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Collected Papers: 1929-30 Royal Institute of International Affairs Study Group

The International Gold Problem:

A Record of the Discussions of a Study Group of Members of the Royal Institute of International Affairs

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FOREWORD

In December, 1929, the Council of the Royal Institute of International Affairs authorized the formation of a Group to study 'The International Functions of Gold'. The membership of the Group included representatives of as many interests as possible. It included bankers, politicians, civil servants, economists, industrialists, and a due proportion of non-specialists in financial or commercial matters.

The magnitude of the subject and the divergence of views held upon the question of the Gold Problem have been factors influencing the methods of work of this Group. The Group met at intervals for over a year and was privileged to hear a number of interesting papers which gave rise to fruitful discussions. The records of the meetings were circulated to members of the Group, many of whom have paid tribute to the value they have derived from these documents.

A considerable amount of material upon the Gold Problem, as a result of these discussions, has been collected at Chatham House and the Council of the Institute decided, subject to the consent of the contributors, to publish a selection of this material. The views and opinions of many of the best authorities in the country are thus made available to the public in this volume.

The reader should bear in mind that this collection of documents claims to be no more than a representation of thought upon certain aspects of the Gold Problem. It does not attempt to reach final conclusions; it lays no emphasis upon any particular point of view. It is a collection of material which it is hoped will be of use to all those who are making a study of this important international economic problem. The Royal Institute of International Affairs may also claim that it is an indication of the valuable results which can be obtained from the method of Group Study now in process of development at Chatham House.

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CENTRAL BANK RESERVES by C.H. Kisch

FOR WHAT OBJECTS DO CENTRAL BANKS HOLD GOLD by the Hon R.H. Brand.

THE INTERNATIONAL CONSEQUENCES OF THE PRESENT DISTRIBUTION OF GOLD HOLDINGS by M. Charles Rist.

INTRODUCTION

THE working of the post-war International Gold Standard since the Brussels Conference of 1920 has given rise to a series of problems which have engaged the attention of economists, industrialists, bankers, and politicians. It was to co-ordinate individual study of these problems that the Gold Group of Chatham House was formed. This book is a record of the papers, discussions, and comments which have come into being as a result of the work of the Group.

The documents are supplemented by an Index and a carefully selected Bibliography.

The reader of this volume will find that threads of thought run through it which, if followed, will lead him to the world monetary crisis of 1931.

The suspension of the Gold Standard by the British Government on the 20th September, 1931, brought home to millions of persons in every quarter of the globe the essentially practical bearing of the `problems which are discussed in this volume by distinguished representatives of many schools of thought and of several nationalities. In the near future it will be necessary for decisions to be taken as to the monetary policy, not only of this country, but of the whole world. The creation of a. sound policy necessitates the existence of well-instructed public opinion. It is therefore of the highest importance that at the present moment a comprehensive selection of information and opinion on the International Functions of Gold should be at the disposal of every thinking person.

THE INTERNATIONAL FUNCTIONS OF GOLD

INTRODUCTORY SURVEY

By SIR JOSIAH STAMP, G.B.E.

Sir Charles Addis, K.C.M.G., in the Chair

The Chairman, Sir Charles Addis: This is the first of a series of meetings to discuss the international uses of gold. Sir Josiah Stamp will this evening make a preliminary survey of the question, and it is intended to have subsequent discussions at intervals of about a month. A record of the discussions will be circulated among members of the group so that those who are present but unable to take part in the discussion, as well as those who are unable to be present, may contribute their critical or constructive observations in writing. It is hoped in this way to achieve by successive stages a more continuous and intensive study of the subject than is possible by isolated debate.

Sir JOSIAH STAMP: I have only under pressure agreed to introduce this series of meetings, because I am quite sure that those present know more about the subject than I do. However, some one has got to make a start, and in the modern theatre the curtain usually goes up on a butler or housemaid!

Before I get into the subject I should like to say that I think it is extremely important that it should be taken up in this particular institution, because it is so essentially an international question and the more people realize that the better it will be.

The problem of the international uses of gold is usually regarded as a question of maintaining the stability of gold prices, but to-night I will not enter into the merits of stabilizing the gold price level, because I feel that it is not necessary to take up the time of such a meeting in arguing the case for a greater stability, or in speaking about the evils of instability. That is something we ought first of all to formulate in our minds.

I do not think that the short run stability of gold prices matters very much. The dispersion of the price index has been getting considerably less each year, and is not a commanding economic problem, the long runs, if you mean 10 or 20 per cent. Changes over, say, a century, are also not of crippling importance. But the medium run is very important, for example, a 20 per cent variation in 20 years, because this affects all kinds of contractual relations. This is very serious in modern life, and the pre—War change was much greater. It had twice been as much as 40 per cent. in twenty-five years. Since the War, changes have been even more striking. In this country they have been 17 to 20 per cent. in the last five years. Why is this medium run important while the others are of lesser significance? It is because it is the kind of period envisaged by the average human life; by the period of bonds, by the period of leases- ninety-nine years; by reparations and foreign debts; by the royalty arrangements of oil fields? Wages settlements are for rather shorter periods, but are near enough to this medium run to be affected to an important extent.

There is the question of a continuous small percentage change in the price level of gold being either a continual depressant or enhancement of trade activities. If, for example, you read the evidence before the Royal Commission on the Depression of Trade and Industry in the 'eighties, you will see that the change each year, though small enough not to be in everybody's minds as the cause of the malady, was present and was most important. When we are speaking of avoiding change in the level of gold prices we do not mean that they should be absolutely fixed for all time.

When we say it is unfair to lend five pairs of boots to-day and get back ten in twenty years' time, this is only so if the human costs of the latter are then relatively greater than the former. What we are really aiming at is that it should be reasonably consistent with a constant unit of human effort

and abstinence. Genuine ease of production compared with gold may well be regarded as lower real costs. The relative positions of the two contractual parties in the general trend of prosperity should not be radically changed. Coming to the main issues, there are four chief avenues of approach to the subject of our discussion, and if you can solve the problem down one of those avenues it may be quite unnecessary to explore the others at all.

First, there is the quantity of gold available; secondly, the better use of the existing gold stocks; thirdly, a better utilization and extension of the super-structure of credit; fourthly, ancillary methods of increasing the stocks of gold.

1. What is the total quantity of gold at present in sight? The total ultimately available does not matter so much as the possible speed of the annual working? What is the limit of that speed at current costs? Can it be speeded up economically? There is also the fact of what is ultimately workable, and the amount which could be worked in a year by new scientific processes, such as those which followed the cyanide process in the 'nineties. There we must consider the point of view of the people who like to make an equation between the percentage increase of gold and the increase in goods and productive services. The question of the whole quantity of gold which there is to be miner is very interesting to some people, and also the possibilities of fresh gold discovery. The finding of completely new fields might have some effect upon the price level, such as followed the discovery of the gold fields in California and Australia. Then there is also a great deal of gold not now in monetary use which perhaps could be made available. There is an immense stock of precious metals in India, which has been buried out of sight, but I do not know what its extent is or what the possibilities are of bringing it back. The greatest change in price levels, that which followed the discovery of the Americas, was not due to the flow of gold into Europe from mines, but to the accumulated stocks which were looted from the temples and sent home to Spain and Italy and so into the main trade channels of Europe. The price levels went up first in the near countries and then in the remote, so that to read of it is like watching a coloured liquid flowing into a bowl of clear liquid and gradually colouring the whole of it.

Then there is the possibility of a change in non-monetary uses of gold. If people did not have their teeth stopped with it and if gold were not used for ornaments there would be much more in monetary The dynamic elements in this question touch the annual production, which affects the value. In considering the effect of a certain amount of gold we must consider the conditions at the point of production. We might work out the first point of contact with gold, namely that of controlling gold supplies at the mines. As prices rise and an ounce of gold buys fewer commodities near the mines, new supplies from uneconomic mines shrink. When the price falls and gold buys more, gold is encouraged and the unproductive mines tend to be worked more. The correction comes in automatically. That is the operation; I do not know how fast it is, but probably it is rather slow.' If the question of the quantity of gold and the rate of production is an essential influence, it is obviously going to be made much more inevitable and quicker in its action if the people controlling the gold situation have some say in the rapidity of the mining; the mines should, perhaps, all be controlled by the central banks. If they wore, the correction could be produced much more quickly. At present it be haphazard and not controlled with a definite object in view. If the whole object in mining gold were the extent of the gold reserves, we should achieve with certainty what the present methods only do by chance. The present outlook in the view of most people is a diminishing gold supply and a heavy falling gold values. I need not point out how very had that would be for this country, with its large national debt and falling money income. The difference it would make can be expressed in an amount of from about one thousand to fifteen hundred millions sterling in the weight of the national debt. The foreign debt is also affected, and particularly our wage position which is much more set than that of any other country. The question of the amount of gold and the rapidity and the quantity of mining has got to be looked at in any examination of the problem.

But if you do not touch that question at all, can you not make a better use of the existing amount of money? If there were no hoarding or sterilizing by particular countries, except in cases where it is necessary to check the rise in prices, could you get rid of this artificial starvation?

There is also the question of psychology. If in several countries the psychological outlook on this question is a hundred years behind that of the others, how can we get any unity on it? Is the pace to be the pace of the, slowest member of a community of financial nations? You will not solve the problem by merely moving gold about to requirements which are so different in origin. If you have a

new central bank, one of three things will happen. If the gold placed there by different countries is taken out of the credit economy of the others, this new bank will be a fresh competitor, but if that gold can coimt as if it were in their own vaults, it will preserve the status quo of superimposed credit. Secondly, if any gold is being held by the different banks surplus to their normal requirements, and is, so to speak, boarded above what the world thinks a safe figure, then the central bank, out of its own holding, can offset the effect of such hoarding by issuing from the centre its own credit to an amount equivalent to the deficiency created by hoarding. Thirdly, if there is a world fall in price due to the actual total shortage of gold, the central bank might stabilize the total of economic credit by supplementing the volume under the foregoing suggestion, and by a duplicate use of the gold bars within safe limits. That would not be an inflation of world credit, but would be a corrective of a downward trend.

3. The third question is the super-structure of credit or credit skyscrapers; and adding on another storey is almost entirely a question of psychology, because as long as you have a rule which people recognize and which is working all right, it will continue to work. The alternative rule will also work if people believe in it. Some people say there should be a 50 per cent. ratio, others say 25 per cent. There is no inevitable ratio which is constant for all time, and there are certain conditions which make more favourably than others for experiment. When business becomes stabilized and settled at each level. It is possible to try a lower level without risk.

The question of international peace is also very important in enabling us to work on a small amount of gold. The root idea is that we must have gold as a backing to a certain extent. With greater clarity of international thought on these matters, a time will follow in which, finance being controlled and thought out by a central bank instead of operating haphazardly, we shall be enabled to establish more economical ratios. If the question of international control spreads we ought to be able to rid of present localized ideas. For instance, railway engineers always arrange a very big margin of safety for their work, and therefore if you asked one of them to build an hotel he might put girders on the fourth floor which would take a locomotive!

4. Assuming that you have done the maximum with the future', production of gold, with the question of the existing quantity of gold, and with the questions of the super-structure of credit and psychology; assuming that you are then short of the proper amount of gold to enable you to conduct business without a fall in prices, then you will have to consider what is the problem involved in bringing in platinum and silver as auxiliaries to widen the base—the problem with bi-metallism. What are the prospects of that and also of Irvin and Fisher ideas of altering the gold content of the dollar, or whatever your unit of currency is? Further, you will have to consider what up the prospects of a variable currency internally controlled by price levels and linked to gold for international trade?

Discussion.

Sir BASIL BLACKETT: It is the belief of uninformed opinion in arriving at views on this subject that it is a mystery belonging to the elect and only to be talked of in parables, where a direct question is never directly answered. The most important function which the study of this question can serve is to conduce to clear thinking on the point of what is the purpose for which a central bank keeps gold. I am quite sure that the Bank of England would not like to answer question, Why do you keep gold?'

I am still more certain that they would not like to answer the question, 'Why do you think that any particular figure you may fix is a desirable figure? 'I found, when going round the world last year, that I was an absolute radical in my views on the purposes for which gold was kept. It is important that we should get away from the mediaeval notion that gold is held as a backing for notes. If we once got clear thinking on the purposes for which gold is held there might be a very considerable advance. The purpose which we all have in view is to arrive at a medium of exchange which for a reasonable period of time will not fluctuate in purchasing power to such an extent as to upset ordinary exchange values. There are various methods which have been suggested this evening for studying the subject, but I shall not try to follow them in any particular direction. I should like, however, to say a few words on the question of bringing into currency uses large hoards of gold

which are at present used for non-currency purposes. Sir Josiah Stamp has instanced the gold brought into currency in the sixteenth century as the effect, not of the new discovery of gold, but of the transfer of it from the temples of South America to the exchange houses in Venice.

There is also the case of Alexander's campaign in the East, when the amount of gold brought back upset the level of prices in the Levantine world of the day. If anything like that happened in India, we should discover the need for a 110 per cent. Gold reserve! The problem in India is a very interesting one, and every year there is a little movement here and there in the direction of an increase in banking in that country which is the great hope for India. The effect in time will be to bring into currency use gold which is not in such use at present. I believe that the best way to help this movement is to get the Indian to believe that his currency is as good as gold, but this method is not likely to be adopted as long as we are in fear as to a shortage of gold. The adoption of a sensible view as to the uses of gold would react upon India and upon the Indian's belief that the only real value is gold or precious metals. India is a very old country and the Indian regards the presence of the British there as a very ephemeral and passing one, likely in due course to end in the restoration of that condition of chaos and disorder which he looks on as normal, and in which gold and precious metals and stones have a real value which does not belong to currency notes or token coins.

Sir Otto Niemeyer: I am reminded of the drafting of the Gold Standard Act of 1925; it had to be drafted in a form which did not preclude the possibility of a return some time to gold sovereigns in circulation. This was done entirely to meet the psychology of the people of this country, which shows that the need for education in this matter is just as great here as in other parts of the world. A great many of the problems sketched by Sir Josiah Stamp are being studied at this moment by the Gold Delegation of the Financial Committee of the League of Nations. It is rather remarkable how closely the heads of inquiry correspond.

I want to question one thing. Sir Josiah Stamp said that he thought he could assume that we were all in favour of stability of prices, but that he was not sure that it might not be very useful if some one would get out a detailed statement of the considerations which made us want stability. It is quite surprising the number of people who have doubts about it and say, 'After all, is it a good thing? ' It would

be well worth while to set out the pros and cons in reasoned form. Moreover, what do we mean by stability? Is it absolute or relative? What price do we mean? In many people's minds it means the stability of a particular price. Do we mean the general level of prices or of particular prices? If so, what is the general level of prices?

The question of what index can be followed needs a great deal of consideration and is far from simple.

Mr R. G. HAWTREY: In my view one of the most serious evils arising from fluctuations in the value of the currency is the trade. Whatever the causes of the trade cycle may be, one thing is common ground to every one, and that is that the trade cycle include the fluctuation of the price level combined with a fluctuation of productive activity. The two go together. Fall in price were due to increased production and the rise' in scarcity, no further explanation would have to be looked for. But in fact the fall coincides with diminished production and the rise with increased production. The total value in money of the output of the world is increased both by the percentage by which prices rise and by the percentage by which the physical volume of production rises. Likewise, the subsequent fall in the price level is superimposed on the shrinkage of production. These wide fluctuations in money value of output are clearly a monetary phenomenon. A fall in the price level due to monetary causes brings about business depression and unemployment. The depression of the 'eighties, following the general adoption of the gold standard and the heavy fall in prices from 1873 onwards, supplies a well-known Example.

The change in the price level, which used to occur over the period of a cycle, say from seven to eleven years, was often of the order of 20 per cent. If the long period trend of prices were downwards, the fall would be greater and the rise less, and vice versa. Such changes are not very different in magnitude from the fall in the price level dining the last five years. If the changes in the price level were eliminated the other phenomena of the trade cycle, if not altogether prevented, would at any rate be reduced to relative insignificance.

The importance of pre-War experience is that it is derived from a time when gold was regarded as an automatic regulator of the purchasing power of the currency. It shows that that cannot be safely assumed. The value of gold is, it is true, determined by demand and supply, but the most important demand is for monetary use.

The annual supply of gold is about £80,000,000, and the stock in the hands of the central banks of the world is about £2,200,000,000, of which £1,700,000,000 is in the hands of seven countries. About half the annual output is required for industrial purposes and the balance has to be absorbed by the central banks. The command of the central banks over the market in gold is absolute. They can dictate its value in terms of other commodities. By letting loose a very small amount of their stock they can decrease the value, and by absorbing more they can increase it. Therefore this problem rests absolutely within the power of the central banks to solve. This, of course, includes the authorities which determine the conditions under which the banks work.

There are two difficulties which arise in the way of using the power of the central banks. One is how to get suitable statutory and administrative arrangements which have the necessary elasticity. That problem has been adequately solved, for several countries have done it already. In Italy they have an arrangement by which they are free to hold foreign exchange to any extent in lieu of gold. The United States can afford to lose gold on the large scale on which they have absorbed it. Great Britain has also got a system of elasticity on the model explained by the Conservative Government in introducing the Currency Bill I of 1928. In that Bill the power was reserved to the Government to alter the fiduciary issue.

The second difficulty is to find a suitable and practical definition of conditions of stability. Many people think that it could be adequately secured by fixing a wholesale commodity index number, such as that of the Board of Trade. It is not as simple as that, but the problem is not insoluble. Even if the world only tried to stabilize prices by fixing the index numbers, a great deal would be gained as compared with the chaos before the War when there were the great variations of the trade cycle. We have had nothing quite like it since the War, but we have had ample experience of what happens when the currency varies.

Sir HENRY STRAKOSCHZ: I want to congratulate the Royal Institute of International Affairs on starting this group, and also on the designation they have given to the inquiry which it is to undertake.

As a member of the Financial Committee of the League of Nations, I can say that we found it very difficult to select a designation for the League's inquiry. We called it an inquiry into 'the causes of fluctuations in the purchasing power of gold and their effect on the economic life of the nations'. We thought that was sufficiently innocuous.

I agree that the first thing to do is to create a well-instructed public opinion on the subject, in the hope that that instructed public opinion will penetrate the parlours of some of the central banks, The stock argument of those opposing an inquiry usually is that they do not believe it is possible for central banks to regulate the of prices, and that even if this were the ease, their bank charters say they are to do so, but only ask them to maintain their money stable in terms of gold. In the same breath they said, when the League of Nations inquiry was first suggested, that such an investigation should not be held because it was poaching on the preserves of the central banks. The first thing which I believe any body of men who are interested in this subject should do is to if attention on forming an instructed public opinion, order to do that it is necessary to establish a collective view of a number of people who have studied the subject on a number questions that are fundamental to the problem.

For instance, there is the question of establishing an agreed estimate of the stock of gold at present available for monetary purposes, and the amount likely to be added to it annually. What is

the present relationship between the stock of monetary gold and the total superstructure of currency and credit, and what is the prospective relationship between the growth of trade and requirements for currency and credit? Then there is the point of legislative enactments in connexion with the gold reserve, &c. All these points grave hitherto been dealt with only by individuals among whom there considerable disagreement. There has been no collective opinion that the work of this Institute and of the Financial Committee of the League will be helpful in establishing a collective opinion that will command authority.

The late Professor Lehfeldt suggested that the stabilization of the value of gold might be achieved by controlling and regulating the output of gold. I profoundly disagree with Professor Lehfeldt. The total gold production to-day is about eighty millions sterling per annum, of which more than half comes from the Transvaal. Production there is not very elastic, and a falling price level is not going to produce a very material increase in the output of gold, mainly because production is limited by physical conditions. To develop a mine before it reaches the production stage takes between seven and ten years. Some areas already being worked, however, contain a great deal of low grade rock which might be worked if the cost of production could be reduced sufficiently. But there one is up against conditions which I think definitely bar the gold mines from taking advantage of falls in prices.

South Africa is not only a gold producing country but also an agricultural country. If there were a heavy fall in prices there would be great business depression, and the farming industry would suffer very severely. Its taxable capacity would fall, and as no government likes to curtail expenditure, especially in a new country where there is need for development, the fall would cause the Government to throw the burden of taxation mainly on the shoulders of the industry that was best able to bear it, i.e. the gold industry. The gold industry has been going through this experience ever since it started, although the increase has generally been invisible. For instance, the cost of transport has been increased against the gold mines and lowered towards other industries.

A fall in commodity prices is not going to stimulate gold production as many people believe. In other parts of the world gold is mainly produced from quartz reefs on a comparatively small scale, though the reefs are usually of higher grade than the Transvaal ores. To increase production by working the low grade ores requires extended milling plants, which are costly and are not likely to be put up in view of the small margin of profit on these ores, even if the cost of milling them were materially reduced. The problem has not much hope of a solution from that direction.

The most hopeful avenue of inquiry is to see whether the quantity of available monetary gold can be made to support an increasing structure of credit. Investigations show that while the world's gold production is likely to continue at about the present rate for the next ten years, a steep drop must be anticipated from than onwards. But the fact tlmt the gold output is likely to be maintained at the present level for ten years is small consolation. The world is making steady economic progress, and this progress calls for a. corresponding augmentation of monetary gold stocks if prices are to be maintained stable. Only drastic economies in the use of gold as a basis of credit can, in the circumstances, save us from a steady full of prices. Action in this direction is therefore a. matter of urgency.

MR. C. H. KISCH: One of the peculiar charms of this meeting is that it allows individuals like myself to meet the authorities of the central banks of the country, who usually live in their City fastness's under a military guard! One can at such meetings extract from them some elementary definitions.

Sir Otto said, 'Why aim at stabilization?' I should add, 'What is the stabilization at which we aim?' I have recently read a, long report of an inquiry in the United States into the question of imposing ' upon the Federal Reserve Bank the obligation of maintaining the price level steady. The authorities of the Federal Reserve Bank New York, who ought to know most about these matters, were strongly opposed to having that responsibility placed upon them. Great doubts were expressed as to the capacity of the system to do it and as a danger of inducing false hopes among the people as to is possibility. In the course of the inquiry the question arose of fluctuations due to monetary and non-monetary causes, and that led to the most interesting discussion. It is perhaps generally admitted have to do all you can to prevent price fluctuations arising from monetary causes, such as a world shortage of gold, but when you come to the question whether you should take monetary action to interfere with economic developments affecting prices, and should apply conscious policy

to neutralize what some people might think were normal developments, more debatable ground is entered. In such a case you might do good to some and harm to others. One can argue that there is a general good which must come before everything else and stand above particular interests, but it requires very careful analysis.

The most hopeful avenue of inquiry is to see whether the quantity of available monetary gold can be made to support an increasing structure of credit. Investigations show that while the world's gold production is likely to continue at about the present rate for the then living in a period of intense nationalism and war chests were being accumulated everywhere. This problem is of an international kind and we must have an international atmosphere for its solution. If we here can contribute to the growth of a right international atmosphere, that will be a great achievement. As regards statistical material, some help can be obtained from post-War as well as pre—War experience. For instance, how far has the central banks' policy been dictated in recent years by the gold question?

The United States has a great excess of gold, though some people say it will be used up in five years' time, but there is the fact that after 1925 there was unexampled prosperity in the United States, and that it was associated with some decline in the price level. Was that a price tendency which should have been checked by the monetary authorities?

As regards Great Britain, it is more difficult to answer the question how far the gold reserve is dictating policy. One admires the policy of the Bank of England in letting the gold reserve go down as far as it did before raising the bank rate to six—and—a—half per cent to defend its gold reserve. There the gold question did come in, but fortunately it was not long before relief was afforded. In the case of France, the gold question is dealt with on entirely different lines and the need for 'moral education' is greater. The Indian gold question is of peculiar interest and will require study.

MR. E. M. H. LLOYD; I should like to suggest one other point for examination, the particular effect of monetary instability on agriculture, which is very susceptible to it.

DR. W. H. Cones: The problem has been put to us largely as a question of education, and it is suggested that we might take some part in that process, but unfortunately we are starting on the wrong side of the Atlantic. It is a problem in which it is extremely difficult to enlist the interest of the business man. It is the general basis on which he conducts all his transactions, but is one to which he pays very little attention. He thinks it is very difficult to understand.

It seems to me that a process of education should be started, not only in this country but also on the Continent and all over the United States from the Atlantic coast right into the Middle West. It is a policy which it will take another half-century to carry out, and what is its object? To convince the central banks? I have been a little surprised that no mention has been made of the one great step which is being taken in the organization of the Bank for International Settlements. Whatever may be said for or against it, that Bank, if once constituted, will bring together in one room the representatives of the most important central banks of the world. If, as we may hope, other countries take up some of the capital subscription of the bank, they also will send representatives. It will be the job of the Bank of England representatives to carry on the work of education and to convince the central banks there assembled of what has to be done if the problem is to be adequately dealt with.

There are probably twenty thousand millions" worth of transactions carried on in Great Britain each year on a base of one hundred and fifty millions of gold. That fact gives some measure of the credit structure the whole world uses. The central banks determine how much credit there is tube. They look in a cupboard to see how much yellow metal they have got! They might as well look to see how much coal they have. Gold should be put in its proper place.

Sir JOSIAH STAMP: When I said that it was unnecessary to argue the case for the stability of gold prices, I referred only to the shortness of the time available to-night.

There is a very considerable amount of information to be made and the business world in particular requires convincing. I agree that the business man is particularly affected by these matters. As to convincing the central banks, that must also be done, but some of them will be much more easily convinced if there is a decided public opinion on the matter, really demanding a solution. It is no

good merely going to people and saying that it is a big problem; they will only reply, 'What is your remedy?' We have got to End a reasonable remedy.

One of the great features of price fluctuation is its dynamic effect upon trade cycles, and whether we put it high or low or take Pigou's figure of 50 per cent. as due to monetary causes, it is the only way to get the issue home to people easily. The business man will say that trade cycles are inevitable in business. It is like the problem of s man who is continually having to go upstairs and downstairs on most uneven steps carrying a tray. Mr. Hawtrey has suggested making the steps level, but the man would still be going up and down. This meeting should be followed by consideration of the more Specific details of the problem. We should not have to concern ourselves at all with these questions of the quantity of gold, &c., if we got to a Utopia where gold standards were unnecessary.

Selection of Comments on the Proceedings.

MR. W. MILNE-BAILEY: It is evident from the discussion which followed Sir Josiah's paper that the question of the need for stabilizing the gold price level requires to be thrashed out. It may be true, as Sir Josiah said, that short term fluctuations have become much less pronounced, but the recent fall in wholesale prices is a sufficient reminder of what is still possible in this direction. Short term fluctuations where they do occur are just as disastrous as any others, if only because of their effect on the industrial position. Already we are getting once more into a situation of industrial conflict owing to the pressure to bring down wage levels, although retail prices have fallen very little.

I think it is important to emphasize, as Sir Josiah and others have done, that the ratio fixed by legislation at present in force is a purely conventional one, and that there is a great need of education to persuade people that a lower ratio produces no element of weakness. I think some further attention ought to be given to the point made by Sir Basil Blackett regarding the education of Indian opinion. It certainly seems to me that the drain of gold for non-monetary purposes into India will become a more serious factor as time goes on, and some thought ought to be given to the question whether

this annual drain is inevitable. `A most important point, which I take it is to be considered in detail at a later stage, is that raised by Sir Henry Strakosch in his last paragraph, where he says that the most hopeful avenue of inquiry is to see whether the quantity of available monetary gold can be made to support an increasing structure of credit. It appears to me that this is the fundamental problem that we have to solve.

Mr. Kiseh, referring to the United States Hearings on Stabilization in 1928, mentioned the scepticism of the Federal Reserve authorities as to the possibility of stabilization. I notice that Mr. Kisch, in his book on central banks} states categorically that the Federal Reserve Board did in fact stabilize prices fairly successfully, and of course the same thing has been said by many other people. I think it would be worth while trying to get some definite agreement on this point. One quite understands that the American authorities do not wish to advertise the fact, if it is a fact, to the American business community, but we ought to have some clear idea in our minds as to whether they did in fact pursue a deliberate policy aiming at the stabilization of the price level, and if so what were the causes that led to the breakdown of this policy.

MR. J. H. Penson: Sir Josiah Stamp's four lines of approach seem to cover the ground adequately. The suggestion—which appears to be made what hoarding in backward countries could be counteracted by action on the part of an international bank, is attractive, but requires further elucidation. What surplus gold, for instance, could the international bank usefully employ? If 'normal requirements' are already provided for in the other countries of the world, there is no immediate need for fresh credit from the international bank; if, on the other hand, there is a shortage, there is no real 'surplus' for the international bank to use as the basis of its Crédit. True, the international bank might issue a larger volume of credit against its gold than an individual central bank; but it then becomes only a special case of 'superstructure', to be dealt with under the third suggested line of approach. Is it suggested that at present notes could be issued in Europe or America against gold hoarded in India, or even against that hoarded by the central banks of certain European countries? The difficulty would be that the gold could not be got it were wanted for any reason.

Gold is required under present conditions not merely for psychological purposes, but also for settling the imbalance of international indebtedness. The question of what proportion is required for this purpose in different countries to-day will need to be pursued as part of our investigations under the third line of approach. It depends, among other things, on the extent to which the particular nation engages in international trade, on the extent to which it is itself an international Financial centre, and on how rapidly its currency system can be adjusted under the direction of its central bank.

If all the important financial countries of the world pooled their gold resources, they would require less for the purpose of meeting international demands, but gold payments might still have to be made as between these countries and those not participating in the pool. One factor governing the proportion which such an international bank would have to keep would be the speed with which

credit adjustments could be made in the participating countries as soon a serious loss of gold on the part of the international bank was threatened.

Mr. G. D. Rokeling: I hope that the investigation will illumine amongst other things the deficiencies in the statistical equipment of this country and (since private enterprise cannot be relied on to fill the gap) the need for the establishment at the taxpayers' expense of a National Bureau of Economic Research. I should like to see a recommendation from this group to this effect.

MR. J. R. BELLERBY: The most pregnant remark of the discussion seems to me to be the final one contained in Sir Josiah Stamp's opening speech: 'What are the prospects of a variable currency internally controlled by price levels and linked to gold for international trade?'

In the attempt to control the movement of the general level of prices, there are two main factors to consider: (i) an adequate gold basis for credit; and (ii) the control of the credit itself. The first meeting of the group confined itself to the first of these, thereby considering half the problem. Probably this is for the immediate present the less important half. During the last ten years of deflation the gold basis has been of no significance whatever, the deflation having been due solely to high discount rates. Gold has been in ample supply throughout. In the future, the gold basis will only achieve significance if there is a, tendency for the world supply of gold to become inadequate. The factor which is of importance now is the direct control of credit through discount rates. In the exercise of this control no country is independent except the United States, which sec1u•es independence through its dominion over all others. Hence the problems involved are again international. Following Sir Josiah Stamp's opening suggestion, would not a suitable problem for examination be: Is it possible to evolve a national monetary system which would enable Great Britain (a) to collaborate with other countries in so far as the policies of other countries tended towards stability of the price level, and (b) to emancipate itself from control by other countries when their policies ran contrary to the maintenance of stability of the price level?

MR. A. W. KIDDY: While fully recognizing the importance of cooperation between central banks making for certain economies in the use of gold, can the subject be regarded altogether from an international standpoint? Of course, such a standpoint makes the study more comprehensive and complete, but is it practicable and is it even advisable from the standpoint of our own country?

Although Sir Josiah Stamp refrained from speaking at length upon, or emphasizing, the question of price levels, there was running through his speech and through the remarks of most of the other speakers a general acceptance of the almost universally recognized idea today, that stability of price levels all over the world should be regarded as a kind of first essential. But while recognizing the inconvenience and actual disadvantages which have arisen from excessive fluctuations in prices, I cannot help thinking that if one of the primary merits of the international functions of gold is to maintain anything like a dead level of prices over the various countries, we shall be contending with natural forces and impulses which should not be suppressed.

I make the suggestion as to whether in the case of this country in particular, with its leeway to make up in the matter of exports and with high tariffs to face in the United States and elsewhere, it may not be necessary for the exertion of such an amount of individual effort, efficiency and general organization as to make our price level- or at all events our cost of production—materially lower than that of other countries, so that we shall retrieve our position and in so doing even make a consequent and ultimate contribution to the general equilibrium of international trade and therefore of the exchanges. I may be wrong in propounding this theory, but if I am right then I think we have to accept, not only as inevitable, but even as desirable, free play in the matter of price fluctuations which, ultimately, should make for natural equilibrium as compared with artificial equilibrium as the result of international central banking control.

The after-consequences of the War have, no doubt, made necessary a great many temporary schemes for tiding over difficult situations and for strengthening the general international credit structure, but I think there is some danger of these abnormal conditions being allowed to affect too greatly our policy in determining future permanent organizations.

I am not, however, unmindful of what I imagine to be the central thought of Sir Josiah Stamp and others with regard to the general question of the international functions of gold, namely, that we may be called upon to combat the general deflationary effect of a supply of gold insuilicient to

match the growth in the general superstructure of credit, and that if this deflationary process our own country would suffer.

SECOND MEETING OF THE CHATHAM HOUSE STUDY GROUP ON THE INTERNATIONAL FUNCTIONS OF GOLD, 22ND JANUARY, 1930.

HOW DO WE WANT GOLD TO BEHAVE?

By DENNIS H. ROBERTSON
MR. J. M. Keyenes, C.B. in the Chair

The Chairman, MR. J. M. Keyenes:
It is necessary for the purpose of this investigation to discuss the subject of 'How do we want Gold to behave? ' It is, nevertheless, a subject the discussion of which causes me some alarm, because it is almost inevitable that the discussion will reveal the existence of many camps. I should like to impress upon those present my conviction that the disagreements in matters of detail which will certainly appear might not be of great importance when viewed in relation to the wider aspects of the subject. For instance, I hope you will be in general agreement with the following propositions:,

(a) We want some policy as regards price levels, aimed at some sort of stability.

(b) We cannot discuss the relative merits of various policies until we are clear as to what kind of stability we are aiming at.

(c) Nevertheless, it may not make a very great deal of practical difference upon what particular brand of stability our first preference rests.

MR. D. H. ROBERTSON: The purpose of this group is to find methods to make gold behave itself as a basis of international money. At the inaugural meeting of the group Sir Josiah Stamp suggested that there were four possible channels of investigation, any or all of which might lead to the heart of this subject. But he also made the preliminary `observation that he was taking it for granted that the desirability of a stable price level was agreed. This premise was questioned by

Sir Otto Niemeyer, who suggested that it might be advantageous if, as a preliminary measure, the group examined the case for stability and endeavoured to discover exactly what we meant by that expression.

The remarks I shall make this evening are a response to the suggestion of Sir Otto. ` do not claim that they would have been very original, even had they been composed before Mr. Hawtrey's recent paper. Nevertheless, in an investigation of this nature it is worth setting down certain familiar points before we embark on a journey into uncharted regions. I will now make a preliminary proposition which I hope will secure general agreement, and that is that we do not want gold to behave in such a way as to restore the value of money (whatever exactly we n mean by that) to the pre—War level. It is important that we should agree on that point, and on the danger of its happening, for there are still in existence some Old Gold Men, if I may so term them without disrespect, who argue that things worked fairly well in the nineteenth century, when new sources of gold production came to light at suitable moments, and that possibly this economic foresight on the part of Providence might be expected to continue in future. These arguments in favour of a policy of laissez faire might or might not be sound if we were starting from equilibrium, but it is doubtful if we are starting from that state of affairs. An amount of monetary gold 20 to 40 per cent. greater than in 1913 is supporting a price and income level say 50 per cent. higher, in spite of a considerable growth of population and of production. This could not have happened except by the use of certain expedients forced upon us by the War, expedients such as the abandonment of gold as a medium, of circulation, the use of gold exchange practices and similar devices.

These reforms were hailed with delight on the assumption that they had `come to stay, but can we be sure of this? Count Volpi, the Italian Minister of Finance, has made no secret of his intention that for Italy the exchange standard should be temporary. And does France, for instance, perhaps intend to restore e. gold circulation? In short, if these changes which were made under the pressure of war conditions are liable to be reversed we shall be back to pre—War prices. But most people will go further and hold that in any case it would ' be desirable now to plan for the future. In

such a case if we were free to choose what should be our view about the long period value of money? I trust that my fellow members of this group, whose interests lie rather in the nature of practical business problems than the theory of economics, will not think that I am being too 'professorial' if I suggest that the best way to approach this problem is to make certain assumptions and to split up the problem and attack it piecemeal.

Let us assume in the first instance—

1. That we are living in a closed system in which we do not have to pay any attention to international trade, and

2. That our productive eiliciency remains constant, that is to say, the total of our production will only grow in proportion to the increase of our population.

In these conditions what should we desire the price level to do? The common sense answer is that we should desire to keep stable the level of prices of those things on which income is spent (and I here add that I agree with Mr. Hawtrey when he suggests that the word 'things' which I have just used should include new capital goods). Such stabilization would imply also stability of wholesale prices, since there would be no cause for any relative alteration in the levels. But note also that it does not imply stability of the prices of individual commodities and groups of commodities, nor even of the main groups of consumption and investment goods; for the price of the latter would naturally rise if the rate of interest fell, until the distribution of productive power readjusted itself.

One may introduce four arguments for this conclusion that we should want to keep stable the level of prices. Three of these arguments are familiar and one is less familiar. In the first place, stability of the price level prevents injustice as between debtor and creditor; the former pays and the latter gets the same amount in real goods as he intended, which would not be so if the price level varied either way.

Secondly, it prevents injustice between those with sticky and those with fluid incomes. Thirdly, it insures producers against risks of loss other than those which are normally inherent in their businesses. Fourthly, on the assumptions made, the stable price level would enable the banking system to do its job by converting into real capital goods just so much and no more saving as is entrusted to it by the public. If the price level is allowed to rise, forced saving is inflicted on the public for the benefit of the industrialists. If it is allowed to fall, savings which the public intended to make will go to waste in the form of lower prices. A fall in prices will be a sign that the banks are not expanding fast enough, so that those who wished to exercise thrift by leaving their money unused are not in fact being called on to do so, but thanks to the fall in prices are consuming just as much as ever.

Is there no plausible alterative? Yes, to let prices rise gradually, not enough to cause confusion or scandal, but just enough always to be stealing a few savings for the business man through the realized rise in prices, and to be giving him an incentive to use them through the prospective further rise. This argument is thought to be reinforced by some people if among the creditors robbed are holders of government debt as wel1_as of industrial debts. It might be the least bad thing to do if there was a reason to think either (a) that the normal incentive to enterprise under capitalism had become exhausted, or (b) that while the incentive to business men was adequate, the resources being put at their disposal were inadequate. With the present scale of saving there is no reason to suspect that business men are " not being given adequate resources, but it might become true if a sudden burst of technical invention made a great burst of new investment tremendously worth while from a social point of view.

It is difficult on my second assumption, which I will remind you is that productive efficiency remains constant and that the total production only grows in proportion to the population, to make out a case for falling prices, which must be both inequitable and discouraging.

But the whole case is altered if this second assumption is removed.

In this case the prima facie view is that the price level should fall part pacsu with the increase of productivity per head. There is a growing recognition of this truth amongst advocates of stabilization, although it was quite ignored a few years ago. I venture to suggest that both Professor

Pigou and Mr. Hawtrey have recently become converts to this point of view.` In brief, the case for slowly falling prices is as follows:'

First, equity: there is not much doubt that the salary earner, even the extra-industrial salary earner, should benefit from an increase 'in production, and he will most easily do so if prices are allowed to A Opinions may differ as to whether the 'rentier' from such a fall of prices. On the whole I consider he should. Even the government creditor should, for he has played his part in creating the environment which has made technical progress possible. People with fixed incomes are probably being harried quite enough by direct taxation.

Secondly, a falling price level enables one to avoid friction in benefiting those who should admittedly be benefited, i.e. the wage-earners.

Thirdly, there is a preservation of equilibrium between voluntary saving and investment. It is true that if prices fall, the real value of balances rises, but that is a mere automatic reflection of the increase in productivity. It does not mean that attempts to save have increased. If you then inflate credit to keep prices stable you are inflicting enforced saving, not transforming voluntary saving into industrial capital. There is all the difference in the world from this point of view between an increase of credit in proportion to population, and an increase in proportion to production.

Fourthly, there is the effect of a falling price level on productivity. It is clear that the producer is not damaged or discouraged—his costs per unit of product are reduced pari paasu with his receipts per unit of product. It seems, however, at first sight that the trader is penalized. If he buys wholesale goods for £S0, spends £20 on handling, expecting to sell them at £100, and then has to sell them at £80, he has suffered a capital loss even if he could replace his goods at £64.

Nor, I think, is Mr. Hawtrey's answer, that the loss is past and over and will not affect his future actions, a very valid answer if the policy is a set, and therefore a well—known, one, since further increases in productivity with corresponding falls in prices would be expected. I suggest, however, that there are two other considerations which require thought. Firstly, we must assume a normal and irreducible period for holding goods in stock, so that the flow of goods to consumers cannot be increased, nor, therefore, retail prices fall, until it is over; i.e. if a given improvement in productive efficiency occurs, producers' prices to dealers will fall in (say) January, but dealers' prices to the public cannot fall until July. Thus the dealer will not be buying at one price level and selling at another, unless he is holding abnormally large (and therefore abnormally old) stocks. This policy will encourage cutting stocks to the technical minimum, but will not eat into the capital of a dealer who holds such minimum stocks.

Secondly, it appears that we must not expect the technique of dealing efficiency to increase at the same rate as the technique of productive efficiency, which means that more capital and labour will have to be absorbed into the business of dealing, so that the total output of the country will not increase as fast as the output of a given complex of capital, enterprise, and labour engaged in production. Retail prices must fall in proportion to the increase in total output, while wholesale prices will fall in proportion to the output of a given productive complex; i.e. the spread between them must increase to afford dealers a normal income. It will not be equitable, as appears at first sight, that producers incomes in terms of goods shall increase in full pro- portion to the increase in their technical efficiency.

I will now turn to the consideration of some of the practical difficulties of carrying out the policy of stabilizing the price of productive power. Firstly, you cannot in the long run equate all other productive services with labour. I feel that Mr. Hawtrey is too optimistic on this subject. Secondly, actual wages are very sticky, so you cannot just wait until these move before doing anything, as you can with a price index—you might wait for ever. Thirdly, you cannot, to adapt a suggestion made by Professor Bradford of Lehigh University, just vary the volume of credit in accordance with the anticipated volume of production corrected for the population, since you cannot afford to neglect changes in velocity of circulation. The trouble about a period of increasing productivity is that the desire to spend, not 'Bradford; The Stable Money Question.

,only on particular things, but on things in general, is constantly becoming temporarily saturated, so that people let balances lie idle, and you may have to create credit out of all proportion to the increase in productivity in order to make prices fall only in proportion to the increase in productivity. Fourthly, faute de mieux, you can try to stabilize the retail price level which, on the assumption that dealing efficiency does not increase, will show a closer approach to the price of labour. (It will not do so, as often stated, merely because retail prices 'contain a larger element of personal services '; if those services have become more efficient the cost per unit of handling will have decreased parri passu with the wholesale price.) Fifthly, you can take Mr. Haw-trey's emasculated wholesale number—which, however, seems likely to be shorn of all the most important and interesting commodities in a. period of general progress! Sixthly, you can take either the wholesale or the retail number, and not stabilize it but let it fall by some percentage arrived at by correcting an index of production by an index of population. This seems to be the best.' I must emphasize again that a period of increasing productivity will, whatever you do, be full of difficulties owing to the general temporary gluttableness of known wants, and the still more obvious particular gluttablen s of individual wants. (The Economist of 30th November, 192;gold me in three successive paragraphs that there was too much tin in the world, too much tea, and too much oil; course I knew already that there was too much coal, too much and too many ships:)

In conclusion I would draw your attention to the close connection, between the gold problem and the question of whether to stabilize prices or productive power. If we only get £25 millions of new monetary gold a year, that is more than 1 per cent.—enough to keep pace with populati0n—whereas, if Cassel is right in suggesting that production increases at the rate of 3 per cent. A year, we should want £70 millions to keep pace with production. I will now return to my original assumptions and remind you that they were two in number. Firstly, that we lived in a closed system, and secondly, that productivity remained constant per unit of population. I have removed the second of these assumptions, and I will now remove the first, and it remains to be seen what modification of our aim is necessary when we approach the fact that we are living in an international world, It is regrettable that this factor adds to the difficulties of an already complicated subject, for it is difficult enough to End even a wholesale number which will lit all countries. The American and British figures, using 1913 as a base, were together in 1925, but in November, 1929, the American figure was 146 and the British was 134. Professor Bowley, in a gallant attempt to deal with this position} has endeavoured to work out a figure, based on identical articles, but unfortunately by using his basis of calculation the American figure becomes something like 147, whilst that of England is 129; and if it is difficult to find a wholesale figure applicable to all countries, it is still more difficult to find a price level of income goods appropriate to all countries owing to the differences in the cost of services, alterations in terms of trade, &c., and in this respect the difficulty becomes even worse if we aim at stabilizing the price of productive power. For example, if we let prices fall in proportion to - the increase of productivity in America, we shall be producing a depressing effect in England. I see no way out of this dilemma. It is part of the price we have to pay for internationalism. I can only end up on a note of strained optimism by suggesting that it would be better to stabilize something than to stabilize nothing, it would be better to stabilize an international wholesale level than none at all, and I add my personal view that it would be better still to let it fall by perhaps as much as 3 per cent. per annum.

Discussion

Paorsssorz T. E. Grwoorw: I do not think we have had an answer to the question which I understood we were here to discuss. I thought it was 'How do we want Gold to behave?' What we have really been told is 'How prices are to behave'. On that particular point I am in entire agreement with the speaker, and I am not one of those who have changed their views in regard to the proper behaviour of prices during the last twelve months. I merely want to confine myself to one particular point in Mr. Robertson's very interesting remarks. It is with regard to the position of the merchant class, on the assumption that you are likely to have a falling price level. I felt myself quite unable to follow his own very subtle analysis. I suggest that the problem—assuming, for instance, that prices fall by 3 per cent. per annum-is solved through the fact that if other entrepreneurs do not suffer whilst the merchant class does, the adjustment between merchants' profits and other

people's profits under those conditions will come about quite simply by the fact that the trading class will be relatively diminished, a number of them will fall out of the profession, and the rate of remuneration per head will rise. Personally, I do not believe that this is such a serious point as perhaps Mr. Hawtrey and Mr. Robertson have made of it.

May I try, without entering into details with regard to gold production, to hint at what might be the answer to the question? What we want is this: we want a gold supply which is not so large that all the assets of the central banks will be 100 per cent. gold: we do not want a gold supply so small that the central banks will be driven into a panic on account of declining gold reserves. We want the supply of gold to behave in such a way that we can rationally treat the problem of currency—whether the appropriate increase of supply be 3, 2, or 1 per cent. is another point. But it seems to mc that the problem of managing the currency and price level in a rational way depends on the supply of gold in the next half—century. They are very elastic limits if the supply of gold is not going to be so small that the central banks behave as in 1929, or if the supply of gold is not so large that central banks will be forced to keep a reserve of 100 per cent. If the supply of gold lies within those limits, I think we can retain a gold standard and yet allow such price policy as we desire to see developed.

Dr. Sprague: As I shall ce1tainly not be here at the next few meetings, I presume the Chairman will allow me some freedom in what I may say.

There are really two questions 'How do we want gold to behave?' and 'Can we make it behave in the way we wish it to do?'

I think that we can answer both these questions, and that the answer to the second is in the affirmative, if we do not ask too much of gold. If we are prepared to accept considerable Fluctuations in prices, both in an upward and downward direction, then I am disposed ` to think that it is possible to secure, under the gold standards, fairly satisfactory results. It is for this reason that I am not particularly interested in the refinements of index numbers. I am disposed to think that a change of, say, no more than five points in any index number has no particular significance; that such a change may be due to any one of a score of different, or a combination of one or more different, causes. It is only the extreme persistent changes that are, presumably, to be attributed in large measure to gold. I concur with Mr. Robertson's view, at least to the extent of saying that a downward movement of prices—if it is accompanied or preceded by an increase in the output of goods is probably more endurable and less disturbing than a downward movement in the absence of such improvements in production. It ought, I think, to be possible through analysis to reach a fairly definite conclusion as to whether scarcity of gold is a principal cause of a downward movement of prices; and whether a superabundance of gold is occasioning a considerable, and presumably undesirable, upward movement of prices. If the downward movement of prices is in large part due to a scarcity of gold, it will in genera] be accompanied by high lending rates on the part of the banks—a necessity on the part of the banks either of contracting credit, or allowing it to expand only very slightly I do not think we can determine the responsibility of gold in the case of a short—time change in prices. For example: the recent decline in prices in the United States would seem to me to be independent of the supply of gold, being due to certain repercussions following the decline in the

Stock Market in October, 1929. Almost any considerable economic readjustments will be preceded and accompanied by a downward movement of prices, and that will be true, I believe, regardless of whether the supply of gold is more or a little less abundant. The problem of gold, as I look at it, has to do primarily with the determination of suitable arrangements to render the world, in considerable measure, immune from the consequences of either a decided increase, or some decline, in the production of gold in the next twenty years-—and it is hardly worth while to bother oneself with a more distant date than that. It would be perfectly possible to meet the situation that may develop in the course of the next twenty years, if the production of gold gradually declines to not more than £50 millions sterling per year. That can be readily accomplished, if legislation is changed throughout the world which will permit the banks to expand credit on the basis of a lower reserve ratio than is at present required in nearly all countries.

There is no particular reason for 40 per cent. or 35 per cent. Reserve against issues of bank notes or deposit balances at central banks. What each country needs is an amount of gold available to

meet certain conditions that arise in the course of international trade. From time to time it will become necessary-—now in one and now in another country—that certain readjustments be made. If the course of exchange runs against the country, and it takes the necessary measures to increase the cost of credit and perhaps reduce the quantity, it will not require very much gold to bring about the adjustment. For, after all, what gold movements do is not so much to settle the payments, as to set in motion certain forces calculated to restore the balance in financial relationships between the countries losing the gold and other countries.

Take the United States at the present time. Some people have calculated the aggregate amount of gold in the United States against the deposit. Liabilities of our banks, and have pointed out with some fear and trembling that that ratio is now not more than 5% per cent. whereas it formerly was 7% per cent. That is a matter of no consequence. The important thing in the American banking system, or any other, is, what is the nature of the other 93 or 95 per cent. Of the assets. The strength of at banking system is not to be measured by at little more or at little less gold.

Now, unfortunately, the reserve ratio fetish has been extended almost throughout the world since the War. We have always had that requirement in the United States, though we have reduced it somewhat in recent years; but in other countries it has been, for the first time, established in law since 1924; and that means that the entire amount of reserve which is required by law is at dead asset, unavailable for use at all except to the minor extent that credit is contracted. We shall never be able to deal with gold in a satisfactory fashion until we get away from legislative reserve requirements imposed upon central banks, and until the public comes to realize that gold is something to be used as a means of influencing the economic and financial relationships of each country, so as to maintain its equilibrium with the rest of the world.

DB. W. H. COATES: I'm not sure that Professor Gregory made a. his statement when he said that Mr. Robertson did not deal with his question. It seems to me that we only want gold to behave in relation to prices; we should not mind what gold did if we had not got a gold standard.

Now I am inclined to take issue with Mr. Robertson when he suggests that falling prices in consequence of increasing productivity are not to be deprecated.

He dealt with the various persons who share in the productivity. I am concerned at the moment with his treatment of the manufacturer. He said that the manufacturer need not be worried, because as his prices fell so would his costs, and therefore he would be all right.

When one went down, so would the other, and the difference would tend, I gather, to be constant. But he had already told us in dealing with the first item in his income classes, viz., salaries, that he thought salaried persons were entitled to the benefits that would flow from this fall in prices, because they would get a. slightly higher real remuneration. Well, that meant that one particular cost of the manufacture because the manufacturer does pay salaries—that particular cost would remain constant.

Mn. Rosmvrsorr: Not the cost per unit of product; if output is increasing, then the salary cost per unit would be falling.

Dr. Coates: I do not think they would tend to move together. This point would be of greater importance when dealing with wages.

Mr. Robertson I should think that is what is meant by productivity increasing.

Dr. Coates: I do not think that is necessarily so. The main point I wish to make is that Mr. Robertson did not take into account the psychological effect of the falling price on the manufacturer. As Professor Pigou has taught us, psychology is of great importance. It affects the general attitude of the manufacturer and the entrepreneur towards the development of his business.

Every time that a price level moves downward because of increasing productivity, a tendency makes itself felt to set up some organization which shall defeat that movement. When we had the very large cotton crop two or three years ago, we immediately had the American banking system flying to the assistance of those whose remunerations were threatened by the downward

movement in price in order to help the growers to arrange what is always described as orderly marketing.

We have recently seen a similar kind of phenomenon in regard to wheat in Canada. Today, I understand that there are large quantities of wheat held there by the assistance of the banks in order that the Canadian grower shall not assist in a movement towards lower prices. We have to take account of those forces, and of the fact that they are tending to increase and not to diminish. They have had considerable influence upon Canada's position at the present moment in relation to the gold standard itself. Both the entrepreneur and the manufacturer—to return to the psychological point for a moment are influenced by falling prices. Each is influenced in this way. The tempo of his activities tends to diminish. When you see prices falling, and you are considering a capital extension of any magnitude, you are inclined to say to yourself: 'Well, if I undertake this at the present moment it will cost me so much; if I postpone it for three, six, or twelve months, I may be able to carry it out at a considerably lower cost.' That tendency will run throughout the whole of your entrepreneur's activities and, in my view, it will tend so to slow down the tempo as to produce, not necessarily a state of depression, but a state of activity which is smaller than would be the case if the price level were kept pretty stable. Certainly you will have a degree of activity which is much less than that which would exist if the price level were slowly rising. Instead of being tempted, as he is with a falling price level, to wait a little, when the entrepreneur sees the price level rising slowly, he says: 'I had better hurry up in case it costs me more.'

I have only one further observation to make, and that is in respect of Dr. Sprague's observation that a movement of five points in the price level was not, in his opinion, of great account. Of course, I do not know the base to which he related that five.

DR. SPRAGUE: There may not be any particular cause for the 5 per cent. change; there may be many causes other than monetary.

DR. GOATES: You have to remember again that profits—the main- spring of the entrepreneur, the basis of his psychological attitude are a residual item. Profit is the remuneration for risk bearing. While a movement of 5 per cent., or five points, whatever the base may be, may be deemed insignificant in relation to the total price, a movement, when you relate it to the residual item of profits, may be very significant indeed.

MR. R. F. HARROD: The point I have to make—if I may carry on where Mr, Robertson left out•—is about the international question, about the difficulty which arises from the fact that different countries are progressing in productive efficiency at different rates. If you decide to have stable wages you get different results for different countries. Stable wages would involve wholesale prices falling more quickly in more progressive countries. But wholesale prices must behave in the same way everywhere. Consequently every country cannot have stable wages. The average of world wages could, however, be kept stable.

Now it seems to me that the proper criterion of policy is the effect which the monetary system has on industry. If industry is stimulated to go forward at a pace which cannot be maintained, you are bound to have periodic industrial crises and depressions. If each country could govern its monetary policy independently, it would try——or should try—to adopt a policy which did not result in its industry going forward at a pace that could not be maintained. Now suppose that the policy which keeps industry at its proper pace in a country such as ours, where productivity is increasing slowly, is one of stable wholesale prices. That same policy might, in a more progressive country like America, where costs are falling more rapidly, produce an inflationary effect in industry. The same policy is not likely to suit all of a number of countries in which real productivity is advancing at different rates.

I should like to add that you have this very serious problem. That country can have its way which is most deflationary or least inflationary in its policy. A country can always be deflationary if the rest of the world does not want to be. It can allow its reserves to accumulate—to 60 or 80 per cent., or more. But a country cannot be inflationary on its own and remain on the gold standard. If each country tries to do what is best for its own industry, that country, which it suits to have wholesale prices falling most (that is, the country which is most prosperous, has the greatest activity and is going forward most quickly, like the United States) can have its way. This is only another example

of the general maxim: 'To them that have shall be given} The country that is most prosperous can really dictate, in the last resort, what is to happen to the monetary situation: and it seems to me, therefore, that we have a very grave difficulty, however we decide to behave, as between the different countries. I am not quite sure whether the ideal state of things would not be for each country to have its own independent monetary policy: but that, of course, would conflict with the international aims which are at present before us.

Mr. E. M. H. Llyod I should like to ask a question. The League of Nations Statistical Year Book gives a production index for food-stuffs and raw materials. I do not know how much importance can be attached to the exact figure, but the average increase over the five years ending in 1928 comes out to exactly 3 per cent. per annum. The interesting point is that foodstuffs increased only 2 per cent. Per annum; while raw materials, mostly for industry, increased by 4 per cent. That brings me to what I want to ask. Would not this policy be undesirable from the point of view of agriculture? If you are taking a long view, say over the next fifty years, is not the real problem to maintain the food supply of the world? When talking of increasing productivity reference is always made to the motor-car industry. But agricultural productivity is not increasing as fast.

Therefore, would not this policy of a gradual reduction in the price level of 3 per cent. per annum tend to have a dangerous effect on the future food supply of the world?

MR. A. W. FLUX: I have been trying to orient myself in the discussion, and am not sure that I have yet succeeded. Mr. Lloyd referred to the figures mentioned by Mr. Robertson, which served as the basis of a large part of his consideration of what we ought to do.

There was a provisional hypothesis-I wish to emphasize that that is my attitude towards it—that productive activity is increasing faster than population. This is not the occasion, I understand, for going into the facts of that question, but I should like to emphasize that it should be treated as a very provisional hypothesis.

The figures Mr. Lloyd has referred to are figures of expansion over a period beginning with a state of severe depression and ending in a moderate state of economic activity; and we ought not to take this as a measure of the normal trend ; nor should we base a permanent policy on the conclusion that productivity has, over the last few years, increased faster than the monetary supply of gold. The measure of productivity may itself need some deduction, for reasons cognate to those which have been mentioned with reference to accumulations of gold.

Similar considerations are familiar with reference to accumulations of capital; we are constantly being told that the nation is accumulating capital at a considerable rate, and we find, after a time, that the capital we have does not show a net increase which at all corresponds with the degree of increase thus assumed, based on current estimates of savings, without adequate allowances for depreciation and obsolescence. Such considerations, however, need not prevent us from discussing what policy we ought to follow if it were true that money supply does not keep pace with production.

I am reminded by much that has been said this evening of the situation in which I found the discussion in Cambridge some forty years ago, when I first became interested in it. There I found there were two schools of thought. If I may venture to connect definite names with those schools, there was, on the one side, Professor

Marshall, who held that, in its psychological effect, on the whole a slowly falling average of prices was likely to exercise a. more healthy influence in the field of industry than a slow rise in prices, on the ground that the former condition was one which demanded from the leaders of industry real vigour and activity, which prevented those remaining as leaders in industry who did not possess a brain capacity well above the average, or at least an industrial efficiency well above the average. Steadily, even if slowly, rising prices would permit those to remain as leaders who were of no outstanding capacity, their deficiencies in initiative, individuality, and vigour being compensated for by the fact that prices were helping them out of the difficulties resulting from the lack of a high order of mental, or at least of business, capacity.

On the other hand, Professor Foxwell held that the stimulus provided by hope, and the realization of immediate results to those who happened to be in control of industry, would be likely to be

effective in pushing industry forward, while the depression that comes from a fall in prices, however slow, was bound to hold back the progress of industry.

I must confess that, personally, I feel on the whole inclined to sympathize with the first view, that is to say, that, for the welfare of the world as a whole, we shall have to look to pressure upon those who possess the power of leadership to exercise their capacities to the very utmost, in order to save themselves from mediocrity or ruin, and that, on the whole, that situation is likely to be better for the world than the position that enables capacities not very much better than the average to remain in control of business because of the steady stimulus of a rising price level.

Those who believe in the tonic effects of a struggle with the difficulties of a slow downward drift of average prices may, perhaps, be called optimists, and those who are partisans of a slowly rising average price level might have to be ranked as pessimists. If we picture to ourselves, for convenience of argument, a ranging of industrial leaders in line in the order of their capacities to overcome the difficulties, not only of organizing industrial or commercial enterprise, but of a struggle against falling prices, the optimists believe that there is an adequate supply of ability to do the work of the world without drawing on that part of the line in which those are found who cannot

survive unless prices are rising, while the pessimists believe that a reliance upon the leadership of at least some part of that section of the line is essential for the satisfactory maintenance of economic activity.

In actual practice, of course, it has not been overlooked this evening that prices do not all move in the same direction, and that a steady average level of prices-in whatever sense we interpret such steadiness—is quite consistent with falling prices in some industries and rising prices in others, these movements being subject to change from time to time. In desiring a steady average, we are desiring that the ‘monetary influences shall not incline the balance in such a way that either of the two groups of industries-—those with falling prices and those with rising prices——shall be favoured or penalized.

Mr. Norman Crump: I think that fears that prices might return to their relationship of 1913 are unfounded. Whatever happens to prices, it is most unlikely that they will return to their 1913 position, though it is conceivable that they might sink into a worse relationship. In general I deprecate any attempt to relate prices to-day to their position in 1913, and I think that such a course of action will only give rise to misconceptions.

With reference to the point of difference that arose between Professor Sprague and Dr. Coates, I am on the whole inclined to side with the latter, simply because too much emphasis cannot be laid upon the psychological aspect. In general, the first effect of a fall in the cost of living, and so an increase in real wages, is to make the worker think that at last he has a little more margin in hand after paying for the necessities of life. It is the hardest thing in the world to get him to see that he ought to accept a reduction in wages and so sacrifice the margin.

On the wider question of price changes, I have one final point to make. It is that it is a little dangerous to discuss their causes and consequences before getting a clear idea of exactly how to measure them.

Practical knowledge of price index numbers is of very valuable assistance when it comes to the question of determining the significance of any particular movement.

Selection of Comments on the Proceedings Mr. J. R. Brunner: In regard to Mr. Robertson’s four points in connexion with the cage for slowly falling prices

1. Might it not be reasonably held that equity involves a gradual reduction of the rentier’s share of the national income?

2. A decline in the price level tends to create wide divergences in wage rates, owing to ‘sheltered’ and ‘unsheltered’ conditions, and thus increases rather than decreases friction.

Further, if the price level falls in proportion to the increase of labour efficiency, money wages, on the average, will remain stable. In consequence, any increase of money wages secured by a

strong union can only be secured at the expense of, and by forcing down, the money wages of other workers.

3. It seems that there will only be undue 'enforced saving' if wages fail to rise step by step with the increase of efficiency. (This is of course not quite true, as rent and fixed interest remain unchanged over fairly long periods.)

4. There appears to be an admissible argument that a downward movement of the level of prices, by increasing the pressure on producers, stimulates them to greater effort. For instance, it is said that, at present, the process of rationalization is being hastened as a result of the severity of the price depression, and that the ultimate effects will be beneficial. This seems to imply, however, that, if the good effects are to be secured, there must at some time come an expansion of the market, aided by an expansion of credit and a recovery of prices.

Probably this argument does not apply as fully to a situation in which prices fall owing to increased efficiency, but I think it has some application.

One cannot avoid a feeling that Hamlet is missed out when there is no mention of the effect on employment. A fall of prices preceded by au increase of efficiency usually results in some degree of depression, affecting mainly the labour market. The first effect of an increase of efficiency, through rationalization, increase of hours (e.g. in coalmining), or other causes, is to throw men out of work.

When, as a result of the fall of prices, consumption expands, there is still a problem of unemployment until workers can be transferred from industries with an inelastic demand to those with an elastic demand.

But Mr. Robertson makes a truly hair-raising suggestion when he proposes at the end that wholesale prices should fall 3 per cent. Per annum. This, apparently irrespective of the rate of increase of efficiency. It seems safe to say that were his suggestion to be put in effect from now onwards, Great Britain would never escape from depression.

Mr. D. T. Jack: Special importance seems to attach to the problem of price policy under conditions of an international gold standard rather than under conditions of a closed system for any one country. The problem also appears to be one which concerns the course of the world price level, and in legislating for that problem it seems to be impossible to avoid inequity for every country. That rather follows from the fact that increases in (a) population and (b) productive efficiency do not occur uniformly for all countries. Therefore, assuming a 3 per cent. per annum fall in world prices to be appropriate for countries of greatest progressive efficiency, some special check seems likely to be imposed upon other countries of lesser productive efficiency. Similarly the selection of a smaller percentage fall might have an inflationary effect upon countries of greatest progressive efficiency. And' the question then arises as to whether that last result might not mean the stimulation of industry in the most progressive countries at a pace which could not be maintained, with the result that periodic crises and checks to production would be generated.

Of course, just as different countries have different rates of increase of efficiency, so do different industries have different rates of increase. Mr. Lloyd raised the point by suggesting that agriculture did not increase so rapidly as manufacturing industry. And taking 3 per cent. As the annual rate of increase of efficiency appropriate to the latter, he suggested that a price level which declined at that rate would have an adverse effect upon the agricultural industry. The answer which suggests itself is that under the conditions presumed the real price of agricultural products would rise relatively to the real price of manufactured products, and psychological reactions apart, such a falling price level might not adversely affect agriculture.

The psychological aspects of a falling price level cannot, however, be ignored, and it might perhaps be desirable to allow the world price level to fall rather less rapidly than might be suggested by the rate of increase of efficiency. There seems to be reason for the view that in periods when the secular trend of prices is upwards, years of prosperity are more numerous than years of depression, while when the secular trend is downwards years of depression are rather more numerous than years of prosperity. Finally it may be suggested that further inquiry into questions of price spreads may be necessary before a satisfactory answer can be given to the points raised by

Mr. Robertson. But that is` quite consistent with his conclusion that 'it would be better to stabilize something than to stabilize nothing'.

MR. G. H, BAXTER: There are really two main questions to be answered, one as to the aim, i.e. What do we wish to achieve? The other as to the machinery, i.e. How is it to be achieved? Leaving aside the second question, of which Sir Josiah Stamp made a broad analysis at the opening meeting, we are presumably all agreed that the answer to the first, in general terms, is stabilization of prices in terms of gold.

I cannot agree with Professor Gregory, who tried to distinguish between the questions 'How do we want gold to behave?' and 'How do we want prices to behave?' The two questions are really the same, and may be put more precisely in the form, 'How do we want the relation between gold and goods to behave? ' We want it to be stable.

We want the money equivalent of one ounce of gold always to purchase, subject to the narrowest possible fluctuations, a given quantity of goods. Here we have a sort of equation: on one side is 'One ounce of gold', which fortunately offers little ground for doubt or ambiguity.

The principal questions which arise, in this division of our inquiry, are as to the meaning to be attached to the other side of the equation; there being two points, which though inter-related can to a great extent be considered separately, viz., what we are to mean by ' goods ', and what we are to mean by 'a given quantity'. As regards the former it has to be considered:

(a) which of the 'things on which income is spent' are to be included, e.g. questions as to securities, capital, goods, wages, entertainments, and the wholesale or retail basis for commodities, and

(b) when we have got our definition of goods, how we are to strike a satisfactory index which shall be sufficiently valid in the most backward, most advanced, slowest, and most progressive parts of the world, and over epochs when the relative importance of the various kinds of goods may widely vary. These are questions which cannot be tackled at all except on the basis of very full data provided by the research of practical statisticians.

Turning to the other point, as to what we are to mean by 'a given quantity' of goods, there is, as our discussions and Mr. Hawtrey's recent paper I have already indicated, a choice between two alternatives, with of course the third possibility, which I doubt if any one would advocate, of some kind of compromise between them. The first is that the money equivalent of an ounce of gold should always buy the same absolute quantity of goods, the second that it should buy a quantity of goods representing a fixed proportion of the world's per caput production (or per caput holding) of 'goods'.

The most obvious practical difference in effect between these is that, on the assumption that world productivity will continue to increase, the proportionate system would result in a gradual fall in prices, while the 'absolute' system would stabilize prices, or rather the average of prices, for all time. The difference would, in the long run, mainly affect the relative position of those with fixed money claims and those whose claims are marginal. If we regard the former as debenture holders in the World Limited, and the latter as ordinary shareholders, the effect of the proportionate system would be that in future all the debentures would be participating. There seems little doubt that, on grounds of abstract equity, this system is preferable.

Although it might be argued that its initiation would confer undeserved benefit on those with existing fixed money claims, such benefit would be much less violent in character, and less disturbing to the rest of the community, than the benefits and detriments which accrue to this class through fluctuations in money value under the present; uncontrolled system. Moreover in the case of fixed money claims arising after the initiation of stabilization on these lines, the benefit could no longer be regarded as undeserved, since presumably it would be taken into account along with other factors when the claim arose. It. should he added that if the prospect were that productivity was likely to decrease rather than to increase, the proportionate basis of stabilization would almost certainly have to be preferred to the other, since it would be difficult 120 defend to the public at large the permanent entrenchment of those with fixed money claims in a position secure from the depreciation suffered by the community generally.

Practical considerations, however, point the other way, and my own feeling is that they far outweigh the theoretical arguments out- lined above, especially when it is borne in mind that such a. measure as we are contemplating constitutes a. definite intervention in every transaction in the economic life of the world, and must be capable of being successfully defended vis-a-vis the general public.

The main considerations seem to be:

1. Difficult as may be the institution of 8, satisfactory index for an fixed price level, still more awkward problems seem involved in the search for a criterion to guide with any exactitude (and with a. minimum of the element of 'trial and BITOPE) those entrusted with the management of u. system of prices varying inversely with productivity.

2. Any measure of general stabilization will require the concurence of the great mass of intelligent, but non-technical, opinion in the principal countries. Such opinion (a) will find the actual fixation of prices more intelligible; (b) tends, on balance, to suspect any measure which appears deflationary and (c) would probably tend, by a. majority (in influence if not in numbers), to oppose anything appearing to enhance the rentier's claim.

3. Rising wages are a more perceptible, and therefore am more appreciated, benefit than falling prices.

4. While it is true that, price movements being more automatic than wage changes, there would be some lag if the benefits of increased productivity being passed on to wage-earners, this drawback is much more than offset by a. connected advantage of the 'absolute' system. Under the latter, in a given country, the result of markedly increased productivity in countries abroad would he that prices, and wages also (assuming static productivity in the given country) would remain unchanged.

Under the 'proportionate' system the situation indicated would mean a fall in prices in all countries, coupled with maladjustment between wages and prices in the static country, necessitating wage reductions as the alternative to continued dislocation.

MR. Keynes put forward, as one of the propositions which might command our general agreement, a suggestion that 'it may not make a great deal of practical difference upon what brand of stability our first preference rests'. I would suggest that for this should be substituted the slightly different proposition, that the attainment of stability so far transcends the differences between the theoretical merits of particular brands of stability that we are justified, when selecting our brand, in having an eye mainly to the practical questions, (1) which brand can be introduced with a minimum of opposition, and (2) which brand will be the smoothest in working.

MR. R. G. HAWTREY: If I may make one comment of a personal kind, it is that Mr. Robertson is mistaken in supposing me to be a recent convert to the view that the price level ought to fall with an increase (or rise with a decrease) of productivity. Writing in 1919 I suggested that 'the value of the monetary unit in terms of human

effort should be kept fixed', and in 1922 I pointed out that 'Any available index number is bound to be affected by price variations in particular commodities arising from non-monetary causes, such as harvest conditions, new inventions, discovery or development of new sources of supply or exhaustion of those that exist. A blind adherence to the index may hide a real departure from the path of stabilization'.

The paper which I read in December to the Royal Statistical Society was little more than an elaboration of these two passages.

Mr. Robertson expresses this principle in terms of productivity 'per head'; I think it ought to be expressed in terms of productivity per unit of productive power or of real costs. Real costs should include interest and depreciation, and the cost of management, supervision, &c., should be estimated not by the numbers employed but by the value of the services rendered.

Mr. Robertson says that 'you cannot in the long run equate all other productive services with labour'. For this he gives no reason.

What I said in my paper on ‘Money and Index Numbers’ is too long to repeat here, but it was subject to many very careful qualifications. The principle involved is not essential to the practical proposals contained in my paper but was invoked only for the sake of their theoretical interpretation.

I think Mr. Robertson has also misunderstood what he calls my ‘emasculated index number ’. My proposal is not to form an index number o11t of these products which are not exposed to non-monetary disturbances of price, but, in using the guidance of an index number in the regulation of credit, to eliminate those products which on that occasion are known to have been seriously affected by nonmonetary causes. Usually a very limited number of products would have to be excluded.

When he recommends us to let the index number fall ‘by some percentage arrived at by correcting an index of production by an index of population’ he is offering altogether too rough and ready method. The corrections must often be for varying crop yields, and could not be made satisfactorily through an index of production.

Further, it is a mistake to suppose that the increase in productivity through discoveries and improvements occurs gradually and at a rate which can be measured by an index of production. A part of the growth in production is due not to improvements but to increased capital equipment, and the improvements when they do occur are likely to affect a small number of products at a time and to affect them almost discontinuously

Dr. Coates expressed a fear that the expectation of a fall of price due to improvements in production would cause a restriction of enterprise.

But such improvements cannot in general be foreseen. When they are first shown to be practicable they do indeed involve every one interested in the old processes, as well as holders of stocks, in loss. But this loss does not discourage enterprise, for the future production is in the hands of those who apply the new processes. The loss, however deplorable, hardly seems to be of the kind for which a general rise in the commodity price level would be an appropriate remedy.

It might be that the expectation of continual improvements in production would lead traders to hold smaller stocks. But this in itself would not cause depression once the initial reduction of stocks was past. It is not by low stocks, but by a reduction of stocks that a depression is caused.

Mn. J. H. Penson. The principal comment I have to make on Mr. Robertson’s address is as to his proposition of slowly falling prices at a time when productive efficiency is increasing. Prima facie

I am inclined to agree that much can be said for this. Moreover, two of the difficulties Mr. Robertson discusses seem to me to admit of fairly simple treatment.

First, as to the position of traders: I do not feel quite satisfied as to his argument on page 22, and especially the assumption of a normal and irreducible period for holding stocks. The explanation appears to me to be as follows. The fall in prices in the given circumstances would be unlikely to be a gradual fall of all prices at the same time.

The wholesale price of a given commodity would tend to fall in a series of drops, fairly widely separated in time, as improvements in production are introduced. Retail prices would not fall immediately, but only when the commodity begins to be generally available at the lower price, and the average trader, who had only moderate stocks when the fall took place, would not be likely to lose, whereas the fortunate trader might even gain. Then, as there was no necessary prospect of a further drop in the price of the particular commodity owing to another increase in productive efficiency, traders would not be discouraged from continuing to maintain normal stocks. The position should be clearly distinguished in this way from that in which there is a steady fall in the price of all commodities due to a policy of deflation.

Secondly, Mr. Harrod’s dilemma, that if you let prices fall in proportion to the increase of efficiency in America you would have a depressing effect in England, seems unnecessarily extreme. You would not take the productive efficiency of the most efficient country as your guide; rather, I think, the policy should be to secure by international co-operation that the fall in prices did not do more

than keep pace with increasing productive efficiency in the average country, corrected of course by the index of population.

Nevertheless, I am inclined to think that on the whole a. policy of stable prices would be better even if productive efficiency were increasing. In the first place there seems no reason to allow the creditor to get more than he has bargained for. It is most unlikely that he would, in making his bargain, allow for a fall in prices. Therefore, why give him an uncovenanted benefit?

Then as to the wage—earner and salary-earner, there is distinct psychological advantage in allowing them to see their earnings rise in terms of money, and with increased public control—such as we may expect—over the accounts and profits of undertakings, the claims of salary earner and wage earner should be more easily substantiated.

Thirdly, subject to an increase in the money value of salaries and was, even if a certain amount of forced saving does take place, it is probably a good thing at a time of increasing productive efficiency.

Turning to the remarks of the other speakers, I cannot help thinking that Dr. Coates' point of view must now be regarded as out of date. Time was, no doubt, when it would have been worth while for society to allow prices to rise slowly in order to gratify the psychology of the producer and trader. But that time has passed.

At best it was an inefficient means of stimulating production. Nowadays, when large efficient enterprises provide more and more for scientific costing and for the study of prices, in particular the prices of the commodities in which they deal, it will be decreasingly worth while to grant the artificial stimulus of a rising price level. Socially, owing to the usual lag in wages, a rise in price level in the circumstances we are envisaging would involve injustice. In short, I think the old controversy, to which Mr. Flux referred, of some forty years ago, has no longer much practical value.

I am myself in agreement with the general observations of Dr. Sprague, but they cover perhaps a wider field than that of the second meeting itself. I feel that the most useful line of advance for this group will probably be that of investigating the true economic use of reserves and the proportion of credit which can be built upon

them. I think that with the increasing international cooperation "this group has in view, a very great increase in the structure of credit may be found to be possible, which will largely neutralize the possible ill-effects of a decline in the supply of gold. But this opens up rather a wider field than that of the second meeting.

I have already referred to Mr. Harrod's remarks. The position in which it is true that 'to him that hath shall be given' is what we find to-day. But it need not always be so, and the very object we have before us is, I understand, the education of public opinion with a view to greater international co-operation in future. This should eliminate the chances of one country going ahead on a path of deflation to detriment of others.

MR. W. H. Mainwaring: The discussion as a whole seems to have been inspired by the fear that within the near future the world will be faced with a serious shortage in the available supply of gold, and as taken the direction first of seeking to elucidate why and how gold as money fulfils its several functions, A suggestion has been advanced, too, that it might be helpful if a statement were made defining the manner in which it is desired gold should act.

It seems to me futile to discuss how one would like things of the 'nature of economic laws to act. The principal thing is why and how do they operate. These matters understood, questions of whether it is within our power to modify their effect or to eliminate them altogether become immediately practical.

The various speakers seemingly agree either that there already is a shortage in the available supply of gold or there is great danger of its being the case in the near futu1e. If such fears are well grounded then changes must take place in the relative value of gold to other commodities and it is not at all unlikely that other far reaching effects will follow.

Such a shortage in the supply would cause prices of all other commodities to fall in sympathy with the changed value of gold and at the same time, the basis of credit being affected, it would bring about a contraction in the available supply of that commodity.

Against this tendency of reduced supply there is, as mentioned in the course of the discussion, the factor of a more economic use of the available supply and the development of banking, together with a change in the habits of the people. These changes permit of a greater degree of centralization; have indeed, in so far as gold is eliminated from active circulation, added to the central reserves and had an effect similar to increased gold production, apart from which the fears at present held would be considerably accentuated.

These economies are perfectly legitimate and, provided they are kept within given limits, can have no ill-effects; excepting, however, that the fact of its having been possible to eliminate gold from active circulation nationally is not, and ought not to be, regarded as evidence of ability also to dispense with it internationally.

The suggestion that it is possible and practical to reduce the price level annually in order to remedy the shortage in the supply of gold begs the whole question. If a reduction in the price level could not be brought about excepting by means of an agreed annual percentage to be enforced at a given time, then the proposal amounts simply to one of giving to gold an artificial value—a value higher than it really possesses—by means of which it can purchase larger quantities of other commodities.

If a proposal of giving gold an artificial value were not only deemed possible but also practical there would be some reason for assuming the further possibility of giving to a commodity of comparatively no value, paper, the necessary value relation to fulfil all the functions of money at present carried on by gold. That indeed would be an ideal solution to the whole problem.

It seems to me a very great assumption to make that a managed price level to be reduced annually would have no ill-effects upon industry and commerce. There is no doubt in my mind that such a proposal if acted upon must have precisely the same effect as economic law itself will have where there exists quite definitely a shortage in the supply and an increase in the cost of producing gold.

The cumulative effects arising out of such u situation might well imperil the whole economic system.

Mr R. G. Glenday: Looking, as I do, at monetary problems from the business mans point of view, I am conscious of a sense of 'un-reality' about most of Mr. Robertson's arguments. So long as I am prepared to accept as real his 'through the looking-glass' world, I am able to appreciate both his premises and conclusions. Once; however, I am back in the everyday business world, in which we most of us unfortunately have to live, the ideas which appeared so reasonable and helpful in his imaginary world seem to have little or no contact with reality. Let me give two examples:

In Mr. Robertson's economic 'Wonderland' a 3 per cent. fall in the wholesale price index seems to be the ideal to be aimed at; in the actual business world of 1920-30 it is precisely because the price level has been falling about 3 per cent. per annum that life has become so intolerable.

An equally serious-though less obvious—contradiction appears to be pervade his consideration of price levels. This concept appears to be a kind of 'mirrored image' of the average of prices. As applied to the circumstances of the business world this concept appears to me to give an almost fantastic picture of its operations. The activities of industry and commerce comprise a moving sequence of prices. It is the relation between the items in this sequence which govern the degree of profitableness of the operations of production and marketing.

An average, as it were, of such moving sequences, since it ignores the dynamic element, in effect represents a stationary system. This failure to visualize industry as a series of moving processes appears to me to vitiate most of the arguments in connection with the way in which industry adjusts itself to a falling general price level. In real life long before there has been anything which can be safely regarded as a fall in the general price level, there have been sufficiently marked movements in the individual commodities and cost items to set in train marked changes and adjustments in the operations of the industries affected by them; that is to say, the operations of industry change with

the movements of individual prices and not with those of an average of prices (i.e. the general level).

Since post—War experience of depreciating currencies suggests that the time taken for the various items entering into costs of production of the major industries (i,e. materials, wages, transport charges, taxation, &c.) to adjust themselves to monetary changes may amount to anything up to three or five years, Mr. Robertson's omission of all reference to this aspect is to be regretted. It appears to me to dispose almost completely of his reply to Dr. Coates' arguments. The effect of monetary changes on the output of industry is, I believe, much more important to the national well-being than its effects on the division of that output. I observe that Mr. Robertson commences by commending as a proposition which should command universal assent, that no one desires to restore the value of money to the pre-War level, and then concludes with a recommendation which it appears to me must infallibly produce that result within less than a decade (i.e. a 3 per cent. annual fall in the wholesale price level)

Mr C. H. Kisch It is more difficult for industry to carry out the adjustments in costs required to meet falling prices than it is for industrial workers to adjust their position at a time when prices are stable and costs of production are falling. Such a position, presumably being advantageous to industry, enables the workers to put forward their demands with the prospect of obtaining some share of the general advantage. The case for permitting the rentier to benefit by slowly falling prices is based by Mr. Robertson on the view that the government creditor 'has played his part in creating the environment which has made technical progress possible. People with fixed incomes are probably being harried quite enough by direct taxation'. This conveys a suspicion of special pleading. The rentier appears to be entitled to a constant return in real value and to nothing more.

It does not appear to me to be the case, as has been suggested, that when a man provides for his dependents to receive an income representing so much real value he is considering the relative position he wishes these dependents to enjoy as compared with other groups in the community. It seems rather that he is concerned with providing for them a certain absolute standard of satisfaction so far as this world's goods are concerned. From this point of view one would be able to make out a case that in the event of production increasing in greater proportion than effort he has no particular reason to benefit thereby. The case of the rentier appears to he one of the strongest grounds for the doctrine of stability in the price level and for utilizing monetary policy so far as may he to counter the tendency of prices to fall through production increasing in greater ratio than the effort required. Admittedly in such a case persons with relatively fixed incomes, such as salaried classes, would not benefit, but it is open to them, as it is also to workers generally, to present their case for improved money incomes, which the increase in prosperity postulated, may enable to be granted without detriment to general interests.

Mr D. H. Robertson (July, 1931): I have been invited to reply briefly to my critics: but indeed I have little to add. The events of the eighteen months since my paper was read have confirmed rather than shaken me in the belief that the maintenance of an even rate of industrial progress, difficult enough in any case, will be rendered • more difficult still if the world commits itself to the view that, how- ever great the improvements in technical efficiency, prices ought never to fall. Looking back, it becomes, I think, more and more arguable that the great American `stabilization of 1922-9 was really a vast attempt to de—stabilize the value of money in terms of human effort by means of a. colossal programme of investment in buildings, motor—car plants, &c., which succeeded for a surprisingly long period, but which no human ingenuity could have managed to direct indefinitely on sound and balanced lines. It becomes plainer food, I think, that the disastrous slump in the prices of many food stuffs and raw materials has been in part, at least, a nemesis for ill considered efforts (greedy in the case of low-cost producers, pathetic and futile in the case of high-cost ones) to hold up prices in the face of falling costs. If the business man's psychology jibs at swallowing the moderate price falls dictated by increasing productivity, he renders himself more and not less liable to suffer the catastrophic price falls due to industrial dislocation and crisis—that is my case.

I do not know why Mr. Bellerby should suppose that I advocated a 3 percent per annum price fall irrespective of the rate of increase of efficiency'. The 3 percent was, of course, intended as a guess at the secular rate of increase of efficiency, but it may be much too great—I was, at the time of reading, strongly impressed by the evidences of rapid growth in recent years which Mr. Loveday discussed a few months later in his stimulating essay.

With Dr. Coates and Mr. Glenday I feel it is not much use for me to argue. Dr. Coates speaks with the voice of the inflationist entrepreneur of all ages, claiming that the scales must always be weighted in his favour if he is to do his job properly; and Mr. Penson has answered him. Mr. Glenday seems to think that improvements in productivity only happen in Wonderland, and that discussion of what happens to the general price level, as distinct from the prices of individual commodities, is uninteresting. He accuses me of ignoring the relation between prices at successive stages of the industrial process—e.g. presumably between wage costs and selling prices, between prices at wholesale and prices at retail—which was in fact the main subject of my paper.

Mr. Kisch puts the case against me on grounds of equity moderately and clearly; I respect his arguments, but agree rather with those of Mr. Hawtrey, to whom I take this opportunity of apologizing sincerely for the unfounded suggestion that he was a recent convert to the point of view so ably expounded in his paper of 1930 to the Royal Statistical Society} My points of difference with him are too intricate for discussion here. He and Mr. Penson may be right in thinking that increases in productivity come about so discontinuously that the difficulties about the position of the merchant which I tried to face in my paper do not arise; I hope so, but I do not feel sure.

I am impressed, as I said in my paper, by the international difficulties discussed by Mr. Harrod and Mr. Jack. A solution must probably be sought along the lines indicated by Mr. Penson. But we must remember that under no system of monetary policy can things be very pleasant for a country which finds the productivity of other countries in competitive goods increasing faster than its own.

Mr. Baxter agrees with me in theory, but thinks the policy of stabilization of selling prices more practicable. But is it? To me it seems likely, as I hinted at the beginning of this note, to add to the practical difficulties, in any case sufficiently great, of those who are responsible for the orderly and balanced distribution of credit supplies.