing of its price should be done by international agreement in such a way as to secure large monetary reserves and thus make the system as resistant as possible to accidental shocks and disturbances. The success of the new monetary internationalism will ultimately depend upon a firm determination to work the system according to its rules and upon the friendly co-operation of the various countries in the pursuit of a common goal.

APPENDIX

NOTE ON THE USE OF STATISTICAL CONSTRUCTIONS

IN several chapters theories based on comparisons between index-numbers of prices and on the "behaviour" of certain statistical series were submitted to critical analysis. It may be useful to state explicitly the foundations on which this analysis and criticism were built, and to discuss briefly the basic conceptions involved.

The conquest of economic thinking by the mathematical statistician has made much headway in the course of the last half century with the result that in criticizing some of the statistical methods which have been used in economics one has to question a good many "generally accepted" views and methods. The critical work to be done is considerable and the time is ripe for carrying it out without much further delay. The value of much of the work to be done in the next decades by the "econometricians" and even by the non-mathematical economists will depend upon the revision and adjustment of methods used and of conceptual and statistical instruments of research employed. This is an enormous task and I cannot within the compass of this study do more than formulate some generally-worded observations. I shall not question the mathematical validity of statistical methods used, but shall limit myself to questioning the economic

meaning of the results of certain statistical calculations and computations. But before proceeding to do this I want to emphasize the importance that I attach to the use of statistics along with deductive thinking as instruments of economic research. My preference is, however, for statistical information illustrating the *real* economic processes, not to hypothetical constructions.[1] Such information is essential both in formulating problems and in testing the results of deductive reasoning; and it is hardly necessary to say that it is theoretical analysis in turn which formulates questions for the economic statistician to answer. It is, however, quite another matter when the statistician starts to calculate secondary series on the basis of the direct or raw data, and when, by applying to the primary data the different methods proper to mathematical statistics, he tries to draw conclusions regarding the functioning of the economic system.[2] Here doubts are permissible and I shall endeavour to make clear some of them.

In the first place, as regards the rationality of the methods employed, it is important not to forget that mathematical calculations should be applied only within homogeneous groups.[3] This is evident, but how often forgotten! Now a price is not a number of money units but a number of money units per unit of the good in question; therefore a collection of prices of different goods is not a homogeneous

[1] See my article: *Les Instituts de conjoncture économique dans leurs rapports avec l'évolution contemporaine de la réalité et de la théorie économiques, Revue Economique Internationale*, Brussels, September 1937, especially pp. 480 *et seq.*

[2] Ibid., pp. 485 *et seq.*

[3] The reader will find thought-provoking observations along these lines in *Horses and Apples* by Bassett Jones, New York, 1934. That witty, challenging book deserves much attention from both econometricians and those who use the results of their inquiries. See pp. 6 *et seq.*: "The rules of arithmetic are the rules for the manipulation of numbers when related to a collection of *homogeneous* objects"; ". . . the processes of arithmetic, or the relations between pure numbers, while perfectly reasonable in themselves as dealing with mental objects of the class called numbers must be applied to physical concepts with care if the result is not to result in absurdities."

collection. Thus one can calculate the average price of bread on the basis of a collection of prices of bread quoted in different localities or on different days (I leave aside, for the time being, the economic meaning of such an average), but it is not rational—even though mathematically correct—to calculate an average of prices of different commodities and call it their average price. One may try to overcome the difficulty by calculating the price-changes of each of the different commodities and by computing from the index-numbers thus obtained the variations in the average prices of this group of commodities. But this is hardly more rational a procedure though it is even less open than the former to mathematical criticism. If the price of bread rose by 10 per cent from one year to the next, and the price of coal by 5 per cent, the numbers 10 and 5 represent for an economist variations in the price of bread and in that of coal respectively. One cannot obtain a significant result by calculating an average of these figures. This does not exclude the possibility of making any statistical calculations on the basis of prices of individual commodities—but it restricts considerably the scope of such calculations.[1]

This application of the *principle of homogeneity* is even more striking in the case of more elaborate calculations such as indices of the general trend of business, or of economic development. Many such indices have been calculated in the recent years.[2] These indices are weighted or unweighted

[1] *Vide infra* the discussion of changes in the money-value of *aggregates* of commodities. As regards the statistical theories relating to the construction of index-numbers the reader will find it useful to consult one of the well-known text-books of statistics, like *Elements of Statistics* by Professor A. L. Bowley. *Mathematical Statistics* by H. L. Rietz is an excellent introduction into the subject, while a more developed treatment of index-numbers will be found in *The Making of Index-numbers* by Irving Fisher, in the excellent book particularly recommended to economists, *Der Sinn der Indexzahlen* by G. Haberler (Tübingen 1927) and other monographs.

[2] e.g. by Mr. Carl Snyder, formerly statistician to the Federal Reserve Bank of New York; by Colonel Ayres, editor of the well-known monthly bulletin of the Cleveland Trust Company; by statistical institutes of various countries, and so on.

averages of other index-numbers representing changes in various economic phenomena.[1] They may be wholesale and retail prices, carloads, production of certain important commodities (iron, wheat, etc.), totals of bank clearings, averages of stock-exchange quotations.[2] Some of the series used are in themselves violations of the "principle of homogeneity". One moment of sober reflection should make it clear that it is vain to wish to represent by one single series of figures, by one single curve, changes that occur in a complex collection of heterogeneous phenomena. And it is surprising how the quest for simplicity has thus far triumphed over the realization that heterogeneity and complexity *may be irreducible* to homogeneity and simplicity. It is easier to deal with one curve than to deal with ten or twenty curves "behaving" differently; nevertheless it may not be possible to reduce the ten or twenty curves to a single one and still have a significant result. What makes the computation *rationally* impossible (though it may be mathematically easy to make) is the fact

[1] One of these "heterogeneous" indices is the "index of the general price level" calculated by Dr. Carl Snyder and consisting of a weighted average of the four index-numbers of prices (wholesale prices—weight 2; cost of living, 3½; wages, 3½; rent, 1). See, Keynes, *A Treatise on Money*, vol. i, pp. 58–9. Keynes who was less critical with regard to index-numbers of prices when he wrote the *Treatise* than he became later in *The General Theory*, called that index "valuable pioneer work". However some common-sense reflection must show the utter lack of meaning of such computations!

[2] The series referred to in footnote (2) p. 26 and many others are constructed in this way. It may be interesting to recall that the "Dawes Plan" for reparations payments provided for the application, in certain circumstances, of an "index of prosperity". That index with the well-sounding name was to be computed on the basis of the following statistical series (I quote from *War Debts and World Prosperity* by Harold G. Moulton and Leo Pasvolsky, published by the Brookings Institution in Washington in 1932): (*a*) the total of German imports and exports taken together; (*b*) the total of budget receipts and expenditures taken together; (*c*) railroad statistics as measured by the statistics of the weight carried; (*d*) the total money value of the consumption of sugar, tobacco, beer and alcohol, within Germany (measured by the prices actually paid by the consumer); (*e*) the total population of Germany (computed from the last available census data, vital statistics, and emigration records); (*f*) the consumption of coal (and lignite reduced to coal equivalent) *per capita*. I leave it to the reader's imagination to try to give any meaning to *a single series of figures* resulting from such an arithmetical computation! It is perhaps very lucky that there has never been an occasion for applying the "index of prosperity"!

that the phenomena covered by the ten or twenty or more curves are heterogeneous.

One can *compare* the variations shown by the individual curves, but one cannot *compute* them into a single curve. Every one of such figures or curves represents changes that occurred in some concrete phenomenon; and just as one cannot add tons of coal to sums of bank clearings and to baskets of wheat, one cannot reasonably calculate averages summing up changes that occur in each of the series. If one persists in making such calculations, the results obtained are void of any significance.[1] It is good to keep this in mind in an epoch when our knowledge of the happenings in the real world is rapidly becoming an index-number knowledge, and when people appraise all too often the changing economic situations on the basis of such "indices of general business conditions" or "indices of the general trend of economic development" and accordingly determine their own behaviour. In consequence such statistical constructions are not only meaningless but may become positively dangerous.

Let us now return to index-numbers of prices. We have seen that averages of prices or of price changes are not significant constructions if the prices in question are prices of heterogeneous commodities. To overcome the difficulty the notion of "composite commodities" has been introduced, which are "made up of the various individual goods and services in proportions corresponding to their importance as objects of expenditure".[2] But there are no "composite commodities" in the real world and it is vain to speak of a price of something that does not exist. Furthermore in constructing such "composite commodities" or weighted index-numbers one necessarily introduces important *arbitrary* elements. Unweighted index-numbers have often been

[1] Bassett Jones, op. cit.
[2] J. M. Keynes, *A Treatise on Money*, vol. i, p. 53.

rightly criticized on account of neglecting the relative importance of the various commodities.[1]

There is however a way out of the difficulty. There exist certain *aggregates* of commodities, which are linked organically, and can be larger or smaller and more or less diversified according to their significance. Such are, for example: total production in a period of time; total sales in a period of time, either in a whole economy or in a group of enterprises (e.g. mail-order houses in the United States); the aggregate of different factors of production needed for manufacturing a certain quantity of a commodity; the aggregate of commodities and services consumed in a certain period of time by an individual or a family living on a determined standard; and so forth. Now what we *can* calculate is the cost

[1] I plead guilty of having myself used rather uncritically the price-level concept in my earlier books *Le problème monétaire d'après-guerre et sa solution en Pologne, en Autriche et en Tchécoslovaquie* (Paris, 1931) and *Monnaie, Crédit et Transfert* (Paris, 1932). In the latter book I made also, under Keynes's influence, an all too ample use of "composite commodities". Mr. Keynes himself has changed his views considerably. Thus in *The General Theory of Employment, Interest and Money*, he says that "the well-known, but unavoidable, element of vagueness which admittedly attends the concept of the general price-level makes this term very unsatisfactory for the purpose of a casual analysis which ought to be exact." (P. 39.) Keynes's criticism is based on the fact that the concept of a general price level is vague, my own on the fact that it lacks any definite *meaning*, which amounts in effect to much the same thing. I do not agree however with Mr. Keynes's views when he declares that "the fact that two incommensurable collections of miscellaneous objects cannot in themselves provide the material for a quantitative analysis need not, of course, prevent us from making approximate statistical comparisons, depending on some broad elements of judgment rather than on strict calculation, which may possess significance and validity within certain limits" (pp. 39–40). Either something is subject to statistical, quantitative comparisons or it is not. In the latter case it is better to leave statistics alone altogether and rely entirely on the "broad elements of judgment" rather than give an illusion of precision by the use of approximately close statistical comparisons, which are meaningless if applied to "incommensurable collections". As Keynes rightly says, the statement that "Queen Victoria was a better Queen but not a happier woman than Queen Elizabeth" is unsuitable for quantitative measurement, though it is "a proposition not without meaning and not without interest"; but then there would be no use to amplify the statement by making "approximate statistical comparisons"! I can only heartily concur with Mr. Keynes when he concludes his argument saying that "our precision will be a mock precision if we try to use such partly vague and non-quantitative concepts as the basis of a quantitative analysis" (p. 40).

of such an aggregate; and we can compare the costs of that aggregate at different moments of time; changes in them reflect (but do not measure) the changes that occurred in prices of the various commodities and services entering into the aggregate. One *must not*, however, compute changes that took place in the costs of different aggregates into one average! Changes in the costs of such aggregates are what one usually tries to calculate with the help of weighted averages of prices; but while the latter method contains a large element of arbitrariness the former is free from it in view of the organic character of the aggregates.

It is important to devote some more attention to the calculations based on the most general aggregates of goods, such as the total volume of production, or the total volume of transactions. Changes observed are due to changes that have taken place in the volume structure of the aggregate and to changes that occurred in the prices of the different components of the aggregate. If one could isolate one sort of changes, and then the other, one might obtain an indication of the extent to which changes in the value of the aggregate were due to its changing volume and structure, and of the extent to which they were due to changing prices. There are well-developed statistical methods that make such calculations possible.[1] They consist, roughly speaking, in assuming alternatively a constant volume and structure of the aggregate with variable prices, and constant prices with a variable structure and volume of the aggregate. In the former case the constant aggregate is that of a base year and prices are taken such as they have been in reality at the different time-moments (or, for each component of the aggregate, average prices over a period of time). In the latter case the reverse procedure is used: prices of a base year are used together with aggregates that have been really

[1] See e.g. Haberler, op. cit., chap. v; Jones, op. cit., Appendix.

observed in successive periods of time. It will be observed that in either case we get aggregate money values, which we can compare with one another. In one case we obtain a variable series of money values, variations in which are due to changes in individual prices. It is the nearest we can legitimately come to a general price index, considering that there is not, in the real world, such a thing as a "general price level". The other method gives us a series of values, variations in which represent changes in the volume and structure of the aggregate. Considering that it is impossible to represent by one series of numbers changes in total physical volumes of heterogeneous aggregates, this is the only method of ascertaining how changes in the quantities of different components affect the value of the aggregate. The results of such calculations are sometimes called "indices of the physical volume of production" (or of trade); the reader will easily see why the term is misleading. Some "indices of physical volume" are however calculated by much more doubtful methods.

Thus we see that the application of index-numbers to price changes is of a limited scope, though may be useful and enlightening within that scope! There is one further limitation which we must consider at present.

The assumption that quantities composing the aggregate remain constant while prices change, or reciprocally, is only approximately correct and that only under certain circumstances. That prices and quantities are interdependent in their variations is a fundamental economic truth. To assume that variations of the one are not associated with the variations of the other is possible only for very short periods of time and only for periods of economic stability. Otherwise there is no ground for supposing that the prices actually observed are the same as they would have been had quantities really remained stable—and *vice versa*. Therefore the use of index-numbers of the variety described is possible only in

certain circumstances, and otherwise may lead to more or less serious errors.

It follows that comparisons of indices for years which are far removed from one another cannot yield significant results. Where aggregates have changed considerably, no calculations which rest on the assumption that they remained stable can give correct results. And if, on the other hand, one allows for changes of both physical aggregates and the prices of their components, the results obtained cannot be used as price-indices.

Conclusions reached in the preceding pages may appear to be mostly negative and the reader may well ask: if most statistical calculations, discussed here, are meaningless or misleading, what else do you suggest? I am not certain that I *do* suggest anything else. New and different methods might very usefully be worked out, particularly methods which would enable us to deal with changing *structures*. This is a type of analysis for which, I think, we lack adequate statistical instruments. But as regards methods I have discussed and criticized in this Appendix[1] I doubt whether anything should be put in their place at all. The human mind is always in search for unity and simplicity. In that search and in the particular field of economic phenomena, statistics seemed to provide a comfortable way out of the perplexing multiplicity and heterogeneity presented by the economic world and the processes that are taking place therein. Hence certain methods referred to above gained wide acceptability. But the multiplicity *does* exist and by ignoring it one falls into erroneous or meaningless statements about the world and about economic processes. Averages more often conceal reality than reveal it and have to be used cautiously, even in

[1] I realize that I did it in a very summary way—but it would have been beyond the scope of this book to give a fuller outline; in any case my attack is directed against underlying bases, rather than against particular mathematical techniques.

homogeneous collections; but they are simply without meaning in collections that are not homogeneous. There is no such thing in the real economic world as the "general price level"; but what exists are prices, and it is the movements of prices and the changes in the structure of money values (including prices, incomes, debts) that are of real interest and of intense importance for the understanding of economic phenomena. As we have seen in the preceding pages, money *is* purchasing power, that is, power to buy; but there is no such thing as a general purchasing power of money. *Purchasing power is a right, not a dimension.* The monetary unit is *the* unit of economic value; but the unit of value *has* no value. The process of valuation is different in economics from the process of measurement in the physical world; its theory is the same as the theory of price formation. Why should we speak of "stable value of money", when we mean "stable prices"? Prices are the direct datum of the economic process. Only by finding out how they are established and what are the mechanism and the dynamics of their change shall we get any insight into the question of what we *really* mean by "stable prices" and how to proceed to obtain them. To calculate averages of doubtful significance, to call their reciprocal "purchasing power of money" and to set out to keep this "purchasing power" stable, increases rather than diminishes the distances that separate us from the solution of our problems.

In conclusion, one more general, methodological observation. Whether legitimate or not, statistical constructions are *always* calculated results, not data given by the economic process. Therefore changes in these constructions cannot be used to *explain* economic changes, but merely to describe them. I have already had the opportunity of pointing this out in discussing the concept of "gold prices", but applications of this reservation are manifold. It is important to give

much care to the use one makes of statistical constructions, as here also the past record of economic statistics is far from clear. I am convinced that econometrics will play a greater part in the future development of economic science than it has in the past; this is precisely why I am anxious to see its methods properly applied—for then only will the value of the results obtained correspond to the amount of labour put into working them out.

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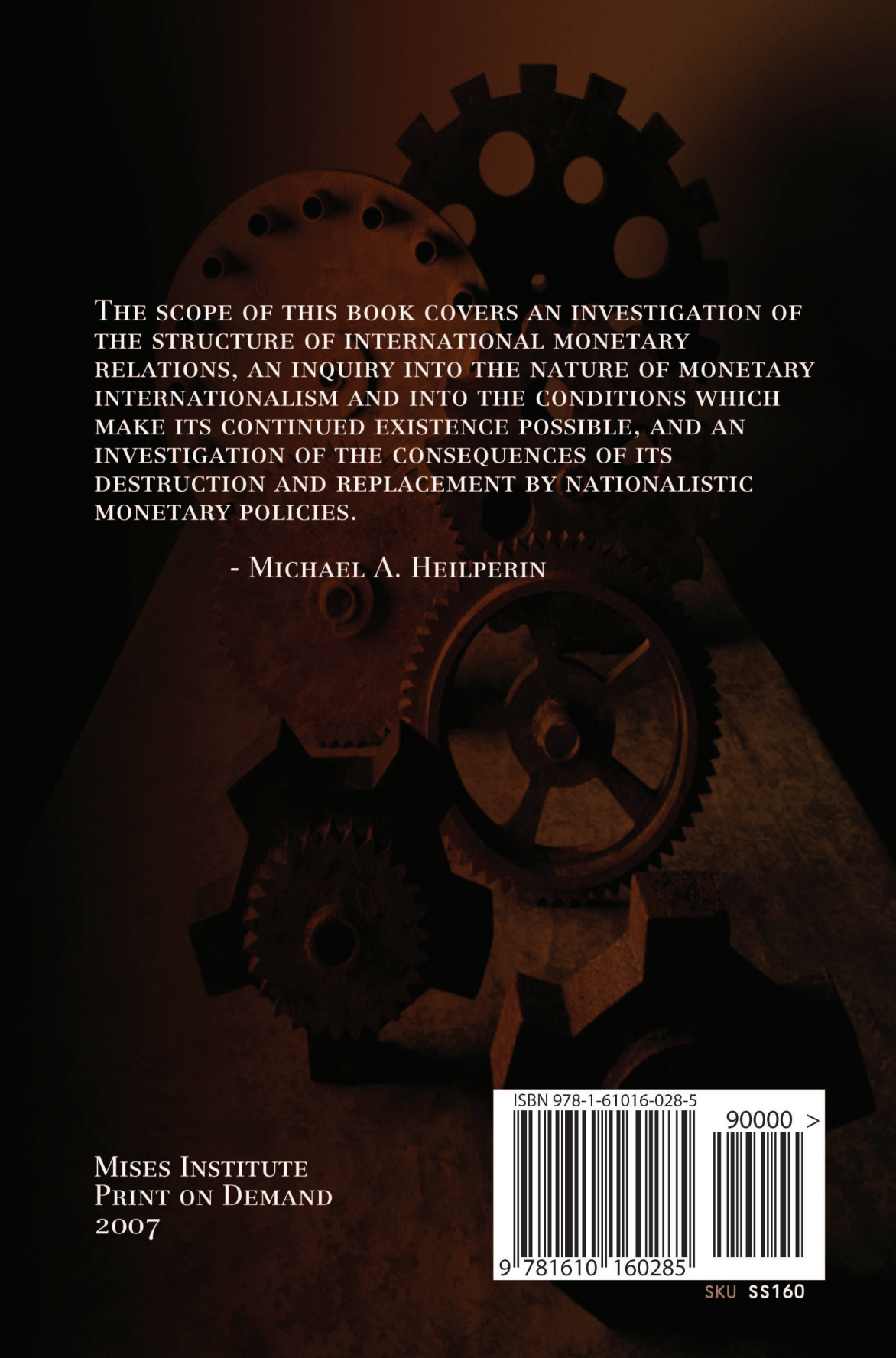

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