LEAGUE OF NATIONS

THE FUNCTIONING OF THE GOLD STANDARD

BY

Dr. Feliks MLYNARSKI

GENEVA, 1931.

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LEAGUE OF NATIONS

THE FUNCTIONING OF THE GOLD STANDARD

A Memorandum Submitted to the Gold Delegation of the Financial Committee

by

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CHAPTER I.

THE CHANGES IN THE STRUCTURE.[1]

1.

The chief characteristics of the pre-war gold standard were the statutory obligation to redeem notes in gold coin, and in the free export of gold from one country to another. This does not mean, however, that the pre-war structure of the gold standard did not reveal any divergences from the above principles.

The limits fixed by law to the note issue were regulated by three different methods. The Bank of England had a fixed maximum, established by law, for the fiduciary issue. Every note issued in excess of this fixed amount had to be covered in full by gold. The Bank of France had a legally fixed maximum for the note issue, and this could not be exceeded even if gold were purchased. The actual issue of notes up to this total had to be covered in gold, or partly in silver, in such a proportion that they should still be convertible into gold. Subject to this condition, the fixing of the reserve percentage was left to the discretion of the management of the Bank. The Reichsbank was not hampered by any maximum for its note issue. Its Statutes contained only the requirement that at least one-third of the issue should be covered at all times by gold.

There were thus three principal systems of note issue: (1) total quota, (2) partial quota, and (3) minimum reserve requirement. All other Central Banks were more or less modelled on one of these three systems, that of the minimum reserve requirement being the most widely employed.

Each of the three systems embodied the principle of the obligatory convertibility of notes into gold coin. No bank—the Bank of the Netherlands, for example, was an exception—was under the legal obligation to redeem its notes in other ways; for instance, in gold bars, or in foreign exchange convertible into gold, instead of in gold coin. This accounts for the familiar general notion of the uniformity of the pre-war gold standard. It was in reality a generally adopted gold specie standard.

This does not mean, however, that the gold reserves of pre-war Central Banks consisted exclusively of gold coin being the legal currency in the country concerned. The reserves included gold bars on an equality with gold coin, and these bars were the object of international transactions. Special gold transactions between Central Banks were also known, one bank for account of another bank, sending gold to a third bank. In 1909, for instance, the Reichsbank sent gold to Russia and the Austro-Hungarian Bank to Egypt for account of the Bank of England. In spite, however, of this kind of special transaction, in which not only gold coin was used, but also gold bars, the fundamental structure of the pre-war gold standard did not undergo any essential change. The statutory convertibility was based on the assumption that gold coin was the only

[1] Written in 1930.

means of payment. Any person presenting notes to be exchanged for gold might refuse to accept gold in bars.

The position was the same in those Central Banks which were authorised by their statutes to include in the metallic reserve foreign exchange convertible into gold.

Before the world war, there were five countries in Europe—Belgium, Bulgaria, Finland, Russia and Italy—in which the Central Banks might include in their metallic reserve, without limit, foreign bank-notes, balances with foreign banks, and bills accepted by foreign debtors. In three countries—Greece, Portugal and Sweden—the Central Banks were authorised to count in the metallic reserve their balances with foreign banks, but not foreign bills or bank-notes. In five other countries foreign exchange could be included in the metallic reserve, but only to a limited amount. In Austria-Hungary and Roumania the Central Banks were permitted to include in the metallic reserve, to a limited amount, balances with foreign banks, but not foreign bills or bank-notes. In Denmark, Norway and Spain, limited amounts, not only of foreign balances, but also of foreign bills and bank-notes, could be included in the metallic reserves. Moreover, there were some banks, such as the Netherlands Bank, which could buy and sell foreign exchange, but had not the right to include it in the fundamental metallic reserve. In the case of this last bank, foreign exchange on an equality with the portfolio of home bills constituted an additional subsidiary reserve, but could not form part of the fundamental reserve.

These methods in no way interfered with the statutory obligation regarding conversion, which was very strictly defined and allowed notes to be redeemed in gold coin only. Central Banks did not have the option of effecting conversion in gold bars or in foreign exchange, even when they were allowed to include these values in their fundamental reserves. Gold bars, some silver, and foreign exchange to a limited or unlimited amount, constituted the assets which could be included in the metallic reserve as the basis for the issue of notes; but the Statutes of most of the pre-war Central Banks precluded the use of these assets as a means of payment in the obligatory redemption of notes. Their rôle was one sided. A person presenting notes for redemption could refuse to accept payment in gold bars, silver, or foreign exchange.

Such was the legal aspect of the position. In actual practice the stabilisation of the rates of exchange between currencies was frequently based on the so-called foreign exchange policy of the Central Bank. A classic example of such a policy is afforded by the Austro-Hungarian Bank, which, though under no legal obligation to redeem notes in gold, nevertheless succeeded in maintaining the rate of exchange of the crown within the gold points by buying and selling foreign exchange. Examples of this kind, however, do not affect the truth of the assertion that the pre-war system of the gold standard, in its legal aspect, was based principally on the obligation to redeem notes in gold coin. It was, in fact, a classic example of the gold specie standard. Its visible sign was the widespread circulation of gold coin, which was such a feature of pre-war conditions. At the outbreak of the war, the circulation of gold coin in England was more than twice as large as the total reserves of the Bank of England.

2.

The outbreak of the world war opens a new era in the history of the gold standard, which may be divided into two periods. The first period lasted from the beginning of the war to the Brussels Conference, and the second from that Conference to the present time.

In the first period, not one European currency escaped collapse or, at the best, serious difficulties. It was a period marked by the destruction of the pre-war gold specie standard.

While gold was abandoned as the basis of currencies, its production increased, reaching its peak in 1915. Simultaneously, there were violent disturbances in industrial and agricultural production and consumption. This resulted in an excessive accumulation of gold in neutral countries, and especially the United States of America.

The beginning of the second period was marked by a considerable degree of deflation in the United States, which entailed a further outflow of gold from Europe to America. The succeeding years witnessed energetic international co-operation with a view to stabilising currencies on a gold basis. Apprehensions of a future deficiency in the output of gold were mitigated by hopes that the neutral countries, and especially America, would be ready to return their gold surplus. At the end of 1928, the efforts to restore the gold standard entered upon their final stages. The stabilisation of currencies on a gold basis was almost complete.

The post-war return to the gold standard has not, however, been a return to the gold specie standard. Great shocks have caused great changes.

The position of the Central Banks in many countries has improved. In countries in which there were more than one bank of issue, the number has been reduced to one. Little now remains to be done in this respect. State banks have also decreased in number, giving place to private joint-stock banks, while the management of Central Banks have become more independent of the Government and political influences. Co-operation between Central Banks is extending and developing in a marked degree, and the establishment of an International Bank of Central Banks, in the shape of the Bank for International Settlements, is already an accomplished fact.

The rules governing the right of note issue have become more and more uniform. With the amendment of the Statutes of the Bank of France, the type of Central Bank which had the right to issue notes up to the maximum amount fixed by its Statutes, irrespective of the reserve percentage, has completely disappeared. The Bank of England maintains the traditional principle of the partial quota of the fiduciary issue, but this new quota can be increased with the consent of the Treasury, no special legislation being required. Outside England, the principle of the minimum reserve requirement is now generally accepted. The principle of the elasticity of cover for notes has won the approval of even the most conservative economists. Its advantages have led to a wider and wider use of the right to lower the minimum reserve on condition of paying to the Treasury, by way of penalty, a tax on that portion of the note issue which represents the lowering of the reserve ratio below the statutory minimum.

The structure of the reserves of Central Banks underwent more radical changes during the same period. The suspension of gold payments caused by the outbreak of the war created a situation in which Central Banks withdrew gold coin from circulation, and could not afterwards return it to the market. This was the beginning of the concentration of gold in the vaults of the Central Banks. Similarly, the minting of gold coin was stopped. The gold circulation shrank more and more, and is now negligible. Post-war endeavours to bring about a revival of the circulation of gold coin, chiefly in Holland and Switzerland, were unsuccessful, the public having lost the habit of using gold coin. Simultaneously, the belief was gaining ground that the circulation of gold coin was a luxury, and that in the interest of economising gold it should be abandoned.

This disappearance of gold from circulation found an outward expression in the considerable increase, as compared with the pre-war position, in the gold reserves of Central Banks. These reserves now consist of the pre-war reserves together with gold coin withdrawn from circulation and purchases of new gold.

Before the war, the gold reserves in any country consisted of the reserves held in the vaults

of the Central Bank, together with the total circulation of gold coin. To-day, the gold reserves of a country are, practically speaking, the reserves of the Central Bank, which have increased in proportion to the decline in the circulation of coin.

The disappearance of gold coin from circulation caused, not only a one-sided concentration of gold in the vaults of Central Banks, but also marked changes in the use of that gold by the Central Banks. Transactions in gold coin soon became less common, giving place to transactions in gold bars. This meant that the methods of effecting the obligatory conversion of notes into gold had also to change. In the spring of 1925, England set the example by officially abandoning the pre-war system of the obligatory redemption of notes in gold coin, thus introducing the new system unknown before the war, of notes obligatorily convertible into gold bars. On the principle that gold is superfluous in internal circulation, the obligation to sell gold bars in exchange for notes is confined to transactions in which gold is used exclusively for payments abroad. A further restriction is the fixing of a legal minimum quantity of gold below which the bank is not bound to sell.

Neglecting these restrictions, which are characteristic of the system but do not apply everywhere, we arrive at the conclusion that, in consequence of post-war developments, a new form of the gold standard has come into being — the so-called gold bullion standard. Following the example of England, several countries adopted the same system. The French reform of 1928 introduced another novelty—the obligation to redeem notes either in gold bars or in gold coin at the option of the management of the Bank of France. The right of choosing the means of payment was thus created, but belongs to one party only—namely, the Central Bank. We have here a mixed form of the gold bullion standard, which may be called the gold bullion and specie standard.

The same process of development pointed to the part that foreign exchange could play in the reserves of Central Banks. Before the war, as has been mentioned above, foreign exchange was, in actual practice, frequently included in the fundamental reserves. No Central Bank, however, was under a legal obligation to redeem its notes otherwise than in gold. The exchange of notes for foreign exchange, although carried out *de facto*, was never established *de jure*. After the war, the number of banks which included foreign exchange in their fundamental reserves considerably increased, and in these countries the rate of exchange of the home currency was chiefly regulated by the purchase and sale of foreign exchange by the Central Banks. The development of this custom is shown best by the following figures. At the end of 1913, the foreign exchange reserves of Central Banks amounted to about 350 million dollars, whereas at the end of 1928 they had increased to about 2,000 million dollars. This was the result, not only of the increase in the number of countries whose currencies were based on foreign exchange reserves held on an equality with gold, but also of the fact that two large Central Banks—the Reichsbank for an indefinite period, and the Bank of France from September 1926 to June 1928—adopted this system. In the history of the gold standard, the accumulation of foreign exchange by the Bank of France will constitute one of the most striking features.

However, it is not the increase in the number of banks which include foreign exchange in their reserves on an equality with gold, nor the abnormally large accumulation of foreign exchange that is the most striking characteristic of the change in the gold standard. The most noteworthy feature of the situation is the fact that, since the war, the Statutes of Central Banks have been modified on the principle that the obligatory redemption of bank-notes may be carried out either in gold or in foreign exchange. The right of Central Banks to effect redemption either in gold or in foreign exchange thus went considerably farther than the right to effect redemption

in gold bars or gold coin. The process, indeed, went even further than that. Two Central Banks were established, in Danzig and Estonia, under the statutory obligation to redeem notes exclusively in foreign exchange, gold being entirely eliminated.

The result was that, side by side with the gold bullion standard, the gold exchange standard appeared. Before the war, the redemption of notes was, in practice, effected in gold bars or foreign exchange, but legally the only standard was the gold specie standard. After the war, in addition to the gold specie standard, we meet with two forms that are new from the legal point of view—the gold bullion standard and the gold exchange standard. Independently of these three principal forms, moreover, there are certain mixed forms, such as the gold specie and bullion standard, and the pure foreign exchange standard as used in Danzig and Estonia.

3.

It may be said that all these changes were the outcome of apprehensions of a future shortage of gold in relation to demand. At the Brussels Conference, as well as at the Genoa Conference, much stress was laid on the impending shortage of gold in view of the increasing disproportion between the demand for gold and the outlook for its future production. The slogan of economy in the use of gold for monetary purposes was raised. Under the influence of this slogan, the disappearance of gold coins from circulation and the concentration of gold reserves in the vaults of Central Banks became complete. The same influence was responsible for the raising of foreign exchange to the status of a means of payment in the redemption of notes, and for the marked acceleration in the process of accumulating foreign exchange in Central Banks.

The principle of economy in the use of gold is, without doubt, a sound one, but it has had in practice not only favourable but also unfavourable consequences. Before the war, in the case of the Central Banks whose note issue was based on the principle of minimum reserve requirements, the system of covering the note issue to the extent of one-third by gold was prevalent. After the war, the statutory requirements became stricter rather than more liberal in this respect. The minimum gold reserve in many cases was raised to 40 per cent of the note issue. Where a minimum reserve lower than 30 per cent was allowed, the banks were bound on their Statutes to increase it gradually over a specified period of time. Although the Statutes permit the minimum reserve to be lowered on condition that a penalty is paid to the Treasury, in actual practice this right has always been of purely theoretical value. In the view of every nation, the minimum reserve has become thus an untouchable reserve.

The greater strictness in minimum reserve requirements has found an outward expression in the fact that the number of banks in which the statutory reserve ratio is calculated, not only on the circulation of notes, but also on the total amount of sight liabilities, has considerably increased.

It is true that such liabilities must be met on demand at any moment; but in actual practice the whole of them are never met at one time. The accounts payable on demand at the Central Bank are not only deposits, in the commercial sense, but also instruments of non-cash money turnover. The sudden liquidation of the whole of these accounts would be equivalent to the destruction of the mechanism without which the monetary circulation cannot function properly, and non-cash payments cannot be effected. Therefore, though I admit that the principle of including sight liabilities in calculating the reserve ratio is a sound one, I am of the opinion that, in practice, it is not necessary to take the total amount of sight liabilities into account.

In anticipation of a shortage of gold on account of a falling-off in the production of new gold, more stress should be laid on the possibility of using the reserves of gold accumulated in Central Banks. In view of the fact that the output of new gold is likely to diminish in the future, it is necessary to create in advance a legal position which will facilitate the use of the reserves of old gold. On this principle it would be advisable rather to lower than to raise the statutory minimum reserve requirements.

It cannot be disputed that the raising of the minimum reserve requirements was a policy contrary to the spirit of gold economy. The almost complete elimination of silver from metallic reserves was a second outward sign of this lack of consistent policy. The metallic reserves of a Central Bank never fall to zero. The lowest strata of the reserves, which lie at the bottom of the vaults of a Central Bank, never come to the surface. The question arises, therefore, whether silver could not play the part of the deepest strata, which are never put into circulation, on condition that it was included in the reserves at its gold value and to a limited amount. The elimination of silver after the war and the raising of the minimum reserve requirements cannot be reconciled with the spirit of gold economy. These were steps back and not forward.

Similarly, it was an unsound policy to embody in the Statutes of Central Banks provisions requiring at least two-thirds of the minimum gold reserves to be held in the vaults of the bank. This limitation restricts the freedom to deposit gold with foreign banks, and raises difficulties in clearing operations, which eliminate transport charges. Under the present conditions, it is not only necessary to dig deeper into old reserves, gold transactions must also be facilitated by means of book entries, which alarm the money market less than actual shipments—especially since the disappearance of coin from circulation and the concentration of gold reserves in one bank lays the whole burden of effecting gold transactions on that bank.

Before the war, the deficit in the balance of foreign payments was first covered by the outflow of gold coin from circulation, before it became necessary to resort to the reserves of a Central Bank. To-day, the Central Banks no longer have the protection afforded by the circulation of gold coin, and consequently the policy of facilitating gold movements by book entries is playing, and will play, an increasingly important rôle. Therefore, any limitation in regard to the amount of gold which may be held abroad cannot be reconciled with the spirit of gold economy.

The mistakes mentioned above, which are incompatible with a consistent policy, originate in apprehensions as to the future of gold. Gold began to be overvalued before its production actually began to diminish. Every country is now trying to obtain the highest possible level of reserves, and is growing more and more reluctant to sell gold. Owing to this atmosphere of apprehension, the return of gold from America and the neutral countries is also delayed and rendered more difficult. Some of these countries, such as Holland, made the freedom of gold exports dependent on reciprocity from other countries. The Central Banks began to regard themselves as morally bound to observe the principle of non-interference—that is to say, that a Central Bank must not be compelled to sell gold against its will, even though it may be under a legal obligation to sell. Although the legal embargo on gold exports has been lifted in many countries, it is replaced by a moral embargo which is often as effective as the legal one.

This picture will be still more striking if we take into consideration the rôle of the countries which apply the gold exchange standard. Banks which redeem their notes in foreign exchange are compelled to buy gold from time to time, because they are obliged to do so under their Statutes, which establish a minimum for their gold reserves. The situation then arises that banks of this type buy gold but do not sell it. Such gold accordingly disappears from the international market, and is to a certain extent hoarded. Thus, in addition to private hoarding, so

common in the Far East, we find an official hoarding of gold by Central Banks which apply the gold exchange standard. All these circumstances lead to the paradoxical situation that, although from a legal point of view the gold market is very wide (as gold export is now legally free in thirty-five countries), in practice this freedom is a mere fiction.

Greater strictness in establishing the minimum reserve requirements, the elimination of silver, the restrictions on the freedom to deposit gold abroad, and, finally and most important, the official hoarding of gold by Central Banks which apply the gold exchange standard—all these are the poisonous fruit of exaggerated and premature apprehensions of a future shortage of gold. Propaganda for economy in view of the impending deficiency in the production of gold proved as dangerous as propaganda for foreign exchange restrictions in countries which possessed a depreciating currency. The greater was the propaganda against the accumulation of foreign exchange, the more it was accumulated. Similarly, the propaganda designed to give a serious warning against the future deficiency in the production of gold merely led to an increase in the hoarding of gold.

4.

Summing up, we arrive at the conclusion that the post-war structural changes in the administration of monetary gold went in two directions.

First Group :

(a) Disappearance of gold coins from circulation;

(b) Concentration of monetary gold in Central Banks;

(c) Increased use of gold bars in the redemption of bank-notes and in special transactions between Central Banks,

(d) Increased use of foreign exchange in the redemption of bank-notes,

(e) Extraordinary increase in the accumulation of foreign exchange as a component of fundamental reserves.

The changes in the first group are in harmony with the modern spirit of economy in using gold.

Second Group :

(a) Greater strictness of statutory minimum reserve requirements;

(b) Almost complete elimination of silver as a component of fundamental reserves;

(c) Increase in the number of banks which follow the one-sided practice of purchasing gold without offering it for sale;

(d) Increase in this one-sided practice concurrently with the increase in the accumulation of foreign exchange in fundamental reserves;

(e) Limitations of the freedom to deposit gold abroad by statutory requirements as to the minimum amount of gold that must be held in the vaults of the bank.

The changes in the second group are contrary to the modern spirit of economy in using gold.

In consequence of the changes in the first group, the pre-war uniformity of the gold standard —as regards the legal definition of the obligation and the methods of redeeming notes in gold— was destroyed. In addition to the pre-war gold specie standard, two new main forms, the gold

bullion standard and the gold exchange standard, were created. There also appeared two further derivative forms, the gold specie and bullion standard and the pure foreign exchange standard.

In consequence of the changes in the second group, the restoration of the stability of currencies on a gold basis was not helped by a general return to free gold export. Although the number of countries which maintain legal restrictions on the export of gold is very small, there is, in reality almost everywhere, at least a moral embargo on gold exports. In law, the gold market is very wide, but in practice it is very narrow. This is due, not only to the one-sided transactions of banks which apply the gold exchange standard, but also to such principles as those of reciprocity and non-interference, which, though not officially agreed upon, are applied in practice by the leading Central Banks.

The stabilisation of currencies, therefore, is still not fully achieved, since, of the two chief principles of the gold standard—the convertibility of notes into gold and full freedom of gold movements—only the first has been really restored.

CHAPTER II.

THE CHANGES IN THE FUNCTIONING.

1.

The doctrine of the automatic functioning of the gold standard laid chief stress on the following factors—the condition of the gold reserves, the volume of the monetary circulation, the price and the volume of credits at the Central Bank, and the level of prices. When gold flows out, the monetary circulation shrinks, which increases the cost and curtails the volume of the credits granted by the Central Bank. As a further consequence, the priee-level falls. The market from which gold flows out becomes then a place where one can buy more cheaply. Exports begin to increase and imports to decline. The balance of foreign payments shows an improvement, the outflow of gold is soon checked, and a reverse process begins. Gold flows in and the monetary circulation increases. Credit becomes cheaper and more abundant, and the level of prices rises under the pressure of an increased demand. Then the inflow of gold is checked in its turn, because, with a higher level of prices as compared with other markets, it is more profitable to buy abroad. Consequently, exports diminish and imports increase. In this way the movement of gold from one country to another automatically regulates the scale of credit and the level of prices.

The above reasoning would be not only logical but be confirmed in practice, but for the existence of an important additional factor—namely, the total amount of bank deposits which serves a an additional credit basis. The doctrine of automatic functioning under-estimated the rôle played by this additional factor. In reality, not only do bank deposits constitute a special credit basis, but their rate of increase is more rapid than that of the monetary circulation. During the eighty-five years which followed the passage of Peel's Act, the total amount of bank deposits in England increased ten times, whereas the monetary circulation increased only five times. Thus, the rate at which bank deposits increased was twice as large as the rate at which the monetary circulation expanded. The situation in other countries was similar.

The greater the accumulation of monetary capital in the form of bank deposits, the more the total credit structure of the country differs from the volume of credit granted by the Central Bank, for the increase of bank deposits brings about an increase of bank credit outside the Central Bank. The increase of bank credits in its turn causes a further increase of deposits. For this reason the rate of increase of bank deposits is more rapid than that of the monetary circulation.

Two spheres of credit are created in this way, one controlled directly by the Central Bank, the other indirectly. If the Central Bank succeeds in controlling both spheres by means of its discount policy, the conditions required by the doctrine of automatism are fulfilled. The movements of gold bring about changes in the discount policy, and these changes in turn affect the

level of prices. This applies, however, only to ideal conditions—that is to say, when there is perfect harmony between the changes in the volume of credit granted by the Central Bank, and in the volume of bank credit which is based on the accumulation of deposits. Close harmony between the changes in these two volumes of credit is the essential factor in the automatic operation of the gold standard.

In the majority of cases, however, this harmony is lacking.

Let us suppose that gold flows out, and that the Central Bank is obliged to raise its official rate in order to curtail the volume of credit. A higher rediscount rate may attract money hoarded in the country, as well as foreign funds seeking a more profitable field for investment. In that case, the credit-restriction policy of the Central Bank meets with impediments in the form of the inflow of bank deposits and the tendency of banks to invest these new funds profitably. A situation then arises in which the shrinkage in the credit granted by the Central Bank may be offset by the increase in credits given by commercial banks. The attempt to influence the level of prices then ends in failure, because the amount of purchasing power on the market does not diminish, in spite of the Central Bank's policy of restriction.

A similar situation arises when there is an inflow of gold. The Central Bank reduces its discount rate in order to increase the volume of credit, but the low rate begins to discourage foreign deposits, and at the same time home capital to some extent is driven abroad in search of more profitable fields for investment. Consequently, the volume of credit does not increase, and may, indeed, temporarily diminish. The amount of purchasing power in the hands of the public does not change in strict proportion to the inflow of gold, and, in spite of a reduction in the rate of interest, the level of prices does not receive the required stimulus.

Many other instances of the same kind may readily be quoted, especially in view of the influence of other factors for the most part ignored by the doctrine of automatism, such as the economic situation of the country, and psychological factors, which also effect the money market. No wonder, therefore, that, not only after the war, but also before, practice was so often inconsistent with theory. The history of the gold standard before the war offers too many instances of these divergences to quote.

2.

The gold which is held as cover for the total of the notes in circulation and the sight liabilities of all Central Banks amounts at present [1] to about 40 per cent of these notes and liabilities. On the other hand, the total stock of monetary gold amounts to only about 10 per cent of the total deposits of commercial banks. The difference between these figures illustrates clearly how far the accumulation of bank deposits outran the expansion of the notes and sight liabilities of Central Banks. It is clear, therefore, that, under these conditions, a partial emancipation of commercial banks from the control of Central Banks was bound to result. We know that it has become more and more difficult for Central Banks to control the money market. The pre-war method of manipulating the discount rate according to the movement of gold does not suffice to-day, and new additional methods must be devised.

The Bank of England and the Federal Reserve Banks in the United States resort to what are known as "open market operations". When raising or lowering the discount rate, they purchase or sell securities in order to reduce or expand the circulation, because the raising or lowering of the discount rate alone does not bring about this result—or, at any rate, does not

[1] This chapter was written in 1930.

bring it about as quickly as is required. In those countries in which the money market is weaker, the Central Banks limit or expand the amount of credit granted to clients, as the manipulation of the discount rate would not bring about the desired results. The regulation of the volume of credit granted to clients and open market operations are at present the two essential methods which Central Banks possess for supplementing their discount policy. This is a practical reaction caused by the increased importance of the part played by liquid capital. Not only has this increased in amount, but the technique by which it is transferred from one market to another has become more elastic.

The technical progress that has been made in modern banking is enormous. Advances have been made not only in the technique of attracting deposits, but also in the method of investing them profitably both at home and abroad. Such inventions as wireless telephony and telegraphy, the aeroplane as a means of transporting gold, book-keeping machines which reduce working hours, etc., have exercised an important influence on the emancipation of capital from the supervision of Central Banks. The sphere of activity of money markets has increased as they have become more and more international. Funds are now transferred so easily and so quickly from one place to another that the discount policy of Central Banks has become more and more complicated and difficult, and at the same time further removed from the passive rôle of a registrar of the movements of gold which was assigned to it by the doctrine of automatism in the days of Peel's Act.

3.

The most important consequence of the changes caused by the progress and technical modernisation of the accumulation of capital is an appreciable weakening of the connection between the movements of gold and changes in the level of prices. According to the adherents of the automatic operation of the gold standard, the outflow of gold creates a dearness of credit and a shrinkage of its volume, as a consequence of which the level of prices is bound to change correspondingly. A reverse process is then witnessed. Gold flows in, and this lasts until cheaper and more abundant credit brings about another outflow. In other words, the inflows and outflows of gold regulate each other by the changes in the price level, which are bound to appear under the pressure of changes in the volume and price of credit. If a fairly large outflow of gold is registered, the inflow can take place only *after lowering of the price-level*, as the lowering of the latter constitutes the condition *sine qua non* of changes in the movements of gold.

In this unavoidable dependence of the movements of gold on the changes in the price-level resided the most essential features of the doctrine of automatism. It was particularly this central point in the whole doctrine of the gold standard that was shaken by the progress of the accumulation of capital and the modernisation of banking technique. Let us assume that before the war (though in practice it was very seldom the case) the gold standard did operate automatically and the movements of gold regulated each other by changes in the level of prices. To-day, in the present state of the accumulation of capital and of banking technique, such an automatic interdependence between the movements of gold and changes in the price-level cannot exist. We witness a turning point in the history of the gold standard. To-day the inflow or outflow of gold, by causing a raising or lowering of the price of discount credit, causes such a rapid and considerable shifting of the liquid funds on the world money market that the direction of the movement of gold is bound to change *before any alteration in the price-level can take place.* The

year 1928—if I am not mistaken—breaks all records as regards this lack of harmony between the movements of gold, the price of credit, and the levels of the prices of goods.

The dependence of the movements of gold on price levels has thus become looser. The classic contention that " the export of gold means a fall in prices " [1] has become an anachronism. To-day, a change in the price of credit alone suffices, not merely to check the inflow or outflow of gold, but to change an outflow into an inflow or *vice versa*. The dearness of credit attracts foreign capital like a magnet. A rapid and abundant inflow of short-term foreign capital improves the rate of exchange of the inland currency more rapidly than before the war and arbitrage exports of gold become—provided special factors do not come into play—unprofitable. When the inflow of capital assumes fairly large proportions, an inflow of gold may even begin. All this happens *independently of the level of prices*, because during such a short period the changes in the price of credit cannot exercise an influence on the level of prices.

Under present conditions, a Central Bank must operate by means of a strong credit policy maintained over a fairly long period, if it wishes to influence the level of prices. The difficulties which confronted the Federal Reserve Banks during the period 1928-29 afford an example of this. Even before that period it could have been observed that in America after the war the movements of gold were steadily countered by changes in the discount policy, heavy imports and exports of gold being registered while the price-level—apart from certain seasonal fluctuations —remained relatively stable. The reserves of the Bank of England have fluctuated since 1925 in the vicinity of 150 million pounds, but the level of prices has shown a steady downward trend which was not in harmony with the changes in the discount rate or the movements of gold.

The beginnings of this change in the operation of the gold standard date back to the pre-war period, for even in those days its automatic operation was more of a legend than an historical truth. Since the war, this change has become so apparent that, to-day, the non-existence of such an automatism is unquestioned, and it is generally held that the gold standard now is, and must be in an increasing degree, a manipulated standard.

The completed evolution has its favourable and unfavourable features. Undoubtedly, the greater ease with which the rates of exchange may be regulated is all to the good. Under the pressure of the raising or lowering of the discount rate, rapid movements of short-term capital may be brought about, and these cause the rate of exchange of the inland currency to return to its normal level—*i.e.*, within the limits fixed by the gold points. *The stability of a currency can be now more easily regulated from the point of view of banking technique.* This is achieved, however, at the expense of the influence on price-levels, and therein lies the weakness of the system.

The weakening of the connection between the movements of gold and the level of prices is responsible for the fact that the changes in this level are influenced to a greater extent by non-monetary factors. In order to counteract the influence of these factors, a Central Bank ought to manipulate its official rate with thoroughness and over a fairly long period of time. The success of such a manipulation depends also more and more *on the co-operation of other Central Banks*. To-day, one Central Bank, unaided, cannot exercise a lasting influence on the level of prices; in the carrying out of its credit policy, it is bound to look for assistance from abroad. Therefore, the co-operation of Central Banks becomes indispensable from the international point of view, just as open market operations or the allotment of credits by the quota system is indispensable from the point of view of the home market.

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[1] *Argentarius*, " Valuta ", page 42.

Did the gold standard still operate automatically, the direction of the gold movements would be dependent on changes in the price-level, and conversely changes in the price-level would be responsible for the direction of the gold movements. Thus, as long as changes in the price-level constituted the decisive factor in determining the direction of the gold movement, those movements being in turn responsible for changes in prices, the problem of stabilising the purchasing power of gold had no logical foundation.

The situation is different, however, when the automatic operation of the gold standard is absent. Then the movements of gold no longer constitute brackets, as it were, limiting the fluctuations of prices. The process of levelling-up price-levels by means of the movements of gold is rendered more difficult than formerly. The movement of gold, the volume and price of credit and the changes in price-levels have lost their mutual correlation. Harmony has given place to discord. The Central Bank, in its discount policy, neither is nor can be a passive registrar of the movements of gold. If it wishes to control prices, it must resort to manipulation, and in this action it ought to secure the co-operation of other Central Banks. Such co-operation becomes indispensable if the Central Banks desire to protect themselves against any surprises caused by fluctuations of price-levels, for these are more and more subject to changes under the influence of non-monetary factors. No wonder, therefore, that, with the post-war operation of the gold standard, the problem of the stabilisation of prices is logically possible, and that it should have become the subject of increasingly lively discussion. The popularity of this problem is to some extent a symbol of the radical change which the accumulation of bank deposits introduced in the operation of the gold standard by relaxing the correlation between the movements of gold and changes in price-levels.

The weakening of the relationship between the movements of gold and the changes in price levels has had another consequence—it has increased and facilitated the effect of non-monetary factors in shaping prices.

As long as that relationship existed—we may remind the reader here that it was encouraged by the pre-war free-trade policy—the movements of gold from one country to another levelled up excessive differences between local price-levels. This levelling process took place almost automatically. Consequently, it was possible to speak of a world price-level as an average of local price-levels, because the latter were united in a single system by the movements of gold. Under present conditions, however, when the movements of gold are not parallel to the movements of prices, local price-levels have become more mutually independent. The process of levelling-up price-levels cannot be carried through so mechanically as before the war, and—what is still worse—the action of the movements of gold in this process is more and more replaced by the intervention of non-monetary factors.

The free-trade policy has given way to a general policy of protection. Even in England, the home of free trade, the adherents of protection are increasing in numbers. The United States, where the gold standard has the most solid foundation, has the highest tariff barriers of any great Power. In order to control prices, the Governments of various countries also resort to other measures as well as tariff barriers. Under these conditions the term " world price-level " is a greater statistical fiction than before the war, when there was a closer correlation between the movements of gold and the movements of prices, and when tariff barriers were lower; for price-levels in the various countries are to-day more local—*i.e.*, are less dependent on price-levels elsewhere.

As a result, we observe such a paradox as, for instance, the fact during the period 1927-28 prices in America were relatively stable, while in England they showed a decline, and in France,

simultaneously, they displayed an upward tendency. South Africa, the country that produces most gold, has at the same time one of the lowest prive-levels in the world. In other words, the country which has an abundance of gold is at the same time one of the countries in which the purchasing power of gold is highest. Many other similar examples might be quoted.

4.

Someone may here remark that the war retarded the process of the accumulation of capital, and yet the influence of the accumulation of bank deposits on the relationship between movements of gold and movements of prices after the war is stronger than before the outbreak of war; which means that additional special causes must have come into play.

The above-mentioned improvements in banking technique constitute one group of such special causes. The most remarkable progress has been made in the modernisation and the rationalisation of this technique, particularly since the war. There exists, however, a second group of causes of still greater importance—namely, the phenomena connected with the development of the so-called gold exchange standard.

The system of the gold exchange standard consists in including foreign exchange in the fundamental reserves and redeeming notes in foreign exchange instead of gold. This system is based on the assumption that foreign exchange, as a component of the fundamental reserves and as a basis for the issue of notes, is " as good as gold ". We have already mentioned in Chapter I that this system was applied, in fact, already before the war. It has only developed to any extent, however, in the first decade of the post-war period.

At the end of the year 1913, the total amount of foreign exchange included in the fundamental reserves of the world amounted to about 350 million dollars. At the end of 1929, it had risen to more than 2,000 million dollars, or about six times as much.

The reader will find a detailed analysis of the good and bad features of the gold exchange standard in my other works.[1] In this present work I shall confine myself to a few remarks which have a direct connection with the question of the accumulation of deposits and its influence on the relationship between movements of gold and movements of prices.

The principle of including foreign exchange in the fundamental reserve instead of exchanging it into gold and bringing the latter to the country is undoubtedly a good feature of the gold exchange standard system. On the other hand, the method, hitherto practised, of using the foreign exchange which is included in the fundamental reserves as short-term capital which the Central Banks relend to foreign commercial banks, is a bad feature of the system. These operations bring interest, which is also included in the fundamental reserves, and this is responsible for the fact that the increase of foreign exchange reserves is more rapid than the increase of the reserves of gold, which bear no interest. If we assume that the former carry interest of 3 per cent yearly, with the present amount of total foreign exchange reserves (2 billion dollars) this artificial additional inflow of foreign exchange amounts yearly to about 60 million dollars, a sum equal to about 30 per cent of that part of the yearly production of gold which is used for monetary purposes.

The commercial banks, making use of the credits granted by foreign Central Banks,

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[1] " Gold and Central Banks ", New York, 1929, The Macmillan Co., and *Revue d'Economie Politique*, August 1929.

emancipate themselves to a certain degree from the control of the local Central Bank. When the latter raises its discount rate and strengthens its restrictive power by the sale of securities, the local commercial banks look for credit assistance from foreign Central Banks.

This assistance they obtain by raising their interest rates. The inflow of deposits from foreign Central Banks in large amounts develops rapidly, and to this extent the restrictive policy of the local Central Bank is rendered difficult.

We find a classic example of such a situation in the second half of 1928 in the United States, where, in consequence of the raising of the discount rate, the amount of bank acceptances purchased by foreign Central Banks increased during a period of six months by more than 200 million dollars. The reverse holds good when the official discount rate is lowered. In consequence of the reduction of the official rate, the deposits in Central Banks are withdrawn and transferred to a market where investments are more profitable. The outflow of deposits is then rapid, and assumes large dimensions. This phenomenon has been particularly noticeable in England whenever the Bank of England has tried to lower its rate below that of the Federal Reserve Banks.

The credit operations conducted by Central Banks on foreign markets are responsible also for the fact that the movement of foreign exchange from one market to another does not perform the same functions as the international movement of gold. If, in a given country, gold flows out from the Central Bank, the monetary circulation in that country shrinks by the same amount. At the same time, the circulation in the country to which the gold flows increases. Thus the international movement of gold has reciprocal effects; it reduces the monetary circulation in one country and increases it in some other country.

The situation is different, however, with the international movement of foreign exchange which is included in the fundamental reserves on an equality with gold.

Foreign exchange is not gold, but a right to receive gold. Consequently it cannot be exported like gold, which is a substance like other commodities. A right may be utilised or not, but it is physically impossible to export it. In consequence of this essential difference, the movement of foreign exchange is nothing other than a transfer of rights to gold from one bank account to another.

If an American importer pays for goods received from abroad by means of a dollar cheque, and this cheque is purchased by a foreign Central Bank, a corresponding amount of dollars is transferred from the account of the importer to the account of the foreign Central Bank. The monetary circulation in the United States does not shrink on account of this fact. On the other hand, the monetary circulation increases in that country in which the Central Bank purchased the cheque and paid for it by increasing the issue of notes. Thus the movement of foreign exchange has a unilateral effect. In the country into which it flows, if the Central Bank purchases it and includes it in the fundamental reserve on an equality with gold, the monetary circulation will expand. At the same time, in the country out of which it flows, the monetary circulation may remain unchanged instead of diminishing to offset the expansion abroad. This is the case, of course, when, in the country out of which foreign exchange flows, the importer pays in the inland currency, by a cheque on his bank; for, in that case, the payment is effected by transferring the amount due from the importer's account to that of the foreign purchaser of the cheque.

When the transaction is more complicated—*i.e.*, when the importer pays by a cheque in foreign currency and the amount due is debited to his account with a foreign bank, then the course of events is somewhat different. I give a detailed analysis of this operation in my above-mentioned publications. The fundamental nature of this transaction, however, remains the

same in either case—*i.e.*, the international movement of foreign exchange is a transfer from one bank account to another, and the influence of this movement on the monetary circulation is—with the present methods of Central Banks—unilateral, and different from the influence of the movement of gold, which is a reciprocal one.

Should the Central Banks, which purchase foreign exchange and include it in their fundamental reserves, concentrate their foreign deposits exclusively on accounts with foreign Central Banks, the movement of foreign exchange would become more similar to the movement of gold, as regards the latter's influence on the volume of the monetary circulation. I have analysed this question in greater detail in my above-mentioned works, and I intend to return to the subject again when I discuss the question of enforcing economy in the use of gold. In this place, I shall confine myself to the remark that the present practice of the Central Banks applying the gold exchange standard, which consists in using foreign exchange included in the fundamental reserve in credit operations on foreign markets, not only renders the discount policy of foreign Central Banks more difficult, but is responsible for the fact that the international movement of foreign exchange has a unilateral influence on the monetary circulation unlike the movement of gold, which has a reciprocal effect. In this way an additional disturbing element has crept into the world economic system.

The history of the Bank of France during the period 1926-1928 affords us an example of what considerable dimensions the accumulation of foreign exchange may assume under special circumstances. Practically all foreign exchange reserves are held on bank accounts in a few countries which have the strongest currencies, and which give the maximum guarantee that these foreign exchange reserves will be at any time convertible into gold. The banks which apply the gold exchange standard concentrate their foreign exchange reserves in the so-called gold centres—*i.e.*, chiefly in London and New York, and at present also in Paris. If this concentration took the form of non-interest-bearing accounts in the Central Banks of those gold centres, the situation would be quite clear. The Central Banks of those centres would then know what the amount of the non-utilised rights to receive gold were at any time, and, as a consequence, they would be in a better position to regulate their own discount policies. In view, however, of the facts that foreign exchange reserves are concentrated for the most part, not in the Central Banks, but in commercial banks, the situation is never sufficiently clear. The Central Banks in the countries in which foreign reserves are invested in the form of credits granted to commercial banks, under the fear of being surprised, endeavour to pursue a policy of hoarding gold in order that they may possess sufficient gold reserves in case foreign Central Banks should suddenly withdraw their credits and change foreign exchange into gold, bringing the latter to their own countries.

Thus the accumulation of foreign exchange reserves and the practice of utilising those reserves for credit operations in the gold centres creates a special disturbing element—*the potential demand for gold*, equal to the amount of the non-utilised rights to gold, which rights are temporarily lent to commercial banks in the gold centres. An American expert[1] justifies the large gold holdings of his country, which are, in a sense, sterilised, simply by pointing to the enormous foreign exchange reserves held in American banks by the European Central Banks which apply the gold exchange standard. Similarly, the Bank of England, although it has neither an abundance of gold nor special *ad hoc* sterilised reserves of gold, is steadily pursuing a policy of credit restrictions under the pressure of the potential demand for gold represented by the deposits

[1] Dr Burgess.

of Continental Central Banks held in the banks of the City. During the period from the spring of 1925 to the end of 1928, the total credits granted by the Bank of England decreased by 36 per cent. This is also to be regarded as a policy of quasi-sterilisation.

As a result, the competitive pressure on the gold market does not diminish, and every large transaction is effected in an atmosphere of public criticism, the more so as the banks which apply the gold exchange standard appear on the gold market exclusively in the rôle of purchasers. They buy often, but they sell only under exceptional circumstances. Consequently, gold purchased by such a bank is in a sense hoarded. *This is a form of hoarding which was not known in its present proportions before the war*, and its influence of the gold market is not and cannot be favourable.

5.

On the pre-war gold market, arbitrage transactions, based on a strict calculation of the profits to be made on differences on rates of exchange, played a dominant rôle. Special transactions, in which the profit was not the decisive factor, were comparatively rare. This was one of the features of the gold standard in its pre-war form. The Central Bank legislation was based on the principle of the gold specie standard. The gold bullion standard was unknown, and the gold exchange standard, although it existed in fact, was not of any considerable importance. To-day, the position is reversed. England—the chief gold centre of the pre-war period—applies the gold bullion standard; the gold exchange standard has developed, causing a large accumulation of foreign exchange reserves; and the gold specie standard is applied only in exceptional cases. Such a fundamental change in the structure of the gold standard was bound to exercise a radical influence on the gold market. With the present structure of the gold standard, even arbitrage transactions—as regards their amounts—are conditional on the official or semi-official consent of the Central Banks, which are in possession of considerable foreign exchange reserves.

These Central Banks have a privileged position on the gold market. In the first place, they can play only the part of purchasers of gold, because they regulate the rate of exchange of the inland currency by selling foreign exchange and not by selling gold. They can, moreover, exercise a still more disturbing influence inasmuch as, having always at their disposal a large foreign exchange reserve, they are able *(a)* to buy gold at any time without considering the question of probable profits, and *(b)* to facilitate the arbitrage transactions of commercial banks. As regards their own direct purchases of gold from other Central Banks, or on the free gold market in London, such special transactions may be controlled more or less effectively by public opinion. The time when such transactions are made, and their proportions, may be easily regulated by means of agreements and by the co-operation of the leading banks. Such an agreement does, in fact, exist, and the several conferences of the Central Bank governors that have taken place have succeeded in establishing the principle of non-interference.

The other side of the question, however, still remains to be settled—namely, *the influence of the accumulation of foreign exchange reserves on arbitrage transactions*. The large arbitrage purchases of gold effected in London by German banks in the autumn of 1928 could have assumed such considerable proportions only because of the fact that they were based on the foreign exchange reserves of the Reichsbank. The inflow of foreign credits to Germany found an outlet in the Reichsbank in the form of the purchase and accumulation of foreign exchange. When the rate of exchange of the German mark in London changed to the advantage of Berlin, and gold began to be exported from London, the exchange situation did not show any change for a

long time, in spite of the outflow of gold, because the German banks which took part in arbitrage transactions were given the opportunity of buying any amount of pounds sterling at the Reichsbank at any time. But for the existence of the large foreign exchange reserves at the Reichsbank, the amount of sterling bills held by the German banks *would have been rapidly exhausted in consequence of the imports of gold from London*, and the rate of exchange would have changed correspondingly in favour of London. Owing, however, to the fact that the Reichsbank sold sterling bills on London without any limitation, arbitrage imports of gold from London lasted considerably *longer* and assumed *greater* dimensions than could have been the case before the war, when the Reichsbank applied the pure gold standard and did not possess foreign exchange reserves.

This illustration shows clearly what a privileged position is occupied on the gold market by the Central Banks applying the gold exchange standard. Not only can they always buy gold anywhere without waiting for profit and without waiting for offers of gold for purchase, but—what is more important—*they can artificially facilitate arbitrage transactions to their own advantage.* By regulating the rate of exchange through the sale and purchase of foreign exchange, they can at any time create a direct or indirect demand for gold on the international market, thereby increasing competition and rendering the position of banks which apply the gold specie or gold bullion standard more difficult. On the other hand, *they cannot restrict the sale of foreign exchange*, because the redemption of notes in foreign exchange by the banks which apply the gold exchange standard is *a condition of the stabilisation of their currencies*, which is based on the principle of the gold exchange standard.

The group of banks which do not apply the gold exchange standard are always in a less advantageous position on the gold market. Not possessing considerable foreign exchange reserves, they are obliged to wait passively *until gold is offered to them.* They can only purchase gold in exchange *for their own currency;* they *cannot purchase gold for foreign currency*, because they have none. Similarly, their position is less advantageous as regards arbitrage transactions. The commercial banks which are under their control, and which are deprived of the possibilities of buying foreign exchange from their Central Banks, rapidly exhaust their own reserves in proportion to the imports of gold. A shortage of foreign exchange on the market ensues, and the rate of exchange quickly returns to its normal level. Arbitrage transactions are no longer profitable, and gold imports are interrupted.

In those countries in which the Central Bank has considerable foreign exchange reserves, *a favourable rate of exchange encouraging import transactions may last longer, and consequently imports may artificially assume larger proportions.* In those countries in which the Central Bank is not in possession of considerable foreign exchange reserves, a favourable rate of exchange encouraging arbitrage imports lasts a *shorter time*, and these imports *are not artificially stimulated.* These are important differences which exercise a disturbing influence on the international gold market.

The history of the London market affords a typical instance of this.

In the autumn of 1928, large amounts of English gold were exported to the Reichsbank by means of arbitrage transactions. What portion of this gold returned to the Bank of England? Practically none. When, later on, the rate of exchange of the mark declined to the disadvantage of Berlin, the gold which was exported from London in the spring of 1929 was exported to Paris and New York, but not back to London. Nor could it have been otherwise, because the Reichsbank had a larger amount of bills on London than on Paris or New York. This phenomenon appears also to some extent in the French purchases of gold in London.

The French purchases were of larger proportions than the German purchases of the autumn of 1928. How much English gold returned from Paris to London by means of arbitrage transactions? Again, practically none. Let us suppose that the Bank of France begins to sell foreign exchange again, especially sterling bills. Then arbitrage imports may theoretically continue without serious interruption, because they will not exercise a sufficient influence on the rate of exchange of the French franc in London. On such a foundation as the foreign exchange reserves of the Bank of France, the banks in Paris could engage freely in arbitrage transactions, and even large amounts of imported gold would not exercise such an influence on the rate of exchange of the pound sterling in relation to the French franc as would be the case if the pre-war system of the gold standard still existed,[1] especially as *the French balance of payments is strongly on the credit side*, and an adverse rate of exchange is a comparatively rare experience.

In consequence of these abnormal conditions prevailing on the London market, we witness a very interesting phenomenon—namely, that the gold reserves of the Bank of England, which fluctuate in the vicinity of 150 million pounds, can be maintained at this level only because of the inflow of gold from the British Dominions, and to some extent from new production. *For, in consequence of arbitrage transactions, the Bank of England is steadily losing gold, which very seldom returns to it in the same manner.* This, in spite of the fact that the internal value of English currency has steadily increased since the spring of 1925, at a more rapid rate than in the other countries, as the decline of wholesale prices in England has constantly anticipated the fall of prices elsewhere. The Bank of England makes good the losses in its gold reserves principally by drawing on the reserves of South Africa, Australia and the Argentine, but to a certain extent by purchasing from time to time on the open market such part of the gold shipments as remains after the requirements of India and those for industrial purposes have been covered, as well as the still more important needs of the so-called " unknown buyer ". The latter is a new figure on the post-war gold market. He is, to a certain extent, a symbol of the profound changes which have taken place in the structure and operation of the gold standard.

This abnormal state of affairs is illustrated in an equally striking manner by the statistics of gold transactions effected in London since the spring of 1925. The annual purchases and sales of gold by the Bank of England during the last few years were as follows (in millions of pounds):

	Purchases	Sales
1925 (months)	17.2	28.8
1926	24.0	17.7
1927	19.4	20.7
1928	35.6	36.9
1929	52.7	60.9

It will be noticed that these transactions increase from year to year, reaching a record level in 1929.

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[1] Actually, the Bank of France does not sell foreign exchange on the market, and has not sold any since the end of 1928. It confined itself to the sale of the interest accruing on the already existing reserves. Its former rôle, however, is partly filled by the Treasury, which also has a fairly large reserve of foreign exchange, which it sells to collective bodies, thus reducing the volume of demand on the market. In addition, the Bank of France is not legally debarred from resuming its sales of foreign exchange if the rate of exchange reaches the gold export point.

A similar picture is offered by the statistics of exports and imports published by the Board of Trade (in millions of pounds):

	Imports	Exports
1925	41.5	49.7
1926	38.5	27.1
1927	32.4	29.1
1928	47.8	60.5
1929	62.4	77.6

Both tables reveal that the above transactions are following a steady upward trend, having almost doubled in the course of the last five years. Thus, the situation on the gold market becomes more difficult instead of easier. No one can point to natural economic causes which would justify such a large expansion of transactions in gold—especially as these transactions took place on the London market, which is still a world centre of gold and may therefore be regarded as the best gauge of the amount of pressure which exists at any given moment. It is beyond dispute that new and disturbing elements, having their origin in the changes in the structure and the working of the gold standard, have entered into play and are still existent.

6.

The changes in the operation of the gold standard took place under the influence of two factors : (1) the steadily increasing accumulation of bank deposits, and (2) the variations in the structure of the gold standard, which has been split into three different forms. In consequence of these two phenomena; *(a)* the influence of the movements of short-term capital on the movements of gold is steadily increasing; *(b)* the correlation between the movements of gold and changes in price-levels has been weakened; and *(c)* there is a lack of co-ordination between the gold exchange standard and the two other systems—namely, the gold specie standard and the gold bullion standard. The great development of the gold exchange standard in the post-war period is largely responsible for these changes in the operation of the gold standard. The accumulation of foreign exchange reserves by the banks which apply this system, and the rapid transfer of these reserves in large amounts from one market to another, cause special complications both on the short-term capital market and on the gold market.

The above principal changes have brought about numerous further results, among which may be mentioned the following :

(a) The discount policy of Central Banks has encountered greater difficulties, because the international movements of short-term capital to a certain extent emancipate the commercial banks from the control of the Central Banks;

(b) The use of the discount rate must be reinforced by open market operations, or by the allotment of credits through a quota system;

(c) The Central Banks, wishing to influence the price-level, are obliged to continue their credit policy over a longer period of time in one direction, and with greater thoroughness, if they wish to counteract the influence of non-monetary factors or overcome the disturbing effect of the international movements of short-term capital;

(d) A new factor has appeared on the gold market—viz., the potential demand

for gold represented by the accumulation of foreign exchange by the banks which apply the gold exchange standard;

(e) Owing to this potential demand for gold, some Central Banks are compelled to sterilise an excessively large portion of their reserves;

(f) The number of special gold transactions tends to increase;

(g) Arbitrage transactions may more easily be effected in the countries which apply the gold exchange standard, because such transactions find an artificial basis in the foreign exchange reserves of the respective Central Banks;

(h) Competition on the gold market is rendered more acute by the inequality of opportunities—*i.e.*, by the privileged position of the banks which apply the gold exchange standard.

In the light of all these difficulties, two problems appear to be of paramount importance : *(a)* Can the policy of Central Banks control prices? and *(b)* Is it possible to establish more effective co-ordination between the three forms of the gold standard which at present exist?

These are two distinct problems. In any case, however, the task of Central Banks—as regards their economic rôle—would be markedly easier and their influence in shaping prices greater, if it were possible to remove the inequality of opportunities on the gold market, which originates in the splitting of the gold standard into three unco-ordinated forms. It is beyond question that the present abnormal conditions on the gold market do not assist Central Banks to influence the level of prices, but render it more difficult for them to do so. The elimination of these abnormal conditions is therefore a matter of primary importance, and should be given priority.

Can this problem be solved?

That will depend, not only on the present structure of the gold standard being reformed in one way or another, but also on whether the world possesses, and will possess in the future, enough gold to make such a reform feasible.

CHAPTER III.

THE ADEQUACY OF THE WORLD SUPPLY OF GOLD.

1.

Will the world have a sufficient supply of gold to restore and maintain the smooth working of the gold standard ?

According to statistics compiled by the Secretariat of the League of Nations from official sources, and according to the estimates of the well-known expert in precious-metal statistics, Mr. Joseph Kitchin, the prospects for the production of gold in the next decade are as follows (in millions of dollars) :

Production in the year :	Official figures	Kitchin's estimates
1931	401	402
1932	407	410
1933	399	407
1934	390	403
1935	381	398
1936	356	397
1937	357	392
1938	357	364
1939	323	370
1940	314	370

Whether we take the official figures in the first column, which are calculated on a more conservative basis, or Mr. Kitchin's estimates, which are more optimistic, in either case it will be seen that, beginning with the year 1933 in one case, and in the other the year 1935, the production of gold will decline below 400 million dollars yearly.

Approximately half the annual production, about 200 million dollars yearly is used for industrial purposes, or hoarded in Asiatic countries. The remainder, a little more than 200 million dollars, is free to be used for monetary purposes. Should the yearly requirements for industrial purposes and Asiatic hoarding be maintained at approximately the present level, the amount of gold available for monetary purposes in 3 or 5 years, as the case may be, will decline below the present level of 200 million dollars yearly.

Under normal conditions, the production of goods increases from year to year, and, as a result, the exchange of goods expands on parallel lines. In order to finance the increasing

production of goods as well as the increasing trade turnover, a larger amount of credit is necessary. With the growth of the world's credit system, however, it will be necessary to accumulate larger metallic reserves, for as long as mankind applies the gold standard it will be impossible to separate the pyramid of credit from its gold base. An inflow of new gold, in some proportion to the increasing economic turnover, therefore, is necessary.

This is not only a question for the present decade. The prospects for the production of gold after 1940 are likely to be still worse, unless, in the meantime, new gold-bearing strata are discovered, which will make good in the next few years the probable decline in South African production. The South African mines have already reached their peak of production, and their output constitutes at present more than half of the world's total. The increase in gold production in Canada and Russia from strata already discovered will not offset the more rapid decline in the output of South African mines. Furthermore, we are not justified in counting too much on extraordinary improvements in the technique of gold production. In this field, important technical inventions seem as improbable in the near future as the discovery of new rich gold-bearing strata.

Let us leave it to prophets to prophesy new discoveries.

From the scientific point of view, the simple fact that the production of gold will soon show a decline, and that this decline will be a lasting one has the greatest significance. We are entering upon a period in which less new gold will be available each year to replenish the world's reserves. The decline in the production of gold is thus a problem of vital importance for the immediate future. Out of it a question of equally vital importance arises—whether or not it will be possible, with the inflow of new gold diminishing from year to year, to maintain a steady increase in production and trade.

Should the production of coal, for instance, decline in the next few years and the demand for coal continue to increase *pari passu* with economic progress, the exchange value of coal would rise. With diminishing production and increasing demand, it would be only natural that a unit weight of coal should be exchanged for a larger number of unit weights of other goods. The same applies to gold. With diminishing production and increasing demand, the exchange value of gold ought to rise just as the value of coal or any other commodity would. This is all the more true because the demand for gold is more general. Gold is not only used for industrial purposes, or hoarded as the most convenient form of property, but is also a means of payment in the exchange of goods, both in home and international transactions. Should, therefore, the production of gold steadily diminish, in the next ten years, without a corresponding falling-off in the demand for gold, the exchange value of gold may be expected to increase more rapidly than that of other goods under similar circumstances.

When considering coal, we speak of its exchange value; but when considering gold, we speak of its purchasing power instead. This difference in terms, however, does not signify any difference in the very nature of these phenomena. The purchasing power of gold is one of the synonyms of its exchange value. With the diminishing production of gold and the increasing demand for it, the purchasing power of gold must and will increase. That means that, in exchange for a unit of any given commodity, we shall give fewer and fewer units of gold. In everyday language, this means a decline in prices, because price is the exchange value of goods or services expressed in gold.

The shortage of gold thus means a downward trend in prices. This prospect certainly cannot be viewed by the world without apprehension, for it is not beneficial to economic progress. Under falling prices, production declines, unemployment increases, and unfavourable changes

take place in the distribution of the national income. Changes in social and political life may also result.

Estimates of the future production of gold reveal the possibility of this danger. It would not be a seasonal phenomenon, or an outcome of a temporary cycle. The world is threatened with *a process of long, even secular duration.* It passed through a period of somewhat the same character in the years 1873 to 1896, but was that period, in fact, one marked by a permanent and steadily increasing economic depression?

If we acquaint ourselves with the historical data collected by Mr. W. C. Mitchell in his " Business Cycles ", we shall easily arrive at the conclusion that the period 1873 to 1896 as a whole was by no means a catastrophic one. It was undoubtedly characterised by a longer duration of individual trade cycles. We know that a longer duration of these cycles is connected with the predominance of the phases of depression over the phases of prosperity, as may be seen from the following table :

		Years of prosperity per year of depression
England :		
1849-1873	rising prices	3.3
1873-1896	falling prices	0.4
1896-1920	rising prices	2.7
United States of America :		
1849-1865	rising prices	2.9
1865-1896	falling prices	0.9
1896-1920	rising prices	3.1

The predominance of phases of depression during the period 1873 to 1896 is obvious. It would be incorrect, however, to draw the conclusion that, owing to this predominance, the period as a whole was a catastrophic one. The United States of America enjoyed, during that period, both six years of prosperity and six years of partial prosperity. England likewise had six years of prosperity and four years of partial prosperity and France five years of prosperity and five years of partial prosperity. Nor should it be forgotten that, during that period of falling prices, railway and steamer construction showed rapid progress and the organisation of modern industry was pursued with equal energy. It was in that period that the foundations of the future industrial development of Germany and the United States of America were laid.

This apparent discrepancy between facts and figures is explained by the fact that world economy gradually adjusts itself to the secular trend of falling prices. From this point of view, short-term trends have frequently more adverse effects than secular ones. For instance, the decline in prices caused by the pressure of a trade cycle, or the credit policy of the banks, has a more depressive influence on the psychology of the market. In view of an unfavourable outlook, every manufacturer is more inclined to wait for a change in the situation than to adapt himself to the new conditions. The great American deflation in the years 1920 and 1921 affords a typical instance of this. Equally instructive is the experience with falling prices in the years 1929 and 1930. Only when a certain period of time has elapsed after each blow, is the market able to adjust itself to the new situation, and then depression gradually gives way to a new revival of activity.

As may be seen from the history of the period 1873 to 1896, a revival of activity is possible

and often successful, *in spite of the continuance of a downward trend of prices possessing a secular character* Let us examine, for example, the trade cycles of the period 1873 to 1896, which took place in England, the leading country at that time in world economic affairs. The first cycle, and the longest, embraced six years of depression. Sauerbeck's index, which is quoted by Cassel and Kitchin, declined from 132 in 1874 to 108 in 1879. This was a reaction after the former cycle of prosperity, which lasted four years, from 1870 to 1873 inclusive, in which latter year the index of prices reached its peak of 144. But, in the same year, panic broke out in America, Germany and Austria. Simultaneously England and France registered a period of economic retrogression and depression. The state of affairs was, in fact, similar to that anticipated by the doctrine. After a cycle of increasing prices, reaction set in, and the ensuing decline of prices was accompanied by economic depression which lasted six years.

What was the course of events in the following years ? In 1880, the index rose to 114, and an economic revival could be observed. During the period 1881 and 1882, however, the index fell to 110 and 109 respectively, but in spite of this fact *the economic revival evolved into a mild prosperity.* This was the first sign that economy had begun to adapt itself to the secular trend.

The following years, 1883 to 1886, constituted a new period of declining prices, which, in its turn, gave place to a cycle of rising prices during the period 1887 to 1890. Thus, the period 1883 to 1886 was a depressed phase, and the following period 1887 to 1890 a prosperous phase. Each cycle lasted four years. In the depressed phase, 1883 to 1886, the price indices were as follows : 106, 97, 94, 90; in the prosperous phase which followed immediately they were 88, 91, 94, 94. The range of the depressed phase amounted to 16 points; that of the prosperous phase to only 6 points. A revival of activity was thus possible with an upward trend of prices which was considerably weaker than the former downward trend. This is another proof that the influence of the secular trend on economic life had diminished, and that the pulse of this economic life was regulated more and more by price fluctuations of an annual character.

This is confirmed by the last cycle of the period from 1891 to 1895, in which latter year the index declined to 81. The cycle of depression lasted only five years, although the secular downward trend had continued for twenty years. In the following year, there was a further fall of the index to 79. This was the lowest level reached, and with it the secular period, 1873 to 1896, closed. In spite of this low level, a revival of economic activity was noticeable in that very year, and the depression disappeared *before* a substantial increase in the inflow of new gold had taken place.

Undoubtedly annual fluctuations of prices can, and in fact frequently do, exercise a more adverse influence than price-trends of a secular character. We too often overestimate the adverse influence of secular fluctuations and underestimate the destructive effects of annual fluctuations. It is not the absolute figures of price-indices that are of most importanee but rather *the change in their trend in annual cycles and the range of their fluctuations.* In the period of increasing prices, from 1850 to 1873, England passed through two periods of depression—one in 1854 and 1855 and the other in 1866, 1867 and 1868. The price-levels of the first period were 132 and 131; those of the second period, 132, 130 and 129. During the subsequent period of declining prices, 1873 to 1896, phases of prosperity were experienced with *markedly lower price-levels,* and in 1880, 1881 and 1882 we find indices of 114, 110 and 109, while in 1887, 1888, 1889 and 1890 the indices were 88, 91, 94, and 94. The absolute level of prices in the secular period 1850 to 1873 *was* 20 *to* 30 *points higher in the periods of depression* than the absolute price-level *during the prosperous phases of the following secular period.* In view of these figures, we cannot but agree with Professor Irving Fisher that the volume of employment, which is

symptomatic of the real state of industrial activity, does not depend in principle on a high or low level of prices. Reviewing the period 1873 to 1896, he rightly arrived at the conclusion that only " if we sink from one level to another " or conversely, does the volume of employment tend to increase or decrease.[1]

2.

The existence of a danger does not mean that the malady must inevitably break out. Should the production of coal steadily decline from year to year, undoubtedly the demand for coal will also begin to fall off, or, at all events, will cease to increase. The fall in demand will be the result partly of economy in consumption, partly of a wider use of other kinds of fuel. The same may be said of the purchasing power of gold, which depends not only on supply but also on demand. If the output of gold diminishes, it is not impossible that the demand will diminish also.

We have seen, in the first chapter, the changes that occurred in the structure of the gold standard, and evidence that economy in the use of gold for monetary purposes has already made some progress. Furthermore, we know that, since the war, in spite of apprehensions of a future shortage of gold, certain structural changes have been introduced which are contrary to the principle of economy. It is possible to carry through additional reforms, which will greatly assist in economising gold and reduce the demand for it. Independently, however, of this problem of reforms, to which I shall return later, the question arises whether it is, in fact, impossible to devise measures which could at least partially check the decline in the production of gold.

The increase in the purchasing power of gold and the decline in the price-level are two sides of the same medal. If, therefore, the prices of foodstuffs, of the means of production and of labour fall in proportion, the cost of producing gold will diminish, and the profits derived from its production will consequently increase. Higher profits will more easily attract free capital to be used for further investment in gold-producing enterprises, and it will be easier to expand the field of operations by working strata which contain less gold. We know that, with the present level of production costs, mine-owners are compelled to throw away large quantities of gold ore because it would not be profitable to work it. In the South African mines, there are hundreds of millions of tons of such ore which are not utilised. We may therefore suppose that, in South Africa, as well as in other territories, it will be possible to include in the process of production gold-bearing strata which are not worth working to-day, but which will promise better profits in the event of a greater decline in prices and costs of production.

It is a well-known theory that the production of gold is elastic, and that a shortage of gold can cure itself because the decline in gold production lowers costs of production, thus facilitating an increase of production through the working of strata containing a lower percentage of gold. This theory probably contains a grain of truth.

The question is most important in regard to South Africa, which is responsible at present for more than half the world output of gold, and where there are certain areas which are not worked, but which it might be worth while to work should costs of production undergo a marked fall. In Canada, whose output of gold is steadily increasing, a fall in prices will undoubtedly stimulate it further. Will this also be possible in South Afriea, where production has already reached its highest point and is about to enter upon a period of decline? This is a more doubtful point.

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[1] *International Labour Review*, Vol. XIII, page 788.

The level of prices in South Africa is to-day one of the lowest in the world, and those who know the country draw from this fact the conclusion that any further decline of prices will not proceed so rapidly there as in other countries. Black labour which is cheaper than white, is also already employed on a large scale. In view of these facts, there is a general belief that the chances of checking the decline in the production of gold are small. This pessimism found an outward expression in the fact that during the Stock Exchange crisis which took place towards the end of 1929 and the beginning of 1930, the shares of gold-producing undertakings did not show any particular power of resistance. The market did not anticipate favourable prospects for an increase in the production of gold under the influence of declining costs of production, although the world level of wholesale prices declined on the average by about 25 per cent in the course of six months.

This pessimism as regards South Africa is somewhat exaggerated. The decline in prices chiefly affected agricultural production, and it should here be remarked that it is owing to the growth of agricultural production since the war that the purchasing power of gold in South Africa is higher than elsewhere. Before the war, South Africa imported foodstuffs; since the war, she has exported them. The decline in the prices of agricultural products may, however, cause a crisis in this branch of production in South Africa, thereby reducing the area under cultivation. Less negro labour will then be absorbed by agriculture, and more will be available in the gold-producing centres. The producer of gold in South Africa is already paying less for the means of production, and he may soon begin to pay less for white labour. Moreover, the supply of negro labour may increase.

There are, however, natural limits to such a process. With present technical methods, gold ores containing a relatively small amount of gold are already used. The ores which are thrown away contain gold, but in such small quantities that only with considerably lower costs of production would it be worth while to work them. It is not impossible; but it is very difficult with the present capitalist system of production. Capital has become accustomed to draw large profits from the production of gold, and would be reluctant to try any experiments which, even if successful, would bring a low rate of profit. We cannot delude ourselves that the working of low-grade ores will ever bring large profits, even after a long period of gold shortage and declining prices.

Caution, therefore, compels us to limit ourselves to the assumption that the decline in the production of gold—provided it causes a long period of declining prices and production costs—may stimulate the capitalistic production of gold and increase its output to a certain extent, thereby *slackening the rate of its decline.* From this point of view, the more optimistic figures compiled by Kitchin for the coming decade appear to be nearer the truth than the official ones. It would, however, be far too optimistic to expect that this decline in gold production will be cured by itself; in other words, that, in view of the considerable increase in the purchasing power of gold, such large amounts of capital will be invested in the working of low-grade ores that the output of these inferior strata will make good the deficiency in the output of the high-grade strata.

The capitalist system of production will not solve this problem. The question arises, therefore, whether or not the shortage of gold, when it becomes really noticeable and begins to cause a downward movement of prices, will provoke public intervention. Will the menace of the inadequacy of gold reserves bring about a crisis in the capitalist system of production? As gold is used for monetary purposes, it performs a public function. Large fluctuations of its purchasing power are of vital importance to the welfare or misery of individuals, classes of the community, and nations. If, therefore, the capitalist system of production does not succeed

in securing the required inflow of gold—in which case, harmful consequences of an economic, a social or even a political character will ensue—the world may be confronted with the question whether, in the general interest, it should not control the production of gold.

Will the world remain passive when this paradox is wholly revealed, that there is plenty of gold in the world, but that the capitalist system of producing it is not adequate?

Lehfeldt's popular pamphlet [1] can be regarded as a proof that this possibility may become an actual fact. The pamphlet, published in 1926, aroused lively discussion among the economic thinkers of the world. The author lived in South Africa, and had a thorough knowledge of the conditions of gold production and its future prospects. He was of the opinion that, by an investment of capital in those territories which do not at present yield satisfactory profits, it would be possible to produce sufficient quantities of gold from the existing strata. This cannot be achieved, however, by capitalist methods limited to private undertakings. Public intervention is necessary. If Lehfeldt were still alive, however, he would most likely not connect such action with the League of Nations. He would, I imagine, rather place the initiative in the hands of the Bank for International Settlements.

I shall not discuss here the technical details of Lehfeldt's plan, or the possible action of the International Bank. Both can be criticised to-day on various grounds. What matters is, that the shortage of gold with which the world is threatened should be in a certain measure mitigated by public intervention. Only public intervention can increase the production of gold from those ores which contain an insufficient amount of the metal to warrant their being exploited by private undertakings seeking the largest possible profits.

For this purpose, it is not necessary to-day to propose far-reaching plans such as the organisation of international action, the subscription of capital on the basis of a guarantee given by the Governments concerned, and so forth. Under present conditions, a certain measure of success might be obtained if the Governments of those States in which gold is produced would lower the taxes levied on undertakings producing gold from low-grade ores. In exceptional cases, such undertakings could even be entirely exempt from taxes, if the profit gained from producing gold from such ores were unusually uncertain.

Compared with pre-war conditions, gold-producing enterprises to-day have everywhere to bear the burden of heavier taxes. In South Africa, moreover, another factor is noticeable. The Government leases its gold-bearing territories to private undertakings in exchange for a share in the profits. It is very probable, therefore, that, in proportion to the lowering of fiscal charges, the production of gold would increase owing to the wider and better utilisation of ores containing less gold.

The theory of elasticity in the production of gold refers also to another phenomenon. With the increasing purchasing power of gold, if this tendency is of long duration and assumes large proportions, the demand for gold for industrial purposes usually diminishes. A reverse process may even ensue—namely, that gold acquired for industrial purposes may be used for increasing the reserves of monetary gold. If we examine the increase in the purchasing power of gold of the last secular period, which is well known to us—namely, the period of declining prices from 1873 to 1896—such a trend does seem to have existed.

The gold reserves of the Bank of England increased during that period from an average of 21 million pounds in 1870 to 1874 to 25 million in 1890 to 1894. At the Bank of France, the

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[1] " Controlling the Output of Gold."

gold reserves increased during that period by 804.2 million francs, at the Reichsbank by 349.9 million marks. The circulation of coin increased everywhere simultaneously, but the exact figures cannot be established. The inflow of gold to the United States of America in the same years assumed still larger proportions. During the period 1875 to 1887, it amounted to 639 million dollars, being particularly strong from the middle of 1876 to the end of 1881. The reserves of monetary gold in America increased during that period of five and a-half years by nearly 400 per cent—*i.e.*, from 99 million dollars to 485 million dollars—representing 64 per cent of the world production of gold during that period. In spite of this, the European gold reserves increased. Undoubtedly, a portion of the gold acquired for industrial purposes was absorbed also by the reserves of monetary gold.

Shall we witness such a situation again during a new secular period of falling prices ? This cannot be easily foreseen, and any positive conclusions would be hazardous. There can be no doubt, however, that some assistance may be expected from this source, and that this will mitigate the adverse effects of a decline in the production of gold. This, however, cannot be of such importance as production in those goldfields where it does not at present pay.

To sum up, I must repeat that the statistics of gold production for the coming decade point to a gradual decline, beginning with the year 1933 or 1935. The outlook for production in the following decades is still worse, but it would be premature to risk any estimate in figures. In view of these prospects, there is a danger that the continued decline in the production of gold will cause *an increase of long duration in the purchasing power of gold.* This would be a period of *a secular character*, and one not to be desired from the point of view of economic progress.

The danger exists, but the malady need not inevitably break out, or at least, not in the most acute form. In proportion to the decline in prices, the demand for gold for industrial purposes may gradually diminish, and even a certain inflow of gold from non-monetary reserves may ensue. By lowering costs of production, the fall of prices may simultaneously increase investments of capital in gold production, the profits of which will increase in proportion to the increase in the purchasing power of gold.

The temporary reduction in the demand for gold for industrial purposes, the partial inflow from the non-monetary reserves, and increased investment in gold-producing enterprises, may *mitigate* the effects of the decline in gold production on economic activity, *but they will not be able to compensate for this decline in full.* In this respect, action which has for its purpose *the introduction of further economies in the use of gold for monetary purposes is of much greater importance.* Much still remains to be done in this respect, and it is on this point that international action in the next few years should be concentrated.

Should this action aiming at economising gold end in failure on account of a lack of understanding or readiness to co-operate, the malady may assume such large proportions that abnormal and extraordinary measures will be necessary. One of these measures, which appears fantastic to-day, but may be workable to-morrow, is Lehfeldt's plan, the essence of which is that, by means of public international intervention, those gold-bearing strata which do not at present pay should be worked. In theory, it must be recognised that in this way the adverse effects of the failure of international action to reduce the monetary demand for gold can be nullified.

From the point of view of industry, to replace private initiative by public action is neither a normal nor a sound policy. In this respect, the production of gold is not, and cannot be, an exception. If the world, however, should neglect the danger to such an extent that in the next few years it cannot succeed in reducing the demand for gold for monetary purposes by greater

economy in the use of the existing reserves, a better distribution of those reserves, and more honest co-operation, we shall be confronted with the alternative of either accepting a steadily increasing shortage of gold, or undertaking the costly and very difficult task of replacing capitalist methods of production by international public action.

Would it not be better to avoid the necessity of choosing between two such undesirable alternatives by organising efficient action to reduce the demand for gold ?

3.

The above considerations are based on the assumption that there is a measure of interdependence between economic progress and the quantity of produced gold. As long as we examine the question of the adequacy of the gold supply only from this point of view, the problem of mitigating the adverse effects of the fluctuations in the production of gold on the rate of economic progress does not present any insurmountable difficulties. It will not be so simple, however, if we proceed from the assumption that the general level of prices ought to be kept relatively stable, and that for this purpose, a yearly inflow of new gold, the amount of which should be in a *constant* proportion to the existing total world reserves, is indispensable. Whatever the percentage may be, it will always result that a production of gold which is sufficient to-day, for instance, may prove insufficient after a certain number of years.

Let us suppose that, in order to keep the general level of prices relatively stable, a yearly inflow of new gold, amounting, according to Cassel's theory, to 3 per cent of the existing total world supply, is necessary. Then the amount of new gold required according to this formula will increase every year in proportion to the rate at which the gold stocks of the world grow. The more gold there is in the world, the greater must be the yearly inflow of new gold, and the greater must the production of gold be in each succeeding year. The production of gold, then, ought to increase at a constantly greater rate. This cannot, however, continue indefinitely. Sooner or later, the production of gold will fail to attain such progressive increase. Already to-day such a rate of increase is not being maintained

This is regarded by Cassel as the " fundamental difficulty " of the gold standard and a fact " of the highest importance " so far as the question of the adequacy of world reserves is concerned. In his opinion, it is " the paradox of the gold standard " that the greater the accumulation of gold, the greater ought also to be the yearly inflow of new gold, and the more rapid ought to be the yearly increase in the production of gold.

It is clear that we shall avoid such a " paradox " only if we examine the question of the adequacy of gold reserves from the point of view of the general formula—namely, that between the rate of economic progress and the inflow of new gold there exists some measure of interdependence. We shall not be able, on the other hand, to avoid it, if we assume that, in order to keep the general level of prices relatively stable, a yearly inflow of gold amounting to 3 per cent of the existing total world supply is indispensable. In the latter case, the future of the gold standard appears in darker colours.

Must it indeed be so ?

If we are to regard the theory of the 3 per cent inflow as an economic law, we must be convinced that it is a conclusion drawn from observation and experience. This is, in fact, the method applied by Cassel, but it is precisely his remarks on the pre-war history of the gold standard that give rise to serious doubts.

Cassel[1] limits his field of observation to the sixty-year period from 1850 to 1910. The general level of prices in the first and in the last year of that period was approximatively the same. This is shown by Sauerbeck's indices, quoted by Cassel. If, therefore, the level of prices in 1910 was equal to that in 1850, the world gold reserves in both years were bound to be in the same degree sufficient to counterbalance the differences between two states of world economy.

By the end of the period 1850 to 1910, the world's gold reserves had become more than five times—to be accurate, 5.2 times—as great as at the beginning. The increase amounted on the average to 2.79 per cent yearly, or 2.8 per cent in round figures. From these facts Cassel draws the conclusion that if, during these sixty years, the production of gold had increased uniformly every year by 3 per cent (2.8 per cent + 2 per thousand for " wear and tear "), the level of prices would not have shown any fluctuations on account of a shortage or abundance of gold. No disturbances of a secular character would have been registered. Furthermore, there would have been no divergence between the rate of inflow of gold and the rate of economic progress, because the average economic progress during the period under review was bound to amount also to 3 per cent yearly, if the level of prices at the beginning of the period was equal to that at the end.

The average yearly rate of economic progress is very difficult to determine in exact figures. Nevertheless, Cassel considers it possible to adopt the 3 per cent increase as the formula of average progress. As an example confirming his theory, he takes the production of pig-iron, which he considers as an index typical of the general industrial development. During the period 1850 to 1907, the world production of pig-iron increased on the average by 4.2 per cent yearly. On the other hand, the yearly increase of agricultural production in that period is estimated by Cassel at 1.2 per cent. If we attach the same weight to both agricultural and industrial production, the average yearly rate of economic progress may be estimated at 2.7 per cent. If, however, we attach slightly more importance to industrial production, we may feel ourselves " on fairly solid ground, if we reckon with a figure of round 3 per cent, as characteristic of the economic development " in the period under review.

The above calculation does not carry sufficient conviction. The adoption of only pig-iron gives too narrow a basis for far-reaching conclusions. If we take for this basis a larger number of raw materials, the resulting figures will be different. Let us take, for instance, in addition to pig-iron, coal, petroleum, copper, lead, zinc, tin, cotton, wool and silk. The value of the production of these raw materials, calculated on the basis of their average prices from 1909 to 1913, increased during the period 1850 to 1910 from 693.2 million dollars to 5,764.5 million dollars. The average yearly increase, calculated in accordance with Cassel's method, amounted to 3.6 per cent, whereas for pig-iron alone it was 4.6 per cent, a figure slightly higher than Cassels', which is based on the shorter period 1850 to 1907. Now, if we estimate the average yearly increase of agricultural production to be 1.2 per cent, as Cassel does, and if we give equal weight to industrial and agricultural production, the average increase of total production will amount to barely 2 per cent, instead of 2.7 per cent. As I agree with Cassel that " a somewhat higher weight " should be given to industrial production, I can at the best adopt 2.5 per cent as the yearly average increase of production, but in no event can I agree to the ratio of 3 per cent. Even if we were to give to agricultural production a weight half that of industrial production,

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[1] In discussing Cassel's doctrine, I quote here from his Memorandum prepared for the Gold Delegation of the League of Nations.

which would not be wholly unjustified, we should get only 2.4 per cent as the average rate of economic progress.

I do not intend to decide between Cassel's figures and my own. The former as well as the latter are far from being exact. To establish to-day the exact figure of the average rate of economic progress for the period under review is impossible. No figures can be more than hypothetical and approximative. The question is, can such figures be regarded as sufficient proof that, during the period 1850 to 1910, the average rate of economic progress was about 3 per cent per annum and the yearly increase of gold reserves must also have been 3 per cent in order " to keep the general level of prices at a constant height "? The statistical basis from which such far-reaching conclusions are drawn is too fragile and shaky—especially since, in addition to the rate of gold inflow and the rate of economic progress, another factor should be taken into consideration, which from 1850 to 1910 also exercised an influence on the level of prices.

In addition to the accumulation of gold, bank deposits also accumulated rapidly, forming a secondary basis for the world's credit structure. We have already mentioned in the chapter which deals with the changes in the operation of the gold standard, that in England, during the period 1844 to 1929, the total amount of bank deposits was multiplied by ten, whereas the total amount of gold was multiplied by only three. Thus, the rate of accumulation of deposits was several times as rapid as that of accumulation of gold. It is beyond doubt that this disproportion exercised an important influence on the amount of credit and thereby on the level of prices. This is indirectly confirmed by the fact that in proportion to the rate of accumulation of bank deposits and to the improvements in the organisation of bank credit, the number of panics on money markets steadily diminished. During the period 1850 to 1873, the number of monetary panics in England, America, France and Germany was twelve, while, during the period 1874 to 1896, there were only four, and, during the period 1896 to 1910, there was only one serious panic responsible for a sudden change in the price-level.

During the period 1850 to 1910, economic progress was counterbalanced, not only by the inflow of gold, but also by the expansion of bank credit, which was more rapid than the inflow of gold. Even if the inflow of gold had increased uniformly during that period by 3 per cent yearly and even if the rate of economic progress had also been 3 per cent yearly, it is more than doubtful, whether the level of prices would have been maintained " at a constant height ". For economic progress would have been not only under the influence of a uniform inflow of gold, but at the same time it would have been financed by a more and more rapid expansion of bank credit based, not only on a uniform inflow of gold, but also on the accumulation of bank deposits, which steadily *exceeded* the inflow of gold.

Cassel is, of course, aware of the important rôle played by bank credit. Nevertheless, he is of the opinion that the average rate of economic progress for the whole world, " if it could be calculated exactly, would prove to have been, during the period in question, not greater than 2.8 per cent per annum". This optimism is not the outcome of induction, for a strict calculation is impossible. It is rather a deduction from the fact that the average yearly inflow of gold was 2.8 per cent and that the price-levels in 1850 and 1910 were more or less equal.

A consistent belief in the hypothesis that, during the period 1850 to 1910, the average rate of economic progress was the same as the average rate of the inflow of gold is necessary if one is to draw the following general conclusions : " If the rate of progress for the future is assumed to be the same as it was for the period 1850 to 1910, the stability of the present price-level will depend on the possibility of the annual gold production, amounting to 3 per cent of the world's

total stock of gold ". In other words, the 3 per cent inflow will prove sufficient, *provided the rate of economic progress does not change.* Should the rate of economic progress increase to 4 per cent, however, the production of gold must increase in the same proportion. On the other hand, should the rate of economic progress decrease to 2 per cent, the inflow of new gold must also diminish if the general level of prices is to be maintained at a constant height. Thus the formula of a 3 per cent inflow cannot be regarded as of instructive value for the future, because we never know in advance what will be the rate of economic progress.

Cassel himself regarded his formula as no more than an interesting historical remark on the evolution of the period 1850 to 1910. Is it then reasonable for us to use such a formula in discussing the present problems of the policy of Central Banks ?

4.

It appears to me unnecessary for Cassel to attach so much importance to the mathematical equality of the average rate of the inflow of gold and the average rate of economic progress, for his most important thesis does not concern the strict harmony between the rate of the inflow of gold and the rate of economic progress, but instead the harmony which exists between a rate of gold inflow of 2.8 per cent per annum and the general level of prices.

Cassel distinguishes between the actual quantity of gold reserves in a given period and the " normal " quantity which would exist if the inflow of new gold during that year amounted strictly to 2.8 per cent. The ratio of the actual stock in a given year to the " normal " stock is called by him the " relative " stock. This is a theoretical figure which represents the actual stock, existing at the end of a given year as a percentage of the " normal " stock. On comparing the curve representing the relative stock with the curve representing the general level of prices as given in Sauerbeck's index, Cassel found an astonishing harmony between the two. He would have found it, however, without introducing into the discussion such a debatable question as the rate of economic progress.

The price-curve is based on facts and on Sauerbeck's calculations. The curve representing the " relative " stock of gold is based on the actual amount of gold reserves and on the hypothesis of the " normal " reserve. The latter is based on the fact that, during the period 1850 to 1910, the gold reserves were multiplied by 5.2, and that therefore the average yearly increase amounted to 2.8 per cent. Whether the rate of economic progress was 2.8, 3 or 2.4 per cent per annum is an interesting problem, but one that has no direct connection with the concordance between the curve of the level of prices and that of the " relative " gold supply. Should it be found by careful calculation that the rate of economic progress in the period under review was not 2.8 per cent, but only 2 per cent, this would not destroy the concordance between the two curves. It is from the existence of such concordance that Cassel draws all his further conclusions. In relation to these conclusions, the hypothesis that the rate of economic progress in a given period is equal to the average rate of inflow of gold is of secondary importance.

It is evident from the above that the whole doctrine is based on, and stands or falls with, the conception of the " normal " stock, because the conception of the " relative " stock is only a deduction from the conception of the " normal " stock. The idea of the " normal " stock is based on the fact that the price-levels in 1850 and 1910 were equal and that the world reserves were multiplied by 5.2 during that period so that the average yearly increase was 2.8 per cent. If the above facts are correct, the doctrine has a logical foundation.

It is true that the general level of prices—as shown in Sauerbeck's index at the beginning and at the end of the period under review—was more or less equal. I am not considering how far Sauerbeek's index is an accurate measure of the purchasing power of gold. It seems to me that in this respect Sauerbeek [1] had less confidence in his own indices than those who use them. Another question is of more importance here—namely, whether it is proper to connect the level of prices in 1850 solely with the amount of the total world supply of gold ?

In 1850, the world's reserves of gold amounted to 10 billion marks. It must, however, be remembered that the gold standard then existed, practically speaking, only in England. Other countries *applied the bi-metallic standard, or used a silver currency.* The level of prices in 1850, therefore, was influenced not only by the gold reserves, but was also affected—and to a far greater extent—by the reserves of silver. The weight of this argument is not weakened by the fact that gold coin was almost everywhere in circulation, although only England possessed the gold standard, for the circulation of gold coin does not necessarily imply the existence of the gold standard.

Cassel used in his calculations the total gold supply of the world, and not only the reserves of monetary gold. In his opinion, there is a definite connection between the total gold supply and the part of it which is used for monetary purposes, and therefore it is better for purposes of comparison to consider the total supply and not simply a portion of it. The same argument should apply also to silver as long as silver is used for monetary purposes.

Between the total stock of silver and the part of it used for monetary purposes a more or less definite connection ought also to exist. If we choose to compare the total stock of gold with the level of prices, we must also apply this method to silver as long as it was used for monetary purposes on an equality with gold. In studying the year 1850, therefore, we ought also to take into account the total stock of silver.

The situation is different, however, as regards the year 1910. For that year, owing to the demonetisation of silver and an almost general move to the gold standard, we must not take into account the total stock of silver, but only the remaining reserves of monetary silver; for, in 1910, no connection whatever could exist between the total stock of silver and that part of it which was used for monetary purposes.

According to the *Statistisches Jahrbuch,* the total world stock of silver in 1850 amounted to 29,430 million marks, whereas the reserves of gold amounted to hardly 10,000 million marks; in other words, *the reserves of gold were about one-third as large as the reserves of silver.* The influence of the two metals on prices ought to have been also in this proportion especially since, outside of England, the gold standard practically did not exist. Prices were, as a rule, expressed in silver, or in a bi-metallic currency, and only in England were they expressed in gold.

In 1910, we have quite a different picture. The total stock of gold had increased to 52,003 million marks, while the reserves of monetary silver—according to the American *Mint Report*—amounted to hardly 2,600 million dollars, or 10,920 million marks. Thus the reserves of monetary silver, which played a certain rôle in the credit structure, were but a little more than one-fifth as large as the reserves of gold. If we now compare the figures for the two years, we shall have the following result :

In 1850, the total stock of gold and silver amounted to 39,430 million marks;
In 1910, the total stock of gold + the reserves of monetary silver amounted to 62,923 million marks.

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[1] Article published by Sauerbeck in the *Journal of the Royal Statistical Society,* September 1886.

The average yearly increase *was thus* 0.78 *per cent.* This figure is so small that it cannot be compared with that of 2.8 per cent obtained by Cassel, who entirely eliminated silver from his calculations. Is it possible, though, to eliminate silver when considering the general level of prices in 1850? Did not prices rise during the period 1873 to 1896 in the countries which possessed a silver currency, while they simultaneously declined in the countries which were on a gold basis.

The index of prices for India[1] was 107 in 1873, and 140 in 1896. For Japan, the corresponding figures were 104 and 133; for China, 100 and 109. If we let the average prices of the period 1873-1876 equal 100 in the countries which were on a gold basis, the average index for the period 1890 to 1893 was only 78, whereas, in the countries with a silver currency, it was 117. On compiling an index for the whole world we should take both these tendencies into account by giving the average of the declining as well as of the rising indices. Even if we express in terms of gold the indices of the countries which possessed a silver currency, we cannot get rid of the fact that in the second half of the past century silver was an important factor in determining the prices of goods and services.

As we have seen above, the corner-stone of the doctrine is the conception of the " normal " stock of gold. This " normality " is based on the formula of the average 2.8 per cent inflow of gold during the period under review, 1850 to 1910. If we eliminate silver from that period, the 2.8 per cent formula is correct. If, however, we take it into consideration—and *we must do so*—we get the figure 0.78 per cent. With this last figure the conception of " normality " is totally changed, and, at the same time, the value of the " relative " stock is also changed, since the latter represents the actual gold reserves as a percentage of the " normal " reserves.

Cassel found a concordance between the curve of the general level of prices and that of the " relative " stock of gold, which was based on the 2.8 per cent figure. However, if we replace the 2.8 per cent increase by a 0.78 per cent increase, *the two curves will no longer concord.* Moreover, it will then become possible to gauge the truth of the alleged concordance discovered by Cassel. I refer to the concordance between the curve of the indices compiled by Sauerbeck and the curve of the fictitious stock of gold, calculated on the basis of the artificial formula of a 2.8 per cent increase which was obtained by eliminating silver from the calculations.

If, in spite of the elimination of silver, the curve based on the indices compiled by Sauerbeck displays a certain concordance with Cassel's curve of the fictitious relative stock of gold, only one conclusion can be drawn, namely *that Sauerbeck's index is not satisfactory as a measure of the purchasing power of gold.* Moreover, we know this from Sauerbeck himself.

5.

Even if it were possible to accept the 2.8 per cent formula and the elimination of silver, the doctrine would still not be sufficiently convincing, because it cannot fulfil the conditions which Cassel himself requires of it. It does not give a guarantee that, with a 3 per cent inflow of new gold, the level of prices in the countries which are on the gold standard can be maintained " at a constant height ". And we know that, according to Cassel, the object of all investigations into the question of the adequacy of gold reserves is to secure the stability of the price-level, or,

[1] Irving Fisher, " Purchasing Power of Money ", page 243.

in other words, to do away with fluctuations in the purchasing power of gold. In this respect, the doctrine fails to reach its goal, in spite of the whole statistical apparatus.

A constant inflow of gold, amounting to 3 per cent of the total of the existing world reserves, can protect the world against price-fluctuations of long duration—*i.e.*, those which possess a secular character. It cannot, however, give protection against fluctuations of short duration, which possess a cyclical character. The latter, as Cassel acknowledges himself, " *have no connection at all with the supply of gold* ". Cyclical fluctuations correspond to cyclical movements of trade, and reflect " extensions and restrictions of the supply of means of payment, independent of the supply of gold ". By ending secular fluctuations, we cannot *ipso facto* end cyclical fluctuations, which *do not depend on the reserves of gold.* The price-level will thus remain changeable in spite of the 3 per cent inflow; first, because of the changes in trade cycles, and, secondly, because of the changes in the credit policy of banks—which, by means of " extensions and restrictions of the supply of means of payment ", will continue to exercise an influence on price-fluctuations.

The reader may here remark that fluctuations of a secular character are more detrimental to the world economy than are cyclical fluctuations, because they last longer and have a wider range. Although this may seem true at first glance, in reality the situation may be quite different.

We have already seen that the years 1873 to 1896—a period with a downward price trend of a secular character—was one by no means marked by a permanent and increasing economic depression, for it is typical of secular fluctuations that the economic activity of the world gradually adjusts itself to them, and *cyclical fluctuations provide the machinery by which adjustment is brought about.* It is an incorrect belief that cyclical price-fluctuations are less harmful than secular fluctuations. On the contrary, the fall of prices under the pressure of a trade cycle or a mistaken credit policy on the part of banks immediately affects economic activity by exercising a discouraging psychological influence on the market.

Indeed, *we too often overestimate the influence of secular and underestimate that of cyclical fluctuations.* The range of the latter is not in reality so small as is generally believed. A trade cycle or a restrictive credit policy may cause a considerable fall in prices, which may last for a relatively long period of time. The psychological effect of the fall is immediate, for it exercises a stronger retarding or stimulating influence than does the secular trend, the effect of which does not manifest itself so directly upon the interests of any individual business man.

In the light of the above remarks it would be difficult not to see that Cassel's doctrine fails to reach its goal as far as the " constant height " of the general level of prices is concerned. A regular 3 per cent inflow of gold may give protection against secular fluctuations, but it does not touch cyclical fluctuations, which—according to Cassel himself—*are entirely independent of the supply of gold*, depending as they do on trade cycles and the credit policy of banks. By ending secular fluctuations through the 3 per cent inflow of gold, we do not end cyclical fluctuations, and these latter may have a wide range, while their depressing influence is always *more direct* than that of secular fluctuations. In view of these facts, it is not open to dispute that :

(1) The control of cyclical fluctuations is not less important, but often more important, than that of secular fluctuations;

(2) The possibility of controlling cyclical fluctuations does not depend on either percentage formula for the yearly inflow of gold;

(3) The possibility of controlling cyclical fluctuations is to be found chiefly in the domain of the credit policy of banks, which curtail and expand means of payment more or less in accordance with the development of a trade cycle.

To sum up, we repeat that the statistics upon which Cassel bases his theory of the 3 per cent inflow of gold are not sufficiently convincing. If we supplement them by introducing silver into the calculation, we arrive at the theory of a 0.78 per cent inflow and if we correct this figure by adding the amount of metal which is lost through " wear and tear ", we come to the following conclusion :

The average inflow of monetary metals during the period 1850 *to* 1910 *was at the most* 1 *per cent per annum.*

Even if we were to accept the theory of the 3 per cent inflow in spite of our criticism we know that it would not ensure the stability of the general level of prices. For even if a 3 per cent inflow does do away with secular fluctuations, yet if *cyclical fluctuations continue on the same scale and with the same consequences as hitherto,* the question of the adequacy of gold reserves from the point of view of the stability of the general level of prices *remains unsolved.* Such is also Cassel's conviction, and the reason why he advocates so strongly the replacement of the present gold standard by the system of a managed gold standard.

6.

Cassel's ingenious theory gave the impetus to this line of thought. A variant of his theory worked out by Kitchin [1] has, however, become more popular.

Cassel compared the general level of prices with the total stock of gold in the world. Kitchin limited his comparison to the reserves of monetary gold. Both adopted as a basis for their study the period 1850 to 1910. The total stock increased during that period, on the average, by 2.79 per cent yearly; this is Cassel's formula. The reserves of monetary gold increased during the period by 3.096 per cent yearly; this is Kitchin's formula. Cassel's formula expressed in round figures is 2.8 per cent; Kitchin's, 3.1 per cent. The similarity between the two is striking; but, at the same time, they present remarkable differences.

The fact that Kitchin's method is the more popular is to be ascribed to two causes. The connection between the reserves of monetary gold and the level of prices appears to everyone " natural " and more easily understood. Moreover, Cassel made his theory more intricate by linking the question of the equality of the rate of gold inflow with the rate of economic progress. Whether we consider the total stock of gold or only the reserves of monetary gold, in either case—according to Cassel—" the rate of increase arrived at should be compared with the rate of progress characterising the world's economic development ". When he examines the period 1850 to 1910, he does not stop after finding the figure 2.8 per cent for the average yearly inflow of gold. On the contrary, he does not hesitate to formulate the hypothesis 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 annum ". It is here that Cassel and Kitchin differ.

Were Kitchin to apply Cassel's method strictly, he would be obliged to come to the conclusion that, during the period 1850 to 1910, the rate of economic progress was on the average

[1] In discussing Kitchin's doctrine, I quote his " Gold Production " from the *Review of Economic Statistics,* May 1929, Memorandum prepared for the Gold Delegation in 1930, and the statement of evidence to the Royal Commission on India Currency and Finance, March 1926.

3.1 per cent. From this it would result that the average rate of economic progress during the period 1850 to 1910 differed according to whether it was regarded from the point of view of the total stock of gold or from that of the monetary stock. *In the first case it would amount to* 2.8 *per cent, and in the second to* 3.1 *per cent.* This difference is not without significance, if sufficiently long periods of time are taken into consideration. It is no wonder that Kitchin is not so strongly convinced that there *must be* a strict mathematical equality between the average rate of economic progress and that of the inflow of gold.

More important, however, are the further consequences. Kitchin, attaching less weight to the connection between the rate of economic progress and that of the inflow of gold, advanced a theory which can be more easily applied in studying the *current* changes in the general level of prices. Cassel's figure of 2.8 per cent can be used only on condition that the average rate of economic progress remains in the future what it was during the period 1850 to 1910. Kitchin's figure can be used independently of this condition. Almost every week, indeed, someone in discussing the changes in the general level of prices, refers to the indispensable 3 per cent inflow of monetary gold.

Kitchin's formula has become more popular because it can be applied more easily. This is largely due to the difference between the opinions of these two experts on the rôle of monetary gold.

Cassel's view is that :[1] " The quantity of money is not rigorously marked off in relation to the total supply of gold. On the contrary, the gold passes from the non-monetary supply to the monetary and back . . . thus the monetary supply of gold at the time affords *no objective cause* for determining the value of money. To trace the general level of prices to objective causes is, in fact, *only* possible when the general level of prices is brought into connection with the total supply of gold." Discussing this subject later in a more detailed fashion, he states that such factors as the amount of currency in circulation, the velocity of its circulation, the amount of bank deposits, and the terms upon which bank advances are made, are not " independent variables ". He arrives thus at the ultimate conclusion that " the general level of prices is directly proportional to the total quantity of gold ", as the only objective cause.

Kitchin's point of view is quite different. He prefers " to take as a basis the total stock of gold money rather than the total supply, because it is closer to money in general (including credit) which influences prices ". Not only is it " necessary to distinguish between the aggregate output of gold and the stock of gold money "; it is also " necessary to distinguish between the stock of gold money and the *effective* stock—*i.e.*, the amount of gold money held by Central Banks and Treasuries ". Comparing, for instance, the reserves of monetary gold in 1913 and 1928, Kitchin reckons that " the amount of gold in State banks and Treasuries has, in the fifteen years, increased at the rate of 5.1 per cent per annum, and the 2.1 per cent surplus on a 3 per cent rate *would alone account for prices being* 36 *per cent above the* 1913 *level*, other things being equal ". The reservation as to " other things " is proper, but does not weaken the force of the main thesis, that the rate of increase of the " effective " gold reserves in Central Banks, if more rapid or less rapid than 3 per cent, exercises a direct influence on the general level of prices.

Important consequences result from these differences of opinion regarding the rôle of monetary gold reserves.

First, the attitude of the two authors with regard to the problem of the distribution of gold

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[1] " The Theory of Social Economy ", 1923, pages 428 to 430.

is not the same. To Cassel, the yearly inflow of gold to the monetary stock and the manner in which this inflow is distributed among the various countries are unimportant. As long as the production of gold increases regularly and at the rate of not less than 3 per cent per year, and as long as the rate of economic progress also amounts to about 3 per cent yearly, he believes that the general level of prices will be maintained " at a constant height ", even though the stock of monetary gold may increase at quite a different rate, or fail to increase at all.

For, according to Cassel, the general level of prices is directly proportional to only the total stock of gold in the world, while the reserves of monetary gold do not constitute any " objective cause ". In reality, the total yearly production is never used for industrial purposes and for hoarding. From a theoretical standpoint, however, we cannot exclude the possibility that the reserves of gold might prove sufficient, even though the monetary stock should increase at a rate lower than 2.8 per cent per year or fail to increase at all.

I mention the above theoretical possibility in order to show that *it is impossible to deduce from Cassel's theory the proportions in which the distribution of gold should be made.* Cassel treats the problem of distribution among countries and Central Banks *independently of his theory regarding the inflow of gold.* Kitchin's attitude is different. The manner in which gold should be distributed *is a direct and logical result of his statement that the reserves of monetary gold should increase by* 3.1 *per cent per annum,* for it is on this rate of increase of the monetary stock of gold that, in his opinion, the stability of the general level of prices over long periods depends. If this theory is held to be correct, the amount of the yearly increment of new gold to the reserves of monetary gold is of great importanee.

To sum up, I repeat that the problem of the distribution of gold does not enter directly into Cassel's theory. His 2.8 per cent figure does not differentiate between the total stock and that part of it devoted to monetary purposes, or between the total stock and that part which is called by Kitchin " effective " reserves—namely, those in the possession of Central Banks and State Treasuries. The distribution of monetary gold may be effected in various ways in accordance with the conditions prevailing on the different markets. Neither the monetary reserves nor the " effective " reserves at the disposal of Central Banks or State Treasuries increase in strict accordance with the 2.8 per cent formula. Kitchin takes a different point of view. The manner in which gold is distributed plays an important part in his calculations. His figure of the 3.1 per cent inflow applies in theory to the reserves of monetary gold, but, in practice, it is equably applicable to the " effective " reserves, since these amount at present to about 90 per cent of the former.

7.

Let us suppose that for the moment we accept Kitchin's formula. Then the reserves of monetary gold should increase every year by 3.1 per cent. The greater the reserves of monetary gold, the larger must be the production of gold if the increase is to amount to 3.1 per cent, and the rate at which production increases must itself rise every year by at least the proportion in which the stock of monetary gold increases. This is analogous to which Cassel calls " the paradox of the gold standard "—namely, that the greater the stock accumulated, the greater must be the production. Cassel, however, took into consideration the total stock of gold, and not only the reserves of monetary gold. When we apply Kitchin's formula we meet with still greater difficulties. Cassel's " paradox of the gold standard " becomes still more paradoxical.

Why?

From Kitchin's point of view, not only will it be increasingly difficult to secure a steady increase in the production of gold; *it will also be increasingly difficult to secure a reasonable distribution of the reserves of monetary gold.* For if the effective stock—*i.e.*, the amount of gold held in the vaults of Central Banks and Treasuries—exercises a direct influence on prices, the more gold there is in the banks the greater will be the amount of gold required every year in order to avoid an adverse effect on prices. If we accept Kitchin's theory, we accept the law that the greater reserves are, the greater should be the inflow of new gold. If this be true it may have a dangerous effect on the gold market.

If the production of gold increased in the future at a sufficient rate, it might be possible to effect its distribution in such a way as to secure to every country a 3 per cent yearly inflow. Should the rate of increase be insufficient, however, the danger might become a reality; for every country will endeavour to secure an inflow equal to 3 per cent of the reserves which it possesses, in order to protect the price level from the disturbances which a deficiency in its gold reserves would cause. Countries which already possess large reserves will feel themselves entitled to a larger proportion of the new gold produced. The competition on the gold market will thus be rendered more acute, and the distribution of gold will become less and less reasonable.

In addition to the *primary paradox* of the gold standard indicated by Cassel, a *secondary paradox* appears as a logical consequence of Kitchin's doctrine. The latter is an even more serious threat than the former to the future of the gold standard. On Kitchin's theory the future appears more dark and difficult than on Cassel's theory, which separates the problem of the distribution of gold from the question of the adequacy of the total supply of gold.

If Kitchin's theory be correct, we are obliged to recognise that the three countries with the largest reserves of gold are to-day entitled to acquire *all new gold* derived from production.

The inflow of gold to monetary reserves amounts at present to about 200 million dollars yearly. The " effective " reserves in France, America and England amount to about six and a-half billion dollars. The 3 per cent inflow to these reserves would already amount to about 200 million dollars, or, in other words, it would be equal to the whole of that part of the yearly production of gold which is available for monetary purposes. What will remain, then, for the rest of the world? Should other countries abandon the gold standard because there is no prospect of an adequate inflow of gold? Or should America, France and England, in the interest of the rest of the world, cease to secure a 3 per cent inflow—which might cause their price-levels to take a permanent downward trend?

Both alternatives sound paradoxical, but they are a logical corollary of Kitchin's doctrine, which embodies the secondary paradox of the gold standard based on Cassel's primary paradox. If you start from paradoxes, no wonder that you get paradoxical alternatives.

The international discussion on the subject of the adequacy of the gold supply is full of such paradoxical conclusions, and what is worse, they are treated seriously and not recognised as paradoxes. For example, an American economist [1] undertook the laborious task of calculating the rate of accumulation of gold in America. By dividing the existing reserves of gold by the index of the Bureau of Labour, in order to eliminate the moments of inflation and deflation, he found that, during the period 1896 to 1913, the average rate of increase amounted to 4.4 per cent per annum. Taking Snyder's index, he found the rate to be 3.8 per cent. Applying the same methods to the period 1913 to 1927, he found the figures 4.8 per cent and 2.6 per cent respec-

[1] *The Journal of Political Economy*, Chicago, October, 1928. Article by Lionel D. Edie : " Rate of Increase of the Monetary Gold Stock of the United States ".

tively. This was indeed a discovery! The rate of accumulation during and after the war was found to be less than in the pre-war period. In his further arguments, he adopts the minimum figure of 2.6 per cent, and, on this basis, he asserts that America must already import at least 114 million dollars of gold every year in order to maintain a sufficient increase to keep the price-level stable.

There is a still more eloquent example. It has become customary to explain the present fall of prices which began in 1925 by the shortage of gold. In studying these explanations one often comes across calculations in which not only the figures of the effective inflow of gold are taken into consideration, but also those which concern the so-called sterilisation of gold. Not only the inflow of gold comes into question, but also the way in which the gold is used in the receiving country during the different periods of a year. This method is applied in particular in criticisms of the accumulation of gold effected during the past few years by the Bank of France.

A sterilisation of gold takes place when the Central Bank does not use the gold it has for the greatest possible expansion of credit. It is a question of bank policy, of expanding or reducing the monetary circulation. Cassel asserts categorically that such action influences the annual changes in the price-level, but has *no influence on secular changes*. Similarly, Kitchin found a concordance between changes in the reserves of monetary gold and changes in the price-level only as far *" as their general trend is concerned "*. The introduction, therefore, of the question of the sterilisation of gold, which is purely a question of bank policy, proves that neither Cassel's theory, nor the variant of that theory worked out by Kitchin, *is properly understood.* This is a simplification which does not usefully serve the discussion on the adequacy of the supply of gold.

Undoubtedly, Kitchin must be held responsible for this *reductio ad absurdum* of his own theory, because he himself gave an example of the application of his 3.1 per cent theory to the so-called " effective " reserves of gold during the period 1913 to 1928. There was only one step necessary to confuse the term " effective " reserves, as used by him to mean the reserves accumulated by Treasuries and Central Banks, with the entirely different question of what part of these so-called " effective " reserves was effectively used.

Fortunately, the difficulties which arise from the secondary paradox of the gold standard are fictitious, because the theory of the 3.1 per cent inflow is not sufficiently justified. *The criticism of Cassel's calculations applies also to Kitchin's.* It does not apply, however, to the question of economic progress, because Kitchin, unlike Cassel, is by no means certain that the rate of economic progress and the rate of the gold inflow ought strictly to balance. In this respect, the 3.1 per cent theory is unconditional, whereas the 2.8 per cent theory is conditional. On the other hand, what I have said about the rôle of monetary silver should be applied to Kitchin's statistical methods.

Kitchin considers only the monetary stock of gold. He justifies his attitude by what he believes to be the necessity of taking into consideration the direct influence exercised on the level of prices by " money in general, including credit ". Did not silver, however, constitute the major part of " money in general " in 1850? Did not credit based on silver form part of the total of credit? It is unquestionably a mistake to omit the monetary reserves of silver from the total metallic reserves in 1850. It is another mistake, no less important than the first, to omit from the reserves in 1910 not only the remaining proportion of monetary silver, but also foreign exchange included in the fundamental reserves.

Not only is foreign exchange included in the reserves serving as cover for the inland currency a debt of country B to country A, but, in country A, it constitutes a *new and economical form of*

monetary gold, because it serves equally with gold to increase the monetary circulation. This increase is two-fold : it is caused, first, by the purchase of foreign exchange, and, secondly, by the increase of credit on the basis of this foreign exchange. From this point of view, it cannot be doubted that the " effective " metallic reserves in 1910 consisted of gold, the remaining proportion of monetary silver, and the reserves of foreign exchange held by Central Banks, which, in fact, applied the gold exchange standard. The comparison, therefore, between the years 1850 and 1910 would be justified only if we included the reserves of monetary silver in the metallic reserves at the beginning of the period, and only if we included in the reserves at the end of the period the remaining proportion of the reserves of monetary silver and the foreign exchange held in the reserves of Central Banks on an equality with gold.

The average increase in the total metallic reserves, and at the same time the relationship between the gold and silver curve and the price curve, would then show a marked change. *We should get a much smaller figure.* But even then we should not get a figure which would be binding in the future under all circumstances, because the rate of increase of metallic reserves cannot be entirely independent of the rate of economic progress.

The demand for monetary metal is connected with the development of production and trade. In this respect Cassel is right in principle; only, he need nor try to prove that the average rate of economic progress *must be* strictly the same as the average rate of the gold inflow. This is not true, and Cassel was not able, nor will anyone else be able, to prove it.

8.

The attempts to find a strict formula which would indicate the yearly percentage increase of gold reserves indispensable for protecting the general level of prices against secular disturbances, did not—as we have seen above—have satisfactory results. Neither the 2.8 per cent formula nor the 3.1 per cent formula is sufficiently justified. It is not even certain whether it is possible to find such a formula.

The demand for gold for monetary purposes is not a fixed demand, for it depends on the development of production and trade. The rate of this development is subject to the influence of various factors, owing to which it is liable to greater or smaller fluctuations. Consequently, the rate of increase in the demand for gold cannot be constant. This is the more true as, independently of the fluctuations in economic progress, the rate of increase in the demand for gold can also be determined by a conscious and consistent economy in the use of gold by the Central Banks. If, for instance, a Central Bank lowers its statutory reserve ratio, it thereby reduces its requirements of gold independently of the rate of economic progress.

Cassel is a firm adherent of the theory that the general level of prices is exclusively a monetary phenomenon, and that gold as an objective factor can be partly replaced by the manipulation of bank credit. From this point of view, the assertion that the inflow of new gold must be in a strict proportion to the existing reserves is devoid of logical foundation. He who believes that a managed currency could be made to function in such a way as to maintain the general level of prices at a constant height is wasting his time if he looks for a strict formula for the inflow of gold.

Should the statistical method applied by Cassel and Kitchin to the period 1850 to 1910 be accepted as unquestionable, even then the percentage formula obtained would at best be only

an interesting historical observation, and could not be set up as an economic law to determine the inflow of gold *in the future.*

No such law in fact exists, and it is impossible to find one.

Whether the gold reserves are adequate in the sense that they do not cause a downward price-trend of a secular character depends, not only on the rate at which gold is produced, but also on the progress made as regards reforms which aim at greater economy in the use of gold for monetary purposes. Can the pace of such reforms be expressed by a percentage formula? No answer to this question is needed. The problem whether or not gold reserves are adequate cannot be solved by an examination which is confined to the production of gold and neglects *the results* of economy in the use of gold. Nor, on the other hand, can it be solved by an examination which is confined to the methods of economising gold but which ignores the question of production.

With the declining production of gold the supply of new gold diminishes. The purchasing power of gold may then increase, provided that the demand for gold does not diminish. With a persistent disproportion between the inflow of new gold and the demand for it, a downward trend of prices, possessing a secular character, may ensue. The figures for the present production of gold seem to forebode such a danger. The world must reckon with it, regardless of the debatable formulæ of the indispensable inflow. In dismissing the 3 per cent formula, we cannot dismiss the problem of the adequacy of gold reserves. Furthermore, without such a formula it is possible to appreciate clearly the consequences of the impending decline in the production of gold.

The best answer to the problem, as formulated above, and the one which is the least debatable, would be to stress the necessity of reforms aiming at enforcing economy in the use of gold for monetary purposes. *Should it prove possible to proceed with such reforms at an adequate rate, the decline in the production of gold can be counterbalanced.* The reserves of gold which we actually have may, if economy is increasingly practised, prove sufficient to protect the world against a downward secular trend of prices, even though the inflow of gold may be steadily less than 3 per cent, or than any of the other percentages which have been suggested.

The question of the measure in which further reforms in the use of gold for monetary purposes may be possible will be dealt with in a separate chapter. But from the analysis which we have already made above of the statistical material used by Kitchin and Cassel, certain conclusions can be drawn which encourage some degree of optimism.

The first of these conclusions concerns the *problem of a subsidiary metal* which can be used in the future for monetary purposes in addition to gold. In practice, this applies chiefly to silver, because the amount of platinum available for this purpose is not great. To counteract the effect of the downward trend in the production of gold, will the world be able to devise a method which would partly restore silver without introducing bimetallic elements into the structure of the gold standard?

The second conclusion which can be drawn from the examination of the methods elaborated by Kitchin and Cassel concerns the problem of the use of foreign exchange, *as a new and economical form of monetary gold.* Foreign exchange which is held as a component part of the metallic reserves of the Central Bank of a country performs the function of gold in that country. If it performs the function of gold, it ought to be included in the statistics of the world reserves of monetary gold. The elimination, therefore, of foreign exchange of this kind from the reserves of gold when the question of the adequacy of these reserves is examined is not justified. The adherents of the 3 per cent inflow are continually making this error in their calculations, and unnecessarily increase the existing pessimism as to the future of the gold standard.

This is not merely an error in calculation, but an obvious contradiction. If the adherents of the 3 per cent inflow demand that reforms aiming at economy in the use of gold should proceed at a more rapid rate, *they must not ignore the results which have already been obtained in this respect.* The total amount of foreign exchange in Central Banks is at present about 2 billion dollars. This figure expresses the results obtained up to the present by this manner of economising gold. By eliminating this foreign exchange from the reserves of monetary gold, and by continuing to repeat that the minimum inflow should amount to about 3 per cent yearly, the adherents of this formula are bound to create the impression *that economy in the use of gold cannot mitigate the effects of a falling-off in the production of gold.* This is a striking contradiction which adversely affects the further development of the methods of economising gold.

One more conclusion can be drawn in addition to those which concern the use of a subsidiary metal and the use of foreign exchange as a form of monetary gold. Examining the total stock of gold, Cassel arrived at the 2.8 per cent formula. Examining the reserves of monetary gold alone, Kitchin arrived at the 3.1 per cent formula. The similarity of these two figures is obvious. It points to the conclusion that, between the total stock of gold and that part which is used for monetary purposes, there exists a closer relation than is generally thought to-day. If during the period 1850 to 1910 the total stock of gold increased on the average by 2.8 per cent yearly, and the monetary reserves by 3.1 per cent, the passing of gold from non-monetary to monetary reserves and back was a *more balanced movement* than is generally supposed. This is, in my opinion, the only lasting conclusion which may be derived from the laborious calculations made by Cassel and Kitchin. For the discovery of the existence of a more regular connection between the non-monetary and monetary parts of the total stock of gold enables us to hope that, in the future, in case of a deficit in the production of gold, the monetary part may be partly replenished by the inflow from the non-monetary part. Then the adverse influence of the decline in the production of gold on the economic life of the world can be attenuated, and it will be easier to ensure the efficiency of the reforms made in connection with the demand for gold.

This advantage does not, however, counterbalance the weak points of the doctrine of the 3 per cent minimum inflow. Exaggerated apprehensions as to the possible deficit of gold have so far brought about an undesired result; *instead of accelerating the reforms aiming at economy in the use of gold, they have retarded them.* Competition on the gold market has become more acute, because every bank desires to secure an inflow of at least 3 per cent and, what is still worse, the doctrine of the 3 per cent inflow diverts attention from the more deep-seated and fundamental factors which are responsible for the more important changes in the general level of prices.

Economists busy themselves too much in calculating whether or not the inflow of gold in a given year did, in fact, reach 3 per cent and pay too little attention to factors which often exercise a greater influence than gold on the level of prices.

CHAPTER IV.

DO WE SUFFER FROM THE SHORTAGE OF GOLD?

1.

The world level of wholesale prices has shown a downward trend since the year 1925. Up to October 1929, this trend was a moderate one. Since then, however, prices have fallen more rapidly and the year 1930 has consequently been a period of general economic depression. The output of all kinds of goods and international trade have decreased markedly, while unemployment everywhere—not excluding America—has reached abnormal proportions. The policy of cheap money pursued by all the leading Central Banks, although it has already lasted for a year, and although the discount rate in the chief countries has been reduced to the lowest pre-war levels, has not been able so far (October 1930) to master the situation.

On examining the causes of this marked decline of wholesale prices, the world was not slow to find a scapegoat. It has become a popular assertion, that the alleged " shortage of gold " is chiefly responsible for the fall in prices and the depression in production and trade. Such a diagnosis is of course a convenient one for journalists, who are fond of simple formulæ. Can we, however, find any strict scientific justification for it?

If we employed Cassel's formula, which requires a yearly increase in the production of gold amounting to 3 per cent of the total world supply of gold, we should be obliged to assume that we are indeed confronted with a shortage of gold. In the years under review, the yearly production of gold amounted to less than 3 per cent of the existing world supply of gold. Furthermore, the application of Cassel's formula seems to be justified, for economic progress in 1925 to 1929 amounted on the average to at least 3 per cent per annum. Against the above-mentioned " pros " there are, however, many " cons ".

As we have seen in the preceding chapter, its statistical basis does not provide adequate justification for Cassel's formula. The average for the period 1850 to 1910 was calculated artificially, by eliminating silver. A no less important argument is the necessity of taking into consideration the progress made in economy in the use of gold for monetary purposes. The cheque turnover, the clearing of payments, the inclusion of foreign exchange instead of gold in the fundamental reserves of Central Banks and the steadily increasing concentration of free funds at the commercial banks, constitute a system of measures, which has already made substantial progress. This fact should not be neglected in examining the present conditions. Is it possible, however, to express in the form of a strict formula the influence exercised by measures which aim at reducing the demand for gold?

It is clear that the answer must be in the negative. Even if the 3 per cent formula for the inflow of gold were to be adopted, we should not know by how much this percentage should be lowered as various measures of economy were introduced. Since we are not able to do this, by

taking into consideration the effects of economy in the use of gold, we cannot satisfactorily apply such a formula, and in consequence we cannot regard it as a proved fact that since 1925 we have entered upon a period of a *secular* downward trend of prices, caused by an insufficient increase in the production of gold.

Kitchin's theory is as unsatisfactory from this point of view as Cassel's : The average inflow of new gold for monetary purposes amounted in the years in question to slightly more than 200 million dollars yearly. This is a smaller sum than the 3.1 per cent figure advanced by Kitchin would require. If, therefore, we were to adopt Kitchin's method we should be obliged to agree with Kitchin, as well as with Cassel, that we have entered upon a new period of a secular decline of prices caused by a shortage of gold. Kitchin's formula is not, however, better justified than Cassel's, but is, if anything, less so.

It is easier to understand why Cassel eliminated silver from calculations than why Kitchin did so. Such an elimination made by Kitchin, who adopted as his basis only the monetary stock and not the total stock of gold, can in no case be justified. Nor is it possible to apply Kitchin's formula without taking into consideration the reduction of the demand for gold effected by greater economy in the use of gold. The progress made in this direction cannot be expressed in the form of an arithmetical formula. Therefore, it is not possible to correct the 3.1 per cent formula for this factor, still less to apply it. Not being able to apply Kitchin's formula, we cannot regard it as a proved fact that since 1925, under the influence of the shortage of gold, a new period of a *secular* decline of prices has begun.

According to Cassel's doctrine we can speak of the shortage of gold *only* when a long-term downward trend of the general level of prices is noticeable. A shortage of gold causes a price fall of a secular and not of a cyclical character. In Cassel's opinion, short-term fluctuations of the general level of prices are not chiefly caused by a change in the production of gold, but result from trade cycles and the credit policy of banks. It may be supposed, therefore, that we are at present witnessing fluctuations which possess a short-term, cyclical character. By this reasoning, however, we lose all grounds for a discussion of whether or not these fluctuations are caused by a *shortage of gold*, because cyclical fluctuations, according to Cassel, *do not depend* on changes in the supply of gold.

The situation is different, however, when regarded from the point of view of Kitchin's doctrine, which distinguishes the so-called " effective " stock of gold—*i.e.*, the stock which is in the possession of Central Banks and State Treasuries from the total monetary stock. The total stock of monetary gold, in Kitchen's opinion, determines price-level fluctuations which possess a secular character. The " effective " stock influences fluctuations which have a short-term character. If, therefore, we take into consideration the period of an actual downward trend of prices, which began in 1925, and particularly the latest phase of it, which began in October 1929, we must confine ourselves, in suggesting possible causes of the crisis, to the changes in the " effective " stock of gold.

Do the changes in the " effective " stock justify the assumption that we are now confronted with a shortage of gold?

According to the statistics compiled by Sir Henry Strakosch in his memorandum written for the League of Nations, the reserves of monetary gold which are in possession of all Central Banks and State Treasuries (converted into dollars) amounted at the end of 1925 to 9,144 millions; of 1926 to 9,484 millions; of 1927 to 9,779 millions; of 1928 to 10,228 millions, and of 1929 to 10,519 millions.

It will be seen that the percentage increases from year to year amounted to : 3.7, 3.1, 4.6

and 2.8 per cent respectively. The average yearly inerease was about 3.5 per cent—in other words, it was higher than Kitchin's figures. The lowest rate of gold inflow—namely, that registered during the year 1929, corresponded exactly to Cassel's figure. It is obvious that we cannot speak of a shortage of gold during this period. The " effective " stock of monetary gold increased at a rate which to a large extent corresponded to the requirements of Kitchin's doctrine.

Both Cassel and Kitchin assert categorically that the demand for gold is reduced in proportion to the development of economy in the use of gold. We see from the above figures, however, that even if we ignore the effects of economies introduced in the use of gold, the inflow of gold in this period was more than sufficient, provided that the calculations of Kitchin and Cassel are accurate. In spite of this, prices showed a downward trend throughout the period, and since the autumn of 1929 the fall of prices has entered upon an acute phase, which bears no relation whatever to the somewhat lower figures for the inflow of gold in 1929.

An explanation was soon found for this situation. The sterilisation of gold by some Central Banks was made the scapegoat. This sterilisation is said to exist where the Central Bank does not use the gold, which it receives for a further expansion of credit. The gold acquired is held in the vaults of the Bank and does not contribute to increase the monetary circulation, except for the amount of notes which the Bank issues in paying for it. Such a sterilisation of gold was and is a frequent event. Not only in America and France does it occur, but at times also in many other countries. Even England is not free from this sterilisation, for during the period in question (1925-1929) her Central Bank not merely did not increase the volume of credit granted to the market, but considerably diminished it.

The result of this is that the amount of the effective inflow of gold is artificially reduced by the amount of gold which lay idle during the year. In this way, the doctrine has been saved. We forget, however, that only does the sterilisation of gold take place from time to time, but methods of economising gold improve. Sterilisation and economy thus constitute two distinct features of bank policy. If we wish, therefore, to estimate correctly the " effective " stock of gold (which may be considered as a liability) and the progress in economising gold (which may be considered as an asset), both aspects of the question must be taken into consideration. To take the sterilisation of gold into consideration while ignoring the economy would be a misleading and one-sided method of book-keeping.

It would be difficult to establish in figures the progress of the economy of gold in all its forms. There exists, however, one form of economy which can be expressed in accurate figures. I refer to the increase in the foreign exchange reserves of Central Banks.

Foreign exchange as a component of the fundamental reserve—according to Cassel and his adherents—is as good as gold. When the Central Bank purchases foreign exchange, it increases its issue of notes in the same manner as when it purchases gold. By including foreign exchange in its fundamental reserve, the Bank raises its reserve ratio against its liabilities and can increase the amount of credit, since credit is granted on the basis of reserves. Foreign exchange as a component of the fundamental reserve is a new form of monetary gold, and as such it exercises an influence on the level of prices similarly to that of monetary gold. Therefore foreign exchange which serves as cover for the issue of notes should be considered along with gold when we speak of " effective " reserves. Anyone who does not apply this principle, but instead reduces the " effective " stock by taking account only of the sterilisation of gold, is practising a one-sided form of book-keeping.

The sterilisation of gold has undoubtedly played a certain rôle during the period in question.

The inflow of foreign exchange to the Central Banks, however, has played not a less important rôle, but, on the contrary, an even more important one. This inflow, according to the *Bulletin Mensuel de Statistique* and the *Recueil Mensuel de Statistique*, was as follows (in millions of dollars) :

At the end of		Absolute Inerease
1925	828	—
1926	1,120	+ 292
1927	1,333	+ 213
1928	1,847	+ 514
1929	2,208	+ 361

The percentage increase of gold and foreign exchange (let us compare this table with the preceding table, which illustrates the inflow of gold) amounted in the period in question to : 6.3 per cent for 1926, 4.8 per cent for 1927, 8.7 per cent for 1928 and 5.4 per cent for 1929. Even if we deduct from the " effective " reserves the amount of gold lying idle and the amount of foreign exchange—which, as, for instance, at the Netherlands Bank, is not included in the fundamental reserves—it will be seen that the combined inflow of gold and foreign exchange was considerably greater than the most rigid requirements of Kitchin's doctrine. It is absolutely impossible, therefore, to speak of a present shortage of gold.

The whole picture will appear still more interesting if we take into consideration the figures which refer, not to the whole world, but to Europe alone. The reserves of gold in the Central Banks of Europe (excluding Lithuania, Estonia and Danzig) at the end of 1925 amounted to 3,231.9 million dollars. By the end of 1929, these reserves had increased to 4,751 million dollars. Over this period of four years the increase amounted to 47 per cent, or about 12 per cent yearly. The combined reserves of gold and foreign exchange increased from 3,948.5 million dollars at the end of 1925 to 6,969.4 million dollars at the end of 1929. The increase for the period of four years amounted to 76.5 per cent, or about 19 per cent yearly. In the face of such figures, the fact that a sterilisation of gold is practised by some Central Banks from time to time is deprived of any real significance. If we take into consideration the sterilisation of gold, the figures for the average inflow of gold will be made somewhat smaller, but it is absolutely impossible to reduce the percentage increase from 12 or 19 per cent yearly to below 3.1 per cent yearly.

The simultaneous inflow of gold into the United States of America in the same period of four years was only 5.5 per cent or a little less than an average of 1.4 per cent yearly. The inflow into America was thus below Kitchin's figure, while the inflow into Europe was much above this figure. America is benefiting by an abundance of gold previously accumulated, for which reason there is no talk of a shortage of gold there. In the meantime, Europe considerably raised its reserves. At the end of 1929, the two leading economic centres of the world, Europe and the United States of America, possessed reserves of gold, or of gold and foreign exchange, greater than those required by Kitchin's doctrine. Why, then, did a fall in prices and a depression in production and trade, which later became more acute in Europe than on other continents begin in October 1929 in America?

The sterilisation of gold in America can be partly explained by the necessity of keeping special reserves as cover for the short-term deposits held on that market by the Central Banks which apply the gold exchange standard. America must reckon with the potential demand for her gold which is represented by the above-mentioned deposits of foreign Central Banks. These Banks have a right to American gold, a right which cannot at the moment be enforced, but which

may be enforced at any time in the future. The net reserves of gold in America are, in reality, smaller than the figures officially published, for unenforced rights to American gold which often exceeded one billion dollars during the period in question should be deducted from this figure.

The same situation exists on the London market, where there are likewise a considerable amount of deposits held by foreign Central Banks which apply the system of the gold exchange standard. The net gold reserves of the Bank of England are smaller than those actually published for from there also we should deduct the amount of the non-utilised rights to English gold held by those Central Banks which hold their reserves of foreign exchange in London and at any time may demand that these reserves be exchanged for gold. Under the influence of this potential demand for English gold, the Bank of England was obliged during this period to reduce the volume of commercial credit granted by it to the market, and was compelled almost always to maintain its discount rate at a higher level than that of New York. This was also a quasi-sterilisation policy, which aimed at protecting the existing reserves and increasing them to above 150 million pounds.

The French sterilisation is a more instructive case. In the period in question, Paris did not play an important part as a market for the deposits of foreign Central Banks. The Bank of France was not burdened by a potential demand on the part of these banks. The reserves officially published were in fact net reserves, because it was not necessary to deduct from them the amount of the non-utilised rights of foreign banks to French gold. In the period under review, such rights amounted to so little that they can be excluded from our calculations. Accordingly, the French sterilisation, which has assumed considerable proportions in the years 1928 to 1930, must be ascribed to other and more complicated causes.

In examining the figures of the French sterilisation, it is usually forgotten that, during the period from the effective stabilisation of the franc in 1926 to the legal stabilisation in the summer of 1928, the Bank of France accumulated an unusually large amount of foreign exchange. This was the result of a temporary application of the gold exchange standard. Although the Bank of France has abandoned this system since the summer of 1928, it possesses, in addition to the legal reserves of gold, a secondary reserve in the form of foreign exchange previously accumulated. The latter has gradually diminished while the reserves of gold have increased. If we compare the end of 1928 with the end of 1929 we find the following figures (in millions of dollars):

	End of 1928	End of 1929	Increase or Decrease
Reserves of gold	1,247	1,637	+ 384
Reserves of Foreign Exchange..	1,287	1,021	— 266

The supply of gold increased during the year 1929 by 384 million dollars but meanwhile the reserves of foreign exchange decreased by 266 million dollars. The net increase thus amounted to 118 million dollars. Only in 1930 did it occur that the imports of gold to the Bank of France were not accompanied by an equivalent reduction of the foreign exchange reserves. This, however, is to some extent connected with the difficulties of production and trade in 1930 because the French commercial banks, which could not easily invest their abundant free funds, engaged in large gold arbitrage transactions.

In hard times even a small profit on large transactions has its importance for a bank, which is obliged to earn profits for its shareholders. The Paris banks therefore threw their foreign exchange reserves on the gold market, and this they could do freely for, if they needed foreign exchange, they could partly buy it from the Bank of France and simultaneously the market was

fed by Treasury sales of its foreign exchange reserves to collective bodies. The public foreign exchange reserves have played and continue to play the decisive part in determining the proportions and the rate of the inflow of gold. I have discussed this subject already in the chapter dealing with changes in the operation of the gold standard, and I shall return to it again in one of the later chapters, which deals with the co-ordination of the different forms of the gold standard.

As far as the gold which flowed in in exchange for the foreign exchange reserves is concerned, we cannot say that there was any active sterilisation on the part of the Bank of France. Rights to gold were then changed into actual gold, but this change did not *ipso facto* bring about any difference in the volume of the monetary circulation. The note circulation diminished by the amount which the market spent on buying foreign exchange from the Bank of France, but increased by the amount which the Bank paid for the gold delivered to it. As the Bank had previously accumulated excessive foreign exchange reserves which it was not able to utilise as a basis for the expansion of credit, *the sterilised foreign exchange reserves could not have been changed into non-sterilised gold.* As far, therefore, as concerns imports of gold effected at the expense of the excessive accumulation of foreign exchange, the Bank of France cannot be said to have pursued a deliberate policy of sterilising the imported gold.

The question arises, however, whether or not the Bank of France pursued a policy of sterilisation in relation to those gold imports which were effected without a simultaneous reduction in its foreign exchange reserves. This suggestion may seem justified at first sight. It is, however, refuted by the fact that during the period 1928-29, while the whole world was suffering from deflation and dearness of credit, France was a happy island where liquid short-term capital was available in abundance. During that period, the discount rate of the Bank of France was not raised even once, nor did the Bank resort to any restrictive measures of deflation. On the contrary, in the summer of 1929 the Bank of France participated in the creation of the new Acceptance Bank and granted it a discount credit of five hundred million francs, even before it began its activities.

In view of these facts, can we say that there was any *active* sterilisation on the part of the Bank of France? Can we assert that such a sterilisation was artificially and deliberately forced upon the market by the Bank of France? Was not the reverse rather the case?

We can speak of active sterilisation only when the Central Bank manipulates its discount rate in such a way as to check the expansion of credit or reduce the volume of existing credit by making it dearer. In the period under review, no such sterilisation took place in France. Imports of gold steadily continued in an atmosphere of excessively abundant short-term capital and the cheapest discount credit on the European continent. French sterilisation, therefore, was not an active, but a passive one. It did not proceed from the Bank of France to the market, but from the market to the Bank.

2.

One of the most important causes of the French sterilisation lay in the policy of the French Treasury, and not in the policy of the Central Bank. Immediately after the *de facto* stabilisation of the currency and the balancing of the budget, free capital began to accumulate in France on a large scale. The repatriation of French capital which, during the inflation period, had gone into investments abroad, contributed to this in large measure. On the other hand, with the system of taxation which existed at that time in France, the outflow of surplus capital

in the form of long-term eredits to foreign countries was rendered difficult and almost impossible. This taxation amounted to nothing less than an export duty on capital which effectively prevented a free exchange of capital between the French market and the other countries of the world.

France thus beeame an island of cheap money in the ocean of dear money. Having more liquid eapital than was needed, the market seldom appealed to its Central Bank, which, in spite of an inflow of forcign exchange—and, later on, an inflow of gold—could not utilise its increasing reserves for credit expansion for the simple reason that the market was not in need of credit. Therefore, the passive sterilisation of gold became a vital necessity under the conditions caused by the fiscal embargo on the export of capital.

This circumstance will doubtless remind the reader of another fact—namely, that in some quarters in the City of London, and on Wall Street, in 1930, the opinion was expressed that the chief cause for the acute phase reached in the economic crisis was to be found, not in the shortage of gold, but in the mistaken policy of the chief money markets. Without discussing whether or not this was in fact the case, we can, and undoubtedly should, state that, in the absence of a *free international exchange of capital, the distribution of gold is subject to disturbances.* The difficulties which lie in the path of international economic exchanges do not facilitate a reasonable distribution. From this point of view, local sterilisation is rather the effect than the cause of the evil—rather the symptom than the source of the disease.

The distribution of gold in the world is still far from perfect. America possesses more than 40 per cent of the total reserves of monetary gold of the world. She accumulated her reserves partly during the war and partly in the years immediately following. Similarly the neutral States, such as Spain, for instance, accumulated during the war excessive reserves in relation to their economic requirements. The endeavours of America in the summer of 1927 to give back part of her surplus gold ended in failure in the course of less than a year. The policy of cheap money which was then initiated caused speculation on the Stock Exchange instead of the rise in the general level of priees, whieh would have led to an outflow of gold not soon likely to return. As a result, America was obliged, in the summer of 1928, to embark on a policy of dear money, in consequence of whieh she soon regained the gold she had previously lost.

Simultaneously, France began to act as a magnet for gold. In the first place, she did not abolish the barrier which was checking the free outflow of capital. Having at her disposal a large amount of foreign exchange, she also benefited by her privileged position on the gold market because gold arbitrage under these conditions could be more lasting and effective than on other markets. Abnormal conditions caused an abnormal accumulation of gold.

The redistribution of gold has thus proved, in practice, more difficult than was generally anticipated. It could not have been otherwise, however, because a reasonable distribution of gold requires a free international economic turnover. This is the *conditio sine qua non.* The international movement of gold cannot proceed smoothly when the movement of other economic values is hampered by artificial impediments. This applies, not only to the exchange of capital, but to all other goods and services, and constitutes the *essential* point of the question. Nevertheless, it is too often asserted, both verbally and in print, that the better distribution of gold depends on the goodwill of Central Banks. It is frequently argued that countries which have gold in abundance should " put their surplus at the disposal of the rest of the world ". " Put at the disposal " sounds delightful; but is it enough? Does it mean that someone else can promptly possess himself of the gold and take it home?

No one receives gold gratis. It must be purchased, paid for. If an inflow of gold is desired by a country it must obtain a surplus of income in its transactions with other countries. The

capacity to attract gold thus depends not so much on the production of gold in the world as on a favourable balance of foreign payments, which itself depends primarily on *a sound national economy*. With an adverse balance of payments, an inflow of gold is possible only in the form of foreign loans. These loans, however, must in time be repaid. In this case also, therefore, an excess of revenues over expenditure must sooner or later be secured.

The same applies, as we have already seen, to the home market. The amount of credit based on the gold reserves of a Central Bank depends, not only on the issuing capacity of the Bank and its willingness to discount commercial paper, but also on the ability of the market to utilise this credit. With a large trade turnover, the number of bills increases, but, when commercial transactions are small, it diminishes. The volume of trade turnover, however, depends not only on the amount of gold in a Central Bank and on the increase of industrial and agricultural production under the influence of larger credits, but also on the buying capacity of the home market. When this lags behind the increase of production, temporary and relative over-production is bound to ensue, and prices begin to fall in proportion to the liquidation of stocks.

The volume of trade turnover then diminishes, and at the same time decreases the production of commercial bills, and the bill portfolios of the Central Banks begin to shrink independently of the state of their reserves. We have seen this happen in 1930. This year, Europe has sterilised part of her reserves in gold and foreign exchange, not because she wished to do so, but because she was compelled.

It is also too often forgotten that the credit of a Central Bank, based on gold, is a means of *financing production and not consumption*. If the increase of production, stimulated by the inflow of credit, outruns the increase in the purchasing power of the ultimate consumer, the equilibrium of production and consumption will be upset to the disadvantage of the producer. Supply then exceeds demand, prices begin to fall, and trade stagnation sets in. Under these circumstances, neither a large increase in the production of gold nor a faster inflow of gold into the Central Bank can be used as a *direct* means of alleviating the situation. When the Bank is obliged to sterilise part of the gold reserves which it has at a given moment, it is naturally obliged to sterilise any new inflow of gold also.

Relative over-production cannot be cured by giving more credit to production.

The assumption that the present crisis is a result of the shortage of gold is partially based on the illusion that we buy goods and services with money. In reality each of us buys goods out of his income, and money—*i.e.*, gold—is only the measure in which this income is expressed.

The amount which we can buy on credit is also limited by our income, the size of which determines our capacity to pay. A person who buys more than his actual income permits must incur debts. A person who incurs debts exceeding his capacity to pay, as fixed by this actual income, is bound to become bankrupt.

Credit does not make income larger, but constitutes a burden on it.

Income is not a monetary phenomenon, although it is expressed in terms of money. The income of an individual is a fraction of the national income, and the size of this fraction in a given year, like the size of the total national income, is not a monetary phenomenon, although it is expressed in terms of money.

The size of the national income and its proper distribution depend primarily on *a sound national economy*. Bad economy cannot be directly cured either by a change in the rate of gold production or by a change in the rate of gold inflow.

Prices play the part of a regulator of the process of restoring equilibrium between production and consumption. In this respect, no better mechanism has so far been invented. Opinions

are not lacking that the present crisis can be cured only by a fall in prices, sufficiently large to increase real purchasing power to the point where demand would equal the present supply. The question arises, however, whether the fall in prices which has taken place in the last few years has in fact simultaneously raised the real purchasing power of the mass of consumers—in other words, whether the index of retail prices has fallen as rapidly as the index of wholesale prices.

Our experience has been quite the contrary. The index of retail prices, which determines the real value of individual incomes, has shown a strong resistance to the decline. The fall in retail prices has everywhere been belated and very moderate, and, in some places, it has not taken place at all. In the past few years, the value of gold as measured by the index of wholesale prices has shown a different tendency from that displayed by the value of gold as measured by the index of retail prices. It has even happened from time to time *that the value of gold has increased for the producer and simultaneously diminished for the consumer.* It would be difficult to find a more eloquent paradox.

This is an indication of the complexity of the post-war world economic situation. The theory that the alleged shortage of gold is the chief cause of the evil does not suffice to explain the present situation, while references to the sterilisation of gold explain it even less.

3.

The example of France affords proof that the impediments which hamper the free exchange of capital exercise an adverse influence on the international distribution of gold. Nor is the distribution facilitated by the obstacles which hamper the international exchange of commodities and services in general. We live in a period of widespread protectionism. Even in the City of London, the fortress of free trade, opinions are ever more frequently expressed in favour of the adoption of a policy of protection. Barely four years have elapsed since the publication of the famous Bankers' Manifesto of October 1926, and we are already awaiting a new manifesto and a new diagnosis of the situation.

A revision of the views expressed four years ago has become necessary on account, not only of the recent considerable increase of Customs duties in America, but also of other experiences acquired in the course of the past few years; for economic developments have refuted the diagnosis established by the manifesto four years ago.

The diagnosis ran as follows : " The return to prosperity is retarded by the extent to which tariff barriers, special licences and prohibitions since the war have been allowed to interfere with international trade ". This applied particularly to trade barriers " jealously guarded by the new countries ". " The breakdown of great political units in Europe dealt a heavy blow to international trade. " As a result " *prices have risen, artificial dearness has been created, production as a whole has been diminished* ". In view of such consequences, " the breaking-down of the economic barriers may prove the surest remedy for the stagnation which exists ". The diagnosis and the remedy so formulated constituted the leading principles of political and economic ideology in the past four years.

What answer, however, has the experience of these last four years given?

The statistics published by the League of Nations in its Memorandum on Production and Trade for the years 1923 to 1928-29 reveal that in the years 1926-1928 the total population of the world increased by only about 2 per cent, whereas the production of foodstuffs and raw

materials increased by 8 per cent, and world trade by 11 per cent. Production and trade continued to increase up to October 1929, in which month a widespread economic recession began. More interesting, however, are the figures which refer to Europe alone. The production of foodstuffs in Europe (excluding Russia) during the period 1926-1928 was greater than elsewhere. As regards the rate of increase in the production of raw materials, Europe ranked second, South America taking the first place. The expansion of international trade for the whole of Europe was less than for Africa and South America, *but the indices for Eastern and Central Europe were the highest in the world.* The rate of increase of production and trade in Europe was more rapid than in North America, although in that country also the year 1928 brought new record figures.

The above statistics reveal in the first place that the group of countries situated in Central and Eastern Europe showed the highest level of commercial expansion during the period 1926-1928. The world's record figures were registered in the territories where " the breakdown of great political units " had previously taken place. As a result, German exports stood first in 1929 as regards their rate of growth.

Exports from Germany in 1928 to the new countries which were created out of the territories separated from pre-war Russia compensated for the large decline in German exports to that part of pre-war Russia included in the Soviet Union. Exports from Germany to the Succession States already exceeded in 1925 the imports from Germany into Austria-Hungary in 1913. On the other hand, German exports to the western countries with which Germany had been at war did not reach pre-war figures until the end of 1928.

I do not make this statement to defend the position of the new States but to show by an example that the opinion which has been formed under the influence of the Bankers' Manifesto is not justified by facts and figures. The consequences of protectionism are by no means such as were anticipated in the Bankers' Manifesto. We have seen : (1) that, in spite of very high tariff barriers, the new States are increasing the scale of their imports at a rate not less fast, and in some cases even faster, than the old States whose tariff barriers are said to be lower; (2) that world production " as a whole " not merely has not diminished, but has increased to such an extent that the world is suffering from relative over-production; (3) that wholesale prices not merely have not risen, but have, in the last few years, shown even a pronounced downward tendency, and (4) that not merely is " artificial dearness " not noticeable, but the real value of salaries and wages has increased.

We are confronted with a paradox.

Protectionism applied in the past ten years by the old and new States has led to relative over-production, to the decline of world wholesale prices and to the lowering of the cost of living. This is just the contrary to what was expected. Prices instead of rising are falling, the cost of living instead of going higher tends even to be lower, and production " as a whole " increased to such an extent during the period 1926-1929 that, in 1930, the whole world is passing through a period of a relative over-production and a general economic crisis.

The most striking feature of the situation is the fall in the world level of prices. The general race in raising tariff barriers has not only not secured a raising of the general level of prices, but has not even succeeded in protecting it against the downward influences which have been apparent since 1925. Were we to calculate the percentage increase in the rates of the Customs tariffs in the various countries and, on the basis of these fiscal coefficients, correct the corresponding price indices of those countries, we should arrive at the conclusion that the fall in world prices was in reality much greater.

We have thus another paradox.

The protectionism of the period 1925-1930 rendered the fall in prices less acute, and thereby tended to diminish the proportions of the economic crisis. In view of this fact, it is obvious that protectionism neither is nor was the source of the malady; it is only one of its symptoms.

This does not mean, however, that protectionism should be accepted as a principle.

By hampering the free exchange of commodities, protectionism makes the reasonable distribution of gold more difficult. Although America puts her gold at the disposal of the other countries, Europe is not able to retain the gold it purchases. Nor is it less true that protectionism has an undesirable effect on the investment of capital. The world is suffering to-day, not from a shortage of gold, but *from a scarcity of long-term capital, and protectionism must be held in large measure responsible for this scarcity.* It is not, however, the sole cause, because the effects of this system in practice are contrary to what was anticipated. The paradox that lies in the fact that protectionism diminished the rate of the decline of prices during the period 1925-1930 compels us to regard the present policy of protection as *one of the symptoms*, and not as the essential root of the trouble.

The present crisis cannot be satisfactorily explained either by an absolute shortage of gold, or by the relative shortage caused by sterilisation, or by protectionism. Deeper causes must exist, both for protectionism and for the illusion that there is a shortage of gold.

4.

From the theoretical point of view, the production of a given country is equal to its national income. Our purchasing power is as large as our production. From the ideal point of view, the adjustment of production to consumption must sooner or later be reached. Absolute over-production can never exist, but from time to time a relative over-production develops when the apportionment of production, which is equivalent to the apportionment of the national income, is not carried out in the proper way. Not only the production, but also the distribution of goods, is governed by definite laws.

Whether we have equilibrium or disequilibrium in the exchange of goods depends on the way in which this distribution proceeds; in other words, on the question whether the road which leads from the producer to the ultimate consumer is a short or a long one, and whether it is a smooth road or one made difficult by impediments.

The year 1930 affords an excellent example of this. Millions of unemployed are suffering from hunger, while in North America, the Argentine, Australia and Europe agricultural countries are hard hit by the low prices of agricultural products. Cuba is full of sugar, Brazil of coffee. Nor is the situation better as regards the raw materials which are necessary for industrial production.

Where is the chief cause of such large disturbances in the distribution of goods to be found?

On the home market it is not the total national income which plays the part of the consumer but the fractions of that income which are in the hands of individuals. It is the *dynamic* function of individual incomes which is of chief importance in the exchange of goods and services.

The relevant statistical data do not give a clear picture at first glance. In the majority of countries the indices of production have considerably increased as compared with 1913. The value of foreign trade per head of population is also higher at present. In the majority of cases the aggregate national income, as well as the average income per head of population, has likewise shown an increase. According to these indices one would not expect to find that the increase in

demand has lagged behind the increase in supply, especially in those countries which show a considerable increase of national income per head of the population. Nevertheless, the economic crisis exists, and it is not a purely local but a world phenomenon. There must be some serious defects in the dynamic rôle of national income which are responsible for the fact that the actual consumption capacity of the market is still lagging behind the actual supply.

This is, in fact, the case. The army of unemployed continues to be a heavy burden. Although the total number of unemployed in the whole world may be lower than that registered ten years ago, the progress made in the last five years cannot be regarded as satisfactory. If we take the average number of unemployed in England in 1924 as 100, we shall get the figure 105 for the year 1927 and 107 for the year 1929. The same is noticeable in Germany and many other countries.

We should, moreover, include in these calculations the number of partly employed workmen and their families, and take into consideration that at present, in the majority of European countries, the labour of Government officials is not paid for as it should be, and that the standard of living of the non-manual worker has not yet reached the pre-war level.

The same applies to the rentier class. In the countries which passed through a period of inflation, although savings have increased considerably, they have not yet reached the pre-war level. The income which the investor receives from his capital is, in most countries, a relatively small part of the total national income, and the part which it plays in consumers' markets is of proportionately lesser importance.

Finally, there is a third factor which exercises a retarding influence on the rate of progress in rebuilding consumption. It is the resistance of the index of retail prices and of the cost of living to any decline. In the advantages which come with a fall in wholesale prices, the salaried class of the population does not participate to any but a very moderate extent, and to the small extent to which it does participate the participation is considerably delayed. We observe this clearly in the last four years. During the period from April 1925 to the end of 1929 the indices of wholesale prices and the indices of the cost of living showed the following changes :

	Wholesale Prices Index	Cost of Living
England	— 22.5 %	— 5.2 %
United States of America	— 13.5 %	— 0.6 %
Germany	— 6.1 %	+ 11.5 %
Sweden	— 25.1 %	— 5.6 %
Switzerland	— 18.3 %	— 4.7 %
Netherlands	— 12.8 %	— 6.7 %

For the countries which have stabilised their currencies since 1927, a similar comparison, covering the period from the end of 1928 to the end of 1929, gives the following picture :

	Index of Wholesale Prices	Cost of Living
France	— 10.9 %	+ 1.9 %
Belgium	— 6.7 %	+ 5.6 %
Italy	— 9.4 %	+ 1.4 %

The resistance of the cost of living to any reduction is striking. In England, the difference between the wholesale price index and the cost of living in 1925 amounted on the average to

14 points, whereas, in 1929, it amounted to 26 points, the margin having thus increased by 12 points. For Germany, the corresponding figures are 1.5 in 1925 and 17.2 in 1929. In Netherlands, the difference between these indices increased from 6 points in 1925 to 10 points in 1929. For Sweden the corresponding increase was from 15 to 29 points; for Switzerland from 7 to 20 points.

These facts show that the mechanism of prices, which operates as a regulator of the relation between supply and demand, is not working as it should. The fall in wholesale prices and particularly the fall in the prices of raw materials does not exercise its due effect on retail prices, and it is these latter which are of the greatest importanee to the ultimate consumer. In consequence of this, the buying capacity of the ultimate consumer does not increase, because the real value of his income does not increase in the proportion in which the index of wholesale prices falls. As a result, the economic crisis is bound to become protracted and complicated to the extent to which the index of retail prices lags behind the index of wholesale prices.

The difference between the level of wholesale prices and that of the cost of living in some European countries is alarming. We have seen in the table above, that, in Germany, during the period from April 1925 to the end of 1929, the index of wholesale prices fell by 6.1 per cent while the index of the cost of living rose by 11.5 per cent. During the year 1929, the index of wholesale prices in France fell by 10.9 per cent, while that of the cost of living rose by 1.9 per cent. In Belgium, in the same year, wholesale prices fell by 6.7 per cent while the cost of living rose by 5.6 per cent. Italy registered a fall of 9.4 per cent in wholesale prices, with a simultaneous rise of 1.4 per cent in the cost of living. In these four countries, which play an important rôle in the world's economic life, the value of gold was increasing for the producer and *decreasing* simultaneously for the ultimate consumer.

My readers will at first be astonished when I tell them that the cause which first checked the fall of retail prices was *the too rapid transference of American industrial methods to Europe.* I refer to the use of large sums of capital for the technical rationalisation of industrial undertakings. The idea of lowering costs of production, by producing in large quantities is both correct and sound. There is, however, a reverse side to the medal. Mass production requires mass sales, and only with mass sales can the cost of production of an individual article be lowered.

Technical rationalisation calls for large investments of capital. Owing to this, the coefficient of interest due and amortisation of capital tends, in the calculation of costs, to increase in proportion to the coefficient of the cost of labour, raw materials and subsidiary materials. Before rationalisation, costs representing interest paid and amortisation of capital constituted a smaller item in the total costs of production. Since rationalisation, these costs are higher and moreover they constitute a *fixed* item. Thus, the coefficient of the varying costs of production diminishes in proportion to the coefficient of the fixed costs.

If a firm manufactures its articles more rapidly and in larger quantities owing to technical improvements, and can easily sell this extra production, the higher costs for interest and amortisation of capital are spread over the large number of articles sold, and a reduction in costs of production is obtained. The situation is different, however, when the sale of the extra output is impossible, for, in that case, the additional goods contribute only to increase of stocks.

Then the increased fixed costs—interest paid and amortisation—constitute a heavy burden on that part of the output which is sold. The reduction of costs proves, in practice, a failure, and cannot be expressed in the form of a lowering of prices to the consumer. As one of the German economists (Dr. F. Pinner) rightly observed, the reduction of costs thus becomes an *expansion* of costs.

Side by side with technical rationalisation, there has taken place a concentration of industrial undertakings in the form of cartels with the object of jointly fixing selling prices. In those countries in which not only a rationalisation but also a concentration of industrial undertakings has taken place, the prices of industrial goods show a still larger resistance to any decline.

As a result, the volume of business done on the home market does not expand sufficiently under the influence of the fall in the prices of raw materials. Trade does not increase, and, as a consequence, the fixed costs of production, which have been increased by technical rationalisalisation, become a burden on the articles which are sold, for their number is not sufficient to reduce the costs of production. We repeat once more what we said at the beginning. The reduction of costs of production and retail prices is possible only *with an increased turnover*. When the volume of business done diminishes, the reduction of costs becomes illusory, and the reduction of prices is rendered difficult.

Technical rationalisation requires, not only a full or an almost full employment of the machinery, but also mass sales. It is clear, therefore, that the transfer of American methods to Europe can, in practice, bring about a reduction of costs only when mass production is accompanied by mass sales.

America embarked on this policy after the war, having high wages, an extensive home market cheap investment capital, and a favourable trade balance with the rest of the world. Europe, began recklessly to imitate the American methods, utilising money borrowed at high rates in America, despite the fact that she had lower wages, disorganised home markets, and an adverse balance of payments with the rest of the world. With different general conditions, the application of the same methods could not, and could not be expected to, give the same good results.

In the light of the above arguments, it is possible to understand the resistance shown in the past few years by the prices of industrial articles to any decline. The same resistance was also displayed by the cost of living to the ultimate consumer, although agricultural production has suffered the greatest fall of all in wholesale prices.

In Europe, rationalisation and amalgamation were effected in a far lesser degree in agricultural production than in industrial production. Agriculture, by its very nature, cannot be easily adapted to American industrial methods. In spite of this, the index of the cost of living rose in Germany in 1929 from 154.1 to 155.7, in Austria from 119 to 123, in France from 109 to 118, and in Italy from 140 to 144. The cost of living to the ultimate consumer in many countries increased simultaneously with a heavy fall in wholesale prices for the agricultural producer.

This riddle is easily understood if we take into consideration the second cause of the resistance of retail prices—namely, *the excessive burden of taxation*, which is imposed, not only on industrial production, but also on all other branches of national economy. It is not only the production of goods but also that of services, not only industrial production but also agricultural production, trade, transport and finance, that have to bear this heavy burden. Even consumption is not exempt, for more numerous Customs, excise and monopoly duties are imposed on it, than before the war.

The increased pressure of taxation is raising the fixed costs of the production of goods and services. In commercial calculations, the fiscal factor plays an even more important part than the factor of the service of the loans which represent the borrowed capital. These two factors taken together tend to raise the fixed costs in commercial enterprises above a reasonable level.

When trade turnover diminishes, as long as variable costs constitute the greatest part of the costs of production, and industrial undertaking can more easily cut down expenses by reducing the variable costs of production. This was the case before the war. The situation

has changed to-day. Where fixed costs tend to be as great as variable costs, the reduction of the latter cannot give sufficiently favourable results to permit of a substantial reduction of selling prices. *The calculation of costs is deprived of its elasticity.* We are then confronted with another paradox. Workers' wages in Europe have begun to be relatively too high, although they are still below the American level. In many European countries where the real value of wages is still lower than before the war, the level of wages is considered by the producer to be excesssively high.

We are thus in the presence of a very dangerous phenomenon. The excessive increase of the fixed costs of production (1) prevents industrial producers from *adjusting their prices* to the diminished trade turnover during an economic crisis, and (2) renders it more difficult to *raise* wages during periods of prosperity in order to increase the national market.

5.

The excessive weight of taxation is everywhere noticeable and is the subject of constant criticism. Nevertheless, I feel that it may be useful to quote some figures to illustrate the comparison between the burden of taxation and the average national income per head of population. As basis for this comparison, I shall take the years 1913 and 1928 and the corresponding figures in dollars.

In England the average national income per head of the population increased by 65 per cent, while the annual budget revenue showed an increase of 346 per cent. In France, income per head of population fell by 6 per cent while the total budget revenue increased by 82 per cent. In Germany the corresponding figures are + 43 and + 142 per cent; in Italy, — 3 and + 145. Even in the United States they are + 121 and + 458 per cent.

In the above estimates I have taken into account only the weight of taxation imposed by the Governments. We know, however, that the taxes paid to local authorities and for social insurance showed an equally pronounced increase in the same period.

This unusual increase of taxation is the outcome of a reckless expansion of public expenditure. In the countries which I have mentioned above, the increase of expenditure in 1928 as compared with 1913 amounted in England to 344 per cent, in France to 82 per cent, in Germany to 134 per cent, in Italy to 130 per eent and in America to 434 per cent. The expenditure of local authorities in England increased at the same time from 169 million pounds sterling in the fiscal year 1913-14 to 519 millions in the period 1926-27. The total expenditure of the Government and local authorities in England increased by more than one billion pounds. In Germany the expenditure of the central Government, the States forming the Union, and the local authorities reached the sum of 19 billion marks in 1927, while, in 1913, the corresponding total was only 7 billions.[1]

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[1] F. K. Mann, in his pamphlet (" Finanzwissenschaftliche Forschungen ", Gustav Fischer, Jena, 1930), states that the fiscal burden in leading countries constituted, in the year 1928, from 20 to 25 per cent of the total national income in that year. In 1913 in the same countries the fiscal burden varied only from 10 to 14 per cent. The increase of the public share in the national income rose by about 100 per cent. Calculations for Germany made by Edbert Münzer ("Dynamischer Staatshaushalt", Gustav Fischer, Jena, 1931) reveal a still more striking ratio. Total fiscal revenue of the Federal State, States forming the Union and municipalities represented 30.1 per cent of the national income in 1928, whilst in 1913 it was only 16.2 per cent. If we add to the above also revenue collected by all other public bodies in Germany, the total share in the total national income was 53.3 per cent in 1928! More than 50 per cent of the national income in Germany was absorbed by all public authorities and bodies in 1928!

In the majority of cases, expenditure connected with post-war reconstruction had been incurred in the first five years following the war. In spite of this, Governments, as well as local authorities, continued in the following years to increase their budgets. With such a policy, it is not astonishing that the accumulation of liquid capital in Europe is not making sufficiently rapid progress, and that the indices of retail prices show too great a resistance to decline during periods of economic depression.

When, with diminished trade turnover and falling wholesale prices, budgets do not show any diminution, the percentage share of the State in the national income increases. Owing to lower prices and diminished trade turnover, taxation becomes relatively heavier even when tax-rates remain practically unchanged. In Europe, the real pressure of taxation on national incomes is everywhere increasing at present, thereby more and more effectively checking the domestic accumulation of capital.

If the State were to take only half the amount which it is taking at present, the remaining half would constitute a reserve fund for productive purposes. This is not the case, however, and it is precisely for this reason that, in periods of economic recession, States are so often compelled to play the part of creditors, which is not one of their primary functions. Since the war, the importance of State Banks has considerably increased, and budget funds are frequently used for industrial investments.

The State, taking too large a part of the national income, is obliged to perform some of the functions which had hitherto been left to private initiative. This unsound practice cannot be neutralised by the fact that, by increasing its expenditure, the State thereby directly increases its purchases on the home market and indirectly increases the purchases made by Government officials, who live on salaries paid out of public funds; for if its functions steadily expand, the State is not able to remunerate its officials adequately for their labour. In the majority of European countries, public service is not paid for as it should be, nor can it be otherwise. With the present system of increasing expenditure, an excessively large part of the national income is used *for the production of services at the expense of the production of goods.* An increasingly large part of the national income is absorbed by the expansion of the functions of the State, and that part which is left for the further development of production diminishes relatively, inasmuch as *it increases less rapidly* than the part allotted to the production of public services.

The amount spent on public services is increasing more rapidly than the average individual income. *Every citizen receives more and more assistance and protection from the State at the expense of the production of daily bread.* By checking the rate of increase of the accumulation of capital, the State checks the growth of the national income. *By checking the growth of the national income the State checks the rate of increase of consumption capacity.* If the accumulation of capital were not checked by excessive taxation, private initiative would have a better chance to develop, *the distribution of income among individuals would be more reasonable,* and the consumption capacity of the home market would increase more quickly.

In the past five years, Governments have encouraged their home industries to carry through technical rationalisation by means of money borrowed abroad at high rates. They have thus encouraged an increase of production and brought about a situation in which a large home market and large trade turnover have become more and more indispensable. Simultaneously they have increased the size of their budgets, using a larger and larger part of the national income for the production of public services at the expense of the production of goods. *By thus checking the rate of accumulation of home capital they have checked the rate of increase of the national income*

and hindered its proper distribution. While with one hand they have encouraged an increase in supplies, with the other they have checked the increase in purchasing power.

Thus there exist simultaneously two divergent trends. *The conscious fostering of the increase of supply has been accompanied by the unconscious checking of demand.* With such a policy an economic crisis *was bound to be created.* And, in the future, *short boom periods will continue to be followed by protracted periods of depression,* if such an unsound policy, involving so many contradictions, continues to be pursued.

To give a true diagnosis of a malady so complicated as the world economic depression is by no means easy. Whether my arguments are sufficiently strong and have exhausted the matter may be open to question. I believe, however, that I have succeeded in pointing out the chief cause of the present difficulties. Undoubtedly this cause is to be found in the excessive way in which public expenditure has expanded since the war. If this be true, *the reduction of public budgets appears to be our most urgent and important task.*

Without a reduction of public expenditure, it will be impossible to lighten the excessive burden of taxation which hinders the domestic accumulation of capital and thereby checks the rate of increase of individual incomes. *As long as we do not accelerate the rate of increase of individual incomes, we cannot accelerate the rate of growth of consumption capacity.* This is the central problem of the present economic situation in Europe. Unless this problem is understood, we cannot delude ourselves with this belief that the fight against protectionism will bring about practical results, and that a further technical rationalisation of production will restore the equilibrium between supply and demand.

Protectionism is neither the cause of the trouble nor a remedy for it. In this respect, both the supporters and the opponents of high tariff barriers are wrong. With the present steadily increasing scale of public expenditure, the lowering of tariff barriers will have to be compensated for by the raising of other forms of taxation, and it will, therefore, bring about no practical results, because an increase in the burden of taxation, or even its stabilisation at its present levels, will continue to check the rate at which the accumulation of capital increases, and thereby the rate of increase of incomes, by which consumption capacity is in large measure determined. I personally believe that customs tariffs should be lowered. I do not believe, however, that such action will have a good effect unless it is *preceded* by a reduction of public expenditure, without which we cannot expect any reduction of taxation.

My thesis is clear and simple. *The reduction of public expenditure is indispensable to any effective reduction of tariff barriers.* To attack the tariff barriers while still tolerating the present scale of public expenditure would be fruitless.

The same can be said of the technical rationalisation in Europe. I am just as great a supporter of rationalisation as I am an opponent of protectionism. I believe strongly, however, that the effectiveness of rationalisation, as of the reduction of tariff barriers, depends *primarily* on their being *preceded by a reduction of public expenditure.* Without that it will be impossible to reduce taxation, and this is indispensable if *the ratio of fixed to variable costs in commercial undertakings is no longer to move in a direction detrimental to the ability of the undertaking to adapt its selling prices to its diminished turnover.*

I now return again to my main thesis. My diagnosis is as follows. *Too large a part of the national income is used for the production of public services at the expense of the production of daily bread.* In checking the domestic accumulation of capital by excessive taxation, public bodies thereby reduce the rate at which income increases. *With incomes increasing at a slow rate, we cannot expect a rapid rate of progress in the rebuilding of consumption capacity. For buying capacity*

depends primarily on the size of income. In the light of what has been said above, it cannot be doubted that the most important problem facing the world at present is to secure a *sounder ratio between that part of the total income allotted to the production of public services and that allotted to the production of goods.*

6.

Let us now suppose, for example, that the State takes the whole net profits produced during the period of a year in a given country, so that nothing remains to be added to the total of productive capital. The inhabitants of that country will not be able to raise their standard of living or to save. The individual income will not increase, and, at the same time, real purchasing power on the home market will remain stationary.

It cannot be questioned that a State which takes more, also spends more. *Instead of its citizens having a higher standard of living, more is spent on public life.* This is not, however, a satisfactory compensation for what is lost by such a distribution of the national income.

The State does not purchase all kinds of goods, but only special kinds. In this respect, it does not possess a great elasticity. The State spends money primarily to pay labour in return for services. As a producer of goods, the State confines itself to producing war material, means of communication, and other types of goods which possess a special public importance. The State does not produce bread, clothing, machinery, luxuries, etc. Therefore, if the State takes from its citizens their entire net profits, it is to spend this money for the production of public services, or of a limited selection of goods, possessing a special public importance. Then the production of public services and goods of public importance will increase *at the expense of other goods of normal everyday consumption.*

When it hampers the domestic accumulation of capital the State does not compensate for the deficit which it causes by accumulating capital itself. The State spends money; it does not save it. Only under the pressure of an economic crisis, when the industrial structure must be saved from bankruptcy does the State give credit out of public funds. This is relief credit and not normal credit. Thus the results cannot be the same as when the market is fed by capital drawn from the savings of the community. The object of Government credits is then to preserve the existing state of affairs, not to promote progress.

The machinery by means of which the State collects its share of the national income is taxation. Direct taxes reduce the nominal income of its citizens. Indirect taxes reduce their real income by raising prices. The longer the road which a commodity has to travel from the factory to the hands of the ultimate consumer *the greater is the influence of taxation on the retail price of that commodity.* It is generally known that the effect of Customs tariffs is the same; but it is forgotten that protectionism exercises only a limited influence. The resistance of the index of retail prices to reduction in spite of a fall in the prices of raw materials which are free from import duty or benefit by preferential rates shows very clearly the extent to which the pressure of taxation, together with the Customs, which is only one of its elements, exercises a disturbing influence on the circulation and exchange of goods.

If, in taking the country's total net profits, the State were to use them in large measure to raise the salaries of its officials, their standard of living would rise, the demand for goods on the home market would receive a stimulus, commercial turnover would increase in the following year, and both agricultural and industrial production would find partial compensation in increased

returns. If, however, instead of a rise in salaries and wages a further expansion of public services takes place, the standard of living of the officials will not rise, the demand for goods will not be stimulated, and commercial turnover will not show any appreciable improvement. To-day, this latter condition prevails. The level of Government officials' salaries systematically lags behind the increase in State budgets. No wonder, therefore, that the volume of demand, the volume of real purchasing power, does not rise in proportion to the increase of rationalised production.

The above picture, based on the hypothesis that a country's total net profits in a given year are confiscated, is clear. The consequence of this confiscation is that a disturbing influence is exercised on the circulation and exchange of goods by the excessive pressure of taxation. The situation is no different—in principle—when the State takes, not the total net profits, *but too large a part of the national income.* The effects of this policy make themselves felt in the same way. The accumulation of capital cannot proceed with sufficient rapidity, the level of individual incomes does not rise in proportion to the growth of production, and the *absorption capacity* of the increasing population diminishes.

In the summer of 1930, the total number of unemployed in the world reached about 11 millions. Add to this number of unemployed workers their families, as well as the total number of partly-employed workers and their families, non-manual workers, and Government officials, whose labour in the majority of countries is not sufficiently well paid, as their salaries and wages are raised at a slower rate than that of the increase of the burden of taxation. These figures show only too clearly that *world economy is suffering from an undue increase in public budgets, and from the resulting shortage of capital.* This evil is the origin of the disproportion between the rate of increase of production and the volume of real purchasing power, as a result of which a serious crisis in the exchange of goods was bound to come.

No wonder, therefore, that under these conditions the first post-war decade has been one of short periods of prosperity and long periods of recession or depression. The situation will not improve in the second decade if public expenditure and the excessive burden of taxation which results from it continue to grow. After short periods of improvement we shall again witness protracted periods of recession or depression.

7.

If we bear this in mind, it is clear that the abnormal distribution of the supply of gold cannot be cured unless the errors of world economy are corrected previously, or at the same time. The distribution of gold is the result of the general world economy. Bad economy creates bad distribution. Good economy causes good distribution. When neither the exchange of capital nor the exchange of human labour enjoys freedom of movement in international relations good economy is lacking. In certain countries, taxes hamper the movement of capital. Customs duties everywhere hamper the exchange of goods. Immigration restrictions prevent the free circulation of people from one country to another. Is it to be supposed, then, under such conditions, that gold abnormally distributed as it is now in consequence of the war, can be reasonably redistributed?

America, where more than 40 per cent of the world's reserves of monetary gold are concentrated, continues to enact more and more rigorous immigration restrictions, and has raised her Customs barrier to an unusually high level. At the same time, she demands that Europe should pay off her huge war debts. In what way can Europe make this payment, when she is finding

more and more difficulty in exporting her goods and labour? Under such conditions it is meaningless to state that Ameriea has put her gold " at the disposal " of thc world. Europe cannot make use of this offer, for she cannot buy this gold in such a way as to ensure that it will remain in Europe and will be reasonably distributed. Up to the present France alone, out of the whole of Europe, has been able to withdraw gold from the American reserves, and it may be doubted whether in the long run this will prove lasting.

Such a policy may bring about a gradual decline in the American standard of living to the European level instead of the reverse. Until this has been done, the repatriation of European gold from America cannot be successful and permanent.

By raising loans in America and changing part of these loans into gold, Europe can from time to time create the illusion of repatriation. But this is not a lasting repatriation, for, later on, Europe is compelled to give back the gold, the inflow of which was artificial and premature.

To sum up, *the period* 1925 *to* 1930 *was marked in particular by an excessive expansion of public budgets.* Protectionism was only the most obvious symptom of this unsound economy, and the difficulties which prevent a better redistribution of the gold supply are among its consequences.

The fall of priees during this pcriod was not the result of the shortage of gold—still less of the sterilisation of gold on the part of some Central Banks. Were the sterilisation policy the cause of the present crisis, a change in that policy would promptly change the situation. *A whole year, however, of a cheap money policy has not brought any positive results.* Nor could it be otherwise, because the credit granted by Central Banks does not finance consumption, but production. *Relative over-production cannot be cured by financing production more generously. Credit does not in itself increase the borrower's income; on the contrary, it creates an additional burden on that income.* Therefore, the possibility of increasing the demand on the home market *in the long run* does not depend on the volume of debts, which constitute a burden on income, but on thc size of the income.

The period of declining prices from 1925 to 1930 docs not mark the beginning of a long downward trend of prices, possessing a secular charaeter, and due to the present shortage of gold. It is not the shortage of gold that is the cause of the depression but an unsound world eeonomy which, through excessive public expenditure and too heavy taxation in all its forms, is responsible for the fact that the rate of increase of income, which determines the buying capacity of thc home market, lags behind the rate of increase of production. It is not surprising that, under these conditions, the general level of prices is subject to such changes as it would be subject to if a shortage of gold did in fact exist.

State Socialism, *increasing the production of public services at a rate which is not commensurable with the accumulation of capital for the production of the necessaries of life*, has become the predominant doctrine throughout the world. To check, and especially to reduce, the expansion of State budgets will not be an easy task, in spite of the painful experiences of the present crisis. If State Socialism continues to dominate world economy in the future the influence of the decline in the production of gold which is anticipated in a few years on the general level of prices will be doubly strong.

With an unsound general economy the danger of a scarcity of gold is *twofold.* From this point of view, economy in the use of gold for monetary purposes is of *primary and decisive importance* to the future of the world.

CHAPTER V.

ECONOMY IN THE EMPLOYMENT OF GOLD.

1.

A shortage of gold has a depressing effect on prices. To-day, even before the falling-off in the production of gold has begun, a similar influence is being exercised by excessive public expenditure, and the allotment of too large a proportion of the national income to public bodies. Exaggerated public expenditures makes periods of prosperity comparatively short and periods of business recession and depression comparatively long. There will be no change for the better, either now or in the future, if the mistakes which are being made in world economy are not rectified. The later the reform of public budgets is begun, the greater will be the depressing effect of the weight of taxes and Customs barriers on trade cycles.

If, with such conditions existing, gold production should begin to fall off, the general level of world prices will be caught between two fires. The depressing effect of great public expenditure will be added to by the depressing effects of the shortage of gold. At the same time, the consequences of the shortage of gold will be aggravated by the depressing influence of great public expenditure. The danger arising from an insufficiency of gold is doubled, and economy in the employment of gold for monetary purposes becomes a problem requiring prompt attention.

We have seen in Chapter I, when dealing with the changes in the structure of the gold standard, that, during the first ten years after the war, reforms were effected of which some were consistent with the principle of economy and some were not. The former should be *consolidated and improved*, and the latter *abolished*, if the world is to avoid serious disturbances in the general level of prices and in its further economic development.

Among the changes consistent with the spirit of economy, there stand out the reduction in the circulation of gold coin, and the concentration of gold at the Central Banks. The reduction in the amount of gold coin in circulation has its good and bad aspects. The greater importance of the good aspects, however, is so apparent that detailed discussion of this subject seems superfluous. The public has lost the habit of using coin, and now increasingly prefers modern means of payment. Even the use of notes in lieu of coins is gradually giving way to the use of cheques, which are circulating more and more widely. Consequently, attempts to return to a gold coinage are, it is plain, not only harmful from the standpoint of economy in the use of gold, but also illogical. If the development of the technique of payments leads to a more widespread use of cheques at the expense of notes, any attempt to return to the circulation of coin can only be considered a backward step.

This would be an anachronism, inconsistent with the progress of civilisation in the monetary sphere. Consequently, it is probable that the promise to exchange notes for coin contained in the latest Statutes of the Central Banks of France and Switzerland will remain a dead letter.

Similarly the effort to bring gold coin into circulation which was contemplated in Italy in 1930 will also probably fail, as did an earlier attempt in the Netherlands. These attempts are echoes of past times which will never return; they are a tribute to old traditions.

A similar anachronism is the circulation of gold certificates fully covered by gold, a form of currency greatly employed in the United States of America. Any further postponement of the gradual extinction of this form of gold circulation is indefensible. The circulation of gold certificates is tantamount in practice to that of gold coin, and the concentration of gold at the Central Banks is therefore incomplete to the extent to which there are gold certificates in circulation. If America were an isolated island, she could afford to continue to maintain this costly form of monetary circulation. But as she is not, she should, in her own interest, withdraw these certificates as rapidly as possible, in order to co-ordinate her bullion policy with that of the rest of the world.

The concentration of gold at the Central Banks by the withdrawal of gold coin and gold certificates from circulation, and by the liquidation of the gold reserves of commercial and State banks and public treasuries, is a sound policy. As a result of this policy, gold coin is more and more being replaced in international transactions by gold bars. This form is more convenient, and it already plays a predominant part. If, in addition, a uniform standard of fineness were adopted, the technique of international transactions would be further improved. The greatest advantage which results from the concentration of gold at the Central Banks, however, is the bank's increased ability to expand credit.

A concentration of gold does not, of course, increase the gold holdings of a country, but it ensures its more effective employment for credit purposes. The supply of gold does not increase, but the rôle it plays in the market gains in relative importance. In the face of the threatened falling-off in the world production of gold, however, this reform would be insufficient if it were not accompanied by further reforms relating to the demand for gold. The scope for possible reforms in this direction is greater, and their consequences are more far-reaching, than in the sphere of gold concentration.

In the matter of economy in the demand for gold, the primary factor is the gold exchange standard. Under this system, the Central Bank includes in its fundamental reserve not only gold, but also, and as an equivalent, foreign exchange convertible into gold without limitation as to amount. The foreign exchange purchased is not spent on importing gold, but remains abroad, placed to the credit of an account with a foreign bank. This system has both advantages and drawbacks. The chief advantage is that the bank which purchases the foreign exchange neither converts it into gold nor brings it home. The change into gold is postponed, and the demand for gold is thus temporarily reduced. If, however, a bank employs the foreign exchange which forms part of its fundamental reserves as short-term capital for operations on foreign markets, then the situation becomes unsatisfactory. This kind of capital may easily be transferred in large amounts from one market to another, and may interfere with the discount policy of foreign Central Banks, and this in turn may provoke undesirable disturbances in money markets.

The movement of such foreign exchange from one country to another does not, however, have the same effect on the level of prices as the movement of gold. When a Central Bank purchases foreign exchange it increases the amount of its note issue, but at the same time there is no shrinkage in the credit structure of the country from which the foreign exchange flows out. The movement of foreign exchange has a one-sided influence on the credit structure, while the movement of gold has a reciprocal effect, credit being increased in the country receiving

gold and reduced in the country from which it is taken. As a result of this fundamental difference, the movement of foreign exchange also has a one-sided influence on the level of prices, for it cannot even up differences in price-levels to the same extent as can a movement of gold. This is undoubtedly a disturbing factor on the international market.

The most visible adverse influence of the gold exchange standard is its influence on the gold market. The steady accumulation of foreign exchange creates a potential demand for gold which constitutes a burden on those markets in which the foreign exchange deposits of Central Banks have been accumulated. The postponement of the acquisition of gold through the inclusion of foreign exchange in the reserve is subsequently compensated for by the accumulation of foreign exehange and the demand for larger amounts of gold. This potential demand has during the past few years exercised a particularly disturbing influence on the world gold market.

In my memorandum on the reform of the gold exchange standard, published by the League of Nations in connection with the Interim report of the Gold Delegation, I dealt in detail with thc disadvantages of this system. I shall confine myself here to quoting the paragraphs of that work in which I proposed the reform of the present practice.

> " The most vital problem with which we are confronted is, in the first place, to reform the gold exchange standard in such a way as to impart to it the character of a permanent system, and so to remove the apprehensions which it causes at present. . . . This purpose could be achieved if the Central Banks which apply the gold exchange standard included in their fundamental reserves only gold and demand deposits held on non-interest-bearing account with foreign Central Banks."

Instead of the present practice of Central Banks lending the foreign exchange which they purchase to foreign commercial banks, it would be advisable in the future for all such sums to be placed in the form of sight deposits held on non-interest-bearing account with the Central Bank of the country issuing the currency in question, with the reservation, however, that the foreign Central Bank would not employ for credit purposes the funds which it holds in this type of account. It would be desirable, indeed, that the Central Banks should show these accounts as a separate item on the liability side of their balance-sheets.

> " With such a system, if the Bank of Belgium buys a cheque on the Chase Bank in New York and orders the purchased amount to be placed to its own special non-interest-bearing account with the Federal Reserve Bank, the amount of purchasing power in America will in reality shrink and will counterbalance the simultaneous increase of the credit structure in Belgium."

A similar process takes place in the reverse situation.
We obtain then an important result :

> " The exercise of the ' rights to receive gold ' would be adjourned, without, however, its being possible to employ these rights to gold on two markets simultancously.''

In this way, the inflationary factor which to-day causes disturbances in world prices, on the money markets and on the gold market would be eliminated from international economic life.

The healthy features of the gold exchange standard could be maintained, while all that is unsound could be removed. Thus modified, the system could become permanent and smooth-working, and would cease to be temporary and transitory as it is to-day. The pressure exercised on the gold market by the potential demand would be lessened.

The statutes of certain Central Banks permit the inclusion in the fundamental reserves of foreign exchange exclusively in the form of deposits to their credit with other Central Banks. Greece and Bulgaria, where the statutes of the Central Banks were drawn up in accordance with the recommendations of the Financial Committee of the League of Nations, are examples of this. There is, however, a difference between such local practice and the system which I propose for universal application. The greater part of the foreign exchange held by Central Banks is placed with commercial banks, and if it were to be suddenly withdrawn and transferred to the Central Banks, such action might cause a disturbance of a deflationary kind, followed by undesirable consequences.

If the banks employing the gold exchange standard were to conclude a convention providing for the inclusion in their fundamental reserves of only those sums which are deposited with other Central Banks, they would have to arrange that this plan be carried out gradually. A convention of this kind is indispensable, because no Central Bank is prepared to renounce the profits accruing to it in the form of interest on foreign deposits, which profits frequently represent important items in the nation's balance of payments, unless other Central Banks are prepared to do the same. If a convention of this sort were to be concluded, then it should be carried out in such a manner that all purchases of foreign exchange would be deposited with another Central Bank, while all sales of foreign exchange would be made from the holdings in commercial banks. The influx of fresh foreign exchange would become part of the new system, while the reserves of foreign exchange deposited with commercial banks would gradually be liquidated. In this way, any sudden disturbance of the money market would be avoided.

An exception to the general rule should, however, be made for the International Bank at Basle. This Bank, although it is not a bank of issue, constitutes a centre of permanent and regular co-operation between Central Banks. This will become particularly apparent when the International Bank puts into practice Article 24 of its statutes, which provides for the creation of a separate group of deposits for banks of issue alone in order to facilitate gold clearing and the conversion of assets from one currency into another.

Deposits in gold will not cause any particular difficulty in the organisation of a clearing-house for sales and purchases of gold between the Central Banks. Much greater difficulties will arise in connection with the second category of deposits, those which are not paid in gold but in foreign exchange, as when a bank paying, for instance, in dollars receives the right to draw against that deposit in any other currency or, what is of the greatest importance, in gold.

Let us assume that such a system of foreign exchange deposits has been adopted. In this case, the International Bank, in order to avoid the risk of exchange losses, will have to re-deposit this class of deposits exclusively with the Central Banks in accordance with a special agreement concluded in advance, whereby the difference between selling and buying rates would be reduced to nothing. We will return later to this subject. For the time being, we shall confine ourselves to the statement that foreign exchange deposits of the class which come under Article 24 can be included in the fundamental reserves without difficulty, because they would have to be re-deposited with the Central Banks and not with commercial banks.

The problem is more complicated in the case of those deposits which do not come under Article 24. Even now, normal deposits of this class represent a considerable item in the balance-sheet of the International Bank. A portion of them is probably already re-deposited with Central Banks. The greater part of these holdings will, however, be deposited with banks which are not banks of issue. If the gold exchange standard were reformed as proposed above, these deposits would be eliminated from the fundamental reserve of the Central Bank. This

appears to be advisable from a purely theoretical standpoint. However, upon close analysis of the working of this class of accounts, cases will be found in which exceptions to the general rule may be held justified.

The International Bank has the right to invest its funds in any market, *but only with the approval of the local bank of issue.* If the local Central Bank regulates the inflow of funds from the International Bank with a view to reducing its portfolio of bills, compensation may follow. The whole deposit held with the International Bank, or a portion thereof, returns to the country in question, where it reduces the portfolio of the local Central Bank to a corresponding degree, or checks any further expansion thereof. Mathematically, these two kinds of transactions will not balance each other, but the average result for the whole world might be such that there could be no suggestion that the deposits held with the International Bank were leading to inflation. At the very least, this tendency would be considerably reduced. This influence would be neutralised by the other advantages accruing to world economy as a result of continuous and regular co-operation between the Central Banks and the International Bank.

One of the reasons why the demand for gold is so strong to-day is the destruction of capital during the great war and the subsequent period of inflation, and the slow progress which has been made in the accumulation of capital during the last few years. As a consequence, in the majority of countries, especially in Europe, industry and agriculture depend to a far too large extent on the credits granted by the local Central Banks. There are not everywhere commercial banks which have at their disposal sufficient funds for the economic activities of the country. The Central Banks have hitherto played too great a part on the credit market. Instead of being the ultimate reserve, they are, in the majority of cases, a direct source of credit. Such a situation is neither proper nor normal. The position may be changed by degrees as capital reserves are built up, commercial banks become better organised and larger deposits and savings than hitherto are made. The Central Banks may then resume their proper functions. Instead of furnishing credits for the daily needs of the market, they will gradually become, as formerly, institutions granting credit in cases of necessity.

As long as the Central Banks supply credits direct and on a large scale, their holdings of bills tend to increase excessively. This corresponds to an undue expansion of the note issue or of sight deposits. With over-expanded liabilities, the Central Bank must increase its fundamental reserve. Herein resides one of the supplementary causes for the great demand for gold.

Central Banks, even those applying the gold exchange standard, provide in their statutes for a minimum gold reserve. A typical instance is the Reichsbank, the basic reserve of which must be composed of gold to the extent of 75 per cent and of foreign exchange only to the extent of 25 per cent. If its liabilities increase quickly, its demand for gold must also increase. There is some relation between the increase in bills discounted and the demand for gold. The increase in bills discounted is accompanied by a simultaneous increase in calls for gold in order that the enlarged liabilities may still satisfy the legal requirements regarding gold cover.

Despite the steady rebuilding of capital, it is not yet as abundant as it was before the war. Conditions on the gold market would become easier if the International Bank were to replace the local Central Banks to a much larger extent in giving credit assistance to local commercial banks. If local commercial banks were given rediscount facilities at the International Bank, their call for credits on local Central Banks would diminish. The discounted bills of the local Central Banks would increase at a slower rate, and the demand for gold would be lessened because the banks' liabilities would increase less quickly.

If the discounted bills of the Central Banks increase, their liabilities must grow. If, however commercial banks receive foreign credits, the inflow of foreign exchange does not necessarily increase the note issue to an equal extent. The foreign exchange borrowed is included in the total foreign exchange reserve already held by the commercial banks. The banks may sell the whole or a portion of their foreign exchange without changing it for notes at the local Central Bank.

Deposits paid in by the Central Banks to the International Bank have now been returned to a greater or lesser extent to the markets of their origin. Under this system the activity of the International Bank not only levels up the interest rates ruling in the different markets, but may also check the growth of the liabilities of the Central Banks. These two advantages justify the exception to the general rule that deposits of Central Banks forming part of their fundamental reserves should be kept exclusively with other Central Banks.

From the theoretical point of view such exceptions must necessarily give rise to some misapprehensions. But, in practice, these theoretical imperfections are offset by the indirect advantages resulting from regular and close co-operation between Central Banks. The mere levelling-up of excessive differences in the rate of interest should lessen disturbances on the money markets, for the transfer of short-term money from one market to another will be a less speculative operation. Such a levelling-up, together with a decline in the rate of expansion of liabilities at the Central Banks, must sooner or later exercise a beneficial influence on the intensity of the demand for gold.

In summing up, we come to a conclusion of fundamental significance—namely, that *the accumulation of home capital helps to lessen the demand for gold.* A quick rebuilding of capital protects the Central Banks against undue expansion of their sight liabilities. This is the first and foremost advantage. A rapid increase in the accumulation of capital has an equally beneficial effect on the circulation of cheques. When capital is readily available, confidence on the market is enhanced, and all classes of credit documents circulate easily. When, on the other hand, there is a shortage of capital, payments are made with difficulty, and the circulation of cheques is thus impeded. There can be no doubt that the rapid expansion of the cheque circulation, and, in general, the expansion of the system of non-cash payments, also lessens the expansion of the sight liabilities of the Central Banks. It is possible, therefore, that this may also contribute towards a decline in the demand for gold.

Beyond question, too much anxiety is expressed about the production of gold and too little attention is given to the question of the accumulation of home capital, which tends to reduce the demand for gold.

2.

The concentration of gold at the Central Banks and the gold exchange standard constitute methods already in use for economising the gold which is employed for monetary purposes. To consolidate and improve these methods in a manner corresponding more or less to the opinions expressed above would not be very difficult. During the last ten years, however, reforms have been adopted which are contrary to the spirit of economy. Reforms of this kind should be changed or, at least, their influence on the gold market should be lessened.

This problem is more complicated. It involves, first of all, changes in the requirements regarding the minimum reserve to be held against notes in circulation and sight liabilities. As we have seen in Chapter I, minimum reserve requirements have become more rigorous since the great war. In an atmosphere of anxiety for the future of gold production, the statutory minimum reserve requirements have been raised instead of being lowered.

Before the great war the statutes of the majority of Central Banks required minimum gold reserves amounting only to one-third of the note issue. Other sight liabilities were included in the calculation of the reserve ratio only in exceptional cases. Since the war, the reverse process has taken place and it has become the rule for sight liabilities to be included. At the same time, the statutory reserve requirements have in many cases been increased from one-third to 40 per cent. Some banks even maintain a reserve ratio exceeding 40 per cent. The general result is that the legal requirements as to the minimum reserve are stricter to-day than before the war, although the falling-off in the production of gold at that time did not give rise to any such anxiety as to-day.

At the end of 1928, the grand total of notes in circulation plus other sight liabilities of all Central Banks in the world was about 24 billion dollars. The note issues amounted to 18 billions, while the balance of 6 billions represented other sight liabilities. The increase of the average minimum reserve in gold and foreign exchange from 33 to 40 per cent corresponds to an increase of about 1,700 million dollars in requirements of gold.

The minimum gold cover, if we eliminate foreign exchange, has remained practically at the pre-war level of about 33 per cent. It is, however, calculated not only on the amount of notes in circulation, but also on the other sight liabilities. The new method is much stricter. The result can be measured in figures. At the end of 1928, when sight liabilities totalled 6 billion dollars, gold requirements rose to one-third of that amount, or about 2 billion dollars.

Let us assume that Central Banks conclude a convention and reduce their minimum statutory reserve to the pre-war level. In that case, the amount of gold required for the existing note issues would drop by over 1,200 million dollars. The requirements for note issues together with the other sight liabilities would fall by about 1,700 million dollars. The first sum would be six times as large as the annual influx of new gold for monetary purposes (which is approximately 200 million dollars), and the second would be more than eight times as large as the annual influx. Whether the first sum or the second be taken, a substantial remainder is obtained, which could be used in the future for making good the deficit in the production of new gold, should this begin to decrease.

The danger of a shortage of gold would then disappear for several decades to come. Instead of being apprehensive of a lack of gold, it would be more reasonable to consider for a period the danger of an excess of gold. In the event, however, of the Central Banks concluding a convention as outlined above, they would without difficulty find means to protect the world from inflation.

The raising of the statutory reserve requirements is sometimes justified on the ground that gold is no longer in circulation. As long as there were large amounts of gold coin in circulation, the reserve at the Central Bank was a real reserve which could be drawn upon in case the balance of payments became adverse. The outflow of gold from the Central Bank was preceded by the export of coin from the local market. At present the reserve held by the Central Bank is not only the last but also the first and only reserve. The whole burden of any deficit in the balance of payments is now borne by the Central Bank, which lacks the protection formerly afforded it by the circulation of gold coin. It must also be taken into consideration that at that time coin was issued by the Mint and not by the Central Bank. The note issue of the Central Bank was in no way linked with the issue of coin. The gradual decline in the amount of coin in circulation has now radically changed the position in this respect. By concentrating gold, the banks have increased their note issue, and, in consequence, the volume of their sight liabilities has also risen.

From the above standpoint, the more rigorous statutory reserve requirements seem to be justified. Greater liabilities call for greater reserves. Such reasoning appears to be logical and justified by figures. The total gold reserves for monetary purposes in Europe in 1913 amounted to about 24.3 billion marks, of which the reserves at the Central Banks represented only about 14.3 billion marks, the remaining 10 billion marks being gold coin in circulation. Now that the statutory reserve requirements have been raised, the demand for gold does not stand in so high a proportion to those reserves as the pre-war coin circulation stood to the reserves at the Central Banks.

The logic of such reasoning is illusory. It is based on a confusion between the idea of a fundamental and that of a minimum reserve. It is true that a smaller circulation of gold coin justifies the maintenance of a larger fundamental reserve. But this is quite a different question from that of the necessity of increasing the minimum reserve. By concentrating gold for monetary purposes since the war, the banks have increased their fundamental reserves. By replacing with foreign exchange the gold which found its way to America, the European Central Banks had greater reserves in 1929 than in 1913.

Taking the world as a whole, the actual gold and foreign exchange reserves held against the total note issue and sight liabilities amount to about 50 per cent. In relation to the note issue alone, excluding sight liabilities, the actual ratio of the reserves in gold and foreign exchange eomes to about 67 per cent, or about 34 per cent more than the 33 per cent required as a minimum reserve ratio before the war.

If the pre-war reserve requirements had been maintained, the present situation would not have been any the worse. The gold and foreign exchange reserves would have been the same and their rôle in the stabilisation of currency would not have been altered. The working reserve, that is, the excess of gold and foreign exehange over the 33 per cent minimum, would have amounted to 34 per cent. With the raising of the statutory requirements for the minimum reserve, the working reserve—*i.e.*, the excess over 40 per cent of the note issue and sight liabilities, has now dropped to about 10 per cent. This fall not merely does not faeilitate, but actually hampers, the work of the Central Banks.

The withdrawal of gold coin from circulation makes it neeessary that the liquid, or working, reserve be maintained at a higher level than before the war. The increase in the statutory minimum reserve requirements has led to a diametrically opposite result. The volume of the liquid, working reserve—that is, the excess over the minimum reserve, *has decreased instead of increasing* —a most paradoxical result.

Those in favour of a higher minimum reserve may reply that the Central Bank has now the right to lower its minimum reserve, on condition that it pay a graduated penalty tax to the Treasury. Certain Central Banks, besides paying the penalty tax, must increase their rate of discount. The object of these measures is to permit the minimum reserve to be reduced below 40 per cent in exceptional circumstances. These measures, it is claimed, are both transitional and exceptional. In this way, the minimum reserve has been made more elastic. Before the war, it was smaller, but not as elastic as at present.

But this elasticity of the minimum reserve exists only in theory. In practice, the Central Bank never reduces its reserve below the statutory level. Even during the difficult period through which the Reichsbank passed in May 1929, the reserve ratio was not allowed to drop below the statutory minimum level. The Reichsbank preferred to adopt an exceptionally drastic discount policy, rather than avail itself of the right to reduce the minimum reserve below 40 per cent. Whether the statutes permit the reduction of the reserve ratio below 40 per cent or not, the

actual practice of Central Banks is the same : *the minimum reserve is untouchable.* The banks endeavour to operate with only the excess amount which they hold over the minimum reserve. This is the only real working fund.

What such a policy leads to is clearly shown by the example of the Bank of Poland in July 1925. The reserve ratio fell to 31 per cent. The minimum reserve required by the statutes was 30 per cent. In order not to find itself in an " illegal " situation, the Bank of Poland reduced its sales of foreign exchange, with the result that the zloty depreciated. This took place at a time when the foreign trade balance was improving, and when it seemed possible to stop the outflow of foreign exchange. After a period of 10 months the zloty was again stabilised, without the help of a foreign loan. This proves conclusively that in the summer of 1925 the economic situation of the country showed signs of a coming improvement. In spite of this, the Bank of Poland reduced its sales of foreign exchange and allowed the zloty to depreciate, because it had no right to go below the minimum reserve ratio fixed by the statutes.

The doctrine of the minimum reserve was adhered to. The country paid for it by sustaining the losses which resulted from the depreciation of the currency. A portion of the costs was also borne by other countries, for owing to the depreciation of the zloty the purchasing capacity of Poland diminished and her foreign trade dropped by half.

It is difficult to justify the views held to-day regarding minimum reserves, either from the point of view of the liquidity of the assets of a Central Bank, or from that of the necessity of possessing a special emergency reserve for unforeseen contingencies such as war and other catastrophes.

Before the great war, when notes were redeemed in gold coin, it may have appeared necessary that Central Banks should hold a certain minimum amount of coin which constituted their ready cash reserve, and was at the same time essential to assure them the unlimited ability to pay gold coin for bank-notes. This reasoning was based on the analogy with private banks, which were required by law or by custom to keep a portion of their funds in the form of ready cash so that they might at any time be able to repay deposits. The cash reserves held by private banks fluctuated between 10 per cent and 15 per cent of their deposits. One might try by analogy to justify the Central Banks maintaining a minimum reserve at 15 per cent. Another 15 per cent might be added to cover the possible necessity for unlimited sale of gold and foreign exchange in payment of foreign liabilities. In this manner, a minimum reserve amounting to one-third of the note issue appeared to be justified before the war.

This reasoning does not withstand criticism. The liquidity of a Central Bank, both before the war and at the present time, is gauged principally by the extent of the country's foreign rather than domestic business. A predominantly agricultural country requires greater reserves than a predominantly industrial one. The volume of the reserves required also depends on whether the country as a whole is a debtor or creditor. The difference in the position of various countries makes it impossible to fix the same reserve for all irrespective of whether they are predominantly agricultural or industrial, debtor or creditor. For some countries a minimum reserve amounting to 30 per cent may be too large, for others too small.

The situation is only aggravated by the fact that the minimum reserves of the Central Banks have been and are, both according to law and in fact, untouchable, a practice quite contradictory to the idea of liquidity. *The liquidity of the bank's funds cannot be increased by the creation of untouchable reserves.* It is inconsistent to seek to ensure the liquidity of a bank's assets and at the same time to require it to hold an untouchable minimum reserve. This is the more true since liquidity cannot be increased by an increase of the untouchable reserve.

Nor is the practice justified when the minimum reserve is regarded from the point of view of war requirements. The outbreak of war immediately results in the suspension of payments by the Central Bank. Unrestricted sales of gold and foreign exchange are stopped. Then the sound of the printing press is heard. If the Central Bank prefers not to increase its note issue, the State Treasury has to issue its own paper money. In either case the part played by the minimum reserve is in reality reduced to a minimum. The gain in time of war is too small to compensate for the cost of hoarding in time of peace.

The most eloquent argument against the theory that the minimum reserve should be untouchable is afforded by the experience of the Bank of France. The statutes of this bank from its establishment up to 1928 did not even provide for a reserve ratio. The law determined the maximum note issue, while the extent of the reserve was left to the discretion of the bank authorities. It was the duty of the authorities to operate with the gold reserve in such a manner as to ensure the convertibility of the notes into coin at all times without limit.. The statutes of the Bank of France took no cognisance of a fixed minimum reserve. In spite of this, the franc was held stable and no one in France or elsewhere had any doubts in this respect.

The example of France solves the problem, at least in theory. A currency may be stable without any legally fixed minimum reserve. Confidence in a currency may exist and increase even though the statutes of the Central Bank do not require that a fixed part of the reserve be held as an untouchable minimum. In view of this, authoritative persons are more and more frequently expressing the opinion that the provisions concerning the reserve ratio and in particular those dealing with the minimum reserve which exist at present should be removed. Professor Sprague is certain that " it cannot be too strongly emphasised that there is no particular ratio between the gold, on the one hand, and credit and currency, on the other, that is required to support and to give strength to the credit structure ".[1] Professor Cassel[2] goes further, and simply calls all statutory reserve requirements " thoughtless " traditions.

From the theoretical point of view it is difficult not to agree with these critics of the reserve ratio and the fixed minimum reserve. As far as the liquidity of the funds at the Central Banks is concerned, the minimum reserve does more harm than good. In case of war, the part played by the minimum reserve is so small that it does not cover the cost of hoarding it in time of peace. The example of the Bank of France before the war shows that, for the stability of the currency and in order that the people may have confidence in it, it is not necessary that it be secured by a fixed reserve.

It must, however, be admitted that the case of the Bank of France was exceptional. The great majority of Central Banks followed the principle of the reserve ratio, and their statutes provided for the maintenance of a minimum reserve. The public has grown accustomed to this and has come to believe that the minimum reserve is indispensable, and that its violation may prove exceedingly harmful to the stability of financial life. This, however, is nothing more than a popular tradition. It cannot be justified in theory. Nevertheless it must be recognised that it is deeply rooted in public opinion and plays an important part as far as the confidence in a currency is concerned.

It is easy to prove that the very idea of a minimum reserve is out of date. It is more difficult to uproot the traditional view on this subject, because the public, which employs the currency and

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[1] " The Working of the Gold Standard under Present Conditions ", in the *Proceedings of the Academy of Political Science* for January 1930.

[2] " Wandlungen in Wesen de Goldwährung ", 1930.

has its own views on the matter, is not composed of financial experts. For this reason, we must admit that the abolition or reduction of the statutory requirements regarding the minimum reserve appears to be premature under the present conditions. It is not so much the size of the minimum reserve that is an anachronism, as *the faith in its inviolability.* Before public opinion becomes sufficiently educated to permit of the abolition of the reserve ratio, *the public faith in the inviolability of the minimum reserve must be shaken.* The idea of inviolability is undeniably out of date, and compels the banks to create excessively large reserves of gold, despite the menace of a future shortage.

In reality, the situation is paradoxical. Nevertheless, it is impossible to ignore the views held on currency matters by the man in the street, who is not an expert and takes little interest in expert opinions.

A compromise between theory and practice is indispensable. Such a compromise might be reached on the following lines : *a minimum reserve should continue to be required by the statutes, but only a portion thereof should be legally tied up in such a way that the bank authorities cannot employ it without amending the statutes.* The minimum reserve would then cease to be uniform, as it is to-day. It would be *divided into two separate parts—the one violable, under certain conditions as defined by the statutes, and the other inviolable without amending the statutes.* The man in the street would not be abruptly and entirely deprived of his fetish, while the bank authorities would have greater freedom in employing the portion conditionally available.

Under the present system of a uniform minimum reserve, the bank has the right to reduce it on condition that it pays a graduated penalty tax and increases the discount rate correspondingly. In theory the authorities of many Central Banks have the right to reduce the minimum reserve to nothing as long as they pay the penalty tax and increase the rate of discount. In practice, however, this is impossible : the penalties are too severe. For this reason no bank is willing to touch the minimum reserve, for such action would give rise to general anxiety, criticism and loss of confidence.

The creation of a fictitious elasticity has not eliminated the dogma of inviolability. This is understandable. As long as the man in the street, burdened with his traditional faith in the inviolability of the minimum reserve, does not have a portion thereof legally fixed as untouchable he will continue to consider the *whole* minimum reserve as untouchable.

In the first place, the minimum reserve must be split up by the elimination of the untouchable portion, so that the whole of it will no longer be considered as inviolable. The psychology of the man in the street, which cannot be changed from day to day, calls for this step.

If a convention aiming at the reform of the present minimum reserve requirements were to be concluded on the above principles, it would not be too difficult to find a half-way solution. The minimum reserve might be reduced to its pre-war level of 33 per cent, and, at the same time, the legally untouchable portion of the reserve might be fixed at 20 per cent of the note issue and sight liabilities. A reduction of the reserve below 33 per cent might be permissible on condition that the rate of discount be raised on a graduated scale. *The penalty tax should be discontinued, or at least made less severe.* The portion of the reserves which lies between 33 and 20 per cent would thereby be made more useful. The portion up to 20 per cent would remain legally untouchable. The amount above 33 per cent would constitute a working reserve, greater than that which at present exists, and more effective, since it could be reduced to below 33 per cent. The demand for gold and foreign exchange would decline in proportion to the reduction of the minimum reserve.

At present, the fundamental reserve is composed of two parts : the minimum and the working

reserves. Under the new system there would be *three parts instead of two namely, the untouchable, the conditionally—available, and the working reserves.* Their relationship to each other might be fixed in various ways. One of these has already been mentioned—namely, to decrease the minimum reserve to 33 per cent and, at the same time, to fix the untouchable portion at 20 per cent, and to increase the ability of the bank to make use of the part between 33 and 20 per cent. This is, however, not the only possible combination. The figures, of course, do not matter; what is essential is the principle on which they are based. This principle is as follows: *The untouchable part of the minimum reserve must be fixed by law in order to facilitate the use of the rest of that minimum reserve.* The adoption of this principle will make it easy to effect a compromise between theory and practice, and to fix the proportions more accurately than above.

There are reasons for believing that the output of gold will begin to decrease. In anticipation of this, the old stocks of gold accumulated at the Central Banks should be mobilised. To achieve this, the statutory requirements concerning the minimum reserve should be amended. The complete abolition of these requirements would set free an excessive quantity of the old gold, and might cause a glut. At the same time, it would weaken confidence in general. A less radical reform, representing a compromise between theory and practice, would be safer. Before the minimum reserve requirements are completely abolished, the ground must be prepared by splitting the minimum reserve into two parts, of which one should continue to be untouchable so as to ensure greater freedom in the employment of the other.

3.

The reduction of the minimum reserve from 40 to 33 per cent would automatically increase the working reserve. If, at the present time, the actual reserve in gold and foreign exchange against the notes and sight liabilities for all the Central Banks in the world is taken to be about 50 per cent, then the working reserve, which at present amounts to about 10 per cent, would be increased to 17 per cent. In this manner, the liquidity of the Central Banks in their international relations would be enhanced, while, at the same time, their capacity to supply discount credits to the internal market would increase. This good result could be still further improved if, when decreasing the minimum reserve to 33 per cent, the Central Banks could, at the same time, return to the pre-war method of calculating the reserve ratio exclusively in relation to the note issue, regardless of sight liabilities.

From a theoretical point of view, the addition of sight liabilities to the note circulation appears to be quite proper. Holders of sight deposits at the Central Bank may, at any time, withdraw them, and the volume of the note circulation is then automatically increased. Such deposits originate in notes which the bank had previously placed on the market. These notes, although they return temporarily to the bank in the form of deposits, continue to act as a means of payment, and therefore, in the same way as the notes which are in circulation, they influence the level of prices. Payment effected by a cheque on a Central Bank has the same economic significance as payment in cash.

In practice, however, this problem is more complicated. Deposits with Central Banks have special functions, different from those of deposits with commercial banks. They represent a mechanism for facilitating non-cash payments. There is a strict relation between what happens in the clearing house and the total of sight deposits at the Central Bank. The transfer of funds from one account to another decreases the amount of ready cash required. This system is

advantageous not only to the bank, but also to all who keep their accounts there, and for that reason it never happens that all depositors decide to liquidate all their accounts at the same time.

The surface of the mass of sight liabilities is constantly moving, but the bottom remains intact.

The ratio of the changeable stratum to the constant stratum depends on various circumtances, and is difficult to express accurately by a percentage formula. But one thing is certain, and that is that the total of sight deposits never falls to zero. Complete liquidation would be impossible, for it would mean the destruction of the whole clearing mechanism, and non-cash payments would be made impossible. The idea that a time may come again when all payments will be effected in cash is fantastic. For this reason, it is doubtful whether the addition of the total of sight liabilities to the note issue is as well justified as it appears at first glance.

The pre-war system of eliminating sight liabilities when calculating the reserve ratio gave rise to doubts which were theoretically justified. The post-war method of adding the total sight liabilities to the note issue gives rise to doubts which are practically justified. The most logical arrangement would be a compromise system under which *only a portion of the sight liabilities would be added to the note issue.* The changeable upper stratum of these liabilities, if we may use this expression, should be added, while the lower stratum—that is the amount below which the sight liabilities never fall under normal conditions, should be excluded. The determination of the ratio between the two portions is a matter of secondary importance.

There may be several more or less justified combinations from which one could be chosen according to local conditions. The problem requires detailed investigation. It may be that it would be practical to adopt the same percentage as the statutes of the banks fix for the minimum reserve. Where the reserve amounts to 33 per cent, 33 per cent of the total sight liabilities might be eliminated from the calculation of the reserve ratio, the remaining 67 per cent being added to the notes in circulation.

The application of the same figure of 33 per cent in both cases would have the advantage that if the minimum reserve requirements were reduced, the amount of sight liabilities added to the note issue would be automatically increased. While the requirements were diminished in one direction, they would simultaneously be increased in another. The one would compensate for the other, and the compromise between theory and practice would be both logical and practical.

With the present system, under which notes and sight liabilities are regarded as identical, the sum total of these liabilities is not subject to rapid fluctuations. When deposits increase the note issue shrinks, and vice versa. One roughly compensates for the other. This being so, the requirements for gold are not being increased any more rapidly, now that the practice of adding both classes of liabilities together is well under way, than they would have been had it not been introduced. The difference is a matter of only a few per cent.

The situation was, however, very different during the period of transition from the pre-war to the post-war system. On the day when the banks began to add sight liabilities to the note issue, the demand for gold and foreign exchange showed a sudden increase. At the end of 1928, the total of the note issues of all the Central Banks in the world exceeded 18 billion dollars. The sight liabilities amounted to 6 billion dollars. Against the first liability only, the gold reserves held by the Central Banks at the end of 1928 represented a cover of about 56 per cent. With the sight liabilities added, then, the same gold reserve gives a cover of only about 50 per cent. The fall comes to 6 per cent, and means an increase in the demand for gold amounting to about 1,500 million dollars. How is it possible to reconcile this practice with the necessity for gold economy?

4.

Together with the raising of the statutory reserve requirements after the war, silver began to be eliminated from the fundamental reserves. All the currency reforms effected in post-war years are marked by an attitude hostile to silver. The increase in the minimum reserve requirements has increased the demand for gold, and, at the same time, the actual value of the fundamental reserves has been reduced by the elimination of silver.

In these circumstances, it is no wonder that the demand for silver for monetary purposes has fallen off. At the same time, the output of silver has increased. In 1919, the production of silver amounted to 179,849,940 ounces, and in 1929 it had risen 255,000,000 ounces. As a result of this increase in its supply, added to the simultaneous fall in its demand for monetary purposes, silver has dropped in price. The year 1930 was marked by a catastrophic fall.

The Asiatic countries which had a silver standard found themselves in such a difficult position that they felt compelled to accelerate the change-over to the gold standard. The first step was taken by India, which has been followed by Persia. China intends to do the same. These steps have unfavourably affected the gold market. They have also had an adverse influence upon international trade. The fall in the price of silver resulted in a considerable decrease in the purchasing capacity of the countries employing a silver standard.

This is undoubtedly one of the factors which have contributed to the seriousness of the present economic crisis.

The opponents of silver are desirous of maintaining the gold standard in its strictest form. The question, however, arises whether, before the war, when silver was included in the fundamental reserves, the purity of the gold standard suffered thereby. There is no question of making silver a medium of exchange on the same level as gold. There is no question of returning to bimetallism. The question is whether silver cannot be included in the fundamental reserves at its current value in gold. Silver would in that case be employed as a commodity and not as a standard.

The rôle of gold in international relations is to make up the deficits in the balance of payments. If a country has more liabilities than assets, the adverse balance is covered by gold. For this reason, every country has a special store-house containing stocks of gold to be used in case of necessity. This store-house is the Central Bank. From the point of view of the international market, the Central Bank's store of gold is a commodity which, owing to its technical advantages and rarity, settles balances in the exchange between countries better than can other commodities.

The number of grammes of gold which forms the legal monetary unit in a given country is a matter of indifference abroad. The amount and quality of gold are the sole decisive factors in international relations. For this reason, a foreign bank will accept a gold bar more readily than gold coin, which complicates the account.

Silver as a metal much resembles gold, and it may also act as a means of payment in international relations. It is easily stored, transported and sold. From a theoretical point of view, it is no less useful than gold in equalising deficits in the balance of payments. If to-day it does not serve in this way, it is because its price is subject to frequent fluctuations. Why is the price of silver subject to these fluctuations? Because it is not used as a means of payment in international commercial relations. If it were, its price would remain more or less stable, as it was before it came to be despised by the Central Banks.

When they climinated silver from their reserves, the Central Banks ceascd to accumulate it for effecting paymcnts on the international market. The result has been a fall in its price, accompanied by speculation. This is a natural consequence of the exclusion of silver from the rcserves of the Central Banks. The fluetuations in the price of silver are the result of this exclusion, not its cause. One cannot, therefore, justify it by pointing to the price-fluctuation.

The value of the silver produced in 1927 amounted to 135,270,000 dollars. To-day it is much less, owing to the catastrophic fall in price. Let us assume, for the sake of illustration, that the Central Banks on the gold exchange standard will each year employ the revenue from their foreign deposits in purchasing silver. In that case, they would be able to buy silver to the value of at least 50 million dollars yearly. These purchases would raise the price of silver in one year to a level at which the Central Banks would like it to bc stabilised. For this purposc it would be suffieient to come to an understanding with the International Bank in order to concentrate with it the whole of the trade in silver for the accounts of the Central Banks. By buying and selling sueh large amounts, the Bank would thus control the price of silver.

Any tendency in the price of silver to move abovc the desired level could be checked by the larger amount offered, while any tendency downward would be offset by a greater demand. Acting in agreement with the Central Banks, the International Bank could easily control the situation in such a manner that the price of silver would fluctuate only within the desired limits. During the first year of the operation of sueh a system, the price of silver would rise rapidly. In the following year, the price would be stabilised, provided that the reserve stock of silver acquired during the first year were at all times at the disposal of the International Bank to be used for intervention on the market if and when necessary.

Each sueceeding year would strengthen the position of the International Bank on the silver market, which would guarantee the price of silver being practically stable. Small profits and losses would compensatc each other without exposing the Central Banks to risk. To ensure greater security the banks could establish a separate reserve of profits made on silver transactions, which would be employed for covering possible losses.

In calculating their reserve ratios, the Central Banks to-day add their sight liabilities to their note issues. Even if this system were to be modified in the manner outlined in the foregoing chapter, some portion of the liabilities would still be added to the note issue. The demand for gold would remain increased in this proportion. It is in the interest of economy in the use of gold that this surplus of demand should be offset by the reintroduction of silver into the fundamental reserves.

Let it be assumed that 5 per cent of the note issue plus a portion of the sight liabilities could be covered by silver. In that case, the fundamental reserve could be composed of gold, forcign exchange, and silver to the extent of 5 per cent. This figure is not excessive. If, however, the Central Banks concluded a convention envisaging a gradual creation of such a 5 per cent reserve, the demand for silver would increase sufficiently to raise its price and stabilise it at a desired level. The creation of a 5 per cent reserve in silver, however, would require a number of years. At the present time, 5 per cent represents an amount of more than one billion dollars. Sueh a silver rcserve could be accumulated only gradually, but, even at the beginning, the price of silver could be raised and possibly stabilised.

The key to the situation is in the hands of the Central Banks, for they, by excluding silver from their reserves, caused the fall in its price, and they only, by including it again in their reserves, can restore its price and stabilise its gold value.

In vicw of the fact that a fall in the produetion of gold is expected, the old reserves of gold

should be made more liquid. Fundamental reserves never fall to zero. There are, in the vaults of the Central Banks, large quantities of gold which never appear on the market, and which are lost to international exchange. If it were decided gradually to establish a 5 per cent silver reserve over a number of years, the amount of liquid gold on the international market would be increased to that extent. *At the bottom of the vaults there would be silver instead of gold.* This would represent a considerable economy. The possibility of this plan being carried through depends entirely on co-operation between the Central Banks and the International Bank.

It may be observed that Sir Josiah Stamp rightly drew attention in one of his lectures to the question of subsidiary metals, chiefly silver, as one of the chief preoccupations of the International Bank.

5.

Since the war, a clause has been introduced into the statutes of some of the Central Banks whereby at least two-thirds of the gold reserves which form a part of the minimum reserve must be kept in the bank's own vaults, and not more than one-third may be deposited with foreign banks. As long as gold clearing remains at its present low level, these stipulations will possess no practical significance. But should gold clearing increase, a Central Bank which is bound by such a statutory regulation would be hampered in its activities.

The problem becomes all the more interesting in view of the establishment of the International Bank. Article 24 of the statutes of this Bank contains the following passage :

> " It may arrange with Central Banks to have gold earmarked for their account and transferable on their order, to open accounts through which Central Banks can transfer their assets from one currency to another."

It has been shown in Chapter 2, which deals with the changes in the functioning of the gold standard, that the number of international transactions in gold, as well as the amount of gold which enters into these transactions, is increasing. In the course of a year, continually larger amounts of gold pass from one country to another, and it is worthy of note that a considerable quantity of the metal makes seasonal movements, returning quickly to its place of origin. The transport of gold is not effected gratuitously. It is burdened with the cost of freight, insurance, losses of interest on the capital invested in the consignment, and numerous other less important expenses. In view of the growth of transactions in gold, the total expenses borne by the different countries also increase. These expenses are particularly unnecessary in respect of seasonal movements of gold.

Suppose the Bank of France has a gold deposit in New York, and is desirous of transporting it to Paris. At the same time, the Reichsbank is compelled to sell a portion of its gold holdings to America. Instead of despatching gold to New York, the Reichsbank might send it to Paris and sell it to the Bank of France in exchange for the gold of the Bank of France deposited at New York. Clearings of this kind would ensure a considerable reduction in costs. Instead of sending gold from Germany to America and importing French gold from America, it is sufficient to transport gold from Berlin to Paris. A transaction of this nature took place in 1929, and constitutes a classic example.

Should the International Bank carry out Article 24 of its statutes in full and organise a clearing house for transactions in gold between Central Banks, the cost of the transfer of gold would be reduced almost to nothing. The banks participating in the clearing system would deposit a portion of their gold with the International Bank. It would not be necessary to transport the

gold to Basle and to deposit it physically in the vaults of the Bank. The Central Banks would simply set aside a portion of their gold reserves which they would place at the disposal of the International Bank, the latter accepting as deposits the amount of gold thus set aside.

The International Bank would obtain a certain amount of gold from each of the Central Banks belonging to the clearing house. Under these conditions, orders for the sale and purchase of gold would be as far as possible concentrated at Basle, and, instead of gold consignments being despatched from one bank to another, transactions would be confined to the transfer of the equivalent sums from one account to another. When giving a purchase order, the Central Bank would indicate the place of delivery. The international transfer of gold would thus become less expensive and easier to make. Gold clearings, which are rarely practised to-day, would then become a normal daily routine.

On the publication of the statutes of the International Bank there was considerable criticism of Article 24, and of the intention to create regular and constant gold clearings. A German economist, Lansburgh, adopted a particularly hostile attitude. In his opinion, gold clearings would do more harm than good to the gold standard. The cost of transporting gold establishes the so-called " gold points ", above or below which arbitrage does not pay. The gold points are not only indications of the cost of gold shipment, they are indispensable to the proper functioning of the gold standard. With the present margin between the gold points, the movement of gold becomes a necessity only when other means of regulating the rate of exchange fail. If gold clearing is introduced, there will be no cost of transport, in consequence of which the margin between the gold points will disappear. In this event, every change in the rate of exchange of a currency must cause a movement of gold from one country to another, and there would be no opportunity for the employment of other means to influence the rate of exchange.

Physical movements of gold will be reduced to a minimum. Even now they are relatively rare, and take place when the upper or the lower point is exceeded, whereas in the future the number of gold movements will increase at the International Bank, but only from one account to another. There will be a saving in cost, but simultaneously there will be an increase in movements of gold, which will become a daily occurrence. With the disappearance of the gold points and the protection they afford, the whole burden of regulating rates of exchange will fall on the gold reserves of the Central Banks.

Let us assume that the Central Banks begin to sell gold to private clients, not from their own vaults, as is done to-day, but from their deposits held abroad. If, in such transactions, the Central Banks did not make any charge for the cost of transport, which would normally be borne by the buyer exporting gold abroad, the margin between the gold points would disappear. In that case, Lansburgh's criticism would be justified, for every variation in the rate of exchange of the currency would at once provoke a movement of gold. However, the statutes of the International Bank have in view the organisation of gold clearing only for the Central Banks, which does not include arbitrage transactions effected by commercial banks. These clearings would be confined to special transactions, and would not be possible for arbitrage transactions.

The margin between the gold points in the case of special transactions is not as important as in the case of arbitrage transactions. On becoming members of the clearing house, the Central Banks could easily come to an understanding as to the price of gold bought abroad. That price would be based on the mint parity, while the cost of transport would be borne by the purchasing bank if the gold were actually to be transported to its vaults.

If, in the future, the practice of selling gold to banks or other private clients from the deposits held abroad, instead of the present-day method of selling from the bank's own vaults, were to

develop to any great extent, the danger foreseen by Lansburgh could in this case also be easily overcome. The Central Bank would simply charge the buyer the same cost of transport that he would have to meet if he were to transport the gold himself. The gold point system could be maintained together with the gold clearing system. The one does not eliminate the other. To-day, in arbitrage transactions, the commercial bank itself exports gold, and takes the risk of smaller or greater cost according to the circumstances. Under the system which I suggest, when the Central Bank sells gold from deposits held abroad, the client will pay the cost of transport, although he will not himself export the gold.

The Central Bank will arbitrarily establish the gold points, modifying them from time to time according to the changes in the cost of freight, insurance, credit, and various small services connected with transport.

Fears that gold clearing may interfere with the functioning of the gold standard are by no means justified. Clearing is a better and more advanced form of gold transfer. It constitutes a step forward in modern monetary technique. Is it possible, however, for clearing in gold to lead to any marked economy in the employment of gold for monetary purposes?

It should be fully realised that, while clearing may be an economy as far as the cost of transport is concerned, this is so only in the case of special transactions between the Central Banks. The savings effected in the cost of transport for private arbitrage transactions would be comparatively small, because the maintenance of the gold points is of paramount importance to the gold standard. Neither in the case of special nor in that of arbitrage transactions *would clearing effect an economy as regards the quantity of gold.* Clearing would improve the mode of transfer, for a book-keeping entry would take the place of actual transport, but it could neither reduce the demand for gold nor increase the supply.

6.

More interesting possibilities are to be found in Article 24 of the statutes of the International Bank, which permits the Bank " to open accounts through which Central Banks can transfer their assets from one currency to another ". There is no question here of the ordinary right to effect purchases and sales of foreign exchange, because this right is given to the Bank by Article 22. If a Central Bank having a dollar deposit abroad desires to purchase pounds sterling for those dollars, it does not need any assistance from the International Bank. This is an ordinary every-day operation which is transacted by every commercial bank. If, therefore, Article 24 deals specially with the above-mentioned type of account, and is limited exclusively to relations between Central Banks, there must be some other aim in view.

The accounts referred to in Article 24 can have a *raison d'être* only when a Central Bank which makes a deposit of, say, one million dollars obtains the right to draw on this account, not only in dollars, but also in any other currency. Instead of selling dollars and buying, say pounds sterling, the Central Bank could draw a cheque in sterling, although its account was in dollars. This would be a new and so far unpractised type of transaction, and for this reason the statutes of the International Bank rightly confine these operations to Central Banks. It is obvious that if Central Banks may pay into an account in one currency and draw from it in any other currency, they are being given facilities of far-reaching importance.

But what bank would run the exchange risks which are inherent in transactions of this kind? If a bank pays in dollars to-day, and draws sterling in a month's time, the difference

between the rates of exchange at which the two transactions were made compared with the rates ruling on the day on which the account was opened may be considerable.

The taking of this risk by the International Bank would necessarily entail considerable losses. Central Banks would draw in whatever currency was most profitable. The International Bank would then, as a rule, suffer losses, and the Central Banks make a profit. Nobody could think seriously of introducing such a system. The meaning of the accounts referred to in Article 24 can only be explained when it is *assumed* that the International Bank will make the opening of these accounts conditional on the following agreement with the Central Banks :

> *The banks participating in this scheme will give gold on request for their bank-notes and will make no difference between the selling and purchasing prices of gold.*

In these circumstances the *difference between the currency and gold would no longer exist.* The nominal value of a dollar would be absolutely equal to the amount of gold which it theoretically represents. The same would be the case with the pound sterling, the franc, and all other gold currencies admitted to this system. The system would be based on the principle of the Mint parity, and not on the principle of the market price of a currency at a given moment.

As may be seen, for the introduction of Article 24 a convention between the International Bank and the Central Banks will be necessary whereby the difference between the purchasing and selling prices of gold will be done away with. Suppose such a convention has been concluded. It will then be possible to take a further step forward. A Central Bank which pays in dollars may obtain the right to draw not only in any of the currencies forming part of the system, but *also in gold.* The bank will have the right to pay in dollars and draw in bullion. With the differences between the purchasing and selling prices of gold done away with, this will be possible in practice, while, at the same time, the exchange risks will disappear.

From a theoretical point of view, exceptionally interesting prospects are opened under the system, conceived on these lines. Having the right to draw in bullion, a Central Bank which possesses an account of this kind with the International Bank may purchase gold with that account. A Central Bank which has, say, one million dollars in such an account may assume that it has one million dollars in gold, because it may at any time demand the quantity of gold which this million dollars represents.

The deposit of one million dollars would be equivalent to the purchase of a corresponding amount of gold *for future delivery,* at a date to be fixed later. This would *amount to buying ahead without fixing the date of delivery.* That date would be the moment at which the Central Bank decides to draw against the credit of this account.

The consequence of such a system would be that that portion of the foreign exchange which is paid to the International Bank on these conditions would have a new special character as compared with the remaining foreign exchange in other accounts. *The foreign exchange deposited within the meaning of Article 24 will become the equivalent of that quantity of gold which it represents,* because the very fact of payment on that account will mean a purchase of gold to be delivered at an unspecified date. Besides the gold held in the vaults and the gold earmarked abroad, there will appear a new form of monetary gold : *gold purchased for delivery at an unspecified date.* There will be considerable difference in character between one million dollars deposited at the Federal Reserve Bank of New York and one million dollars held at the International Bank in the special account provided for in Article 24. The Central Bank can draw on the Federal Reserve Bank only in dollars, while, in the second case, it will have the right to draw in any currency and, what is of greater importance, also in gold.

The difference is apparent, and it has a special significance not only in theory, but also in practice. For the sake of accuracy, the Central Bank should show separately in its balance-sheet that portion of the foreign exchange which is paid to the International Bank to the account referred to in Article 24. This foreign exchange will have a special character. It will be a new form of monetary gold, a form of gold purchased with an undetermined date of delivery, *a form of gold owed by the International Bank to the Central Bank.* Let us call it " *credited gold* " If this form of monetary gold were shown separately in the balance-sheet of the Central Bank, that would certainly make the balance-sheet clearer.

If the gold actually earmarked abroad and the " credited gold " were to be added to the gold kept in the vaults, the total holdings of monetary gold at the disposal of the Central Banks would be larger than the actual gold reserves. They would be larger by the amount of the " credited gold ". This seems paradoxical; and, in fact, it is, but it would be useful. With the certainty of being able to obtain gold by drawing on the International Bank, Central Banks would not be in a hurry to purchase actual gold for their own vaults. *Possessing a reserve of " credited gold ", the banks would moderate their demand for actual gold.* This would be a step in the direction of greater economy in the employment of gold for monetary purposes.

The history of the Gold Standard shows that it was the excess of the demand for gold over its supply on the internal market that necessitated the issue of bank-notes constituting a title to gold. *There are always more titles to gold than there is actual gold in the country.* The circulation of these titles had the effect of eliminating on the internal market the disproportion between the actual gold reserves and the demand for gold.

The world should pass through a *similar evolution* as far as the international trade in gold is concerned. The international circulation of titles to gold has already been begun in the form of foreign exchange included in the fundamental reserves of Central Banks. Another step forward would be the establishment of the new form of " credited gold " if the International Bank would put Article 24 into practice *on the basis of a convention doing away with the difference between the purchasing and selling prices of gold.* Whether, when and how this will be done by the International Bank, it is impossible to say at the present time. But one thing is certain. Theoretically, Article 24 has considerable possibilities as far as economy in the employment of gold for monetary purposes is concerned.

The project here put forward is not a practical suggestion, but a theoretical illustration of those theoretical possibilities.

CHAPTER VI.

GOLD CLEARING STANDARD.

1.

The pre-war, uniform system of the gold standard has been split into three forms : The gold specie standard, the gold bullion standard and the gold exchange standard. There is, however, no close co-ordination between these three systems. This applies particularly to the gold specie and gold bullion standards on the one hand and the gold exchange standard on the other.

The banks which apply the pure gold standard—in other words, those which do not include foreign exchange in their fundamental or secondary reserves—enjoy a higher prestige than those which apply the gold exchange standard. The former are regarded as a higher, the latter as a lower type of bank. The belief prevails that the first class has greater power and greater resources.

Such a classification is devoid of scientific justification. Nevertheless it exists, and the Central Banks must reckon with it. As a result of it, banks tend to abandon the gold exchange standard as soon as the economic position of the country has improved and as soon as fairly large reserves have been amassed for the support of the currency. Thus the gold exchange standard is regarded as a transitory system, and Central Banks which have already accumulated considerable foreign exchange reserves endeavour to increase their stock of gold in order to raise their prestige thereby. Frequently, they do this without any real need.

The demand for gold originating in the desire of a given bank to raise its prestige would not be difficult to lessen by way of the co-operation of Central Banks and the exertion of moral pressure on the authorities of the bank in question.

A greater danger, however, lies in another result of the splitting of the gold standard into three systems. It is *that the position on the gold market of the banks which apply the gold exchange standard is a privileged one in relation to those banks which apply the pure gold standard.* For the banks which have foreign exchange reserves at their disposal benefit by more favourable conditions as regards gold arbitrage.

Imports of gold by commercial banks can last longer and assume larger proportions when these banks have support in the foreign exchange reserves of their Central Banks. When the rate of exchange of the German mark reaches such a level that it is profitable to buy gold in London and ship it to Berlin, the commercial banks begin their arbitrage transactions. Then their own reserves of bills on London diminish in proportion to the imports of gold from London. Should the Reichsbank have no reserves of sterling bills on London, the commercial banks *would exhaust their own reserves*, and the demand for sterling *would rise in proportion to the imports of gold.* Within a short period of time the increase of the demand for sterling would raise the

rate of exchange to the normal level, at which gold arbitrage in favour of Berlin would cease to be profitable.

A similar process would take place in the reverse case—*i.e.*, when the rate of exchange of the German mark reached a level at which it would be profitable to ship gold from Berlin to London. Should the Reichsbank possess no foreign exchange reserves, gold arbitrage transactions in favour of London might assume considerable proportions. With the existence of such reserves, however, they *cannot take place at all*, because the Reichsbank will sell sterling bills on London without limit. The demand for foreign exchange, therefore, can be easily met, and the rate of exchange of the German mark in relation to the pound sterling be improved *more rapidly* than could have been the case under pre-war conditions.

The above examples are not abstract cases, but are taken from well-known experience. Gold arbitrage in favour of Berlin is to-day easier than in favour of London or New York. The same applies also, to some extent, to arbitrage effected in favour of Paris. It cannot be questioned that, on the gold market, the position of banks which possess foreign exchange reserves is stronger than that of banks which do not. The conditions of competition are not equal. The chances of the banks which apply the pure gold standard are less. In consequence of this defect in co-ordination, the gold standard works in such a way *that the distribution of gold among the various countries is subject to disturbances.* Of this, the continued accumulation of gold by the Bank of France affords a striking example.

The importance of a reasonable distribution of gold is a generally recognised fact. The privileged position on the gold market of banks which have foreign exchange reserves at their disposal constitutes one of the most serious impediments to the redistribution of gold in the world. This is not desirable and should be done away with sooner or later, if the gold standard is to function normally and smoothly.

Equality of chances on the gold market could be secured if the banks which apply the gold exchange standard would continue to sell foreign exchange at a pegged price, equal, for example, to the parity price of the dollar. This would be, however, a dollar standard, instead of the gold standard. It would be more practical *to stop selling foreign exchange on the gold-losing country* when the gold-importing arbitrage transactions begin. This, however, would be only a partial remedy, for whoever wanted pounds could buy them for dollars obtained from his Central Bank. The most thorough solution would be for the Central Banks on the gold exchange standard not to sell foreign exchange at all, but *to confine themselves exclusively to selling gold.* With the present system the Central Banks buy and sell foreign exchange without any limit. The rate of exchange of the inland currency in countries on the gold exchange standard is at present regulated by the purchase as well as by the sale of foreign exchange. The difference between this and the above solution would be *that banks of this class would continue to purchase foreign exchange and include it in their fundamental reserves, but would sell only gold.* Thus the rate of exchange of the inland currency would be regulated by the purchase of foreign exchange and the sale of gold.

The most important feature as regards economy in the use of gold—namely, the purchase and accumulation of foreign exchange, which is tantamount to the postponement of the purchase of gold to a later period—would not be affected by the change. As its liabilities increased, a bank would, from time to time, buy gold at the expense of its foreign exchange reserves, in order to maintain the minimum gold reserve at the level required by the statutes. Such gold transactions would be special transactions between Central Banks effected either direct or through the intermediary of the Bank for International Settlements.

At the same time, though the bank would buy foreign exchange, *it would cease to sell it.* Instead of foreign exchange it would sell only gold. As it sold gold it would reduce its foreign exchange reserves through purehases of new gold by means of special transactions. *Thus it would purchase that which it had previously sold.* Instead of a one-sided acquisition of gold by the banks which apply the gold exchange standard, we should have a reciprocal movement, for banks of this class would not only purchase gold, but would also sell it. Instead of an official hoarding of gold by these banks, we should have an increase in the liquidity of their metallie reserves. *The amount of monetary gold available for international exchange would rise considerably.* This factor alone speaks in favour of the compromise here proposed between the present and the future system, which will permit the Central Banks on the gold exchange standard to continue to buy foreign exchange, but will prohibit them to sell it.

2.

The adoption of such a system presents certain technical difficulties. If the Central Bank continues to purchase foreign exehange and ceases to sell it, the local commercial banks will require gold more often, because they will not be able to get the necessary foreign exchange. If the Central Bank confines itself to buying foreign exchange and ceases to sell it, a hoarding of foreign exchange for itself, instead of the hoarding of gold, will ensue. All surplus foreign exchange on the money market will be absorbed by the Central Bank, not immediately to return, when the demand for foreign exchange will exceed the reserves in the hands of the local commercial banks. Under such conditions, the rate of exchange of the inland currency will reach the gold export point oftener than heretofore. The demand for foreign exchange, not being met on the open market, will change into a demand for gold, and the export of gold will take place more frequently than at present.

This diffieulty is, however, more apparent than real. From the point of view of the Central Bank there is no material difference between the outflow of gold and the outflow of foreign exchange. In either case, the fundamental reserve is reduced in the same way. If the bank sells foreign exchange, an outflow of foreign exchange is registered. If, however, the bank abstains from selling the foreign exchange which it has withdrawn from the market, it must sell gold. Apprehensions that the proposed system will weaken the position of the Central Bank are illusory. At present, when the demand for foreign exchange on the open market exceeds the reserves in the hands of commereial banks, the Central Bank is bound to give back part of its reserves. If it does not wish to sell foreign exchange, it will be compelled to sell gold. *Thus the amount of gold which will leave the country will be equal to the outflow of foreign exchange which would otherwise have taken place.* In either case, the Central Bank's reserve will be subject to the same reduction.

The situation is different, however, from the point of view of the local eommercial banks. The system here proposed would be less desirable for them than the present system. At present, if an excess of the demand for foreign exchange over the supply on the market is noticeable, the commercial banks purchase the necessary cheques or cable transfers from their Central Bank. From the technical point of view this is a simple and easy operation. If the Central Bank were to refrain from selling foreign exchange, the commercial banks would be obliged to buy gold in order to eover the excess of the demand for foreign exchange over the supply. Gold exports however, are not as convenient as the export of cheques or cable transfers. Therefore, the

technical difficulties of commercial banks, as well as their diffieulties in calculating profits, will increase in proportion to the increase of transactions involving an export of gold.

Should the Central Banks which apply the gold exchange standard change their methods of effecting gold transactions in such a way as to make it more similar to their method of effecting transactions in foreign exchange, it would be possible to do away with the difficulties mentioned above. If we accept the principle that the Central Bank should cease to sell foreign exchange, we ought to be consistent and demand likewise that it should make the form in which they sell gold similar to that in which they sell foreign exchange.

As long as the Central Bank sells gold exclusively on the spot in its vaults, the commereial banks are obliged to resort to actual gold exports. If, on the other hand, the Central Banks were to *begin to sell gold out of their deposits held abroad,* the commercial banks would not be compelled to export gold.

The sale of gold *would then become similar to the sale of foreign exchange.* A commercial bank would be given the possibility of buying from its Central Bank a cheque or a cable transfer on a foreign Central Bank, equivalent to the amount of gold required by the purchaser of that cheque or cable transfer. *Instead of the sale of gold from the vaults of the Central Bank itself, we should have a sale of gold from the vaults of a foreign bank.* Thus the purchaser of such a cheque or cablc transfer would not send abroad effective gold, but a slip of paper which would pay off his debts just as well as the actual export of gold.

The danger of the circulation of such cheques drawn on gold deposited abroad can be easily guarded against. Such a cheque (1) should be issued in terms of units of weight of gold and not in money units, (2) should be drawn on the Central Bank, with which a gold deposit is held, (3) should be limited as regards validity to a few days for transactions within Europe, and to, say, a fortnight for transactions between Europe and America. If these three conditions were fulfilled, the danger of the circulation of such cheques would be removed. Properly speaking, these documents would not be cheques in the strict sense of this word, but *gold certificates.* Moreover, if the banks, instead of issuing such gold certificates, were also to sell eable transfers for the payment of gold out of their deposits held abroad, the danger of the creation of a circulation of international currency, which might prove a serious competitor to the inland currency, would be minimised.

It goes without saying that a Central Bank should pay a different price when buying these certificates from that fixed for their sale. Thc difference between the purehase price and thc selling price would be approximately equal to the prcsent difference betwecn the gold points. In selling gold out of its deposits abroad, the Central Bank *should add to the statutory price of gold the costs of the actual transport,* which the purchaser of sueh a certificate *would be compelled to bear should he export gold himself.* The gold points, so important to the normal functioning of the gold standard, *would remain as effective as to-day.* The costs of freight and insurance and thc loss of interest on capital invested in the exports of gold would be arbitrarily estimated by the Central Bank. If anyone could export gold in a cheaper way, he would have the possibility of buying gold on the spot, instead of buying it abroad. This would be, however, an improbable case, as the Central Bank would change the pricc at which it would sell gold from its deposits abroad in accordance with probable changes in the costs of actual transport.

With such a system the statutory price of gold would remain as stable as at present, and the costs of transport, which would be added to it, would vary in the same way as to-day.

3.

If the Central Banks which are to-day on the gold exchange standard were in the future to have at their disposal gold deposits on all the most important markets, the new system would work smoothly. The holding of gold on deposit with a foreign bank is practised fairly frequently to-day. It is not, however, a general practice. These deposits are concentrated, for the most part, in London and New York. In exceptional cases they are held in Paris or Amsterdam. They possess the character of temporary deposits which have no special function to perform. They are often held merely for the purpose of postponing the transport of gold until the costs of transport fall. The goal to be aimed at is, therefore, (1) to increase the number of banks with which such deposits are held, (2) to hold gold deposits continually on the most important markets, and (3) to restore the freedom of gold exports in those countries in which a legal or moral embargo on gold exists.

The creation of a permanent set of foreign deposits would not require large and costly movements of gold at the moment of putting this plan into actual practice. A given bank could simply set aside a certain quantity of gold out of its stock and place it at the disposal of a foreign Central Bank in the form of a gold deposit. Reciprocally, the foreign bank in question would do the same by setting aside an equal amount of gold out of its stock and by placing it to the credit of the first bank, also in the form of a deposit. The amount of gold in both banks would not thereby be reduced, but would merely be divided into two parts—the part held in the vaults of the bank and the part held under earmark abroad. In addition, each of the banks which belong to the system would hold gold earmarked on behalf of foreign banks.

The transactions would be effected by means of book entries, without actual transport. As the system developed, the amount of gold deposited abroad would vary, but each of these changes would be compensated without difficulty by book entries. Actual movements of gold would be called for only in rare cases, when it became necessary to settle larger and more lasting deficits in the balance of foreign payments.

The above system would make it possible to utilise the metallic reserves better than at present, for they would become more elastic and liquid. Thus the clearing of gold would work smoothly and become a lasting and economical system of effecting international transactions. Gold transactions between Central Banks could, as a rule, be effected by direct clearing, or by indirect clearing through the Bank for International Settlements.

4.

It is not easy to foresee to-day whether and when it will be possible to put such a system into practice. The adoption of this system is, however, not an absolute necessity for the reform of the gold exchange standard.

The banks which apply the gold exchange standard may continue to purchase foreign exchange, accumulating it in the form of deposits held with foreign Central Banks. Although they have opened accounts with foreign Central Banks, they are not compelled to hold gold deposits abroad, because they can purchase gold at any time from the bank with which they have an account. If they wish to hold a deposit of gold with that bank, they can change part of their foreign exchange reserves into bullion. This is a special transaction, which creates a gold reserve deposited with a foreign bank for future needs.

When the exchange situation encourages arbitrage transactions and a gold certificate is

sold, this certificate, or cable transfer, is placed to the debit of the gold deposit account with the bank on which it is drawn. If, however, the bank which sells the gold certificate does not at the moment possess a deposit of gold with a foreign bank, not having prepared such a deposit in due time, this transaction can be effected in the following way :

When selling a gold certificate to its client, the selling bank will simultaneously purchase a corresponding amount of gold from the bank on which the certificate is drawn.

The bank which issues the gold certificate will pay for the gold which it purchases out of the funds deposited with the foreign bank for its account.

I pass now to one of the most important points in the reform of the gold exchange standard. Gold arbitrage can be technically so regulated that at the foreign Central Bank at which the gold certificate is presented the two transactions take place at the same time : *the foreign bank sells a certain amount of gold to the bank which has issued the certificate, and, at the same time, buys the same amount of gold from the bearer of the certificate.* The import and export of gold will thus be combined in one double operation.

The balance-sheet of the bank which honours a gold certificate issued by a foreign bank and presented to it will not show any change in its gold reserves on account of this double operation. The synchronising of the purchase and sale of the same amount of gold permits the metallic reserve to be maintained at the same level. Only the account of the foreign bank which has issued the certificate diminishes, because part of this account is used to purchase the gold to cover the certificate.

The owner of the certificate, as soon as he receives the amount of gold due, sells it, of course, to his Central Bank, which in this way is compensated for its previous sale of gold to the foreign bank that issued the certificate. Thus the metallic reserve of the bank which honours the certificate does not change. Its liabilities, however, diminish by the amount which was paid by the foreign bank that issued the certificate. *The synchronising of both transactions, the purchase and the sale of the same amount of gold, permits the entire operation to be effected by means of book entries.* Thus gold arbitrage is possible without actual movements of gold. It becomes a *clearing operation.* In addition to gold clearing in the case of *special* transactions, this even more important form of gold clearing — namely, that in the case of *arbitrage* transactions—appears.

The gold standard will be more modernised, and its technique will be simplified. Moreover, the banks on the gold exchange standard will no longer have the privileged position in the gold market by which they benefit to-day. Equality of opportunity on the gold market will be restored. A more reasonable redistribution of the world's gold reserves will become possible. The atmosphere on the gold market will become quieter, and the spirit of competition will give way to the spirit of co-operation.

5.

The gold exchange standard has not only good but also bad qualities. A weak point in the system which is of the greatest importance is the present practice of using the foreign exchange included in the fundamental reserves as short-term capital, which is lent to private commercial banks and transferred in large amounts from one market to another according to the ruling interest rates. Such a practice renders the discount policy of the Central Banks more difficult on those markets where credits of this kind are accumulated. A second weak feature of the present system is to be found in the privileged position held on the gold market by the banks which have foreign exchange reserves at their disposal. Gold arbitrage to these banks is easier and more advantageous than to those which apply the pure gold standard.

The first defect can be remedied by the adoption of the principle that foreign exchange included in the fundamental reserve should be held solely on deposit account with other Central Banks. Deposits held by Central Banks at the Bank for International Settlements form the only permissible exception to this rule. The second defect can be remedied by the adoption of the principle that the banks which apply the gold exchange standard should be deprived of the right to sell foreign exchange. The right to purchase foreign exchange should remain as it is, while the right to sell it should be replaced by the obligation to sell gold.

Under such a system, *the conversion of foreign exchange into gold would take place only in case of real need.* These transactions would be of two sorts : first, those special transactions which have as their object the maintenance of the minimum reserve at the statutory level; and, secondly, arbitrage transactions based on a synchronising of the purchase and sale of the same amount of gold. In either case, the demand for gold would be reduced, because it would be better regulated than at present.

The potential demand for gold which is represented by the accumulated foreign exchange would cease to be a painful burden on the gold market as it is to-day. Equality of opportunity would be restored. It would be possible to bring about a more reasonable distribution of gold, because gold arbitrage would not offer, as it does to-day, such one-sided advantages to the banks which have a reserve in foreign exchange. This would not of itself, however, secure a better redistribution of the world's reserves of gold, *because this redistribution depends also on other factors, among which are the excessive growth of public budgets and exaggerated protectionism.* In spite of this, the improvement of the machinery of arbitrage transactions will undoubtedly exercise a favourable influence on the gold market.

May the system so reorganised still be called the gold exchange standard ?

The obligation to redeem notes in foreign exchange constitutes the essential feature of the gold exchange standard. If, under new statutes, Central Banks were not allowed to sell foreign exchange, notes would be redeemed exclusively in gold. Whether this would be a sale of gold from the vaults of the bank or a sale out of deposits held abroad would be immaterial from the point of view of the legal definition of the obligation on the bank to redeem its notes.

It is not the right to buy foreign exchange, but the right to sell it, that determines whether or not the system is the gold exchange standard. The purchase of foreign exchange is the acquisition of a title to foreign gold. Whether the bank realises this title immediately or postpones the realisation to a later period is a question of convenience. It does not affect the *legal* character of the system.

By introducing a new system under which the statutes of the Central Banks will in future prohibit the redemption of notes in foreign exchange, we transform the gold exchange standard into a new form of gold standard. The redemption of notes would be effected exclusively in gold, and almost exclusively in gold held abroad. The sale of gold from the vaults of the bank would be a rare exception. *The usual practice will be to synchronise the purchase and sale of the same amount of gold by means of book entries.*

Special transactions with the object of maintaining the minimum reserve at the level required by the statutes would also be carried out simply by book entries.

The legal obligation to redeem notes would contemplate *redemption exclusively in gold*, but the actual redemption would be almost always a *clearing operation.* A system so organised may, therefore, be called *the gold clearing standard.* It will no longer be possible to call it the gold exchange standard, although the banks which apply it will continue to buy and to accumulate foreign exchange.

6.

A general return to the pre-war form of the gold standard is neither possible nor desirable. Instead, therefore, of forcing a unification of the three present forms of the gold standard, we should confine ourselves to bringing about a *better co-ordination* of them. This can be done by *transforming the gold exchange standard into the gold clearing standard.* All Central Banks would then sell gold only, and the advantage held on the gold market by the banks which have considerable foreign exchange reserves at their disposal would be done away with. By concentrating the foreign exchange reserves exclusively in deposit accounts with Central Banks, it would be possible to remove the impediments to the control of the money market by the respective Central Banks. Instead of unification, we should have a better co-ordination between the three forms of the gold standard.

With this better co-ordination it will be easier to develop and strengthen the co-operation between Central Banks, because the competition on the gold market will become less strong owing to the regulation of the demand for gold. Both special transactions and arbitrage transactions will be effected only *in case of real need*, and in a way more convenient from the technical point of view.

It is not impossible that after a certain period of experience the confidence of the nations in the gold clearing standard will so increase that they will abandon their present traditional systems, the gold specie and gold bullion standards, in favour of the new system. Such a unification is not, however, indispensable for the smooth working of the gold standard. Whether the gold clearing standard will ever prevail over the other systems is immaterial to-day. From the point of view of the present situation it is only important that: (1) *it be possible to work out a better co-ordination between the three forms of the gold standard*, and (2) that the working out of this co-ordination *should make co-operation between Central Banks easier.*

Much is being said and written at present about the need for economy in the use of gold for monetary purposes. The central point of this propaganda is the reduction of statutory reserve requirements. In the atmosphere, however, of sharp competition on the gold market, co-operation between Central Banks cannot yield satisfactory results. It would be difficult, therefore, to expect to-day that the Central Banks should conclude a convention to lower their statutory reserve requirements.

The order ought to be reversed. The competition on the gold market should be reduced first, and it will then be easier to reach a convention reducing statutory reserve requirements.

The Central Banks are not, however, sovereign bodies. Such a convention would have to be an international convention among Governments in order to strengthen the new system and make it independent of political influences in the various countries. If the spirit of international co-operation develops, it is not impossible that some day such an international convention will be concluded. The conference which draws up such a convention will be faced with two principal tasks: (1) to formulate more economical principles regarding the reserve to be held against notes; and (2) to guarantee the immunity, in case of war, of gold and foreign exchange deposits held abroad by Central Banks.

We do not know to-day whether or when the world will be able to carry through such a convention. The transformation of the gold exchange standard into the gold clearing standard may to a certain degree prepare the ground for it; for the new system will lessen the competition on the gold market and thus facilitate co-operation between Central Banks.

A gold clearing standard is not only possible, but may prove a blessing to future generations.

CHAPTER VII.

THE STABILISATION OF THE PURCHASING POWER OF GOLD.

1.

In examining the changes which have taken place in the structure and in the functioning of the gold standard, we were confronted with two problems : (1) Will the world have sufficient reserves of gold to restore and maintain the smooth functioning of the gold standard? and, (2) Will the Central Banks be able to exercise such a control on the general level of prices as to ensure the stabilisation of the purchasing power of gold? The first of these problems has already been discussed. It remains now to discuss the second.

As long as economists believed in the automatic functioning of the gold standard, the problem of the stabilisation of the purchasing power of gold did not play, as it does to-day, the most important part in this discussion. For, according to the doctrine of automatic functioning, changes in the general level of prices were bound to appear before any changes in the movements of gold could take place. Thus, the changes in the general level of prices and the changes in the movements of gold were dependent on each other. As long, therefore, as the changes in the general level of prices were believed to be essential to the normal functioning of the gold standard, the problem of stabilising the general level of prices did not command much attention.

The situation to-day is different.

The direction of gold movements depends more often on changes in interest rates than on changes in the general level of prices. Thus, the doctrine of automatic functioning has become an anachronism, because, in practice, little relationship exists between changes in the general level of prices and changes in the direction of gold movements. The relationship between the two has become looser than it was. Because of this, Central Banks will now more probably be able to regulate the general level of prices independently of the movements of gold.

The Central Banks have a free choice. They can increase the volume of their credits in the face of an outflow of gold, or reduce it in the face of an inflow of gold. This is the policy adopted sometimes even by the Bank of England. The Central Banks have now ceased to be a passive registrar of the movement of gold. The gold standard no longer functions automatically; it has become a managed standard. Under these conditions, it is natural to ask whether the Central Banks, which to-day are able to influence the general level of prices by the manipulation of credit, can improve this manipulation to such a degree as to ensure to mankind stability in the general price-level.

To this question, Cassel, in his latest work,[1] replies in the affirmative. According to his

[1] " Wandlungen im Wesen der Goldwährung ", 1930.

opinion, the general level of prices can be kept wholly under the control of the Central Banks, since their discount policy, by reducing or expanding the note circulation, can ensure the stabilisation of the purchasing power of gold. He says, for instance, that the fall of prices is " exclusively the result of an insufficient supply of the means of payment ". To look for " other causes " is " absolutely inadmissible ". To those who believe that Central Banks are not able by means of their discount policy to maintain the stability of the general level of prices, Cassel replies as follows. Let us suppose, he says, that the Central Bank puts its discount rate down to nil and discounts bills without any limit " for nothing ". No one can doubt that, under these circumstances, the prices of commodities would rapidly increase. Similarly, no one can doubt that prices would fall if the Central Bank were to raise its discount rate to 10 per cent or 20 per cent. " The most elementary logic accordingly compels the conclusion that, at any given moment, there is a discount rate to be found between these two extremes, which will leave the general price-level unaltered ".

Now, suppose that, in a given year, the world's agricultural production diminishes by 20 per cent, and that this is brought about by causes independent of the Central Bank's discount policy. The supply of foodstuffs in the world will suddenly be reduced by 20 per cent, while the demand will rise on account of the increase of the population. What is the policy to be pursued then by the Central Banks?

According to the doctrine of stabilisation, credit ought to become so costly as to prevent a rise of the general price-level as a result of the rise in the cost of living. In the reverse case—*i.e.*, when in a given year agricultural production increases by 20 per cent—credit ought to be made so cheap as to prevent a fall of the general price-level resulting from the lowering of the cost of living.

In either case, the Central Bank ought to manipulate the cost of its discount credit in such a way as to neutralise changes—even extraordinary changes— in the volume of the supply of goods on the home market.

A similar policy should be adopted if, in a given year, a number of countries, which play an important rôle in international trade, raise or lower their tariff barriers to any considerable extent.

If the Central Bank does not neutralise the influence of such a raising or lowering of the tariff barrier, the general level of prices will change. If, however, the Central Bank fulfils its functions as postulated by the doctrine of stabilisation, and effectively neutralises the consequences of the new Customs tariff, the new tariff will be deprived of economic importance, since it will not bring about the desired change in the relationship between the national and foreign price-levels. But the question then arises whether the Governments concerned will allow the Central Banks in such a case to act in a way which conflicts with their own commercial policy.

The above examples prove, in the first place, that prices are shaped, not only by the influence of conditions prevailing within a country, but also by the international situation. The greater the economic progress of the world, the greater the importance of world prices in shaping the internal price-level. The prices of raw metals, crude oil, coal, cotton, coffee, tea, special machines and so on depend on the geographical situation and the progress of technique in the countries in which they are produced, as well as on the level of the Customs tariff, the costs of transport, etc. These factors, taken as a whole, determine the cost of imports, and thereby, to a certain degree, the cost of production in the importing country. Under such conditions, it is clear that the stabilisation of the general level of prices within a country cannot be achieved independently of the situation existing in other countries. The problem of the stabilisation of the general level of prices is not, therefore, and cannot be, a local problem.

Consequently, there arises the difficulty of reconciling local interests. What level of prices ought to be chosen as the normal one? Ought we to regard as normal the price-level existing at the beginning of the attempt to regulate it, or some other level, to be first artificially created and later on stabilised? Suppose, however, that an agreement has been reached and that some general level of prices has been indicated as the desired level for stabilisation. A new difficulty will then arise. Price-indices are calculated and published *post factum*. A Central Bank will not be able to wait passively for the publication of the index showing changes which have already occurred, because, in that case, no material difference would exist between the present and the future system. As it is, the Central Banks endeavour to correct the larger divergences in the general level of prices, when such divergences have already become manifest.

The policy of stabilisation will differ from the policy followed at present, in that the Central Bank will be bound to hinder fluctuations before they have manifested themselves on the market. The chief purpose will be to *prevent*, in general, any material change in the price-index adopted as the measure of the purchasing power of gold.

What, then, will be the rôle of the Central Bank confronted with such a task? If the rate of exchange of the inland currency encourages the inflow of gold, the bank will be obliged to neutralise the imports of gold lest a considerable increase of circulation should raise the general level of prices. With an outflow of gold the bank will be likewise obliged to manipulate with its discount rate, so as to prevent a fall of prices. This is not a theoretical assumption. The international movements of gold will not disappear owing to the stabilisation of the general level of prices, because they will still be, as they are now, a result of the differences in interest rates.

The chief feature of the doctrine of stabilisation is that a Central Bank, *by changing the price of money, will protect the general level of commodity prices from changes*. The price of money will change quite as often as to-day. From time to time, moreover, when the Central Banks neutralise extraordinary changes in the supply and demand of goods, the changes in interest rates *will display a range of fluctuations even greater than to-day*. For this reason the international movements of gold not only will not disappear, but are bound to become more frequent and assume larger proportions. In what manner can this be reconciled with the stabilisation of the general level of prices?

Suppose the Central Bank does not prevent gold from exercising its full influence on the market. Then the stabilisation of the general level of prices may be upset. Under these circumstances, the Central Bank will not be able to wait for the publication of the index adopted as the measure of the purchasing power of gold, because this index, when it is published, will reveal a change which has already taken place, whereas the chief task of the Central Bank is to prevent such changes. The Central Bank cannot be guided by such an index, since it will be obliged to act *before the index is compiled and published*. If the price of a certain category of commodities falls, the prices of other commodities are bound to rise; or else the general level of prices will display material changes. Therefore, if the Central Banks wish to maintain the stability of the purchasing power of gold, they will not be able to permit gold to exercise its full influence on prices.

The necessity of neutralising the effects on the price-level of considerable gold movements from one country to another will create a situation in which the Central Banks will be obliged, as a rule, to increase their credit when gold flows out and to reduce it when gold flows in. If we wish to stabilise the purchasing power of gold, we must abandon the idea that gold movements should be left free to exercise their influence on prices.

The pre-war gold standard system consisted in abstention from any interference with the influence of gold movements on price-levels. It is necessary to realise clearly that, in advocating the stabilisation of the general level of prices by means of the discount policy of Central Banks, we are declaring ourselves opposed to permitting gold movements to exercise their influence freely on prices—which is tantamount to saying we are against the gold standard in the pre-war sense of the system.

Cassel is consistent when he says that the gold standard is already to-day a managed standard, whose purchasing power is artifically maintained on an equality with the purchasing power of gold. Undoubtedly, the stabilisation of the purchasing power of gold cannot be reconciled with the spirit or practice of the pre-war gold standard.

2.

During the period from 1923 to 1929, the wholesale-price index in the United States of America showed an astonishing stability. We know, however, that this stability could not, in the long run, be maintained. It broke down in October 1929 with the collapse of the speculation on the Stock Exchange. The example of Ameriea, therefore, is very instructive as regards the problem of stabilising the purchasing power of gold. The advocates of this stabilisation used regularly to refer to the stability of the wholesale-price index in America as proving that such a stabilisation was possible.

The period from 1923 to 1929 in America was a period marked by great economic prosperity, and production showed an unusually rapid expansion. The advocates of price stabilisation regarded this development of production as a blessed fruit of the credit policy of the Federal Reserve Banks, the aim and effect of which (it was argued) was to prevent considerable fluctuations in the general level of prices. It should be added that another striking factor of this period of stabilisation of the general price-level in America was a simultaneous rapid increase of national income.

Production registered every year new records; but what was the distribution of this record production? Who was enriched by this annual increase of production?

Taking the year 1919 as 100, the index of industrial production in Ameriea was 129 in the year 1926, 126 in 1927, 133 in 1928 and 142 in 1929. In the branches of industry which worked in a large measure for export, this index reached a still higher level. The index for the electric industry [1], for example, rose in 1929 to 164, and the index for the motor-car industry reached a level of about 200. Simultaneously, the index of wholesale prices, if we adopt the same basis—*i.e.*, the year 1919 = 100, amounted for the years 1923 to 1928 to 72.5, 70.7, 74.6, 72.1, 68.8 and 70.4 respectively. During the same years and on the same basis the index of the cost of living was 94, 95, 98, 98, 95 and 94 respectively. Both indices show a relative stability, if we omit certain minor divergences in the years 1925 and 1926. Whether we adopt 1926 as the basic year or 1919, we have the same picture in either case—namely, production increasing rapidly and reaching record figures, with wholesale prices, and even the cost of living, remaining at a relatively stable level.

In the light of these figures, let us now examine the wages paid to workmen. If we adopt

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[1] Owen D. Young. Address delivered in 1930 at the fifty-third Conference of the National Electric Light Association.

the same basis (1919 = 100), the index of wages paid to workmen during the period 1923 to 1929 amounted to 118, 121, 123, 126, 127, 128, and 127 respectively. In 1929, the index of production reached the figure 142, while the index of wages reached only 127. *Thus, we have a difference of fifteen points to the disadvantage of the working-classes.* This difference will be still more striking if we compare increase in the productivity per person. Index for the output per person in the same period 1919-1929 rose to 153.1, while that for hourly wages only to 127. We find the same picture if we examine the figures compiled by Mitchell for the period 1921 to 1926 in regard to the percentage share of the working-classes in the general income of the country.

In 1921, the total monetary income in America amounted to 55.4 billion dollars. In 1926, it increased to 82.1 billion dollars. The increase thus amounted to 26.7 billions. In these same two years the total payments to employees amounted to 34.7 and to 44.5 billion dollars respectively. The increase thus amounted to barely 9.8 billions. The percentage share of the working-classes in the national monetary income *decreased in this way from 63 per cent to 54 per cent.* Therefore, both in the year 1926 and in the following years, we see that the share of the working-classes in the national income did not improve to the extent to which industrial production increased from year to year.

In spite of a considerable rise of wages, this rise did not keep pace with the development of production. This explains, to a certain degree, the fact observed by Willford J. King [1] that, during the period 1913 to 1926, the number of persons possessing a yearly income of from 5,000 to 25,000 dollars, as well as the number of those possessing an income exceeding 25,000 dollars, increased at a more rapid rate than the number of persons possessing an income of 5,000 dollars or under. The figures referring to the subsequent years, 1926 to 1929, would show this still more vividly.

These figures prove that, with relatively stable prices, the distribution of the increase of production *was defective.* The owners of a stable money income did not participate in the distribution of the increase of production, because with stable prices of commodities the real purchasing power of a stable income does not change. This applies, in the first place, to holders of fixed-interest-bearing securities. The working-class, no doubt, was in a better situation than before. It participated in this distribution to a certain extent; but, nevertheless, the rate of the increase of wages lagged behind the rate of the increase of production. The lion's share of the yearly increase of production continued to enrich the owners of industrial undertakings. Hence the increase in the profits of industry and the dividends derived from it.

In the first half of 1929, American industry reported net profits 33 per cent higher than those of the first half of 1928 and 47 per cent higher than those of the first half of 1927. In the light of these figures it is easy to explain the record increase of the index of share quotations. Taking 1919 as 100, the index of share quotations during the years 1923 to 1928 is 92, 96, 122, 138, 162 and 213 respectively. During 1929, this index increased still further, and declined sharply only in the autumn of that year. The great increase in the profits derived from industry, owing to the irrational distribution of the increase of production, was bound to make itself felt somewhere. But, instead of having its effect on the commodity markets, it fell with all its burden on the stock market.

It could not have been otherwise. The accelerated accumulation of profits was responsible

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[1] " The National Income and its Purchasing Power."

for the fact that the credit requirements of industry not only did not increase, but even, to a certain degree, diminished. The index of credit requirements[1]—taking 1919 as 100—decreased by the year 1928 to 87.6. For this reason the dependence of the money market on the Federal Reserve Banks decreased on the one hand, and on the other hand there appeared an increasing tendency to larger and larger investments. Industry was not only able to accumulate profits but could easily attract new capital from the market by means of new issues of capital, as the dividends paid to shareholders were unusually attractive. In this way production was powerfully stimulated and continued to increase until such time as the disproportion between the rate of the increase of production and the rate of the increase of consumption became apparent as it was bound to do when once the defective distribution of the increase in production began to exercise a checking influence on the increase in the income of the ultimate consumer.

The diminution of credit requirements on the part of industry facilitated the increase of the supply of liquid funds available for other purposes. The excessive amount of liquid funds on the money market not being available for a further increase of commercial credits, was bound to be used in other forms of credit.

Loans against securities and investments were free to increase more and more rapidly, and the stock exchange speculators were able to draw their funds from abundant sources, the plethora of home capital being still further enriched by a considerable inflow of foreign funds.

The market felt at the same time that the owners of fixed-interest-bearing securities were not participating in the profits derived from the yearly increase of production, since the general level of prices did not undergo any change. The speculators therefore devoted their attention chiefly to the stock market, to the neglect of bonds.

Such were the consequences, the inevitable consequences, of rapidly increasing production with a relatively stable level of prices and a faulty distribution of the national income.

The moment of the decline of American economic prosperity was for a certain time postponed by the widespread prevalence of the system of instalment selling. Credit, however, does not increase income; on the contrary, it hampers the accumulation of income. Neither the rentier-class nor the working-class can increase their income by making use of the system of instalment buying, for the process of piling up debt has its limits, which neither the debtor nor the creditor can overstep without running the risk of bankruptcy. Consequently, the American system of instalment selling, which made such rapid progress under the influence of an increasingly liquid money market, could not permanently bridge the evergrowing gap between the rate of the increase of production and the rate of the increase of consumption. *The growth of consumption is determined by the growth of individual incomes. The rate at which individual incomes increased in the United States was, however, less than the rate at which production increased.* With stable commodity prices the rentier-class did not participate in the distribution of the increased production, and the working-class participated in it only to a limited extent.

We are led, therefore, to the conclusion that the stabilisation of the general level of commodity prices in America was effected only at the expense of a defective distribution of the increase of the national income. The rapid accumulation of profits in the hands of industrialists led to an over-liquid money market, since the stabilisation of commodity prices was accompanied by the stabilisation of the requirements for commercial credits. As a result, the commodity markets did not display any signs of inflation; but the superabundance of free funds could not

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[1] *The Chase Economic Bulletin*, B. M. Anderson, Jun., Volume IX, May 1929.

be done away with. It found an outlet on the market *of other economic values outside the market of goods*, and, most conspicuously of all, on the stock market.

Under such conditions the counter-measures of the Federal Reserve Banks were bound to be to a considerable extent neutralised partly by the diminished dependence of the market on commercial credits furnished by the Federal Reserve Banks and partly by the inflow of foreign funds attracted by the possibility of earning profits on the Stock Exchange. The world learnt that, at a time when no inflation was noticeable on the commodity market, it was possible for inflation to develop in the case of other economic values. *The American Stock Exchange speculation was the direct consequence of such an inflation.* As a result, the Federal Reserve Banks were bound to resort to the policy of dear money, although the index of the prices of commodities did not show any tendency to increase.

The advocates of the stabilisation of the purchasing power of gold limit the field of this stabilisation to the commodity markets. *America's experience does not furnish an argument in favour of this view.* If the discount policy of a Central Bank is to be its sole weapon, the efficiency of this weapon *depends on whether, with a stable general level of prices, the distribution of the increase of production is carried out in such a way as to prevent an excessive accumulation of profits at the expense of the working-classes.* In America, the situation was quite different. As a result, the abnormal amount of liquid funds brought about excessive independence of the market from the Federal Reserve Banks. The longer the stabilisation of the general price-level lasted, the more difficult became the problem of discount policy.

Under certain circumstances, the discount policy of a Central Bank may lead to the stabilisation of the general price-level. When such a stabilisation, however, has been maintained for a sufficiently long period, the ability of the Central Bank to maintain it still longer by means of its discount policy may be lessened. Such is the situation when the stabilisation of the general level of prices *is accompanied by defective distribution of the increase of production;* for then the Central Bank is obliged, sooner or later, to resort to a policy of dear money, *in spite* of the stability of the general price-level of commodities.

In this way the very foundation of the stabilisation of the general price-level is upset.

3.

Even if the figures referring to America during the period from 1923 to 1929 were regarded as not sufficiently accurate and convincing, it would be clear that, with a defective distribution of surplus production, the price-level on the commodity markets could not, in the long run, be kept stable. The stabilisation of the general level of prices does not check economic progress. If, however, the yearly increase of production chiefly enriches the industrialists, their income increases more rapidly than that of other classes of the community.

Under such conditions, the stabilisation of the general level of prices is bound to be accompanied, sooner or later, by the *destabilisation of the prices of other values.* Viewed in this light, speculation on the markets of these values appears unavoidable. In such an atmosphere of speculation, the distribution of the national income is complicated even more, and the Central Bank is compelled to take part in the struggle. Its discount policy must then be changed, in spite of the fact that the general level of commodity prices is stable. Under the pressure of the changed discount policy, however, not only the speculation on the stock market, but also the stabilisation of the general level of prices on the commodity markets is bound to break down.

This argument must not be taken to lead to the conclusion that the stabilisation of the

general level of prices is not, in principle, possible. If the defective distribution of the increase of production is the factor which prevents the stabilisation of the level of commodity prices, an improvement in distribution would make such stabilisation possible.

Sir Henry Strakosch, therefore, was right when he stressed this side of the question[1]. He has shown that, with the level of commodity prices stable and production increasing at 3 per cent per year, practically the whole of the increase in the national income goes to enrich the industrialists and the working-class. This is only fair, since these classes of the community, and not the others, created the increased production by their own labour.

There remains, however, the question of the proportion in which the yearly increase of production should be divided between the employer-class on the one side and the working-class on the other. We have seen that, in America, during the period 1923 to 1929, this relation shifted to the advantage of the employers and to the disadvantage of the working-class. This was primarily responsible for upsetting the stabilisation of the general price-level then existing in America. Sir Henry Strakosch does not directly discuss this question. He touches upon it indirectly, however, for, in his table illustrating the distribution of national income, he uses the expression " the constant proportions of the original account ". This means that the working-class should receive every year its " due " share of the increase of production.

Theoretically, it appears, then, that the stabilisation of the general level of commodity prices can be maintained, in spite of the annual economic progress, since the income of employers and workers will increase *at the same rate.* The working-class will participate in the yearly increase of production according to a constant proportion.

In this way the mistake of an unreasonable distribution of the increase of production is avoided. This object is attained, however, at the cost of *systematically raising the workers' wages.* It will be seen from the table compiled by Sir Henry Strakosch that, in the course of thirty years, provided the price-level is stable and the rate of economic progress is 3 per cent per annum, the standard of living of the working-class will be doubled. With a stable level of prices, this doubling will mean an increase of 100 per cent in wages, because " that increased production does not reach the wage-earner unless money wages are increased accordingly ". The raising of wages, however, will be easier in that it will be provided for out of funds derived from the increase of production.

Sir Henry Strakosch is of the opinion that, under these conditions, there would be not so many occasions for conflict. " Besides, in conditions of stability, it should not be beyond the wit of man to devise a system by which the wage-earner's due proportion of the increased production is currently—almost automatically—transferred to him." *Thus, the yearly raising of wages in proportion to increased production constitutes a* conditio sine qua non *for maintaining the stability of the general level of prices.* The best solution of this problem would be to increase wages automatically.

Wages constitute one of the most important costs of production. By increasing wages automatically every year, the costs of production would also be increased automatically. Theoretically, the possibility of industry not being able to bear this increase cannot be totally excluded. If every year the productivity of labour—in other words, the number of commodities produced per worker—increases, it will be possible to continue to raise wages for a certain period; for, in spite of a raising of wages, production will not cease to be profitable. But can such a process go on *ad infinitum?* Will not such a continuous raising of costs of production sooner or later

[1] " Gold and the Price-Level ", Memorandum for the League of Nations.

compel manufacturers to raise the price of their goods? I do not propose to discuss this question in detail. There is, however, one branch of production which, from this point of view, is of particular importance in regard to the problem of stabilising the purchasing power of gold. I refer to the *production of gold.* What will be the consequences of the stabilisation of the purchasing power of gold on the production of gold?

The production of gold is the basis of the gold standard. What will become of this basis when the general level of prices is kept stable and when the condition which is indispensable for this stabilisation—namely, the automatic raising of wages—is realised? Can the wages of workers who produce gold be raised every year as national income increases?

The prospects for the future production of gold are not satisfactory, so that we must reckon rather on a decline than on an increase. If, however, the output of the mines declines continuously, it would not be reasonable to keep on raising the wages of the workers every year. Under such a practice, gold production would rapidly become less profitable and would lose much of its attraction as a field for further investments of capital. Thus, nothing would accelerate the falling-off in gold production so much as the stabilisation of the purchasing power of gold, if carried through in conformity with this theory.

Economic progress is a necessity. A yearly increase of national income is the chief aim of economic policy. If, however, national income increases and the general level of prices is artificially kept stable, a yearly increase of wages will be the indispensable condition for the continuance of this state of stability. For, otherwise, the unreasonable distribution of the increase of production will, in the course of a few years, undermine the stability of commodity prices by an excessive destabilisation of other economic values. If we do away with the unreasonable distribution of the increase of production by automatically raising wages, we shall create a situation which will render impossible the production of gold. Thus, by avoiding one danger we shall fall into another.

If the stability of the purchasing power of gold is maintained, a detrimental effect will be exercised on the production of gold. Its decline will gradually become more rapid, because, with the fall in the output of the mines, *the margin of profits will shrink more rapidly than in those branches of production in which the productivity of labour continues to increase.* As a result, either the stability of the purchasing power of gold will be shaken, or the maintenance of the gold standard will become impossible and, in the long run, the system will have to be abandoned.

Those who believe in stabilising the purchasing power of gold promise mankind beneficial results from this action. In their calculations they use, as a measure of the purchasing power of gold, the wholesale-price index.

To use this index is a method which is too simple, as Keynes has definitely proved in his latest work[1], which is unusually rich in statistics. Keynes is an adherent of the doctrine of stabilisation. His criticism of the wholesale-price index as the sole measure of the purchasing power of gold, therefore, puts an end to the discussion on this subject. He does not, however, deal with the question whether the stabilisation of the general level of prices is desirable or possible.

The adversaries of this stabilisation point to the technical difficulties which attach to it. They have some doubt whether the Central Banks will be able to maintain such a stabilisation by means of their discount policy. The same kind of argument also underlies the opinions expressed in the majority of the memoranda sent to the League of Nations on this question.

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[1] " A Treatise on Money ", 1930.

While I share these views as regards their general aspect, I shall confine myself here to discussing one side of the question only, namely : Can the stabilisation of the purchasing power of gold be reconciled with the gold standard system?

Summing up my thoughts on this subject, I come to the following general observations :

(1) If the Central Banks are to endeavour to keep the general level of prices stable, they will be compelled to counter the effects which any inflow or outflow of gold would have on prices before the effects are produced by means of the influence which they can exercise on the volume of the monetary circulation.

(2) If the Central Banks neutralise gold movements, this will mean that these movements will not be able to exercise their full influence on the commodity markets.

(3) If we suppose that the rate of economic progress is constant, then the efficiency of the policy of a Central Bank will depend on the manner in which the yearly increase of production is distributed.

(4) If the distribution of the yearly increase of production is bad, in the sense that the lion's share of profits enriches industrialists at the expense of the working-classes, then profits will accumulate unduly.

(5) The undue accumulation of profits by one class of the community will sooner or later render unstable the prices of other values outside the commodity markets.

(6) If this instability lasts for a sufficiently long period, a situation is created which is conducive to speculation, particularly on the Stock Exchange.

(7) The increasing boom on the Stock Exchange leads still further away from the best distribution of the increasing national income and compels the Central Bank to change its discount policy, in spite of the fact that the general level of prices shows no material change.

(8) The change in the discount policy, although caused by abnormal circumstances in other branches of the national economy, is bound, sooner or later, to affect the stability of commodity prices adversely.

(9) Attempts to avoid this danger by a fairer distribution of the increase of production must unavoidably lead to the systematic raising of wages.

(10) With stable prices, the policy of systematically raising wages is bound, sooner or later, to lead to such a rise in costs of production as will make production unprofitable.

(11) Those branches of production which are capable of increasing their output, as calculated by the number of commodities produced per workman, will be better able than the others to support such a system.

(12) But in those branches in which it is impossible to increase output freely, the system is bound soon to end in failure.

(13) The moment at which any further rise in wages becomes impossible will mark the beginning of a crisis, because the equilibrium between production and consumption will be upset.

(14) The situation will not be materially changed, if, instead of wages being raised, the State begins systematically to raise the taxes on production in order to prevent an excessive accumulation of profits in the hands of industrialists.

(15) Even though there may be some doubt as to the apprehensions expressed under (13) and (14), no doubt whatever can exist as regards the production of gold, which, for material reasons, cannot be increased indefinitely.

(16) With a stable price-level and a constant rate of economic progress, the production of gold will come, at an earlier date than the other branches of production, to a point when it will not be able to support this systematic raising of wages.

From the above observations we can draw a conclusion which is of decisive importance as regards the problem of stabilising the purchasing power of gold—namely, that, even with a reasonable and just distribution of the increase of the national income, the stabilisation of the purchasing power of gold cannot be reconciled with the gold standard system, *because it would lead to a falling-off in the production of gold.* He who advocates stabilising the purchasing power of gold advocates the creation of conditions in which the production of gold is bound to decline, not only for material reasons, but also *because this production will cease to be profitable.* The prospect of the systematic, and especially of the automatic, raising of wages is disastrous for the production of gold, and, therefore, for the maintenance of the gold standard.

The purchasing power of gold cannot be stabilised as long as there exists a gold standard *based on the production of gold.* In view of this fact, the advocates of stabilisation ought to be consistent and demand that the gold standard be changed into a paper currency *separated from gold.* Then it will be possible to discuss the advantages which the stabilisation of the general level of prices will bring to mankind. This will not, however, take the form of a stabilisation of the purchasing power of gold, but of the purchasing power of some future paper currency based on a special index of prices and managed by Central Banks which will no longer be hampered by the condition of their gold reserves. Gold reserves will, in general, be no longer necessary. In other words, the world will be freed from apprehension as to the future production of gold.

Is it, however, possible to carry through such a reform? That is another question, and one which is outside the scope of this chapter.

CHAPTER VIII.

THE FUTURE OF THE GOLD STANDARD.

1.

The history of money covers a period which is some thousands of years longer than that covered by the history of the gold standard. This fact alone seems to prove that the gold standard is not a necessity to economic civilisation, and that it is possible to do without it. As there have in the past been periods in which the gold standard was not known, it is not impossible that there may in the future be others. This does not mean, however, that, in case of a decline in the production of gold, mankind will be obliged to return to silver or to a bi-metallic system.

When we speak of the possibility of abandoning the gold standard, we do not think to-day of replacing gold by some other precious metal. Pessimists as to the future of the gold standard foresee the introduction of a pure paper standard not linked with gold, and managed by Central Banks in such a way as to maintain the rates of exchange stable despite the absence of regulations regarding a minimum reserve.

It is the ideal of the science of money to stabilise a paper currency without the help of gold. The believers in this ideal seem to be of the opinion that the creation of satisfactory methods of credit manipulation is not beyond the power of the human brain.

While refraining, for the time being, from deciding whether such an ideal is in practice attainable, we must state that, in any case, this aim cannot be achieved by a sudden transition from the present gold standard to a paper standard, devoid of any cover and not compulsorily convertible into gold. Even were such an ideal attainable, it could only be the fruit of a relatively long evolution.

As a first stage on the way to this goal, we can imagine a transitory system under which the monetary units of the various countries would continue to be determined as a fraction of one kilogramme, or of one ounce, of gold, but with all reserve requirements abolished. The role of gold in this monetary system would thus be reduced to that of a means of facilitating international settlements, because each monetary unit would continue to be determined by a strictly fixed fraction of one kilogramme, or of one ounce, of gold.

Under such a system the existing gold reserves of Central Banks would be deprived of their present monetary significance, and would be simply stocks of goods which could be exported as easily as any other goods. The Central Banks would no longer be under the obligation to accumulate gold in proportion to their liabilities. The requirement to do this would disappear, and the banks would be left with the free option of selling or buying gold, as is the case to-day in some countries as regards silver or platinum.

As long, however, as the various monetary units are determined as a fraction of one kilogramme, or of one ounce, of gold, the Central Banks will be obliged, in a certain degree, to act as storehouses of gold for external use. The abolition of the regulations strictly determining the amount of the minimum reserve will not remove this necessity, for, since one monetary unit is fixed as a fraction of one kilogramme, or of one ounce, of gold, the purchasing power of a monetary unit is bound to be more or less equal to the purchasing power of the quantity of gold it represents. If, therefore, the rate of exchange of a currency shows a decline abroad, it will be essential to support it by means of gold exports.

On the other hand, it would not be essential, at least in theory, to adapt the credit policy to the volume of the gold reserves.

International transactions consist in an exchange of goods and services. The balance of this exchange depends on the relation between the volume of consumption and that of production in the individual countries. If this balance is adverse, it is gold which, in the last instance, restores the lost equilibrium. Gold movements thus result from disturbanees in the equilibrium between consumption and production. The balance of the exchange of capital is another factor. If gold is exported from a given country, this proves (1) that the balance of the exchange of goods and services has become unfavourable, with consumption exceeding production, and (2) that the deficit is not being made good by movements of capital. To-day, under such conditions, we usually say that the monetary circulation should be reduced by means of a policy of credit deflation, which, by reducing consumption, will restore the lost equilibrium.

Such a policy becomes a necessity, not because gold is being exported, but because the equilibrium between production and consumption has been upset, in consequence of which the balance of international transaetions has become adverse. The outflow of gold is only a symptom, an index, which *post factum* reveals the real state of affairs.

With this in mind we may visualise the possibility that statistics may be so improved as to enable us to learn *ante factum* what is the actual relation between the volume of production and that of consumption, and what are the chances of covering an anticipated deficit by the movement of short-term capital or long-term securities. If such ideal indices were available, the Central Banks could change their credit policy before an outflow or an inflow of gold had taken place, instead of afterwards as is the case to-day.

Gold movements as an index of position would be replaced by more accurate indices, which would inform us *ante factum* what the general trend of economic development is and what the balance of foreign payments is likely to be. It is clear that, under such conditions, minimum reserve requirements would be of little value, for gold would be taken in and disposed of, at the discretion of the management of the Central Bank, only as a last resort in emergency.

I need not say that we are far from such an ideal. It would even be difficult to say to-day whether or not in the future such a group of ideal economic indices could be compiled. Even granted that statistical methods should attain such a degree of perfection, caution will oblige us to continue for a certain period to maintain the system of minimum reserve requirements. At the same time, the Central Banks would be able to carry on their credit policy independently of this reserve ratio. Without abandoning the old system prematurely, the Central Banks would learn to apply the new system while being well protected.

Only when a fairly long trial had sufficiently shown that both systems were equally useful and equally solid would the old system, based on minimum reserve requirements, be replaced by the new system, free from any regulations with regard to the reserve ratio and directed exclusively by the aid of economic indices based on improved statistics.

A new type of gold standard would thus be created—the gold-index standard.

In reality, however, the indices which we have at present are as far removed from the indices which this system would require as the sailing boats of a century ago are from modern steamers

2.

The gold-index standard, mentioned briefly in the first part of this chapter as a theoretical possibility, would be no less a gold standard, despite the complete abolition of the present regulations with regard to the minimum gold reserve; for a monetary unit would continue to be determined as a fraction of one kilogramme, or of one ounce, of gold. The Central Banks would likewise continue to accumulate gold to be used in the event of extraordinary disturbances in the international balance of payments. The banks which apply the gold exchange standard at present would accumulate, in addition to gold, foreign exchange convertible into gold; but neither the gold nor the foreign exchange would constitute a statutory reserve. The credit policy of Central Banks would, in short, not be hampered by any reserve requirements.

The expansion or contraction of the monetary circulation would be determined by the accurate indices of economic development. Since all data concerning the production of goods and services, the volume of consumption, the accumulation of home capital and the upward or downward trend of the general level of prices would—with ideal statistics—be available beforehand, the Central Banks would be able to adhere to their discount policy without regard to the condition of their gold and foreign exchange reserves and irrespective of the direction in which gold and foreign exchange might be moving.

Should the above system work satisfactorily over a fairly long period of time, it is not impossible to imagine a moment at which mankind would be able to abandon gold as the basis of monetary systems. Monetary units would then cease to be fractions of one kilogramme, or of one ounce, of gold, and the storing of gold would become superfluous. It would never be possible, however, to cease to store foreign exchange.

Foreign exchange would then assume another character. It would not be convertible into gold, and it would be expressed in terms of nominal monetary units. In adopting the new system, all countries would be obliged to maintain the existing rates of exchange between their respective currencies. For example, one pound sterling would be equal to 4.86 United States dollars, to 123 French francs, and so on. The rate ruling at the moment of transition from the gold standard to a paper standard would have to be maintained.

Instead, however, of monetary units expressed in terms of gold, we should have monetary units which would be *abstract units of account* linked together in an international system of exchange.

This would be a paper-exchange standard.

Under the gold standard, the basis of monetary circulation is increased by the inflow of new gold from the mines as well as by the accumulation of foreign exchange and the discounting of domestic bills of exchange. Under the paper-exchange standard, the basis of monetary circulation could be increased only by the accumulation of foreign exchange or by discounting domestic bills, which would be done to a greater or lesser extent according to the indices of economic development. The stability of the rate of exchange of a currency in international relations would be regulated by means of the purchase and sale of foreign exchange, but the condition of foreign exchange reserves would not be a factor in determining the volume of credits granted by a Central Bank. This volume would be determined on the basis of highly perfected economic indices.

The above picture is doubtless interesting from the theoretical point of view. The possibilities, however, of the smooth working of such a system in actual practice are not so promising. Within the boundaries of one country it might well be made to function, but to secure its smooth working in international relations would be much more difficult.

Deficits in international transactions are covered to-day by means of gold. Even if we do not export actual gold, but instead make payments in foreign exchange, we do in reality make payments in gold, because foreign exchange is a title to receive gold, and the foreign exporter who receives foreign exchange can buy gold for it, and for this reason accepts it instead of gold. If, however, we abolished the gold standard, we should obtain, instead of foreign exchange which represents a title to receive gold, a new form of foreign exchange which would represent the right to use the amount of money thus obtained for the purchase of goods and services of various kinds. Thus the foreign exporter would not receive in exchange for his goods any right to purchase gold at a fixed price, but instead would be given the possibility of purchasing goods and services at the current market price. This would be the essential difference.

Now let us suppose that there are two countries which exchange goods and services among themselves on the basis of a paper-exchange standard—that is to say, in both countries the Central Banks buy and sell foreign exchange and in this way regulate the exchange rate of their currencies. If one of these countries had a favourable balance in this trade, it would accumulate a larger reserve of foreign exchange issued in the currency of the country which has the unfavourable balance of foreign payments than that country would have.

The country accumulating foreign-exchange would become a creditor; the country losing it a debtor. It could not be otherwise, because the deficit on the exchange of goods and services has been covered by a paper currency which is not convertible at the Central Bank. Although the importers settled their accounts with the foreign exporters, the balance of foreign payments was settled purely artificially by means of a credit granted by the creditor country to the debtor country.

In other words, a transaction which to-day, under the gold-exchange standard, is an exception, under the paper-exchange standard would become the rule. It would never be possible to settle the deficits of international exchange effectively—*i.e.*, by means of gold exports —for, instead of being covered by gold, a deficit would constantly be covered by a credit granted by the creditor country to the debtor country. A paradoxical situation would then follow, in that, although the citizens of both countries met their obligations punctually, their mutual exchange of goods and services would never be balanced in its entirety. Although the citizens of the country with the adverse balance would have no debts, the country as a whole would be a debtor country.

When and in what way the debt of that country would be paid off would depend on the manner in which the creditor country used the accumulated foreign exchange reserves. If it used them for the purchase of goods from the debtor country, the deficit in the foreign payments of the latter would be actually covered by the increased exports of these goods. If, however, the said country did not make these purchases and kept the accumulated reserves of foreign exchange in bank accounts, the balance of foreign payments would not be actually settled.

In this way, the accumulation of foreign exchange in Central Banks would act as an index of the degree in which the balances of international exchange were not actually settled. The larger these reserves of foreign exchange in Central Banks were, the greater would be the mutual international indebtedness. Under these conditions, the task of maintaining the rates of exchange stable would require increasing caution on the part of Central Banks in their discount policy.

On the one hand, the indices of economic development would have to be very promptly and accurately compiled, lest the management of the bank should choose a wrong policy; on the other hand, mutual confidence, based on very lasting foundations, would be essential if the whole system was not to be endangered by unexpected disturbances. Is this possible ?

In that it would lead to an increasing international indebtedness, the paper-exchange standard system would prove to be a very fragile one. Paper never was, nor can it ever be, as solid a foundation as gold. If the rate of exchange of one paper currency were shaken, all creditors would endeavour to get rid of this currency. Foreign exchange issued in it would be thrown on the market by all banks, and each in doing this would try to get ahead of the others. The attack would be stronger than the defence, because the simple fact that the rate of exchange of a given country's currency was no longer stable would indicate that the Central Bank of that country possessed insufficient foreign assets. In such a situation the export of securities would not help much, for prices also would fall in the atmosphere of a depreciating currency.

Should the rates of exchange of several other currencies begin at the same time for political or economic reasons to show strong fluctuations, the general disturbances in the structure of international indebtedness would become acute. Could the possibility of such disturbances be excluded in practice ?

The paper-exchange standard can function only in an atmosphere of full confidence and peace, and in normal economic conditions. *An ideal currency will require ideal conditions.* If confidence is lacking, or if the world is suffering from an economic crisis similar to the present, it will be more difficult to maintain the rates of exchange of the respective currencies stable under the paper-exchange standard than under the gold standard. A structure based on paper will show less resistance than a structure based on gold.

If the structure were once shaken, countries would endeavour to protect themselves, to do which they could find no better means than to create special reserves in gold, silver or other commodities which are easily marketable and easily stored. Central Banks would again become special stores of these reserves of commodities. This would be a step back from the point of view of theory, but a step forward from the point of view of practice.

Is it, then, worth while to abandon gold, when it is probable that we should only return to it again ?

The idea of a paper currency, based on an indefinitely increasing mutual indebtedness, which is, moreover, a short-term indebtedness, will not withstand the test of practice. Too much cannot be built upon paper, if the structure is to be a lasting one.

3.

Let us suppose for the moment that a pessimistic attitude regarding the possibility of the paper-exchange standard functioning satisfactorily is premature and unjustified. There will remain, however, the fact that the possibility of the paper-exchange standard functioning satisfactorily will depend entirely on the existence of perfect indices giving information about the tendencies of economic life. The same applies to the possibility of the gold-index standard functioning well.

We do not know to-day whether the creation of such ideal indices is in practice possible. Nor do we know how long mankind will be obliged to wait before statisticians have compiled such indices, if indeed they will be able to do so. As long, therefore, as we do not possess such indices

and are not certain whether it will even be possible to compile them, both of the proposed schemes are scientific speculations without practical significance.

There is, moreover, another argument against the above-mentioned projects—namely, that they are both based on faith in the omnipotence of Central Banks. The discount policy of Central Banks is an important instrument, but its potency has its limits. When national economy is not carried on as it should be, the credit policy of a Central Bank may mitigate the consequences of this mistaken economic policy, but it cannot prevent these consequences altogether. The same applies to an unsound fiscal policy on the part of Governments. The Central Bank can help the Government, but it cannot take the Government's place. It is immaterial, in this respect, whether the country has a gold standard or a paper standard.

In view of this, one should limit oneself, in discussing the future of the gold standard, to considering the manner in which the system works at present. The economic indices which we have to-day are still not very accurate, and it would be premature to make them the sole basis of the credit policy of Central Banks. Gold movements from one country to another will continue for a long time to act as a barometer indicating the state of economic pressure. In consequence, the ratio of gold and foreign exchange reserves to total sight liabilities will not cease to be the object of public attention, and Central Banks will not be able to abandon this traditional index until statisticians have compiled better ones. This would simply mean throwing away the oars before entering on a swift current.

The system based on minimum reserve requirements has still a long life before it, and for this reason the future of the gold standard will depend for a long time on the production of gold and on the rate of inflow of new gold. Prospects in this respect, however, are not, as we have seen, very bright. A gradual decline in gold production is more probable than a continued increase. In view of this fact, a downward tendency of prices, of a secular character, could begin in the immediate future, but for the fact that there exist already to-day some methods of economising in the employment of gold for monetary purposes. The possibilities which exist along this line have as yet not been used as fully as they might be. We are only at the beginning of the road to this goal.

A big step forward would be made were the present minimum reserve requirements to be lowered. A no less important step would be the better co-ordination of the gold-exchange standard with the two forms of the pure gold standard. The introduction of the gold-clearing standard, described in Chapter VII, would be perhaps the simplest solution of this problem. The lowering of the minimum reserve requirements, however, as well as the introduction of the gold-clearing standard, requires closer co-operation among Central Banks and increased mutual confidence.

Those who take a pessimistic view of the future of the gold standard lay too great stress on the estimates of the future output of gold-mines. The rôle of a prophet in this domain is a thankless one. Kitchin experienced this when he was obliged to revise his estimates made several years ago and to rectify them in accordance with less pessimistic opinions. Thus, pleasant surprises are not out of the question. This is not, however, the centre of gravity of the problem, which lies in improved ways of economising in the employment of gold. This is the more true since other factors may enter into play which may also influence the decline of the demand for gold for monetary purposes.

One of these factors is the change which is making itself constantly more evident in the rate of increase of the population of Europe. Germany, which before the war had a rapidly increasing population, has begun to show a quite different trend in that respect. In Russia, the destruction

of family life, the new Soviet principles of morality, and the nationalisation of landed property on collectivist lines may lead in no distant future to a reduction in the rate of the population. The closing of the doors to immigration and the steady decrease in the area of unoccupied land can also contribute to reduce the rate of increase of the population in some other countries. Although in other countries the trend may be in the opposite direction, which will compensate in a certain degree for the reduction in the rate of increase in the first group of countries, yet the reduction in the leading countries will have a greater significance than the increase in countries which have a weaker economic structure. From the point of view of the demand for gold, the changes in the first group will be of greater importance then those in the second group.

Should a scheme for the federation of European nations be realised, this would constitute a further factor which would tend to reduce the demand for gold. The realisation of a Pan-European Union might, in a large measure, compensate for the decline in the production of gold, for a system of federal banks could then be created, similar to that existing in the United States of America, which, with smaller gold reserves, would permit of their better utilisation. *Instead of a movement of gold from one country to another, we should then have a movement of gold from one bank to another through the intermediary of a clearing fund modelled upon that existing at Washington.* This would doubtless secure a considerable economy in the use of gold for monetary purposes.

The production of gold depends not only on our will, but also on physical conditions. No human genius can find a remedy for the exhaustion of mines. It depends, however, on our good-will to organise the political situation in such a way as to facilitate economy in the use of gold for monetary purposes. For in an atmosphere of lack of confidence and of the ever present danger of war, neither the co-operation of Central Banks nor the clearing system based on mutual deposits of gold and foreign exchange can be fully developed and consolidated.

In the meantime, the costs of the great war are proving too great a strain on State budgets. On the one hand we have inter-allied debts, on the other hand the reparations to be paid by the Central European States. At the same time, Governments are still bearing the large expenses for armaments because the great war, which was proclaimed " a war to end war ", did not lead to the desired goal. As a result, State budgets are excessively high and taxation is too heavy. Too large a part of national income is laid out every year in unproductive public expenditure. This checks the accumulation of capital.

We exaggerate our apprehensions as to the future shortage of gold and underestimate the importance of the fact that *since the war we have been suffering from a shortage of capital.* Moreover, the international exchange of capital does not proceed in a reasonable way because it is hampered by a general lack of confidence. Accumulated funds amounting to billions of dollars are obstinately kept on the money market, instead of passing to the capital market and providing the material for long-term investments.

In countries which are poor in capital, economic progress is too slow, because the inflow of capital from abroad is not sufficient. In countries which possess an excess of capital, this surplus, kept at home through fear of risks connected with investments abroad, leads to excessive investments on the home market and—what is worse—to speculation. In the latter case, the losses are real, whereas the losses on investments abroad are only hypothetical.

This lack of confidence is thus a very costly business. We need only estimate the losses borne by the public in the United States and in France during the last two years. No losses, however great, borne in the country will encourage foreign investments in an atmosphere of political unrest. There is only one remedy for lack of confidence: *an increase of confidence.* And this can be achieved only by the victory of pacific ideas throughout the world.

The future of the gold standard *depends only in part on the production of gold.* It depends to a far larger degree on :

(1) *The development of methods of economy in the employment of gold;* and,

(2) *On the normal accumulation of capital and smooth movement of capital from the countries which possess it in excess to the countries which suffer from a shortage of working funds.*

Economists can work out schemes for furthering economy in the employment of gold. Economists can also indicate the causes which check the accumulation of capital and hinder the movement of capital from one country to another. But to put into actual practice methods of economy in the employment of gold, and to reduce fiscal burdens in the interest of a better accumulation of capital, are things which do not lie exclusively in the hands of economists. Nor can they remove the lack of confidence which hampers a reasonable distribution of capital in the world.

Thus, in the last instance, the future of the gold standard depends on the good will of nations and of their political leaders.

It happened by chance that the last stage of the preparatory labours on international disarmament coincided with the investigations carried through by the League of Nations into the causes of the fluctuations in the purchasing power of gold. This coincidence is a very interesting one for those who are able to take a broad view of the situation.

Whether mankind will be able to avoid economic disturbances resulting from a shortage of gold *will depend more on the political co-operation of nations than on the co-operation of Central Banks,* which can develop only in an atmosphere of increasing confidence and aided by the victory of pacific ideas.

War has been and is the greatest enemy of the gold standard.

For several centuries yet, mankind will not be able to do without the gold standard. The rôle of gold, instead of diminishing, will increase, because, in no distant future, the production of gold may begin to decline. Only a lunatic can imagine that the revision of political treaties by means of war, murder and destruction could facilitate the solution of the problem of the purchasing power of gold, which is of decisive importance to the future of the world.

Modern history gives no example of a lasting solution of political difficulties being secured by means of war. Each revision of political treaties brings with it the seeds of a new war and a new revision of treaties. As long as the economy of the world was not so complicated, the interdependence of the various countries was less pronounced, *and as long as the problem of the purchasing power of gold in its present form did not exist,* war was not so harmful to world economy, and its wounds were easier to heal. The situation everywhere to-day, after the world war, is plain to every eye. One more war of the same magnitude will suffice to ruin altogether the capitalistic system based on the gold standard. It will find its end in an historical record.

The future of the gold standard is the future of peaceful relations between nations of good will.

Warsaw, December 1930.

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