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MONEY, CREDIT, AND PRICES
by
DR. CHARLES O HARDY, ECONOMIST
OF THE STAFF OF THE BROOKINGS INSTITUTION

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Colonel Jordan, Gentlemen

It is always a pleasure to meet this appointment, partly because the topic on which I speak is broad enough that I never feel any real qualms of conscience if I remember afterwards that I left out something that should have been included in the subject. I hope it is merely coincidence that my making this series of talks began at the same time the great depression began --1929.

The relationship between money, credit, and prices has been the subject of, I suppose, more study than any other single topic in the field of economics, with the exception of the problem of the distribution of income between labor and capital. The relationship is close and has tended to grow closer and closer.

Two hundred years ago I do not believe it would have occurred to any one to link together money, credit, and prices as a single topic. Money was no more credit than agricultural implements were credit or houses were credit. Money was one thing and credit was another, but for two hundred years the tendency has been more and more for forms of credit to function as money. That tendency has been accentuated even since the war until it is practically correct, not a hundred per cent correct but certainly ninety-seven and six-tenths per cen correct, as they say, that money is somebody's credit, and as a preliminary I will attempt to justify that statement. I want to discriminate between two kinds of credit, not two meanings of the word "credit" but two forms of credit that for this purpose it is important to distinguish. One is the type of transaction to which originally the word "credit" was properly applied, namely a transaction in which I transfer my purchasing power to you or you transfer your purchasing power to me with the expectation that I will make a retransfer to you out of my income at some later time and presumably with some payment for the service, a transaction in which the purchasing power that A gains is identical with the purchasing power that B foregoes, so that the transaction is just a reallocation of existing command over the resources of the community and not a net addition to the volume of purchasing power whether measured in money or measured in the goods that are to be bought or in labor, or in any other way. That is the simple and original type of credit, and all forms of credit would come under that description if it were not for the assimilation of money into the credit structure, to which I referred a moment ago. What I mean is this We have a second type of credit in which the borrower gains the use of purchasing power without the lender losing it, so that there is a net addition to effective purchasing power. Now that sounds anomalous. It is due to the fact that there is a considerable demand in every modern industrial community for reserved purchasing power. To take the simplest case, and a very unimportant case in practice but one that perhaps opens up the concept better than the more important ones — if you take a case of a miser who ceases to be a miser and decides to loan out his money and digs up out of the hoard under his floor five thousand dollars in hidden gold and loans it to somebody, the result is that the borrower becomes an effective buyer of something in the community and the miser does not reduce his purchases accordingly. It is a changing of inactive into active purchasing power, which it in effect an increase in the total amount of purchasing power. That is a very rare and unimportant type of transaction, one that probably will be offset by some other person at about the same time increasing his hoard of inactive funds, at least one in which the preponderance of transactions is not likely to be great one way or the other. But you get the same sort of transaction if individuals who have been carrying cash in their pockets for spending money purposes, or holding cash in safety deposit boxes and safes, etc., deposit that cash in banks and proceed to count those bank deposits as a part of their cash holdings and to use them for the same purposes for which they have been using cash, the point being that the bank turns around and loans out the money so that the person who borrowed from the bank has an increase of purchasing power and the person who deposited in the bank does not have a decrease because he has merely transformed a cash holding into a holding of bank deposits which serves him the same purpose of reserve and his buying power is as readily usable as was the cash. Now obviously that transaction is more likely to take place on an extended scale, and the balance is more likely to be one way and not offset by transactions of the opposite character than is the case of the simple type I referred to first.

There has been over the last one hundred and fifty years a steady tendency for purchasing power measured in money to be augmented because individuals have elected to hold bank deposits instead of cash, with the result that the banks have had more to loan out without the individuals who put the money in the banks having any less to spend. Thus we have had a type of credit extension that is not merely credit extension but credit expansion, whereas the first type of transaction is properly described as credit extension without credit expansion. That has gone on to such an extent that in the economic system of the United States, and of the other leading industrial countries, the financing of short term commercial business has come to be tied up with the expansion and contraction of credit, whereas the financing of long term investments and floating of bonds and the financing of governments (it is not quite so true in the financing of governments— I shall pass that for the moment) has continued to be the simpler type of credit extension, which does not mean an augmentation of nominal purchasing power but merely a transfer of it from the one to whom it is presumably less useful at the moment over to somebody to whom it is presumably more useful. The transactions are not materially different from the standpoint of individuals who take part in them but are very different, of course, from the standpoint of the total situation of the commodity. The result of a series of that sort of transactions is greatly to increase the amount of nominal money in the community and to decrease the value of money, and so that, as some one was pointing out before we came in here, the tendency has been for the value of a unit of money to tend downward rather than upward although there are fluctuations. Now the tendency of money to go down in value runs back further than that particular phenomenon of banking, but what has been taking place is a series of changes, the majority of which constantly have a tendency to increase rather than decrease the effective supply of money not only absolutely but in proportion to the number of people and the number of transactions and the amount of wealth, etc.

A third type of transaction, which works out the same way, is the transaction in which a government issues paper money. If a government issues paper money and pays it out the government obviously has purchasing power which is not subtracted from the monetary purchasing power of anyone else. It is technically a borrowing operation. The government is borrowing from anybody who accepts that paper money and carries it in his pocket, but if individuals are content to accept it and pass it from one hand to another and turn it over as money there is no reason necessarily why the government should ever have to pay off that loan or pay any interest on it. And the same thing is true, of course, of the banking method of doing the same thing. So long as individuals are content to use bank deposits as money, when the individual who originally borrowed the money from the bank gets ready to spend it the person to whom he pays it leaves it in the bank, and the person to whom he pays it leaves it in the bank, and as long as it is turned over indefinitely that way there is again no reason why the bank should ever pay off this borrowing. It is permanent. Of course there are exceptions, there are occasions when banks are called on to pay off in greater volume than they are able to contract in new obligations. Likewise there are times in the history of governments, when they are called upon to make good the promise to pay on demand, but in both cases, of course, if the demand is at all widespread the liability under the promise is apt to be suspended. What happens in effect is that in each case there is a flotation of a perpetual loan, in the one case by the bank and in the other case by the government, at the expense of the community at large without any individual being conscious of his particular contribution to it.

All this credit expansion is to be distinguished from mere credit extension -- the type when a government sells a long term bond to somebody who saves the money out of his income, and would otherwise invest it in some other sort of enterprise or spend it. All this credit expansion, as distinguished from credit extension, arises from the fact that the public prefers to hold a considerable amount of wealth in liquid form and is willing to forego any interest or other direct return on the money in order to do it, and that the amount tends to increase with the increase of wealth and the complexity of industrial organization, so that there is a resource there in the form of the willingness of individuals to forego the utilization of some of their income, a resource which can only be tapped through pooling those resources. The ways of pooling them are primarily either banking or governmental issuance of paper money. The necessity of pooling is this The savings that X makes out of his income to be utilized must be either spent by him for the creation of some sort of wealth or borrowed by somebody else for that purpose, and when they are so spent they are tied up. There is no important productive use for funds that does not immobilize them. Money that is spent to build a railroad or put up a building or even to increase the amount of goods in process through a manufacturing plant cannot at the same time be held at the disposal at a moments notice of the people who saved it. Now you have the situation where people want liquidity, where they are insistent on putting their savings in the form where they will be immediately available, and at the same time the industrial community, the agricultural community, the producing half of the community is seeking for funds to put into illiquid form, and the way in which the gap between them has been bridged is to pool a lot of the claims, which are individually demand claims, and utilize them in ways that are inconsistent with their being paid on demand, on the assumption that not all of them will be called for, on the assumption that if a thousand people put their money in a bank and all want it available on demand, not all the thousand will ever ask for it and consequently a large fraction of it can safely be immobilized. Thus you get built up the world over a great banking structure which consists on the one hand of a mass of virtually demand obligations and on the other hand a mass of claims against industry which are not demand claims, not even short term claims in fact, though they may be such in form.

There was a great deal said along about 1931, the time of the collapse of first the Austrian and then the German financial system, of the recklessness of the German financial community in borrowing money on demand from English and New York banks and tying it up in assets they could not get it out of. There was recklessness there undoubtedly, but the recklessness was only a little more acute there than it is in the whole banking structure of the world, because there is no other way in which the bank can pool that fraction of the savings of the community for which instant liquidity is demanded. There is no way in which it could pool them without undertaking to do what it cannot in fact do if called upon to do — it must accumulate illiquid assets against demand obligations. That is true even though the assets are considerably the most desirable assets· short term, self-liquidating paper, for this reason Though the individual transaction may be one that could be quickly closed out and the money released, it is always the case that the possibility of closing out to an individual transaction depends on its not being done with regard to some other individual transaction.

My standard case of illustration of this point is the case of Armour's in the panic of 1907. The packing industry before the war was financed, to a much larger extent than it is now, upon bank loans. Packing house paper was considered an ideal type of bank asset (referring to cattle rather than pork paper) because the packing house bought cattle for cash, slaughtered them, converted them into beef, and sold them for cash at a very rapid turnover. Frequently as short a period as two weeks elapsed between the time the cash was paid out and the time they got it back. Well, the banks got into some difficulty in 1907 and they went to Mr. Armour and asked him to pay up his loans. He replied that certainly he could pay up his loans just as fast as he could sell out the beef he had on hand, but he said "If I do that I cannot buy any more cattle, and I do not think the banks of Chicago will like it very well if Armour stops buying cattle." The assumption under which we examine all these things always has to be the assumption that the industrial process is going to go on. Of course if Armour stopped buying cattle and people stopped eating beef and the farmers stopped raising cattle the banks could be paid off, or, indeed, if Armour stopped and Swift expanded correspondingly, if when Armour's bank loans were paid of Swift had contracted more bank loans, or vice versa, the individual transaction could be liquidated, but the point is that the assets which lie back of the money, the real money, the bank deposits of the world, are the assets that are vital to the continuation of the process of the world making a living and are not liquid in any large amount.

The same thing, of course, is true of the government money. Any strong government can, of course, redeem its obligations to pay off in gold, if it has an obligation to pay in gold, any twenty dollar bill, and it can do it more readily than any bank can fulfill its obligations because governments customarily carry much larger idle reserves for that purpose and because their credit is of such strong character that they can borrow from other countries much larger amounts. Nevertheless, it is again merely a question of degree, for the volume of these government obligations to be met on demand is necessarily very much larger than the amount that could possibly be liquidated. The same thing is taking place you see -- credit extension has merged into credit expansion in the form of the creation of our demand oblizations in forms that are constantly acceptable as money by the people of the world and the offsetting of them in the one case by

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commercial assets, and in the case of governments by all sorts of past expenditures expenditures for defense, expenditures for public works, expenditures for relief -- all of them ways in which the money has been completely immobilized, the real thing standing back of the money being the power of the government to tax, and the power of the government to tax being a power to put value into the money by accepting it for tax purposes. That is to say, if you have a paper promise of the government to pay and the government redeems it by taxing you the amount of that paper promise, the government can always meet its obligations. There is that final resource of all governments to put a tax on their own obligations sufficient to liquidate them.

The mere acceptance of money in payment for ordinary taxes has often been sufficient to maintain their value without any provision for adoption in any other way. For instance, take the situation in this country before the war. From the time of the repeal of the Silver Purchase ct in 1895 we had a silver currency which contained only about half enough silver to maintain the value of the currency, but that silver was freely acceptable in taxes. Their was no other legal provision for redeeming it, and the fact that it could be used for the payment of taxes just as well as the gold dollar was sufficient to maintain its value equal to that of the gold dollar, plus the fact that most people who took it did not know the difference between that and any other money anyway, which again is a resource but an exhaustible resource.

Now all this points to the fact that it is possible to expand the volume of money by a mere process of borrowing. It is obvious that as the community grows, both in numbers and wealth, there is an increase in the amount of money that can be used can be kept in circulation without disturbing prices and the meaning of the obligation of contracts. The creation of enough purchasing power to meet the increased need for money, for circulation, for hoarding, creates no disturbance, a resource that can be tapped by somebody without loss to others. A government can do it by issuing money year after year and thus meet a certain amount of its expenses without anybody having to pay taxes, without the government having to pay interest, provided the amount is no greater than the normal increase in the holdings of money of the community. Likewise, a banking system can

Have you noticed how over the 19th century, on the one hand, the free loanable funds of banks increased, and, on the other hand, the services, such as collection services and bookkeeping in connection with the use of checks to pay individual obligations, the use of checks particularly for remittances in place of drafts, all sorts of incidental services tended to go up, and so the community in part absorbed this resource through the increase of free services and in part paid it over to bankers through the increase of banking profits, and the government absorbed part of it through the expansion of government loans at less than normal interest rates (there was comparitively little expansion of currency between the time of the Civil War and the time of the World War).

So far so good. It is also possible, however, that such credit creation may proceed at a more rapid rate than is justified by the expansion of the ordinary uses of money. In that case you get a situation where somebody has paid over to him larger amounts of money than he is accustomed to holding, or has any desire to hold, money now including checks on banks, of course. The situation is not remedied by the person saying "I have more money in the bank than I want, I will draw it out", because in the situation to which I refer he does not want money which he has drawn out of the bank any more than he wants money in the bank. The tendency will be to loan or spend or pay off his bank loans, as the case may be, or at least to push it on to somebody else. Now obviously if everybody else is in the same position the only result of that would be a speeding up of transactions and increase in the volume of money payments, which does not remedy the situation until the level of prices goes up to where the new amount of money bears roughly the same relation to the new price level that the old amount of money bore to the old price level, and that is the gist of what has been threshed over among economists for many years under the name of "The Quantity Theory of Money." The general outlines of the process are not a matter of dispute, the thing that has given rise to dispute is the attempt of advocates of the doctrine to show that the relationship between the quantity of money and the rise of prices is more exact than it actually is. It is not exact for this reason Not only is there an increase in the amount of money needed to fulfill the desire for balances if the number of pockets and pocketbooks goes up and the volume of wealth goes up, but there is also the factor that from time to time people's judgments as to how much of their income they want to hold in cash fluctuate a great deal. On the whole, the tendency to hold one's wealth idle and forego interest on it is higher in time of depression than it is in time of prosperity, higher in any time of uncertainty and risk than it is in a time when there is great confidence in the future, provided that the uncertainty and risk does not attach to the money itself. In a period when uncertainty and risk is attached to the money itself there will be a tendency to speed up payments and hold less than normal cost balances.

We have had in the last five or six years, especially in 1933, a period of great distrust as to the future of industry with comparatively little distrust as to the future of government. Consequently there was an expansion in the proportion of its wealth that the community wanted to hold in the form of government money as against bank deposits, and we had to protect banks by various extreme measures, as a consequence. But the fluctuation in the desire to hold balances either of cash or of bank deposits, works out in a fluctuation of the rate at which the money is turned over and this factor destroys any close relationship between the quantity of the money and the price level.

The fluctuations in people's desires to hold money idle, is unfortunately a thing for which there is no precise statistical measure. Moreover, an increase in the people's desire to hold money means a decrease in their willingness to invest and spend for the future. In other words, the usual phenomenon of business recession is an increase in the quantity of money needed. But an increase designed to supply that demand may very well increase the apprehension, particularly if it gives rise to doubt as to the future credit of the credit issuing agency, so that the increased supply gives rise to a further increased demand and you get an upward spiral in money values - which we call inflation.

All this has given rise to a demand for some method of controlling the whole situation. There are historically two main types of control. One is what you might call "the automatic control" -- the gold standard or silver standard, the gold standard as being much the most important, which is an attempt to control the situation by preventing the banks from expanding credit beyond a certain ratio of the amount of gold that they have, or is held for them, to prevent governments from expanding beyond an amount fixed by their ability to pay out gold, so that the whole structure is tied to gold and moves up only as the quantity of gold moves up. Gold is a commodity of which ordinarily the supply changes only slowly and industrial consumption changes only slowly, so that a very high degree of stability with reference to the money supply has been secured over the past seventy-five years, say down to the fifty years before the great war, by tying the money systems of the world together with gold. It is a control which operates, of course, in a negative way. It prevents governments from using the money-creating power to excess in order to finance themselves and avoid levying taxes, which is the reason, of course, that in the time of war, or other great public emergency, governments are very apt to leave the gold standard and proceed to use the money-creating power as a means of financing in extreme cases, such cases, of course, being cases such as that of Russia, Poland, and Germany just after the World War, where the increase in supply went into astronomical figures.

The other type of control, the more modern type, is the type usually exercised through a central bank, in this country through the Federal Reserve System, which has for its main job the task of encouraging or discouraging the creation of credit, as distinguished from the mere extension of credit that I spoke of first, in accordance with the judgment of a supposedly expert body as to whether the community needs stimulation of an expanded money supply, the standard technique, of course, being the encouraging of the banks to loan by furnishing them reserves on cheaper terms. In this country, the volume of deposits the Federal Reserve Banks hold determines the lending power of the commercial banks, and the volume of the gold of the Federal Reserve Bank determines its ability to lend to the member banks. There is this difference between a discretionary system of this sort and an automatic gold standard. Under the automatic standard everyone keeps expanded as far as he can because he loses his profit if he does not. Under central banking system your central bank is not expanded up to the limit so that the gold does not really control its activity. It should, if it is to function the way it is supposed to function, have a considerable unused margin of gold so that it can expand if it thinks that expansion is desired, and it is not allowed to make profit beyond a certain amount so its directors do not lose anything by contracting if they think the credit of the country is in need of contraction. The means by which it effects that varies a good deal in the different countries. The central bank is exempt from earning profits for stockholders, and is to have some slack. Its expansion is limited by its reserves--but this limit is not ordinarily effective because there is slack in the system. Hence it can, in the supposed interest of the public, make money cheaper by buying securities, by lowering the rates at which it lends, or vice versa can make it dearer by reversing the operations. The newest turn in that is the device of permitting the Reserve Board to increase, within limits, the reserve requirements of the member banks, a power which it exercised for the first time a month or so ago when the reserve requirements of all the member banks were increased by fifty per cent. It is obvious that it would be possible to operate with that device and no other. You do not really need Reserve Banks, you do not need anything but a board which, if it wants to tighten money, will say to the banks: "You have to carry bigger reserves, call in loans until you get your bigger reserves accumulated", or, if it wants to, it can lower those reserve requirements. It is at present regarded as an extraordinary emergency power and only utilized because of the existence of an unprecedented amount of reserve in the banks, but it could be used the other way and rediscount rates and open market operations become quite superfluous The difficulty, of course, would be that it is too conspicuously efficient. By working in a roundabout devious method you can avoid a lot of criticism and a great deal of necessity for explanation and discussion of what you are doing, whereas the action by which you simply operate directly on the banks of the country is one which will be on the front page of every newspaper as soon as it is taken.

That is the general set-up in the world today. You have the gold standard, originally an automatic, non-discretionary control which exposed the world to the uncertainties of fluctuations in gold production, which over a period of years might be serious but were not at all serious so far as short run changes are concerned, and the discretionary system of central bank control, plus the complications of the fact that every so often governments get into positions where they have to, or they think they have to, utilize this credit-creating power to finance themselves irrespective of the need of the community for money, plus the fact that from time to time there occur large changes in the desire of the community to hold its money as against the desire to invest its money so that you get the phenomena of inflation and deflation that are quite apart from any action taken with regard to the quantity of money. Perhaps that ought to be amplified a moment. Suppose you take a simple community in which there is nothing but gold coin in circulation and the per capita holding of gold coin averages fifty dollars. The individual is taking in a hundred dollars on pay day and spending it down to zero on the next pay day so the average is fifty through the month, but some times of the month some people have it and some times of the month other people have it. It is obvious what would happen if somebody discovered a gold mine and put a lot more gold in circulation, or if the reverse thing happened--if the Japanese came in and carried off a lot of gold of the community. But take a different situation. The individuals decide that fifty dollars average cash balance with a monthly income of a hundred dollars is not enough and begin to try to save by not spending all the hundred dollars they take in. They take in the hundred dollars the first of the month but instead of spending it all over the course of the month they spend only ninety of it over the course of the month. It is obvious that that does not increase or decrease the amount of gold in the community. It merely means that the people who started this thing made some saving without investing. They accumulated some cash balances, and of course the people to whom they would have normally paid that money got less income in the next period so the average money income of the community had to shrink by the amount that represented the amount of this sort of saving. As the circulation shrinks either some people have to accept lower wages and lower profits or else some people have to be thrown out of work, and both things are very likely to happen. At the end of the process if you get down to where the average money income of the community is only ninety dollars a month instead of a hundred dollars a month and you have nine-tenths of your original amount of gold circulated and the other tenth held out as secret hoards, you are right where you were before, that is, you have a lower income scale and a lower price scale and a lower amount of money in circulation and you are again in equilibrium, because all prices and wages and profits have been brought down alike. But it will take years to accomplish that, and in the meantime you get the familiar phenomenon of business depression.

On the other hand, of course, if by the time that is accomplished, people decide it is time to spend this money they have saved in this way the reverse phenomenon will take place, moreover you get the further complication that if somebody starts this thing of saving money by accumulating cash and not investing it, he loses his interest, but he does gain in this way that as prices fall the value of that gold he has hid away or bank deposits he is holding idle is tending to increase, which encourages somebody else to do the same thing and the more the trend is downward the more there is an encouragement for individuals to do the same thing, and when the reverse phenomenon does start the more people accelerate the spending of money and the more prices go up the more reason there is why people should spend their money before they go up more, and you get a process which tends to be cumulative in either direction and to be accentuated by the fact, that in the upswing, when profits are good, people are willing to borrow, and banks are more willing to lend. The thing is to a certain extent a self-generating process, consequently a big problem is set before these control agencies like the Federal Reserve Board and the Bank of England and the Bank of France of offsetting these tendencies of creating money at a time when the tendency of other people is to absorb it, and vice versa, a task at which they have been only very, very moderately successful. In fact, I think it could have been safely said two or three years ago that no government or central bank or other agency had ever done anything to help the least bit in respect to the problem. I do not feel safe in saying that with regard to the last three years because there has been, of course, a great business improvement the world over, a great many things have been done and it is altogether likely that some of these things which have been done have been helpful. However, it is a question on which it is extremely difficult to make a sound statement because what has happened has been that some countries have tried one policy and some another, some have run up deficits and some have balanced their budget, some like Australia have tried to force prices down and others like the United States have tried to force prices up, and on the face of it they have all been successful. They have all achieved a considerable measure of improvement, with the exception of countries like France and Switzerland that refused to play along in the devaluation game with the others. There was between Sweden, Australia, England, and the United States the widest diversity in program, a pretty good inductive evidence that all the programs are right, which can hardly be any more true than to say that the downswing from 1929 to 1932 was due to the fact that they were all wrong, when again some were doing one thing, some another, and a great many were doing nothing.

I think that is as long as I ought to talk, Colonel Jordan.

Money, Credit, and Prices

(Discussion following lecture by Dr. Charles O. Hardy, Economist)

September 28, 1936.

Colonel Jordan:

Q. Doctor, would you please say something to the Class about what effect this devaluation of the franc is going to have on us. Isn't it going to leave us in exactly the same situation that we were in before the present devalued dollar down to 59¢?

A. I would answer that in this way It will put us in the position that we were in before England devalued in 1931 rather than the position we were in in 1933. The thing really starts with England going off the gold standard in '31. My own judgment is that if none of the important countries had done it the world would have been better off than it has been over this period, but when certain countries start the thing it is almost imperative that other countries should follow. Of course the case of Australia was unimportant, and Germany succeeded in staving off the pressure to do it in 1931, when England went off the gold standard and Scandinavia and a good many of the countries of the British dominions followed. There were two ideas, I would say. In Great Britain there were those who regarded it as a very unfortunate necessity and wanted to go back to gold as soon as they could, as they did in 1925. There were those who considered that it would be beneficial because it would enable the banks of the country to expand credit more freely by increasing the gold base measured in pounds, and the second group who thought it would be beneficial because it would give them a trade advantage as compared with other countries. Now those two lines of argument are quite distinct from one another. Both views have been held by advocates of expansion in all countries, indeed a great many people advocate it on both grounds, but they are distinct in this way: that if the devaluation is motivated by the first objective, that of easing up the bank reserve situation, then it is desirable that all other countries should do the same thing. If it is being done for the advantage of trade you want your country to do it and no one else.

What is the reason for the trade advantage? Simply this: Take the situation as we had it in 1931 with the pound around $4.86 and the franc around 4¢ in American money -- there was a relationship between the wage scales and the tax scales and other cost scales in those countries which had enabled each country to obtain certain advantages in international trade. Each country had certain things that it could sell in other parts of the world, either in the other countries concerned or in South America and the Orient, and there was a rough equilibrium.

Now competitive devaluation is simply that by devaluing, say the pound to $3.50 instead of $4.86, you would enable people to get the pounds to buy British goods with a much less expenditure of their own money and thereby you would greatly increase your exports and at the same time you would decrease your imports and make employment at home. And, of course, as soon as you do that the tendency is for somebody else to do the same thing. As soon as New Zealand devalued, Denmark immediately devalued in order to equalize the prices of butter in the British market; and in cases of that sort, where a country is very heavily dependent upon the export of some commodity which is a comparably small element in the trade of the world, the theory is undoubtedly sound. There is no question at all that if Denmark had not followed it would have enabled New Zealand to expand its butter production and Denmark would have to contract it, and in a situation where there is unemployment the world over its effect would have been to shift the unemployment from New Zealand to Denmark. When it comes, however, to the total output of a great country like Great Britain or Great Britain plus Australia plus Canada and countries that make up a quarter or a third of the effective economic world, the thing is not so simple because they cannot increase the whole range of things that they export and sell them abroad and at the same time decrease their purchases abroad, other countries are forced in self defense to take some sort of measures, otherwise their available money supply would be drained out in payment of the adverse balance, and when it was drained out then prices would fall in the countries that had not devalued, and to less extent rise in the ones that had. Equilibrium would finally be restored, but only by an extremely painful process.

What happened was that France which did not devalue, put up tariffs and trade barriers and other things so that the loss in their purchases offset the loss in their sales, etc. The United States devalued in 1933; the gold bloc countries held out until a few days ago. I do not think there can be any question at all that after the United States and Great Britain and most of the British Empire had devalued it was extremely disadvantageous for France and Switzerland and Holland to try to maintain the standard that they had. For one thing, all those are countries which have a very large income normally from tourist trade and the fact that the franc and the guilder cost fifty per cent more than they did before was a very direct deterrent to the tourist trade. It did not mean, of course, that other countries continued to sell them commodities and not buy from them, it simply meant the total volume of trade was contracted.

When we went off the gold standard in 1933 the international trade effects were much less noticeable than when England went off, or are likely to be when France goes off, because our foreign trade is a much smaller fraction in our total economy, but what happened was undoubtedly that a good many lines of industry did get an increase in sales. If you examine the figures country by country you will find that the increase in sales was rather to the countries which devalued than those that did not, and that there was an increase in purchases abroad that corresponded with the increase in sales. That is not quite true in 1934. We did import something like seven hundred and fifty to nine hundred millions of dollars worth of gold and that was offset by an export of goods. We did gain in exports balance for that year, I think we did it simply by the government buying gold and putting it away and the country exporting goods. There was undoubtedly some contribution to the relief of unemployment. The money which the government might otherwise have spent for relief it spent to buy gold and thereby put foreigners in possession of money to buy goods made by people who otherwise would have been on relief. So it worked around to employment being subsidized with purchases of gold instead of unemployment being subsidized directly. But the striking thing is the increase in trade both ways, which points to the fact that it was not the competitive advantage that was the important thing in the revival of 1933, in spite of the fact that it did rather seem to pass by those countries that did not devalue.

Now as to the other point: the devaluation meant that a country that had four dollars in gold before, now had five or six dollars in gold and consequently had a much bigger base on which its banks and governments could expand credit than before. That, I should say, would have been very important in 1929 and still more important in 1920 when there was a situation in which the credit structure was expanded well up to the limits of the gold base, but the situation in 1932, 1933, and 1934 was such, particularly in this country, that that was simply pouring water into the sea. There was already a much more ample base than was being utilized. The increase of the credit resources of the country in order to expand production was like increasing the labor resources of the country in order to expand production at a time when the labor resources were already so large/the unemployed. That was not quite so true of Great Britain. At the present time devaluation is not going to help France and Switzerland and Holland as far as giving them a more adequate base for expansion. We had more gold base in 1933 than we knew what to do with, and they have more now. It was of some importance in the case of England, and still more important in the case of Australia, where the credit resources were greatly strained, and going off the gold standard was undoubtedly a real relief to the credit situation, taking things as a whole I should analyze it very much in this way in reply to Colonel Jordan's question, namely that the total process over the five years is just about zero, the present devaluation was certainly a help to clear the smoke. There has been a great deal of holding back because of the anticipation that there must be further devaluation, and there has been a constant piling up of barriers to trade because of this unbalanced situation -- the price of wage levels were all out of line with one another. If this thing is straightened out and if other countries do not start in to compete on these things, if we get in right relationship within a range of ten or fifteen per cent; if we get a relationship that commands the confidence of the moneyed people of the world as being permanent, I should anticipate there being a great increase in investment and expenditure generally as a result of that clearing up this situation. Of course that is a fairly safe prophecy because it rests on the economic transaction that is just taking place without any regard to the military situation, and the world military situation is going to control anyway, so that whatever comes it will be impossible to say whether these monetary transactions had one effect or another effect because obviously the European military situation will control anyhow regardless of the financial policies.

Q. Doctor, I want to ask one other question, that is about silver. I do not understand the silver question and I do not believe there are many people in the class that do. I would like to know if we are holding the bag for the rest of the world in connection with silver?

A. Holding the bag primarily for American silver interests. The silver interests of the country have been able over a period of a great many years, oh, running back into the eighties, to get more for nothing than any other interest in the country. Their efficiency in that procedure has steadily increased, irrespective of political parties, and is at an all time peak, I should say, at the present time. Of course we are holding the bag for silver producing interests for the rest of the world, too. This is one thing

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on which I can speak with emotion, rather than with intellectual aloofness, because it is the only question on which economists are agreed. I do not know any other question of public policy that has come up on the New Deal, or preceding the depression, that we could not find economists to take either side of it but I do not know of any who on the silver question do not feel that this whole silver policy has been one of entirely political expediency and had no redeeming features as far as economic effects were concerned. Is that clear?

A. Yes sir.

Q. I would like to ask a question about gold. What effect has the action taken by Congress and the President in going off the gold standard had on the function of our gold reserve in serving as a base for the currency? In other words, preceding that action it was perfectly clear to me what the function of the gold reserve was. You could take a paper dollar or any other form of currency that we had and go to the Treasury and get a gold dollar if you wanted it. Now you cannot get the gold; nobody ever sees a gold dollar. What difference does it make whether they set the quantity of gold in the dollar as fifteen grains or forty grains? Is it the effect on external commerce? Or just what is the effect? In other words, what effect has this action of the Federal Administration in restricting the gold, as they have, had on its function as a base for our currency?

A. Answering the last question, it operates in this way: It has cut the government paper, the greenbacks, entirely loose from gold. But this is an unimportant element in the total money, anyway. The bulk of our money consists of Federal Reserve notes and bank deposits which rest on Federal Reserve credit as a reserve. That is not cut loose. The reserves of the Federal Reserve System are gold certificates instead of actual gold, but aside from the gold that went into the stabilization fund and about four hundred million as a free balance in the Treasury, the bulk of the gold of the country is represented by gold certificates that belong to Federal Reserve Banks and constitute their reserve. If it had not been for the setting up of the stabilization fund the effect of going off gold would have been to create a great many millions of dollars worth of gold, something over two billions of dollars worth of gold. It would have created that much gold in the sense that it would have marked up the number of dollars that the gold represented and enormously increased the reserves of the Reserve Banks. However, at that time, and it is still true, the Reserve Banks already had so much more reserve than they knew what to do with that that had no immediate effect. Then at the same time they set up a stabilization fund, which has for its purpose furnishing the Treasury with the means to manipulate the foreign exchanges, and prevented it from either going up or going down more than is desired but also had the effect of sterlizing the bulk of that increase in the gold supply; thus with one hand we create a lot of gold, which might have been bank reserves; then with the other hand we locked that up again in a stabilization fund so that there is a cancellation of nearly all of it. There were two hundred millions, of course, that were put into the Emergency Banking Fund, and some of that has been spent, some of it presumably had been used in the silver purchase program, but the amount is so small that at no time, in fact not only during the depression but during the whole period since 1922 -- I should say that at no time has the supply of gold been small enough so that the Federal Reserve policy, with respect to the base and the bank currency, was seriously influenced by it. It is a potential check and the devaluation has pushed that potential check further away. In 1920 that was not true. In 1920 the Reserve Banks were down close to their limit, and the raising of discount rates and pushing up of the creation of the sliding scales, and all that credit contraction of 1920 and the first part of 1921 was entirely different. That was not mere policy, it was the operation of the automatic check of the gold stock. Gold had been coming in but not fast enough. It continued to come in through the period of depression and clear down to 1924, and we never again got a credit expansion anywhere near caught up with the increase in gold stock. So far as the present and the immediate future is concerned that devaluation has had only remote theoretical effect on the gold base In Australia it is different. There was an importance there because they were short of base, and that was probably true of Sweden. It certainly would not be true of Switzerland, France or Holland in the present emergency. The effect on international trade is a very complicated question, as I just sketched a moment ago, and I do not know that I could say any more than I have said on that.

Q. Has the increase in gold mining of poor deposits of gold and the intensive campaign of old gold purchases from the people materially increased the physical stock of gold?

A. Yes, enormously. The gold output of the world before this series of devaluation began, much more than half of it, I have forgotten the exact ratio, but something like sixty or seventy per cent was coming from South Africa (the ratio was 50 per cent in 1925 and 48 per cent in 1929, 39 per cent in 1934.)

The gold production outside of South Africa has increased by leaps and bounds under the influence of this action. That reflects two things. In this country it reflects almost entirely the fact that the price that the miners got was marked up and the cost did not go up so that the profit was tremendously increased. In the case of Canada, of course, it reflects that, plus the fact that they made very important discoveries about the same time anyway. In the case of South Africa, the principal producer, the output did not go up, curiously enough, but that was because the mines there are largely under centralized control, the government has a very large control over them, and the policy was deliberately adopted of working the low-grade ores and conserving the high-grade ores so that the current output did not go up but the potential output over the next twenty years went up tremendously. The high grade ore has been conserved and at the same time an enormous amount of capital has been used in sinking new shafts, the improvement of hoisting machinery, the improvement of ventilation, the improvement of health conditions, all sorts of investments, which will show the advance over a period of twenty to twenty-five years. That is very important because those mines are a mile deep and air cooling is of very considerable importance for health and efficiency of operation; and the sinking of a shaft is a matter that takes five or six years before it shows any results.

In the case of the minor gold-producing countries outside of Russia, the increase has been considerable, and in Russia it has been simply phenomenal. Under governmental policy they have put a lot of government capital in and transferred a lot of the workers into the goldmining areas, and obviously the devaluation in other countries meant that the amount of foreign exchange they could get by developing their gold and exporting it was tremendously increased. Russia is now the second largest gold producer. Its output has increased at least fourfold in the lat five years and is apparently destined to increase still further. It is most astonishing. So the result is that quite apart from the mark up in the nominal value the actual physical output of gold is up nearly fifty per cent, and a considerable part of that will be permanent. Even if prices went back to 1929 prices so that the premium on operation was lost, the results of this investment of capital would not be lost. The improvements that have been made in Russia, South Africa, and Canada in the physical condition of the extraction of gold, will be influential for many years to come even if gold mining becomes relatively unprofitable.

Q. Concerning silver, what is your prediction for the future? Is this thing going to continue that we are facing now?

A. I suppose so. I do not see any indication to the contrary. The difficulty is, you see, that this silver mining industry is concentrated in sparsely settled states and those states have just as many senators as any other states so that it is possible for any party that is in power to win votes more cheaply by doing something for silver than for any other industry. That situation is going to continue for some time to come.

Q. And the increasing production in the world also has to be considered and we are buying that? What is the end to it?

A. The silver resources in the world are not as readily expandible as the gold resources, curiously enough, because silver is the by-product of other metals, but I would not want to make a forecast as to what is the end to it. It is quite outside the realm of the economist to talk about silver. (laughter)

Q. Doctor, I would like to ask what would be the result of the further devaluation of the yen and the possibility of that occurring?

A. Well, I suppose that there is a possibility of anything happening there. I said a moment ago that the various countries are experiencing recovery with the most widely divergent policies: England with a balanced budget, the United States with a moderately unbalanced budget, (laughter) and Japan with an immoderately unbalanced budget, all getting recovery, and I should say that the effect of the depreciation of the yen would be that further barriers would be put up against the importation of Japanese goods into the leading countries but that they would probably gain some advantages in the trade with South America, for instance, and with the other Oriental countries. I really have not followed that situation closely enough to speak with any expertness on it.

Q. Since all the European countries have devalued, leaving only practically the United States and England, regardless of the action that was taken just the other day of trying to stabilize the franc, will not England's foreign trade, for which she is so dependent, suffer, will not that force her to devaluate rather than lose that trade?

A. I do not think so --no. If anything like that was going to happen it would have been when we devalued in 1933. Any trade disadvantage in England would have been very much greater from our devaluation than it could be from France' and Switzerland's and Holland's devaluation. After all, English trade is so slightly dependent on those things, and the restoration of general confidence the world over that some stability has been reached and a revival in investment will be worth much more to English shipping and heavy industry than any direct advantages it might gain by a competitive devaluation. Of course it will mean that more Englishmen will go to the south of France now to spend their retiring pensions and things of that sort.

Q. Doctor, would you say something about the effect of devaluation of the currency on the standard of living in the country in question? I think economists generally agree that raising the tariff lowers the standard of living and it would seem that devaluation of the currency is very equivalent to raising the tariff. I would like to hear a word or two on that.

A. I wish I could answer that. I started to do some work on it at one time but I did not get conclusive enough results to publish them. It seems to operate in some respects one way and in some respects the other. I should tentatively answer it in this way: that a moderate devaluation, if not imitated by other countries, would be very likely to effect some improvement in the standard of living, provided the country had a large amount of enemployed labor at the time. It would operate somewhat to reduce the purchasing power of wages, which means some reduction of the standard for people that already have employment; on the other hand it would operate to shift the unemployment to other countries and raise the standard of living by increased employment. However, it is impossible to trace it statistically. I did quite a little work on that and came to the conclusion that I was not proving anything. It was no use to try, because apparently what happened was that the exports and imports both increased -- and that was true of England, Australia, this country, and Sweden. Of course a lot of other things happened about the same time: the NRA came, the drought came, agricultural adjustment came, and we also got nearer the natural end of the depression, if there is such a thing -- that is, if nothing had been done it would have ended some time, and we were nearer that time -- all those things entered in, the imports as well as the exports went up. The people in certain industries benefited by the increase of exports of those industries, notably typewriters, adding machines, and things of that sort that sell at more or less a fixed price, and it was possible for foreigners to buy them a great deal more cheaply, and with no increase in cost here, but a general theoretical answer of the question I could not base on statistics, In general the question of whether the balance was a gain or a loss would depend on what extent of unemployment you had. If you already had pretty full employment you could not gain anything. The same would be true of a tariff. I would say a country that had an abnormal degree of unemployment could gain by increasing somewhere else in the world. You can work out tariffs on paper that will accomplish so many things. You can work out a tariff that will tend to conserve natural resources that you ought to conserve, or tend to waste recources that you ought to conserve, or one that will tend to increase your self sufficiency in time of war, but when you get to working with a tariff what you have to figure on getting is not the kind of tariff you work on paper that you want, but the kind of one you get by trading votes in order to get the one you want, and that means putting it on a great many other things that are not a part of the net scheme you have worked out, and further, dealing with the fact that you cannot ever take it off. I had a conversation with one of the best known British economists on that question in 1930. He was a man that had always been a free trader but was advocating a tariff at the time because of the special trade export situation that Great Britain was in. This was before Great Britain abandoned gold. I said to him: "You think this is a special emergency measure, but you will have to go on with it. If you put it on you cannot get rid of it for a hundred years."

He said: "Well, of course that is true."

He seemed to think, nevertheless, that that was not serious, that they could afford to carry it for a hundred years in order to meet the situation in 1930.