THE MONETARY SYSTEM

Dr. Gardner C. Means

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Reviewed by: Colonel Tom W. Sills, USA

Date: 29 September 1959

INDUSTRIAL COLLEGE OF THE ARMED FORCES

WASHINGTON, D. C.

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COL. REID: General Mundy, General Houseman: The subject of our lecture today is "The Monetary System."

Long before now all of us in this auditorium have realized that our present economic world could not exist without money. Like me, many of you are probably frequently confused over our changing price levels and the purchasing power of the dollar. As our children would say: "What's with this root of all evil?"

Our speaker today has long had a reputation for pioneering in the field of analysis and writing on money and monetary problems. He has ploughed new furrows, sought radical solutions, and at times has been quite critical of monetary authorities and our orthodox monetary theories. We can be assured this morning of learning what our monetary problems are and a possible prophecy on the future of the monetary world.

In addition to his work in the field of theory, our speaker is an entrepreneur. He is one of the pioneers in this area in the use of Zoysia grass. For those of you who have a little bit of trouble with crabgrass, where you don't have shady spots in your yard you might look into this area.

This is Dr. Means' third lecture here at the Industrial College.

Dr. Means, it's a pleasure to present you to the class of 1960.

DR. MEANS: It's a great pleasure to be back here again. I enjoyed myself very much when I was here before. I was very much struck with the quality of the questions that were asked me, and I look forward to the question period with great pleasure.

I understand that yesterday you considered the free market system--the supply and demand for commodities and the making of specific prices. Today our concern is with the operation of the economy as a whole and the way our money system serves to make it operate and to influence the level of prices and the level of productive activity.

Let's start by discussing what we mean by money. There are many definitions of money, none of them wholly satisfactory. For present purposes it will be sufficient to say that money is whatever is customarily used as a means of payment in economic transactions. In a poker game you use poker chips. For that purpose the chips are the money of the game. In Germany, after the war, packages of cigarettes were often used as a means of payment, passing from hand to hand and in successive exchanges. To this extent, cigarettes were a part of the money supply.

Many commodities have been used for money-- sea shells in the form of wampum by the American Indians, bundles of tobacco by the early settlers, gold and silver, both in solid form and in minted coins. For any society you look at a large number of transactions and if you find a single commodity entering into most transactions, and this commodity is used successively, passing from hand to hand, you can say that

the society uses this commodity as money and has a money economy. On the other hand, if each transaction is separate--butter for eggs, bacon for potatoes, five chickens for a pig--you may say that the society doesn't use money; it has a barter economy.

The important distinction here is that in a barter economy the person receiving a commodity in an exchange usually expects to use it himself. In a money economy, the person receiving the commodity used as money does not usually expect to spend it. He expects to swap it for something else. He is able to do so because this commodity is customarily accepted in exchange for other things. That was the case of the carton of cigarettes in Germany. The receiver would not swap something for the carton of cigarettes because he wanted to smoke the cigarettes, but, rather, because he knew he could swap the carton for something else.

For centuries the commodities most commonly used as money were the metals, particularly copper, silver, and gold. At first these were used simply as bars of metal that passed from hand to hand, with their value determined by weight and fineness. Then they were minted into coins and could pass from hand to hand without being weighed each time, since the coins were initially of standard weight and fineness.

Later the metals were often placed in a safe warehouse, and warehouse receipts served as money. The silver certificate in your pocket is such a warehouse receipt. And so were the gold certificates that used to be in circulation. Credit instruments, such as bank notes

and other bank credit, have also come to be used as money.

In this country, of course, we operate as a money economy, and our money consists of dollars. You can have money in your pocket, coins and bills of various dollar denominations, or you can have dollars in your checking account. The first of these we call currency; the second, demand deposits. Most of our economic transactions take the form of dollars and cents, given in exchange for something. You swap your time and effort in the military forces for a salary of dollars, and you and your wife swap these dollars for things you want in the markets.

You should notice that I have spoken of two kinds of money in our economy--currency and demand deposits. The first is clear and obvious--the coins and dollar bills. These pass from hand to hand in transaction after transaction and are easily recognized as money.

Demand deposits are not so easily recognized as money. Some people think of checks as money, but actually the check is simply a letter to your bank saying, "Dear Bank, Please pay so many dollars to Mr. X and charge it to my account." Your deposits at the bank are part of your money, and your check is simply the way in which you transfer that deposit to someone else. On Thursday I understand that Dr. Arlt will be discussing how demand deposits are created, transferred, and destroyed in the operations of the banking system. It is enough now to recognize that bank deposits, subject to check, are a part of the money supply of this country.

You will notice that savings deposits in the bank are not included

as part of the money supply. The reason for this is simple. You do not use the deposits in your savings account to buy things. If you want to buy a TV set, you don't draw a check on your savings account and give it to the seller. Rather, you draw out your savings in the form of currency, or have the bank transfer them to your checking account and then draw a check on that. Thus, the actual payment you make for the TV set is either in currency or demand deposits.

Economists have recognized the similarity between demand deposits and savings deposits by calling the latter "near money." But savings deposits are not customarily used as a means of payment, and we do not class them as money.

In this country our money consists currently of approximately $28 billion of currency and $112 billion of demand deposits, or a total of $140 billion. This, incidentally, is about one-third as large as the national income per year. Thus we keep on hand, in the form of cash, in our bank or in our pockets, roughly a third of the year's income.

What are the functions of money? Economists have distinguished between three major functions. Money is a unit of account; money is a medium of exchange; and money is a store of value.

I don't need to tell you how we all keep our accounts in dollars. A company will not only keep its accounts in terms of dollars which come in and dollars that go out, but it will also value its assets and figure its profits in terms of dollars. And, of course, the budget of the Armed Forces is expressed in dollars. It is possible to imagine a barter

economy in which no money is used, but it is difficult to imagine an efficient accounting system for such an economy. Thus, money makes possible efficient account systems.

The use of money as a medium of exchange is also obvious. It is part of our definition of money. What is not quite so obvious is the great advantage of having a medium of exchange. In a barter economy, if a farmer has eggs and wants a pair of shoes, he must either find someone who wants to swap shoes for eggs, or else he must swap his eggs for something else which he finally swaps for shoes. Where there is the generally accepted medium of exchange, money, he can swap the eggs for money and be sure that whoever has shoes for sale will accept the money in exchange. As a result, a money economy can be very much more efficient than a barter economy. In fact, it is difficult to conceive of an economy as complex as ours without the use of money.

The third role of money is that of a store of value. There are many forms in which you can store value. When you have saved, you can put your savings in a savings bank; you can buy Government bonds; you can buy other securities; you can buy diamonds; you can buy all sorts of salable things. All of these assets would constitute stores of value. You have savings tied up in them and, any time you want to use these savings, you can exchange them for money and spend the money.

Money itself is also a store of value. Some people think of money as a store of value only when a miser hoards it or when someone holds more money than the minimum necessary for current needs. There is

a great deal of literature on hoarding versus having money that I won't go into, but this distinction I am disregarding here. I am saying that actually money acts as a store of value, no matter how short a time it is held. If a soldier gets his pay and within half an hour loses it all in a crap game, it acted as a store of value for him until he had to hand it over. When you get money as income, it acts as a store of value for you until you have decided how to spend or invest it. Money has the great advantage that it allows you to receive income and postpone your decision as to how to use it; and, until you do use it, it acts as a store of value for you. This is a very fundamental characteristic of money which has not received as much attention in economic writings in recent years as I believe it deserves.

Also, money as a store of value has this great advantage: If you want to spend it, you can do so easily, as I don't need to tell you. Economists speak of some assets as being more liquid than others. Thus, a house is a very illiquid store of value, both because it will take time to find a buyer and because, if you try to sell it in a hurry, you will usually get less for it. A marketable Government bond is more liquid, because you can find a buyer quickly and can get the current market price with little delay. Most liquid of all is money, because it is the medium of exchange and can be swapped for other things without delay. It is because of this high degree of liquidity that money is so useful as a store of value.

Why does money have value at all? When I looked in my pocket

the other day, I found a number of copper and silver coins which were much more valuable as money than as the metals out of which they were made. I also found some dollar bills, green pieces of paper, which were worth a great deal more as money than as paper. And I knew that the money in my checking account at the bank was simply a book-keeping entry.

How does it come about that these various forms of money are worth so much? The most important answer to this question is circular. Because people believe that if they take money now they can spend it later, they are willing to take it now. Our everyday experience says money will be valuable tomorrow, and so we are willing to receive it today. Nothing succeeds like success. It is theoretically possible that, once money is in circulation, all other reasons for its having value might be removed and its value would remain, simply because the society needed a medium of exchange and the money already in circulation served this purpose.

In practice, we help to insure that money is acceptable by a number of devices. In this country the dollar is made legal tender. That is, if you incur a debt or a legal obligation to pay money, you can meet this legal obligation by offering dollars in the form of silver certificates or Federal Reserve notes, and more recently other forms of money. Dollars are accepted by the Government in the payment of taxes. By law we require certain gold backing behind our bank notes, and in back of our banking system. In such ways we increase the likelihood that

money will be generally accepted as a means of payment. But the basic reason that money continues to have value is that people expect it to continue to have value. As long as this condition exists, money can function effectively as a medium of exchange and a store of value.

This brings us to the more immediate problem of what determines the actual value of money at any particular time, which is saying really, What determines the price level? Here I must talk first about the supply of and the demand for money.

Yesterday when you discussed the supply and demand for particular commodities, you were concerned with the amounts of a commodity offered for sale and the amounts of that commodity demanded by buyers. In dealing with money, we could have a similar meaning for supply and demand; but in practice economists refer to the demand and supply of money in a different sense. The supply of money is used to mean the total amount of money in the hands of the public--that's the $140 billion that I mentioned a minute ago--and the demand for money is the amount of money the public wants to hold. This distinction is of vital importance for the rest of this discussion, and therefore I am going to repeat it. The supply of money is the total amount outstanding, not the amount offered in exchange for things. The demand for money is the amount of money people wish to hold, to have in their bank accounts, and to have currently in their pockets.

Tomorrow you will hear about the actual operation of the banking system and how, in the process of providing credit, the banking system

adds to or contracts the money supply. For present purposes we can take the money supply as given, and also we can take it that the money supply can be changed as a result of banking operations and that the total supply can be approximately determined by central banking policy, that is, the policy of the Federal Reserve System.

The demand for money is a more complex matter. By the demand for money we don't mean the demand for credit. When a man goes to the bank to borrow, he is of course aiming to add to his money holdings as an initial step, and we are very apt to say that he wants money. But usually he is borrowing to spend, not to hold. Thus, the demand for credit is only temporarily a demand for money. It is, rather, a demand for the things that the money is going to be spent for. The demand for money is the demand to hold money as a store of value. To avoid confusion, some economists speak of the demand for cash balances or the demand for money balances, instead of simply the demand for money. Most of the time here I will speak simply of the demand for money.

To some extent the holding of money is a necessity. When you get your pay, you have to hold money until you can spend or invest it. This is true of every individual and business that receives money. But the amount of money an individual will choose to hold will depend on a variety of circumstances--how rich he is, how liquid he wishes to be, what payments he receives, and so on. Likewise, for business the average amount of money a business chooses to have on hand will depend on more than necessity. Also, individuals and enterprises are constantly

shifting the amounts they choose to hold. As a result, the total demand for money as a store of value can be expected to fluctuate from week to week and month to month.

Economists recognize three fundamental factors which affect the demand for money--the level of prices, the level of real incomes, and the level of interest rates.

The first of these, the level of prices, is clear. The reason people want to hold money as a store of value is because of what it can ultimately buy. If prices are 10 percent higher, it will take 10 percent more dollars to buy a given physical quantity of goods. As a result, the higher the level of prices, the greater the amount of money people will choose to hold. Whether the demand for money would increase just in proportion to the increase in prices need not concern us. Incidentally, those who hold the quantity theory of money assume that there is a positive, one-to-one relation. I don't think that is generally accepted today. Only a very crude form of the quantity theory is held.

The demand for money would also vary with the level of real incomes. If prices remained constant and incomes increased, we would expect that the community would choose to hold larger money balances. This is simply another way of saying, the richer you are, the more money you are likely to have in your checking account.

Finally, the short-term interest rates are likely to affect the amount of money the community chooses to hold. A rich man or a big corporation is likely to let his bank balances accumulate when short-

term interest rates are low, say, 1 or 2 percent, but will keep money holdings to a minimum when 5 or 6 percent can be obtained in the short-term money market. They'll simply put their extra money to work. If the interest rate is too low, it is just not worth the extra cost and the attention involved in putting the money to work. As a result, a fall in interest rates will increase the demand for money balances. A rise in short-term interest rates will reduce it.

These three changes--an increase in prices, an increase in real incomes, and a fall in short-term interest rates--will each increase the demand for money. Their opposites will reduce the demand for money. These three factors are basic to an understanding of inflation and depression.

In addition, we must recognize that other things can also affect the demand for money. A fear of war and of higher prices may reduce the demand for money as people seek to shift their assets from money into hoarded commodities. Or a fear of depression may increase the demand for money as people postpone purchases until they can be more sure of what is going to happen.

Thus we must expect variations in the demand for money, not only from the basic factors of prices, incomes, and interest rates, but also from the more volatile shifts in popular expectations.

This brings us to the crucial question of the relation between the supply of money and the demand for money. As I have indicated, the

supply of money is in large measure determined by Government, primarily through central banking policy. Also whatever the supply of money at any given time, someone must be in possession of each unit. And since it is easy to spend or invest money, no one individual or business is likely for long to hold more money than it wishes to at the current level of prices, incomes, and interest rates. Therefore, with a given supply of money, the demand must adjust to that supply. If the supply is initially in excess of demand at one level of prices, incomes, and interest rates, one or a combination of these will change until the demand has so increased that it is just equal to the supply. If the demand is initially in excess of the supply, changes will occur until demand is increased to the point that it is just equal to the supply. In the absence of price control, the economy will adjust so as to keep the demand for money just equal to the supply.

Let us see how this works in practice. During World War II this country financed part of the war by more than doubling the money supply, and kept prices from going up through price control. There is much evidence to show that at the end of the war, even though interest rates were very low and real incomes were high, the people of this country held more money than they wished to hold at the current level of incomes and prices. The supply of money was greater than the demand. As soon as price controls were released, we had the situation in which too much money was chasing too few goods. The effort of individuals and enterprises to spend their extra money pushed prices up, until,

at the end of two years, they had risen more than 50 percent. The increase in the money supply worked itself out in higher prices.

Also, this inflation came to an end in 1948, when prices had risen so much that the demand for money was just equal to the supply.

In the Korean War the inflation was a little different. At the outbreak of war, inflation started with no change in the money supply, but with a reduction in the demand for money as people sought to shift a part of their money holdings into those commodities that had been scarce in the Second World War. This initial rise of prices was then extended by a more-than-normal increase in the money supply.

In these two cases we have examples of the traditional type of inflation in which people find themselves with more money than they want to hold at the current prices and so push up prices in an effort to spend it. In each case the supply of money was in excess of the demand.

The reverse situation arises in a depression. A depression occurs when the demand for money is greater than the supply, when people want to hold larger money balances than the total money supply outstanding. Thus, supposing that we start with full employment and for some reason the community wants to increase its money holdings. People will be trying to spend or invest less than their current income. This will be reflected in a fall in the demand for goods. We will have too little money chasing too many goods.

The older economists used to think of all prices as being very

flexible. If that were the case, then a demand for money greater than the supply would simply result in a fall in prices. The effort to build up money balances would mean a reduced demand for goods, and the reduced demand for goods would bring prices down. The lower level of prices would mean an increase in the real value of money, an increase in what a dollar could buy. Since each dollar would buy more, the community's desire to hold dollars would shrink. Presumably the fall in prices would stop when the community's demand for money was no longer in excess of the money supply. Thus, with flexible prices, the effect of too small a money supply would be just the opposite of too large a money supply. Indeed, the old economists used to think of the price level as moving up or down to the extent necessary to keep the demand for money just equal to the supply.

In actual fact, however, the bulk of prices are not flexible. I understand that yesterday you discussed the supply and demand for goods and considered the subject of inflexible administered prices. Actually the great bulk of prices are administered and change infrequently. When I speak of an administered price, I speak of a price which is set and kept constant for a period of time, unlike those of cotton and wheat, which move up and down flexibly. When you go to a restaurant, you buy things at an administered price. When you go to a bookstore, you buy things at an administered price. In fact, you may find that a lot of the items are the same day after day. They are administered and their prices are inflexible.

The great bulk of manufactured goods in this country today are sold at administered prices. These administered prices are insensitive to supply and demand conditions. While they may be sensitive to large changes in cost and demand, they are not sensitive to small changes in either. Particularly, they are not sensitive to ~~small changes~~ downward changes in demand. For example, once the steel companies have set their separate prices, a fall in the orders for steel will result in a cut in steel production, but not usually a cut in steel prices. We have recently seen the steel industry operating at 50 percent of capacity without a general price cut. This was 1958, last summer, a year ago this time. Plenty of other industries show the same kind of insensitivity to a fall in demand.

I can't go into the reasons for this inflexibility here, but I do want to say two things about it. First, it is a kind of price behavior which lies quite outside the theoretical analysis of the older economists; that is, the economic writings before, say, 1935. The older economists recognized that prices were not perfectly flexible, but they treated this inflexibility as a form of friction which they could disregard.

Second, I am not criticizing administered prices. They seem to me inherent in modern mass production. They make for more efficient operation, but they do create a problem which the older economists never faced.

Let us see what would happen if all prices were inflexible and the demand for money exceeded the supply. The first effect on the demand

for goods would be the same as when prices were flexible. As in that case, the desired increase in money balances would mean a fall in the demand for goods; but the effect of the fall in demand for goods would be different. Instead of a fall in prices, the fall in the demand for goods would mean a fall in sales, a fall in orders to manufacturers, a fall in production, a fall in employment, a fall in incomes, and a further fall in demand/ --a true depression. In other words, the fall in the demand for goods would produce a downward spiral of business activity and employment.

How far down would such a downward spiral go? At first such a recession might easily create a fear of further recession and so further increase people's desire to hang on to their money balances. But then, as incomes continued to shrink, people would want to hold progressively less money. They would be progressively less rich. For this reason, we could expect a recession to come to an end when incomes had so dropped that the community's desire to hold money balances was just satisfied by the existing supply of money. The shrinkage in incomes would bring the demand for money down to the supply. Thus, with prices inflexible, monetary balance would be reached by a lower level of incomes instead of a lower level of prices.

Also, the lower level of incomes and employment--that is, a business depression--would continue until either the money supply was increased or the demand for money declined further. Thus, if all prices were inflexible, changes in the relation between the demand for money and the supply would work themselves out through changes in the level

of business activity and employment rather than through changes in the price level.

Of course, in our actual economy some prices, like cotton, wheat, and scrap iron, are highly flexible; while others, like steel, aluminum, and nickel, are highly inflexible; and still others fall between these two extremes. As a result, a depression is likely to involve a combination of reduced prices and reduced production--prices going down more where they are more flexible and production going down more where prices are less flexible. So in real life the balance between the demand and the supply of money is brought about partly by changes in price and partly by changes in production and employment.

The depression we experienced last year seems to me to be a clear example of this behavior. In 1957 a tight money policy was pursued by the banking system--you will undoubtedly hear about it on Thursday--and the normal growth in the money supply was prevented and some contraction was brought about. Yet the normal growth in the demand for money continued. As a result, the demand for money at full employment would have exceeded the supply. Only a reduction of production, employment, and incomes kept the demand for money in line with the shrinking supply.

Also, the economic recovery involved a correction of the deficiency in the money supply. The total money supply was increased by over $10 billion, or roughly 8 percent, in little over a year. That, I think, was fundamental to our rapid recovery.

We can generalize this relationship by saying that the relation between the supply and demand for money determines both the price level and the level of production and employment. If you start with full employment and a stable price level, a decline in the supply of money relative to the demand will lead to a depression and lower flexible prices. An increase in the money supply relative to demand will lead to economic recovery and a rise in flexible prices until full employment is reached; then it will lead to general price inflation.

Now, here I want to introduce a warning. I have given you a simplified statement of the relation between the supply and the demand for money and its effect on prices and production. In practice the relation between money, prices, and production is much more complex; but the outline I have given you provides the basic relation.

Perhaps I can make what I have in mind more clear by discussing the trajectory of an artillery shell. You can analyze the shell's trajectory by simply taking account of the shell's weight, its initial momentum, its initial direction, and gravity. I will call this the simple trajectory. But any good artilleryman knows that there are a whole lot of other things that you have to take into account--the resistance of the air, the wind direction and velocity, the spin of the shell, and so forth. These all influence the trajectory and have to be taken into account in any specific firing. But the simple trajectory still remains the center of your analysis.

In the same way, what I have outlined as the basic relation

between money, prices, and production should be treated as the simple trajectory, while we realize that in practice there are other modifying factors.

Here I want to indicate two other approaches to the analysis of the relation between money, prices, and production. Older economists, such as Irving Fisher, used to focus the analysis on what is known as the equation of exchange. In its simplest form, this equation relates four factors: the money supply; the velocity of money, i.e., the average number of times a dollar changes hands; the level of prices as measured by an index of prices; and the physical volume of trade as measured by an index of production. (There are various other possible ways to measure it.) These four items are related in the simple form of an equation in which the money supply times its velocity is equal to the price times the volume of trade. Some of you will remember the equation of exchange as symbolized in the formula $MV \equiv PT$. This formula used to be extensively used, but more recently it has been recognized that if all four items in the formula could be measured separately, the formula would only represent a truism--two plus two equals four--a matter of definition--and also the velocity, one of the factors in these four, cannot be measured in our society independently. It can only be determined by dividing the dollar value of transactions by the money supply, or some similar procedure. Therefore the equation of exchange is really nothing more than a definition of velocity. It is difficult to see that it has any significance for understanding the money

system. In fact, its use may be more confusing than clarifying, because it seems to give the concept of velocity an independent status. I mention it here only because the equation of exchange is so widely used in the older textbooks and in some of the textbooks that have not yet caught up to the current thinking.

A more constructive approach is taken by those who analyze the problem, not in terms of the supply and demand for money, but in terms of the total supply and demand for goods and the variations in the demand and supply of different categories of goods, such as durable and non-durable goods, consumption and investment goods, and the relation between savings and investment. But examination will usually show that this type of analysis is oonsistent with the simpler analysis I have given, or else that it exaggerates some particular aspect of the economic process out of all due proportion, and may even leave the role of money out of account altogether.

Now let me take up one of the factors which has great current significance and is not covered in the simple analysis. If the analysis I have given were the whole story, we could never have an inflation and a depression at the same time. If the demand for money is greater than the supply, both prices and production will be falling as people try to build up their money holdings. If the demand for money is less than the supply, prices and production will be rising. This simple analysis doesn't allow for a rise in prices when people are reducing their spending; and yet in late 1957 and early 1958 this is exactly what happened.

We had both inflation and depression.

How can this happen? We have seen that administered prices are not sensitive to changes in demand and supply conditions. For the same reason that they are insensitive, they can also be changed when there is no change in demand or supply conditions. This also applies to wage rates, which are a form of administered prices. It is possible for labor unions to push up wage rates faster than productivity and thus push up business costs and prices. It is possible for business to push up prices more than costs and so justify the cost-of-living increase in wage rates. Both have been happening over the last two years. As a result, we have been having a rise in prices which has nothing to do with the money balance at all.

This inflation does not come from an excess in the demand for goods. It does not come from too large a money supply. Rather, it comes from the fact that business and labor have sufficient leeway in the setting of prices and wages to inch them up even though there is no excess in the demand for goods. We can call this kind of inflation administrative inflation. In contrast to the traditional monetary inflation, this kind of inflation can occur even in a moderate depression.

I might say that the analysis that I am making here is exactly the analysis which I presented last spring to the Kefauver Committee investigating the inflexibility of administered prices.

So far we have considered the relation of money to inflation and depression. Now I want to discuss the problem of monetary policy.

I think you will all agree that depression and inflation are both bad. The Employment Act of 1946 most explicitly makes high employment a goal of national policy. Also, it is generally agreed that price stability is an implicit goal of policy under the act. Thus we have a national goal of maintaining full employment at a stable price level, a goal of avoiding both depression and inflation.

How far can we go toward achieving this goal through controlling the money supply? First, let us leave administrative inflation to one side and also leave international relations to one side and consider only monetary inflation arising from too much demand for goods, and depression arising from too little demand for goods. Then the theoretical problem would be quite simple: Maintain a money supply just equal to the demand for money at full employment and the initial level of prices. If the level of prices was beginning to rise, this would signal too much money, and the money supply should be reduced. If excessive unemployment began to develop, expand the money supply. In theory we might expect to keep the level of prices fairly stable and maintain unemployment fairly close to some chosen minimum goal.

But in practice the prevention of depression or monetary inflation would not be quite so easy. It is hard to determine the demand for money balances. There are cumulative forces in our economy which make an initial shift in the demand for money continue for a period of time once it is started. Some shifts in the demand for money are temporary and reverse themselves, as when business shifts from money

into inventory and back, as they did in building up steel inventories this last spring, and as they are now depleting their inventories and building their money holdings. Also, it is not easy to alter the money supply by planned amounts. You can approximate, but you can't do it with precision.

I can't here go into the complexities of this problem of adjusting the money supply to the demand for money at full employment. No doubt you will hear more about it on Thursday. I do, however, want to discuss one of these complexities.

The very process of changing the money supply can alter the demand for money. There are various ways in which the money supply can be increased. The banking system can make loans to enterprises or to individuals. It can buy securities from the public and it can loan to the Government to finance Government expenditures. If the banking system loans to business or to the consumers to spend, then the demand for goods goes up along with the profit of increasing the money supply. If the banking system increases the money supply by buying securities in the public market, then there is no immediate increase in the demand for goods, but there is an increase in the money supply. Both of those have their repercussions, but one influences the demand for money more than the other. The second one, that is, buying securities in the open market, tends to bring down interest rates and therefore increases the desire to hold money balances. So in some degree it offsets itself.

Each of these different ways has a different effect on the demand

for money, both through the effect on interest rates and through the other repercussions of the borrowing and spending process. Almost any increase in the money supply in a stable society is likely to increase the demand for money in some degree. It is theoretically possible that some methods of increasing the money supply would increase the demand for money in exactly the same degree, and so have no net effect on the demand for goods, though there would always be some other methods which would expand the demand for goods. Thus, even if our only problem were monetary inflation and depression, monetary policy would not be simple. However, I believe that if our economy were independent of other countries and there were no problem of administrative inflation, it would not be too difficult to prevent serious inflation or serious depressions through monetary action.

Not only do we want to have full employment and a stable price level, but we also want to maintain a balance in the payments between this and other countries. Here we come back to gold. As I said earlier, we use gold behind our money system to give a greater feeling of confidence in our dollar. But gold is also used to adjust payments between different countries when they are not balanced by some other means. Thus gold can be thought of as a sort of international money. And if our payments due to other countries exceed those due to us, the difference is likely to be met in gold. This has been happening during the last two years. We have paid out over $2 1/2 billion of gold in that time, or more than 10 percent of our gold supply.

Some people find this loss of gold alarming; and, of course, it could not go on year after year. But we still have more than half the world's monetary gold. In my opinion the reductions in our gold holdings are more a reflection of an improvement in monetary conditions in other countries--an end that we have been seeking. As a country's monetary condition improves, it naturally wants to build up its gold reserves; and this must come largely from our high reserves. Thus the reduction in our gold reserves is a part of the postwar readjustment and reflects improvement. Certainly we would be causing trouble for other countries if we were rapidly building up our gold reserves by drawing gold away from other countries. This problem of gold and the adjustment of international payments provides one of the major complexities in maintaining full employment and price stability through monetary policy.

The other major complexity arises from administrative inflation. Can monetary measures prevent administrative inflation? As I have suggested, a limitation on the supply of money may be able to prevent administrative inflation, but only at a cost of excessive unemployment. If we consider only monetary measures, it looks as though we would have to choose between a stable price level, with excessive unemployment, or full employment and a gradually rising price level. In crude terms, this choice could be stated as one between perhaps a $25 billion a year loss in national production and a 2 or 3 percent a year rise in price level. If we take no action except monetary, this may well be

the essential choice.

However, there are certain other ways to limit administrative inflation. Very little study has been given to this problem. Senator Kefauver's committee has recognized the problem and has been conducting hearings on administered prices. The Joint Economic Committee of the two Houses has been studying the problem, but it may take several years to find a satisfactory solution.

One of the problems is to get a clearer picture of administrative inflation. To what extent does this type of inflation arise from the area of discretion which enterprises have in the setting of prices? To what extent does it come from the area of discretion which labor unions have in the drive for higher wages? In studies I have made of steel price increases since 1953, the main drive for higher prices seems to have come from the business side--business seeking to expand its profit margins--and only to a secondary degree from labor. But both business and labor must share the responsibility for administrative inflation and recognize that it presents a problem with which both must be concerned.

I am quite sure that if we spent a million dollars a year for three or four years in seeking the solution to this problem, we could find one which would allow us to have the extra $25 billion of year of national income without inflation and without price and wage control. That would seem to me a pretty profitable investment. As things are now, the Federal Reserve System is struggling with this problem, and much of

the controversy over Federal Reserve policy revolves around different views as to the sources of inflation. You will probably hear more about this problem on Thursday.

In closing, I want to repeat the major points of my lecture. Money can be defined as whatever is customarily used in a community as one side of most exchanges--in our country the dollar. The three major functions of money are to act as a unit of account, to act as a medium of exchange, and to act as a liquid store of value. The value of money arises essentially from people's expectation that others will accept money in exchange for the things they want; and we strengthen this expectation by making it legal tender, giving it gold backing, and by other devices. The crucial role of money in our economy is to be seen in the way in which the adjustment between the demand for money as a store of value and the supply of money operate to alter the level of production, employment, and prices. An effective monetary policy could maintain reasonably full employment and a reasonably stable price level if it were not for the problems of international adjustment and of administrative inflation. These make stability more difficult, but can, I believe, be solved. In any case, our economic system is built on the basis of money; and monetary policy is at the heart of the problem of full employment and price stability.

Thank you.

COL. REID: Dr. Means is ready for your questions.

QUESTION: How do you propose to spend this million dollars

a year to achieve this goal that you mentioned in the last part of your lecture?

DR. MEANS: That's a very interesting question. I haven't spelled out the program, but I would be delighted to provide a synopsis of the recess study.

Certainly one of the first things to do would be to study the record of the Kefauver Committee. A mass of new data has come out there about pricing. I would call in leaders in business to explain just how they do arrive at their prices; not questioning their integrity or their lack of responsibility, but just saying: "Our economists of twenty and thirty years ago clearly didn't understand how prices were made. Will you please explain just how you do reach your prices?" I would go on from there.

QUESTION: Dr. Means, we've been reading quite a bit in the newspapers recently about the refusal of Congress to grant the Treasury Department the authority to raise the interest rate on long-term Government securities. In your opinion what effect will this have on the economy, the dollar, and on me?

DR. MEANS: I think it will have relatively little effect in the first year or so. I suspect that if interest rates stay high, Congress will vote the necessary power. But I don't think it is at all important for the immediate future.

QUESTION: In the latter part of your speech, sir, you mentioned the administrative inflation as being one of our big unsolved problems.

If I understood correctly, you spoke of it as the biggest problem of industry and labor. Is it not true that deficit spending on the part of the Federal Government is also an important contributory factor to increasing inflation?

DR. MEANS: I would be inclined to say No. I know that I am taking issue with a great many people in saying that. The effect of deficit spending is to increase demand, and since we haven't even got full employment now-- eliminate the effect of the steel strike from the employment figures and we would probably still have 3 million or more unemployed; and I don't regard us as having full employment until we get down close to 2 million unemployed. So that at the present time, in the last year, we have not had enough demand to fully employ our resources. That being the case, the extra demand which has been created by the deficit doesn't seem to me to have contributed to the inflation.

If I were to make a complete analysis of inflation, I would say it was primarily arising from two sources, that is, the inflation over the last two years or three years--from two sources: One is the administrative inflation, the pushing up of wage rates and prices ahead of what would be economically justified. And, second, there are certain categories of price which hadn't fully completed their postwar inflation. Rents were held way down during the war and for a long period after, and it may be that rents today have only caught up to the general inflation. So we have really been having little pieces of the postwar inflation in the last two or three years.

Those are the two primary sources. There are a number of

prices that have not caught up; and the administrative inflation. I can see no evidence of a demand inflation.

QUESTION: Dr. Means, you spoke of the supply of money. This is a relatively easier problem than that of demand. Suppose that in the event of an attack on this country our economy was seriously damaged and banks were knocked out. Would you care to comment how you would go about getting the money problem under control and resupply money to the country?

DR. MEANS: The first thing is that you would have to say to yourself that we can't operate on the basis of bank deposits as a form of money. Banks I'm assuming are out, most of them. The banking system as such is out. Therefore you are going to have to work on the basis of the currency that is already in circulation, plus what you add.

I think your first thought would be, Is the total currency supply sufficient to deal with the transactions, the desire of people to hold money, and the doing of business that will occur with cities X, Y, Z knocked out? You've got to make an appraisal of what amount of money is necessary for the volume of business.

Then I would think you would just begin issuing Government receipts. This is what is known as printing press money. But in these circumstances there are two things: One, you can control the supply of it; and the supply is more important than whether it's printed or a piece of metal. Second, you would probably be able to use warehouse receipts on wheat or cotton or something of that sort, if you needed

to have something to make the money function.

But I think that simply issuing Government paper, in limited amounts, would be the thing. Just as when you go into a newly conquered country, if you have destroyed the money supply of that country, you've got to supply some substitute, and that's why we have these occupation currencies.

QUESTION: Dr. Means, you say that steel companies increase their prices at a greater rate than the labor unions force them to increase their prices. In other words, their prices run faster than labor. In the Kefauver investigation I recall that a number of the steel company presidents said that their entire investment in the last ten years had decreased. Now, how can the steel companies pay the stockholders a return on their investment and provide the expansion which our economy needs if they don't raise the prices for steel?

DR. MEANS: It's a very real question whether the assets of the steel corporations have declined. That's a long question. I'm writing a book at the present time on the steel industry as the picture was developed in the Kefauver hearing.

My conclusion is that even if you give the steel companies the best of the argument, you will find that their depreciation charges have been very nearly sufficient to take care of the loss in value coming from using up their steel plants; and that probably a quarter of the increase in the steel prices since 1953 could be attributed to the necessity of raising prices because of wage increases, and that the rest of

the wage increases have been taken care of by increased productivity, and that most of the remainder could be attributed to the widening profit margin.

Just to emphasize the probability that this is true, I would go back, if I had the record before me, and quote to you the decision of the U. S. Steel Corporation to expand its profit margins. It's quite evident that they were trying to catch up to the high rates of profit in a number of other industries.

Whether that is justified or not is another question. I'm not sure whether it is justified in the sense of the long-run economic development of the country. What I am clear on is that the increase is not to a major extent attributable to labor.

QUESTION: Dr. Means, you spoke of adjusting the supply of money to the demand for money in order to stabilize the economy. It would seem that the reaction time to this control would be rather an index of the instability of our economy. Therefore my question is, Generally how closely does the economic reaction follow to the introduction of the monetary control?

DR. MEANS: It depends very much on the method and the framework within which it is carried out. I think that under some circumstances it can be very quick. In other circumstances it can be long-delayed.

For instance, if the Fed announces that it is expanding the money for this and this reason, you could have a very quick effect.

Go back to the beginning of the big depression in 1929 and the sudden collapse of the stock market. The effect of that was to send a shock through the whole community. Businessmen here, there, and elsewhere said, "What's going to happen next?" I was running a small business then, and I had very large inventories, and I said, "What's going to happen as the result of this stock market crash? Well, I don't know. Since I don't know what's going to happen, I'm going to play things safe."

I began converting my inventory into cash. As orders came in, I filled them, but I didn't reorder raw materials to go in at the beginning of this production process. So that my inventory gradually converted itself into money in the bank. My demand for money went up, or, saying it the other way, my demand for goods went down. If you think of that happening all over the country, you had pressure for a depression.

Now, if the Fed at that time had been able--the laws wouldn't have allowed it, but if they had been able--to go into the open market and create 5 billion or 10 billion of extra money, the stabilizing effect of that would have been very great. When the depression was brought to a stop, you will find that it was brought about by, I think it was, a 3 billion dollar Federal Reserve creation of additional reserves in the banking system by open market operations. The liquidation of the banking system was brought to a stop like that (snapping fingers) by open market operations. The same thing would happen to your economy. It would happen very suddenly.

On the other hand, there are ways, which I won't go into now,

by which you could affect the money supply that could take three or four months or six months. There are ways in which the very process of increasing the money supply would itself increase the demand for money.

For instance, if the Fed said, "We're going to increase the money supply" and the New York Federal Reserve Bank officials, or the banking community in New York and Chicago, said: "This is inflationary" and the great bulk of business people thought the bankers were right and the Federal Reserve was wrong, then the very process of creating additional money would make people run away from money; and it would stimulate the demand even more. It's a very complex thing, as you will learn on Thursday.

QUESTION: The international price of gold, I believe, is $35 an ounce ~~in~~ by international agreement. What would happen to our economy if the Russians started flooding the market with gold at a lesser price?

DR. MEANS: That's a very interesting question. I haven't thought at all about it. I think I won't give a snap answer.

The Federal Reserve Board in this country certainly has the power to absorb that and neutralize it so far as this country is concerned. Most of the other central banks in the more important countries have powers that would help to neutralize that. I suspect that the central banking systems of the different countries are so well organized and would operate in connection with the World Monetary Fund to prevent a serious adverse reaction, just as they now would act to prevent serious

repercussions from a big bonanza discovery of gold in some new country that would flood the market with additional gold.

It would present a very real problem, and I couldn't say just now how they ought to handle it. But I suspect they have the power to handle it. The steel industry does not have the power to deal with a flooding of steel if the Russians were to ship steel around the world.

QUESTION: Dr. Means, we have read and heard of two schools of thought concerning the desirability of liquidating the national debt. One school says it's urgent that we liquidate it because of the high interest payments we make every year on it. The other one points out that there is a certain distinct advantage that we get in keeping this debt in that the interest payments provide a source of income for an important segment of our economy. Would you give us your views and the reasons therefor?

DR. MEANS: I wouldn't agree with either of those schools of thought. I would repudiate the first like that (snapping fingers). And on the second I would say that the reason I think the national debt is a good thing is the same reason that Alexander Hamilton gave when this country was first being organized. He urged that the newly organized Federal Government take over the war debt of all the different States that arose out of the Revolutionary War.

One of the major reasons he gave was that the national debt, which the community believed was going to be paid, would provide a liquid store of value for the business community. If you had extra money,

growing out of your business that you didn't need these six months but would need next six months, you could put it in Government bonds and earn something on it. It would allow you to accumulate capital and all sorts of services that a big Govern ment debt performs.

I used to be with the Committee for Economic Development. At the first meeting at which the committee discussed this terrific Federal debt which existed in this country at the close of the war, all sorts of remarks were being made about how terrible it was, what a burden it was, how we must reduce it. And I in my innocence piped up and said: "I think this big debt is a good thing. It's going to make it very much easier for us to maintain full employment after the war. It's going to make it very much easier to adopt a constructive monetary policy, because it gives you a mass of Government securities which the banking system can monetize when there is need for it and can demonetize when there isn't need for extra money."

In other words, there are a number of reasons why a big Government debt is a good thing. Of course it's a bad thing in some ways. The interest payments are huge and require taxes to be collected. If one were to trace back who has an equity in those bonds, whom they really belong to tracing way back, through the banks, through insurance companies, and so forth, I think you would find that in a fairly large proportion of the interest payments, you as an individual are paying taxes and you as an individual are getting interest and the two cancel off except for the cost of making the transfer. So that perhaps a third or

a quarter of the total national debt--paying interest on it is taking money from one group of people and paying it out to another group.

Now, too much of that is a bad thing; and whether we actually have too much of that I don't know. I don't get very much excited about it.

Increases in the public debt, that is, running a deficit, contribute to recovery if you have a depression and contribute to inflation if you don't have a depression. Reducing the public debt is a depressing factor. It can damp ~~xxinflationxx~~ a monetary inflation and it can create a recession.

So that the particular situation is what counts. There are situations where some retirement of the debt would be constructive. There are others where an increase in the debt would be constructive. But I don't regard the debt as such as being that kind of a factor. I think its management is a very important factor, along with the management of our budget and the management of our monetary system. Those three act as a unit in affecting both the price level and the level of activity.

COL. REID: Dr. Means, on behalf of the faculty and the student body, we certainly want to thank you for coming in from Vienna this morning through all that traffic and giving us a very fine talk on the monetary system.

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