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THE BANKING SYSTEM

Dr. Carl T. Arlt

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Reviewed by: Colonel Tom W. Sills, USA

Date: 29 September 1959

INDUSTRIAL COLLEGE OF THE ARMED FORCES
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17 September 1959

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Reporter: Grace R. O'Toole

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COLONEL BUCKNER: General Mundy, Gentlemen: Along with our discussions of our market system, the monetary system, and economics in general, it is only logical that we have a lecture on The Banking System in the United States. That is the subject of the lecture this morning.

But I would like to sound a note of warning. It is a complex subject and has many variables and few constants. So far, however, Dr. Kress has always been able to find someone to cover the whole subject of the banking system in a 45-minute period, and this year we have a repeater. The reason is, he did so well last year. He even made me understand, at least for a little while, how increasing bank reserves by a certain amount operates to increase the total money supply by five times that amount, and I assure you, gentlemen, he had to be good to do this.

Dr. Carl Arlt has taught in various colleges, and he is currently on leave from Oberlin. Until about ten days ago he held a position as an economist with the Banking Section of the Federal Reserve Board here in Washington, and he is now Assistant Vice President of the Federal Reserve Bank in St. Louis.

His experience as an educator and an economist and with the Federal Reserve Board qualifies him eminently to speak with authority on the

Banking System.

Dr. Arlt, welcome back. I say sincerely that I wish you success with this year's class. Dr. Arlt.

DR. ARLT: General Mundy, Members of the Staff, and Fellow Students of Money and Banking: I have to get out my ammunition. I have two fears when I come here. The first one is that Dr. Gardner Means develops a stockpile of questions which he suggests that I will answer, and the other one is this podium with all its buttons. I have sometimes gone up and sometimes gone down as I lean on the wrong buttons here.

My allotment time is 45 minutes. It is my understanding that very few banking problems are either explained or solved in a span beyond 45 minutes. It protects you from sordid stories, bad puns, and everything else.

I think what I have to do is get down to the business of the day, namely, The Banking System and your money supply. As I said last year--and I think the emphasis has not changed--we don't assume that money is everything, but we certainly think it is away ahead of the thing in the second place.

We have some important generalizations that we would like to hang our hats on, and then move into the mechanism of the money supply. The first generalization is one which I think you were introduced to with the lecture of Dr. Means, namely, that the level of economic

buying labor, land, and capital. That money goes to income recipients. The income recipients--or here we talk about the consumers--then may spend their money. You see the flow of spending for goods and services.

But notice some of these other arrows. You will notice a little red arrow pointed to savings. In short, in this process part of the spending flow may be diminished by savings initially. Part of the spending flow may also be diminished by the money which is funneled into the Government in the form of taxes. So that we represent taxes and savings in a sense as a drain from this general income flow.

Now, if we stopped right there, we would then have to say that taxes and savings are deflationary in their impact; they tend to block the flow of money payments through the economy. But we see these offsets, because, as we see in the savings arrow, they may go to savings institutions but then the savings may be funneled to investment in plant and equipment, and the investment may be an offset for the savings. And, as we know only too well, the taxes that may flow to the Government sometimes are more than offset by the government expenditures.

So that the money payments do continue to flow through the system to business, agriculture, and all the others via the channels of taxes, offset by government expenditures, via the channel of savings, offset by investment expenditures; and in general, as long as these pipelines keep running you can see how the system can continue in a relatively

activity depends on the flow of money expenditures against goods and services. In short, we have to recognize the crucial importance of the spending by consumers, by business, and by government relative to the output of goods and services, and it is here that we get the nub of the problem of inflation. In short, when you have a flow of money expenditures which tends to exceed or run faster than the supply of goods and services, then you tend to see dollars competing with each other for limited goods and the general price level rising.

By the same token, if the flow of money expenditures tends to diminish relative to the output of goods and services, you have a problem of declining prices and a diminution in the general enthusiasm for production and gradual unemployment, and so on.

So, what we have as a policy problem is to try to regulate our money flows, our money payments, in such a way that the money payments will be somewhat adjusted to the flows of goods and services in your economy.

I suggest that you turn to page 5 in the booklet and you see what may appear to be an awe-inspiring diagram, but in the lower diagram on page 5 I think you get a picture in a sense of the totality of the process involved. We liken the flow of money expenditures against goods and services to a wheel. Some economists refer to it as the wheel of wealth. You notice that the flow of spending and the red arrows move against goods and services. We can start with business and agriculture spending money

stable fashion. But you can also see that this whole spending flow may tend to expand if, for instance, the amount of investment expenditures exceeds the savings that have been drained out of the economy, or the amount of government expenditures exceeds the taxes--in other words, if the Government engages in deficit financing.

You may then raise the question: How can you do that? How can you have investment expenditures exceed savings? How can you have the Government spend more than it receives? Notice that there is a little institution that we have up on the top of that diagram, namely, the banks. It is in this part where we in a sense get the picture of the banks in the whole system, in the role of banks. Some of the savings may roll into banks, and the banks can push the savings along into the economic structure and thus continue the flow. But the banks can do more than push savings through the economic system. They can take a certain quantity of money and, through the operation of the system, blow it up to a multiple of the actual amount of cash that the banking system operates with.

In short, then, the bank can create a supply of money which didn't exist before, and it is the banking system which may permit a flow of expenditure payments, investment expenditures, to exceed savings, and it may permit the Government to spend more than it receives in the form of taxes. Thus, in order to get the real nature of the money system, we have to put the spotlight on banks, to find out how banks can alter the

supply of money.

Now, a warning here--and this I am sure was brought out to you before. I am talking about a flow of money payments here. The flow of money payments is dependent upon not only the quantity of money but also its rate of turnover--how many times it rolls over in the economy. In other words, I could take a dollar here, and we could start with one dollar and have it just circulate around this room in payment of goods and services--cigarettes, books, and so on--and that one dollar could do the work of \$150 with \$150 merely just changing hands once. The one dollar, the rate of turnover, the velocity of circulation. That velocity of circulation, then, is very very important and, related to the quantity of money, determines the total flow of money expenditures.

You will notice that we are more anxious to turn money over rapidly in periods of rising prices, or in an inflation. You receive money and you start calculating the possibility of price increases, and you say, "Well, I'd better spend my money now before the prices rise still more." The very anticipation of a price rise will tend to build up this rate of turnover and thus tend to swell the flow of money payments, even though the money supply has not increased.

I remember an Austrian professor of mine was telling me that he
of
taught classes in Austria in the period/hyperinflation, in 1922 and 1923. And he said it made a difference as to whether you were teaching an eight o'clock class or a nine o'clock class. If you taught a nine o'clock

class you received a slightly lower salary than if you taught an eight o'clock class, on the assumption that, if you taught a nine o'clock class at least you could do your shopping at eight o'clock and get into the market before the prices started to bounce upward, whereas, if you taught an eight o'clock class, you might have had the prices go up 10 or 15 percent while you were teaching, and you needed a higher salary in order to meet this higher cost of living.

Now, that was a hyperinflation. We have nothing like that in our country today. Really, we have never had it. But there is always the lurking fear that if you have an indiscriminate increase in the quantity of money and then you have this higher rate of turnover of money, why, you can create problems of extraordinarily high prices.

Enough of that point--I merely wish to emphasize, then, that one of my generalizations would be that the flow of money payments, which is so important, depends on the quantity of money and its rate of turnover. The focal point of my discussion this morning will be on the quantity of money and the mechanism by which it expands and contracts.

Still another important generalization that I think ought to be stressed is that, when we talk about the quantity of money, we are talking generally of the quantity of currency units, that green folding stuff and the coins, plus--and this is an important plus--the volume of demand deposits subject to check; because these demand deposits, ~~which~~ today, I think, amount to approximately \$114 billion--your checking accounts, when

you add them all up, amount to about \$114 billion, whereas the coin and the currency which we have amounts to no more than \$28 billion. So we operate essentially with a money system based on commercial bank checks, which are orders on demand deposits, ordering a commercial bank to pay to the person in whose name the check has been written. So we deal with this commercial bank currency more than we do with coin and the paper money.

Now, it is interesting to note then, to make another generalization, that the importance of the bank check, or the bank deposit subject to check, is based on the fact that people prefer to handle most of their business transactions by check. It is a convenient accounting device for yourself, if you want a record of what you have paid. It is generally acceptable, and people generally don't care to have much of a roll of actual currency in their pockets at any given time. Is it Robert Taylor who says, "I never carry more than \$50 in currency at any one time."

The important point here is, you may raise the question: Why is it that people are willing to deal with these checks and just have bank deposits subject to check? Well, they have faith in the banking system that at any time they do want currency they can get it out. So that in many respects our banking system is one based on faith, based on the confidence that you and I have in the bank with which we deal.

You all know that no bank carries currency and coin to meet all the demands of its depositors at one time. What you have is a banking system

with a small amount of coin and currency and a large amount of deposit liability subject to check. It works on the assumption that all of you that have deposit accounts in banks will come in, not all at once, but a few at a time to ask for a little folding money to finance some shopping that you may want to do in town.

Then, to sweeten up this point, the banks assure us--most banks in the United States--that of course they are guaranteeing your bank deposits, subject to check, up to \$10,000. The Federal Deposit Insurance Corporation tends to reinforce your sense of security, in the sense that you are not going to rush to the bank and challenge the bank. The only time we did that was in 1931, 1932, and 1933, when we were worried about the banking structure, when there was a run on the bank. But ordinarily the banking system can count on the fact that you and I are quite happy just dealing in checks.

Another problem or point that I think tends to reinforce the importance of the banking system is the change in the volume of demand deposits. This is where we see the great changes in money supply, and it is the lending done by commercial banks which will alter the volume of demand deposits. So that, to seek for an explanation of why our money supply changes, why, for instance, we had such a terrific increase in the money supply during World War II, where the money supply almost tripled, or to seek for an explanation for the relatively small increase in the money supply since 1955, we have to put the spotlight on the

commercial bank.

Now we turn to the banking system. We have about 14,000 commercial banks. A commercial bank, remember--although sometimes you don't recognize it by looking at the building or the name--has the function of banking, the unique function, where you accept demand deposits, when people put money into the bank, and also create demand deposits, subject to check, when you engage in loans, when the banker engages in lending.

There are many other financial institutions that will accept your deposits and then lend them out--your savings and loan associations, your credit unions, your savings banks, and so on--but no one of those institutions can create additional deposits. We might say the system can't expand the volume of demand deposits subject to check the way the commercial banking system can do it. That's why we put the spotlight on the commercial banking system.

Taking a look at this commercial banking system, we might turn to page 8 in the booklet, and start with a local bank. Of course we could go back in the booklet, but I am assuming that you can do that later. What I am getting at is that here we have a local bank that may have gotten its start--some people invested in it; they have a capital account of maybe \$50,000 or \$100,000--and it puts out a brief saying, "This is your friendly bank. We encourage you to participate in this bank." So many of the citizens of the community come in. Maybe they

deposit \$100,000, \$200,000, or \$300,000 in cash in the bank, and so the bank is ready to do business. When the people deposit the cash in the bank the people acquire demand deposits subject to check. The bank has an asset, cash. The bank, however, realizes that, for these people who have put their money into the bank, the bank does not need to hold all the cash that it has received. It knows that not all these people are going to come in and demand coin and currency. So the bank may operate on the assumption that it needs only a fraction of what people have put in, to conduct day to day business. The rest of the assets that it has acquired it may lend out.

Because of the general banking practice that has developed through the years, the realization of the banker that he doesn't need the full amount of what people have put into the bank, and because the bankers had started to operate on just keeping a certain amount on hand, we have developed principles of law, and we have a Federal Reserve System that requires of its members certain things. This illustration here on page 8 is of a bank which, as a member of the Federal Reserve System, is required to keep in the Federal Reserve Bank a certain percentage of its demand-deposit liability. Some people call this a legal reserve, other people call it a required reserve. Generally, the point we want to make is that by law all banks of the Federal Reserve System--and approximately 50 percent of all our commercial banks belong to the Federal Reserve System^{and}--do about 85 percent of the banking business

in the United States--have to keep required reserves in the Federal Reserve Bank. A bank does more than that. It usually keeps additional reserves in the Federal Reserve Bank. So that the total reserve position I will refer to in this booklet in the Federal Reserve Bank is classified as a legal reserve. If you turn to page 7 and look at the balance sheet there you will see it has some cash in the till, it has some claims on other banks--that DFB means due from banks--and then this legal reserve we'll say of \$110 million, or \$110 thousand, or whatever figure you want to use, is the total reserve position in the Federal Reserve Bank. It has some loans out and it has some holdings of government securities.

Now let's put the light on that legal reserve, the total reserve position in the Federal Reserve Bank. The law says, if we are going to assume a 20 percent required reserve ratio--that's explained down under the paragraph on reserves, there--we have to have in the Federal Reserve Bank at least \$100,000 to back up our \$500,000 in demand-deposit liabilities. Notice that bank has deposits of \$500,000 on the liability side. The law says this bank has to have \$100,000 backing it up. But the bank holds in the Federal Reserve \$110,000. So we say of the total reserve position of that bank \$10,000 of that \$110,000 is an excess reserve, a reserve over and above the required reserve. This is the point we underline, that it is the excess reserve which constitutes the basis for lending. The bank has more than it needs to meet its legally required reserves, and the reason it has more than it needs, usually, is because it is

operating the type of system where people aren't all rushing in demanding everything in coin and currency. There is a lot that the bank has that it doesn't need for its day to day transactions. Then, within the framework of the law, this bank finds that it has \$10,000 extra that it doesn't need to support its current obligations.

Let us suppose it wants to lend. It wants to make some money. Turn to page 8 again. Notice it lends \$10,000 to a business man. The assets of the local bank increase in the loans and discounts category by \$10,000. They acquire a promissory note from the business man. Notice how the bank usually pays it. It will pay the business man \$10,000 in the form of a checking account and increase demand deposits up \$10,000. You see that on the liability side.

We have to work on this assumption, however. That business man hasn't borrowed just to keep that money in the bank. He has borrowed to pay this, that, and the other thing--merchants or people out of town. So, when the business man starts to write checks on his newly acquired deposit account--we'll say of \$10,000--those checks tend to flow out into the system and they become claims on this first bank against which the checks are written.

If you want the details of the process--supposing I have gotten a new bank account and I write a check to buy some World Series tickets in Chicago--I hope I'm not hurting anybody. The Chicago baseball management then deposits the check in its bank. Then its bank has a claim

on my bank, the bank against which I have written the check. Of course this is a little irregular. I said this was a business loan, and I borrowed \$10,000. I didn't tell him I was borrowing just to go to the World Series. The main point I want to make is that the checks go out to another bank and because they go out to another bank and are deposited in another bank, this first bank loses the \$10,000 excess reserves that it had originally to use as a basis for lending, because in the process of clearing the bank in Chicago, through the mechanism of clearing, presents the claim on my bank here in Washington. My bank here in Washington then, as it gets the check, knocks down my account by \$10,000, and through the process of clearing this bank here in Washington loses a corresponding amount of its reserve in the Federal Reserve Bank, the Federal Reserve Bank of Richmond. It drops down from \$110,000 to \$100,000.

But the bank in Chicago gets an added reserve. It moves up \$10,000 because of the check that was deposited in it. Then it presents it to its own Federal Reserve Bank where it holds a reserve account.

So the net effect of the loan has been to initially create an extra \$10,000 in this town, but it is spent, and we can assume it may go to Chicago, and it therefore builds up the reserve of the Chicago bank, and puts this bank in Washington down to a point where it can no longer lend, and has just the \$100,000 supporting its \$500,000 in deposit liabilities. But the bank in Chicago now has an extra \$10,000. Now,

how much of the \$10,000 must it keep in a required reserve position? Well, maybe only 15 or 20 percent, you see, by the law. So, of the \$10,000 that that Chicago bank has received, we'll say \$8,000 maybe is considered excess, new excess reserves that may be used as a basis for lending.

Now, the Chicago bank lends, then, \$8,000, and gives somebody a new deposit account. And that somebody spends it. Maybe he puts it in another bank, and another bank then receives an extra reserve in a Federal Reserve Bank.

In effect, what we are seeing is this extra reserve which first resided in Washington, this extra reserve of \$10,000, moved ultimately to Chicago, and then maybe a portion of it, \$8,000 moved to St. Louis. Then we could carry it on. The St. Louis bank may lend \$6400, on the basis of its newly acquired excess reserve, and that may move, we'll say, to San Francisco.

My point then, is that gradually, through this mechanism of lending, what are we doing to the total money supply? We are increasing this money supply. We are building it up. We can follow through here, on page 9. The illustration on page 9 is somewhat comparable to the illustration I just gave you. We move from the local bank to the city bank, the city bank which had no excess reserve to begin with. Notice the little yellow rectangle in the middle of the page. It had required reserves

of \$20 million supporting its deposits of \$100 million. It had no excess so it couldn't do any lending. But once that local bank started to lend the \$10,000, the \$10,000 moved into the city bank. The city bank acquired an additional deposit of \$10,000.

Then you move to page 10 and you find that this whole process of shifting reserves around through the banking system tends to gradually build up that total money supply. If you follow it right through you see that you have \$10,000, then \$8,000, then \$6400, and so on, and the amounts that would be moved around would gradually get smaller, because every time you move money from one bank to another a little chunk of the reserve would have to be retained to constitute the required reserve responsibilities of that bank. A little bit less than would be available for lending.

But if you follow that diagram through here, you see there would be all of these chunks getting smaller and smaller, but they are all additions to the total money supply up to, we'll say, \$50,000. Based on what? Based on this original excess reserve in Washington of \$10,000 which this bank had. But how did we build up this money supply? Only because banks were willing to lend.

Now let's just take this as a case in point. Supposing when I had spent my \$10,000 here in Washington by sending a check to Chicago and Chicago got this extra reserve of \$10,000, but the Chicago bank didn't choose to lend on the basis of its newly acquired extra reserve.

The whole credit process would stop at that point on the basis of this new \$10,000. The whole credit process would stop, because all that would have been created would have been the \$10,000 deposit account based on the \$10,000 in excess reserve. The Washington bank would not have held it. No. I spent it and it went to Chicago, and the Chicago bank would have acquired \$10,000 new reserves. Then if it sat on them and didn't do anything about them there wouldn't be any \$50,000 increase.

So an important assumption of this deposit creation process is that banks, when they do acquire reserves which are over and above the amount which they have to keep in the Federal Reserve Bank, they are willing to lend on the basis of those reserves. That is an important point that we have to make here. They are willing to lend. At the same time there is an important warning you have to keep in mind. Here I am suggesting that the banking system can multiply credit to a multiple of its original excess reserves. The \$10,000 excess reserves in the banking system, through the process of lending and relending, get up to \$50,000.

That does not mean that an individual bank that has \$10,000 can automatically start figuring that this is an easy money-making proposition; that it receives \$10,000 that it doesn't need and can immediately lend \$50,000. It doesn't mean that an individual bank can lend to a multiple of its given excess reserves. Notice what happens if an individual bank does that. Supposing I have \$10,000 extra which I don't need

and I create loans of \$50,000. Then supposing all the people come in and write checks on their newly acquired accounts of \$50,000 and those checks fall in outlying districts in other cities. How will this bank with only \$10,000 extra meet the claims of \$50,000 that could flow against it? It just couldn't do it.

And if I multiply the figures--if a bank decided that every time it received extra money it could lend 5 or 6 times the amount, pretty soon it would lose its marble pillars and its teller windows, too; everything would disappear. So that one important warning is that the banking business is not one in which an individual banker can multiply the money supply. It is a business in which the banking system, as the reserve move around the banking system, can increase the total money supply.

That is the important thing that you have to keep in mind. Now, I realize I may be going too fast, but I've got to stop very shortly, so we've got to move on. We'll say, if the lending of the banking system is based on the excess reserves, then, obviously, the lending power of the banking system can be changed if you can somehow change the volume of excess reserves available to the banking system.

Here's where the Federal Reserve System can operate. So we start with the fundamental assumption that if the banks have excess reserves they can lend; if they don't have excess reserves they can't lend. So the Federal Reserve System can look over this banking system, and, if the Federal Reserve Board decides that the banking system may be

lending too much, may be carrying within it a potential for inflation, then the Federal Reserve System will figure out ways of reducing the basis for that lending, namely, these excess reserves.

What are the tools that the Federal Reserve System may use?

Well, generally they are three in number. First, we can talk about the actual legally required reserve ratio. In the booklet we assume that the required reserve ratio is 20 percent. We just assume that for the sake of an illustration. Actually, as you know, the required ratios vary for banks of different sizes. For the biggest banks it is about 18 percent; for the middle-size banks it is 16-1/2 percent; and for what we call country banks--that's an unfortunate word; a lot of bankers don't like to be referred to as country bankers--sometimes my tongue slips and I refer to them as jerkwater banks, but that's also wrong--these smallest banks are required to maintain a required reserve ratio of 11 percent.

Now, here's the total reserve in the Federal Reserve Bank. The Federal Reserve Bank says, "We notice that, when the reserve ratio, we'll say, is 15 percent, the banking system has X number of dollars of excess reserves. We can wipe out some of these excess reserves by just arbitrarily raising the legally required reserve ratio, we'll say, from 15 to 20 percent. We can increase the excess reserves by reducing the reserve rate."

I think in the illustration here we talked about reducing the reserve

ratio from 20 percent to 19 percent, and that automatically increased the excess reserves for the banking system. Well, now, if the Federal Reserve is concerned about inflation, it can raise the legal reserve requirements. That automatically wipes out excess reserves which the bankers had in the Federal Reserve Banks, lodged in the 12 Federal Reserve Banks. The Federal Reserve System can do that.

You will notice that the Federal Reserve System hasn't done it very often. If you'll look at the history of the Federal Reserve System, the Federal Reserve Banks have changed in an upward direction very infrequently, but in a downward direction the Federal Reserve System has changed. In fact in the recession of 1958 the Federal Reserve did reduce reserve requirements. That didn't increase at all the total reserves which the member banks had in the Federal Reserve System. It merely increased that portion of the total reserves which could be regarded as excess, when they reduced the legal reserve requirements. Then, on the basis of the excess reserves, the banks could lend some more.

But in this inflationary period the Federal Reserve could raise the legal reserve requirements.

Then, another important device, one of the most important, is the open market operation of the Federal Reserve. You will find the open market operation explained on page 16. We don't have time to read it over now. I merely want to talk to the point that the open market operation, simply defined, is an operation by the Federal Reserve Banks,

directed by the Federal Reserve Board, to buy or sell securities in the Government bond markets. Now, if we are worried about inflation, and the Federal Reserve wants to eat up the excess reserves of the member banks, then the Federal Reserve will authorize through its Open Market Committee a sale of Government bonds. Briefly, you can see what happens when it sells Government bonds in the open market. People buy them, and when the people buy them, these bonds sold by the Federal Reserve Banks, they write checks on their accounts, and those checks stream to the Federal Reserve Banks. The Federal Reserve Banks look them over and say, "These are checks drawn on various banks in our districts, so all we have to do through the process of clearing is to knock down the accounts of the various banks in our districts by the amounts of these checks which we have received." Thus, you and I, who have bought the securities, have the securities. We have less money in our possession because we wrote checks on our accounts and our demand deposits have gone down. The banks in which we held our demand deposit accounts have smaller reserves in the Federal Reserve Banks, because the checks, through the process of clearing, were cleared by knocking down their accounts.

What does the Federal Reserve Bank have? What changes have happened to the Federal Reserve Bank? The Federal Reserve Bank got rid of some securities; it reduced its assets; but it also reduced its liabilities to the banking system by the amount of the deposit reserves

it was able to knock down. And the member banks have smaller reserves, a smaller reserve position, and that eats into the excess reserve position and the lending ability of commercial banks.

Still another device of the Federal Reserve authorities to curb this inflationary push would be to charge higher rates of interest to member banks when member banks borrow from Federal Reserve Banks. Very recently, just about four days ago, or five days ago, the Federal Reserve Board announced that member banks now, when they borrow from Federal Reserve Banks, will have to pay, not 3-1/2 percent but 4 percent. They were referring to an upward movement in the rediscount rate, the rate at which member banks borrow from the Federal Reserve Banks. This was done in part to get the rate which banks pay to Federal Reserve Banks more in line with prevailing interest rates, and it was also done to discourage borrowing by member banks from the Federal Reserve Banks. One way that a member bank could increase its excess reserves would be to say: "Here we have a total reserve of \$100,000 in the Federal Reserve Bank. We have to have that; it is all legally required. How do we get another \$10,000 so we can lend money to a business man? Go to the Federal Reserve Bank. Borrow on our note, borrow on some government securities which we have as collateral and get an extra \$10,000 from the Federal Reserve Bank." But the Federal Reserve Bank says, "Now, buster, you are going to pay a higher rate." Then I sit back and say, "Now, will I borrow the \$10,000

from the Federal Reserve Bank to lend to a business man if the Federal Reserve Bank starts to turn the screw a little bit and charges a higher rate of interest?" This, then, is designed to curb my lending to the business man, fitting in with the objective of the Federal Reserve System to curb overall bank lending to business men in a period when we are all concerned about some inflationary increase.

I hope you will direct questions to me. I see by the clock that I have to come to a halt. Then I will develop the rest of the points through questions. I want to call your attention to the fact that excess reserves of member banks are affected not only by conscious Federal Reserve control but the excess reserves, namely, the basis of lending, can be affected by certain Treasury actions of moving accounts around, taxing, and also issuing bonds, and by the inflow and outflow of gold.

You will notice in this little booklet on page 11 the factors affecting member bank reserves. We have looked at the Federal Reserve factors, namely, reserve requirements, open market operations, and member bank borrowing through the rediscount rate. Now I call your attention to the gold flows in and out of the country, over which the Federal Reserve has no control. I call your attention to changes in cash in circulation. You'll find this around Christmas and Easter, cash moving out into the hands of the public. This booklet explains it. And finally there is the Treasury operation of its sale of securities and also the types of securities--

debt management and Treasury operations of calling certain cash accounts which it may have in one of the commercial banks, moving them to the Federal Reserve Banks, and so on.

I feel frustrated. I feel that I would have to run along for another two hours to really cover this thing. I hope in the questions that you bring out some of these points. I know that in a very fine institution such as this we are subject to certain disciplines and one of the disciplines is that speakers have to quit pretty much on time. So I am just stopping for the time being, and I understand you'll have an opportunity for questions.

QUESTION: Sir, how effective, in your opinion, have these measures been that you enumerated in controlling inflation—the reserves, the rediscount rate, and so forth?

DR. ARLT: That's a good one because of this problem. You may think I am evading your question as to how effective they are. At least we can say this: In the period of 1955-57, the Federal Reserve structure was able to keep the money supply from increasing. Actually it increased only about 1 percent a year, and we think the normal growth in the money supply should be about 3 percent in order to keep up with the general growth in real output of goods and services through time. The Federal Reserve was successful in keeping the money supply down, at least in keeping it from growing. But, at the same time, and this you might say

is one of the weaker points of the Federal Reserve control, the Federal Reserve could not control the rate of turnover of money. It may be able to control the money supply, but if you people get anxious and start speculating and want to use your money to buy goods and never have money in your hands more than a couple seconds but are always buying more goods, that same amount of money which the Federal Reserve may have kept down to maybe only a 1 percent growth in a year can generate a terrific volume of expenditures. We did note that in the period of 1955-57 the velocity of turnover of that money did increase, and that tended to stimulate the boom in 1955-57.

There is another point, too. We feel that the controls were relatively effective in the sense that our inflation, though we were worried about it in 1955-57, did not match the inflationary increases in prices in other countries. At least we felt we were relatively successful. But prices did rise in 1955-57.

The biggest limitation you have on Federal Reserve credit control in a boom period is, as you know right well, that you can nip a boom any time you want. Federal Reserve has no worry about that. It can turn the clamps down and bring business to a standstill. That's one of their fears, that, if they work these inflation controls too severely, they can arrest a boom—not only arrest it but promote a recession. So, in their fear of promoting a recession, they may work more

hesitantly in controlling or arresting growth that may have been developing.

Now, in all of this the Federal Reserve is not actually contracting credit. When the Federal Reserve talks about a tight money policy, it is merely saying this: The huge demand for credit by business, government, and consumers will lead to an increase in the supply of credit. We grant that. It has got to lead to some increase. We are just going to make sure that the increase in the supply of credit will be curbed somewhat so as to slow up the rate of growth. Chairman Martin has used the term, "leaning against the wind." I believe that has been his terminology. It's just trying to hold the thing back, to keep the engine of inflation from careening down the highway. That in a sense is what the Federal Reserve is attempting to do.

QUESTION: Sir, I am concerned about this 50 percent of the banks that are not members of the Federal Reserve System. What regulatory provisions are there to require them to maintain an effective reserve so that they won't, for instance, have a run on the bank which it will not be able to meet?

DR. ARLT: Every State has some sort of Banking Commissioner, and there is the work of State laws which are directed toward banks. Every State has in it some legal reserve requirement for its State-chartered banks. The legal reserve requirements vary, however, from

State to State. We in the Federal Reserve System think that at times their requirements are far too lenient, but there are regulations. In other words, the essence of our monetary system is that there are always some regulations preventing indiscriminate expansion by banks. I meant to bring out to you that the Federal Reserve Banks, in their extension of credit to the member banks, in lending to other banks, buying securities in the open market, and so on, are themselves limited. You will notice the booklet points out that the Federal Reserve Bank itself has a legally required ratio which it must have in gold certificates which it acquires from the Treasury--\$25 for every \$100--on its liability side. So the gold certificate holdings of the Federal Reserve Banks represent a governor, or represent in a sense the ceiling beyond which the Federal Reserve Banks are not allowed to pierce the goal.

QUESTION: Doctor, how often and when, for a given bank, is this required reserve position determined?

DR. ARLT: For the big city banks the required reserve position is determined every week. In other words, they get their average demand deposit liabilities and they report those average demand deposit liabilities to their Federal Reserve Banks. The Federal Reserve Banks with a little writing down, calculating the required ratio, will then be able to look at the member banks' reserve accounts and say how much of the member banks' reserve accounts is a required reserve and how much may be considered excess. For the smaller banks, shall I say

the country banks? the required reserve may be determined every two weeks.

QUESTIONS: Recently business editorial writers on several occasions have pointed out that the policies being followed by the Federal Reserve System are not necessarily in phase with the fiscal policies of the Treasury. I would like your comment as to whether or not this is a real problem, and, if so, if there are any probable solutions.

DR. ARLT: It is a real problem in this sense. I could have talked about, in answer to another gentleman's question, the effectiveness of our monetary policy. You may have read statements from Chairman Martin. Chairman Martin will say this: "To be sure we have this array of controls--rediscount rate changes, reserve requirement changes, and open market operations--^{if}but/the fiscal policy is not in phase or in tune with the requirements of the economy for stability our problem on the monetary policy side is much more difficult."

Now, the illustration. Here we were in the early part of 1959, the last half of the fiscal year 1958-59, worried about inflation. So the Federal Reserve adopted a relatively tight money policy, tried to hold back, but at the same time, in the early part of 1959, we saw a fiscal policy--at least some of us thought we saw it--and fiscal policy, you know, is that policy relating to the expenditures made by Congress and the revenues received in the form of taxation--in which there was a dangerous possibility of what we call deficit financing. Now, in that

case, if the Government spends more than it receives--I call your attention to that chart on page 5--if the government arrow of expenditures is fatter than what it receives in taxes, it is adding to the total spending stream. Isn't it? And if the Government operates a deficit which it must finance by the issuance of securities, if it runs on a deficit basis at the same time that the Federal Reserve thinks that the condition of the economy warrants some control over expenditures, then it is very possible that at times fiscal policy--the relationship of revenues to expenditures--can be unfortunately placed relative to what the Board may be attempting to do in monetary policy.

Now, that is not suggesting that you can just snap your fingers and change the fiscal policy of the Government, as soon as you say, "Well, let's just reduce expenditures." Well, I shouldn't talk to people in the military on this score. You all have had traumatic experience with Congressmen who have told you you've got to reduce expenditures, and you have various policy movements thrown at you, and you all feel quite sincerely that maybe the expenditures shouldn't be reduced in your bailiwick, but maybe we ought to cut public housing, or something like that. I mean, every group has a certain bailiwick that it may be interested in, and it is very difficult to reduce the expenditures. Then if some Congressman comes out, trembling, and says, "Maybe we ought to raise taxes to cut out the deficit," then he gets blown out of the room.

So we have problems and we are having problems, although the

picture for fiscal 1960 is not so bad. It looks as though we may have a balanced budget, roughly balanced, if nothing else; a balanced budget in the sense that our revenues from taxation look as though they will increase quite markedly in fiscal 1960.

But I, of course, have one big question mark: What happens in the steel strike? The steel strike could be a depressant in our economy and change all our calculations. It is in a sense comforting to have these things for the economist who is asked the question: What is going to happen in the future? He can say, "Oh, the national picture? There's the steel strike." So he can protect himself.

QUESTION: Will you comment on the rate of the outflow of gold from this country? Is it a serious problem, with the rate that we have had in the past few years, because of the expenditures overseas?

DR. ARLT: I would say that, if the rate of outflow of gold continued year after year comparable to the rate that we had in 1958, surely there would be a serious problem, to the extent that we would have to look at our monetary system. I think all of you know enough about money and banking to realize that here we have this gold stock of \$19 billion or so, and against that gold stock the Treasury has issued gold certificates. You look at a Federal Reserve balance sheet and see that the Treasury has issued gold certificates to the Federal Reserve Banks for all the gold that they hold, and the Federal Reserve Banks, on the basis of

these gold certificates, can engage in their operations. You don't see the gold certificates; these are the reserves.

At the present time the Federal Reserve Banks hold roughly \$8 or \$9 billion of gold certificates more than they need--maybe \$10 billion in gold certificates more than they need. But it is also true that, if we continue the rate of gold outflow, as gold flows out of the country, this has a certain contracting influence on our monetary supply eventually. As gold flows out, the Treasury is selling gold, and, if it sells gold, it has to retire the gold certificates which it issued against the gold, and if it retires the gold certificates it reduces the Federal Reserve asset account, and if the Federal Reserve asset account is reduced why that may act as a contracting influence.

Now, I say this will happen if we continue that at the same rate. But I am not sure that we would ever continue that rate of gold outflow. I think that the heavy rate of gold outflow in 1958 represents rather than a weakness in the dollar a growing strength of foreign countries. Many economists applauded this in the sense that for the first time since the end of World War II some of these foreign countries were getting on their feet in terms of their holdings of reserves in dollar balances.

I know some of you are going to raise the question: Will the foreign countries hold these dollar balances, maybe \$11 billion worth, or can they convert those dollar balances into gold and take the gold out of

the country? My point in answer to that would be that, if international trade is to continue with the United States, the foreign nations have to maintain the dollar balances, because you don't conduct international trade without having some balances of the currency with which you are dealing. If you are going to be buying a lot of stuff from the United States you have to have dollar balances. If you are going to have dollar balances, you are not going to be taking them out of the country through the vehicle of gold outflow.

I choose to be more optimistic than some in saying that, if we continue international trade, the countries will continue to keep their dollar balances in the United States and that we will not have any undesirable or frightening outflow of gold.

Again I say, of course, if the international scene becomes catastrophic in nature and the bottom drops out, with the countries severing international relationships and so on, then there could be trouble if the countries could start withdrawing gold. But remember the Treasury has the power to cut it off just like that. The Treasury has the power to license all exports of gold. It has the power to stop the export, to place an embargo on the export of gold if it wants.

But the Treasury is smart. Certainly in all of this fear about gold outflows it never once said it was going to put any restriction. Once you say you are going to put restrictions on the outflow of gold you are

indicating to people that you are worried, and an indication of worry may suggest some unsoundness, and a suggestion of unsoundness may lead to a run on the United States. The Treasury is certainly not going to do that.

QUESTION: Sir, this is somewhat complementary to the previous question. We know that the mining of new gold, the input of new gold, to the Treasury won't necessarily coincide with the desired monetary policy. Will you comment on how this is taken care of, what mechanism is used? I am not sure this could happen in the present day and time, but, in the case of maybe more new gold being mined than we would like to have for expanding the money in this country, how is this taken care of?

DR. ARLT: Well, maybe briefly we should explain the process. When gold is mined in the United States, the gold miner has to sell it to the Treasury. The gold miner gets \$35 an ounce. The gold miner gets a check then from the Treasury paying him \$35 an ounce for the gold, and the Treasury has written that check on an account which it holds with the Federal Reserve Bank. So the Federal Reserve Bank, when it gets this check through the process of clearance, will knock down the Treasury's account by \$35 and increase the miner's account by \$35 and the member bank which holds the account will have an increase of \$35.

Normally the Treasury will say, "Now, look. We have just paid

\$35 for this gold--this is the beautiful thing you can do with the Treasury-- let's issue gold certificates on the basis of this gold and replenish our account with the Federal Reserve Bank." So the Treasurer can issue gold certificates, plunk them in the Federal Reserve Bank, and the Federal Reserve Bank automatically gives a new deposit account to the Treasury to the amount, in this case, of \$35.

Then the Treasury can spend money, and as it spends money it can therefore develop a rising money supply for the public and larger member bank reserves.

One thing the Treasurer wouldn't have to do if he wanted to prevent the influx of gold from augmenting the bank reserves and the money supply is, he wouldn't have to issue gold certificates. That's one thing. If he wanted to replenish his account instead of issuing gold certificates he might sell bonds to the public, pull money out of the hands of the public that way, or he might tax the public to get more funds for Treasury purposes.

Another thing the Federal Reserve can do--and this is what has happened when we have had a huge influx of gold into the United States-- is, as our accounts of member bank reserves have increased the Federal Reserve has offset the gold inflow by the sale of securities in the open market, which represents a deflationary move on the part of the Federal Reserve Bank. The Federal Reserve Bank therefore takes

away from the member banks at the same time that the member banks have been getting increases through the gold inflow. So there is an offsetting, compensating action there.

Does that answer your question?

STUDENT: Yes, sir.

DR. ARLT: I might say this in addition about the gold outflow. While it does have a tendency to contract the monetary system, in this particular case the Federal Reserve has, to the extent it was concerned about the gold outflow causing too much of a pinch on the monetary system, bought securities in the open market and has thus built up the reserves of the banks at a time when they were concerned that the gold outflow would cut down the reserves of the banks.

COLONEL BUCKNER: Dr. Arlt, our time has run out. There are questions still to be answered. Perhaps you can cover them when you visit the discussion groups later on this morning. But now I would like to thank you for again leading us through a very difficult subject and increasing our understanding of it. Thank you very much.

DR. ARLT: Thank you.