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INDIRECT CONTROLS: MONETARY AND FISCAL OPERATIONS OF THE FEDERAL RESERVE SYSTEM

Dr. W. W. Riefler

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INDUSTRIAL COLLEGE OF THE ARMED FORCES

WASHINGTON, D. C.

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27 September 1955

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GENERAL CALHOUN: Our speaker this morning, Dr. Winfield W. Riefler, will give the first of a series of lectures in the Economic Stabilization Unit. Since 1948 he has been Assistant to the Chairman of the Board of Governors of the Federal Reserve System. Currently, and since 1952, he has been Secretary of the Federal Open Market Committee. These and other important assignments clearly establish his qualifications to discuss the subject "Monetary and Fiscal Operations of the Federal Reserve System." I suspect that following yesterday's reaction of the stock market and the illness of the President, this lecture could not be more timely. It is a pleasure to present Dr. Riefler.

DR. RIEFLER: General Calhoun, General Hollis, and gentlemen: This discussion this morning will be a little informal. I want to explain to you just exactly how it came about.

I am not a financial artist in any sense at all. We have been trying ever since I have been in the Federal Reserve System to find some way in which we can make this very complicated field that we work in understandable from the operating point of view--just how it operates, how one works at it. Of course, we are working in quite theoretical economic terms.

This summer I got the idea one day that it would be possible

to take these basic economic theories and boil them down to six or eight sort of representative items that in themselves cover quite a sector of the economy, and by bringing those together, to present in one consolidated picture the essence of what it is that the monetary authorities are looking for, what they are trying to do, and how they go about doing it.

Well, after working at it and getting the material in shape, we fixed up some charts. Of course, it is perfectly clear that we should not take too much at a time or we will get confused. So I prepared these three panel board charts. I thought that if I built these charts up and put these items on them one line at a time, and then discussed that item, I would in that way be presenting the material in sequence. That is what I am going to try to do this morning. I talked it over during the last two weeks with a group in the Federal Reserve System, and they agreed that in this way the audience would carry away the material a little more vividly than by any other technique we have found before. But I am fairly clear that this is fairly new; so I beg your forgiveness for using it.

I want to explain exactly what this chart is. There are three panel boards here. The theory of it is this: The Federal Reserve monetary authorities are operating on the economy as a whole. I wanted to make up one chart that would bring out the essence of the general economic position. Then I wanted to divide this material into the post-authority and the pre-authority.

I want to be sure you are familiar with what we mean by that. During the war, in order to insure that there would be at no place any shortage of natural resources for prosecuting the war, the Federal Reserve System started pegging the prices of government securities at par. By that I mean that the Federal Open Market Committee, which has the ultimate power to buy and sell, kept the price at par. Any time that government bonds tended to go below par, because some people wanted to sell, the Open Market Committee would go out and buy those bonds. That would create money and reserves in the market, and the bonds would float at par. But as we came out of the war into that terrific postwar inflation, there seemed to be no way to stop people from selling their bonds. You recall that by the time price controls were put on, it was too late. They tried to stop it by controls on credit for the purchase of automobiles and houses; but the basic inflation kept on going.

Finally, at the end of 1950 and in 1951, after quite an exciting period of argument between the Federal Reserve and the Treasury, in the middle of real inflation, when people were beginning to worry about the value of the purchasing power of the dollar, and foreign countries were withdrawing their deposits here, we arrived at what is known as the Treasury-Federal Reserve Accord, in which the Treasury and the Federal Reserve both pledged themselves to work for the economic stability of the country. You see, the Treasury had financed the war only when it was necessary for them to finance it. In practical terms

the accord meant the Federal Reserve could no longer peg the price of government securities at a certain level, but instead would let them seek their level. The Federal Reserve, on the other hand, was trying to put as much reserve in the money market, or take it out, as the market needed for economic stability.

So that shows that what we do in operating was entirely different pre-accord and post-accord. So this chart I will build up as we go along to show the operations pre-authority, and this one over here, from 1951 to date, will be our operations that have been conducted post-authority.

These figures will all be averages. I have done that to bring out the broad movements and not have too many jiggles in the lines. This is the general average line up to June, 1955.

Now, the second thing that I am trying to do in this presentation is to distinguish very clearly between just exactly what it is the Federal Reserve does, and what happens in the market concurrently as a result of what we do, as well as as a result of all the other forces that are playing on the money market. The Federal Reserve, of course, is only one factor in this awfully complex financial and economic system. Everything that happens in the money market reflects the concurrent impact of people's savings, investments, and spending, as well as what we do. But what the Federal Reserve does is, of course, important, because the Federal Reserve is that organ of the Government that is charged with responsibility for creating the volume of reserves

that are needed in the market.

As I build this chart up here, we see the money position post-authority. Over here we have the money position pre-authority. By "money position" I mean exactly what it is that the Federal Reserve does--the sum total of what we do. And then the lower part of these charts shows the pre-authority and post-authority positions, boiled down to show the reflections in the market of what we are doing directly and what is happening in the market concurrently. Usually we are doing other things. So we will see if we can build up this picture.

Now, let us start with the over-all experience of the economy. I have gotten that down to present them really in two series. We say in the Federal Reserve that we are dedicated to growth and stability. We want a growing economy and at the same time we want a stable economy. We want the purchasing power of the dollar to be stable. We don't want inflation and we don't want deflation.

I have put there the GNP, the gross national product, which is the sum total of all of the productive activities and everything in the economy, stated in money value. We have deflated all of these 1954 prices. As you all know, the GNP grew very rapidly after the war, and a part of that growth was inflation. We weren't producing any more goods and services, but because of the inflation they were costing the people more. That built up the money figures. So here I have deflated it to one price level. So this series will represent, as closely as we can figure it, the growth, the total growth, the change in volume, by

quarters, in the total volume of goods and services produced in the economy.

There is the picture of the growth pre-authority. As you see, this doesn't reflect the inflation. We will leave out the inflation. You can see that this growth in here is a steady line upward, with a dip in 1948--the so-called recession.

Here is the same picture post-authority. Here we get about the same rate of growth, with the 1953-54 recession. Back in the second quarter it was just about the level of the peak of 1953. This present quarter will certainly be up higher. We have here a picture of growth.

Now, that includes by assumption, of course, that, because we have a growth in the total volume, certain services produced will certainly probably go higher in quantity. I tried to get this down to one line. It seems that production and employment are different than we usually use. So we simply use the GNP deflated. That gives us a picture of the growth, which is one criterion that the Federal Reserve uses. We want steady growth. We want a steady utilization of the economic resources of the country.

Now, you can see here that we have had growth with stability. To illustrate stability I have taken the prices--the wholesale price level and the consumer price level--and illustrated that growth here. You can see here quite vividly how during this period we had growth, but it was accompanied by rising prices. Here we have a dip again

in 1948, and the resumption that came with the Korean inflation. Since the accord we have had an amazingly stable price level, one of the longest periods of stability in history.

Now, I don't in any sense want to say that that was because of the accord or because of what the Federal Reserve did or anything else. Personally, having been intimately connected with these developments, I certainly feel it would not have happened without the accord and the Federal Reserve operations. But that is for everybody to form his own judgment on. This is the picture of the changing situation as it has happened.

Well, so much for the total economy. Now, one thing more.

I don't know whether what we do has any effect on the result. It is a hen and egg proposition. We are always looking at the economy, and always doing something because of what we think is going to happen. Then we watch what happens. Then we do something else. So that in our operation this is where we start. Then we go to the other developments that I will talk about. Then again this is where we finish, because we are always working on the economy, operating on it continuously.

I want to show you exactly what it is that we do--not what the market does in response to what we do, but just what it is that the Federal Reserve does, what it is completely responsible for and nobody else is responsible for.

First of all, we establish a discount rate. This is the discount

rate at the Federal Reserve banks. It was one and three-quarters at the time of the accord. These are the basic things we are after. In January, 1952, it moved to three, and returned to one and three-quarters in January, 1954. It was down to one and a half in April and May, 1954. It started moving up again in the spring of 1955. It had three increases and it is now two and a quarter percent.

Now, the discount rate at the Federal Reserve is the rate at which the Federal Reserve will lend to a member bank. These are, of course, very low rates; but, because they are at the bank position, they are higher relatively on the market than would seem from just the quotation of two and a quarter percent. The bank has to judge at what rate it could obtain an equivalent volume of money through the market, what they would require from other banks, or what it might get from selling securities if it wanted to raise money.

I want to make a little interlude here. No bank likes to be in debt to anybody and particularly to the Federal Reserve System. A bank is an institution which has a very small capital relative to its liabilities. Its liabilities or deposits are roughly ten to fifteen times its capital. For that reason it doesn't like to be in the position of borrowing. Depositors are likely to look askance at a bank's management if it borrows extensively for a long period. In the history of banking some banks have gotten themselves in a tight position from overindebtedness. Therefore it has become good banking, based on experience and theory, that a bank should not borrow for long periods.

On the other hand, it is good banking to borrow over short periods from the Federal Reserve System.

In theory any run on a bank can be stopped by borrowing from the Federal Reserve. It is the responsibility of the Federal Reserve always to keep money available. If you have a bank run, the bank can borrow from the Federal Reserve for as long as it is necessary to stop the crisis. That is appropriate and proper. We have had none of that during this postwar experience I am talking about. In an ordinary operating time the bank expects to come to the Federal Reserve when it is temporarily short of reserves, and then borrow and repay it as soon as possible. It usually means a very few days. I think the loans to member banks are normally for two, three, four, or five days; and then they are repaid. But if there is a temporary shortage, they do come to the Federal Reserve, and this is the rate they have to pay. That is the rate established by the Federal Reserve.

Now, the other thing we do--and I think we have summed up in this everything we do--is to operate on the market, to vary the amount of free reserves in the market. Let me explain exactly what this is.

You know, banks are required by law and by custom to maintain a certain percentage of reserves to their deposit liability. That percentage can vary at times, but they are required to maintain a certain percentage by the Federal Reserve. At the present time they have to maintain 18 percent of their demand deposits in reserves at

the Federal Reserve Bank, in the deposit account of the Federal Reserve to the account of the member bank. That is the requirement they must meet.

Their actual percentage of deposits, of course, to the reserves is very volatile. It varies on the basis of collections as loans are being paid, of withdrawals being made, and of new loans being created. Millions of these items go on every day, and each item will be reflected in the reserve. It will either add to the bank's reserves or take away from its reserves. The bank finds out at the clearing house each day what its reserve position was the night before. That will determine its reserve position that day at the clearing house.

The Federal Reserve, in administering the reserve requirements in the city banks, causes the requirement to be averaged once a week. In country banks it goes for two weeks, or it could be twice a month. But over the period that applies to a given bank, whatever it is, an average is struck of the deposit liabilities in the preceding week, up to Wednesday night. A record will be struck of what the average deposits were at each bank in New York City, for instance; and the average will be taken for the past week. An average will be taken of its reserves in the Federal Reserve Bank during that week.

If the reserves are less than 18 percent of the demand deposits, the bank will have to pay a deficiency penalty. But that practically never happens. Banks take care to see that they never have a deficiency. It almost never happens, except for very minor ones that are

permitted to be carried over until the next week.

A bank may also have a surplus. It is a matter of policy on the part of banks to have that surplus as small as possible, because anything in that reserve account in excess of the requirements means that much loss of earning power. So the banks exert a great effort to figure out what their reserve accounts are going to be, and whether they are going to have a surplus; and they try to avoid that surplus by lending to another bank, by investing in bills, or something like that. They make every effort to keep fully invested and come out at the end of the reserve requirements week with the reserve just above their requirement.

At a meeting at San Francisco two weeks ago the treasurer of the Bank of America, the biggest bank in the country, was telling just exactly how he did it. He had his local banks keep records in every one of the seven or eight hundred branches. He had them report their deposits in each of these constantly, and from that record he never has had a deficiency. His reserve balance, I think, averages less than two percent over the requirements, which is almost a negligible figure.

In this chart of the post-accord period you can see that the fulcrum of the Federal Reserve operations is the reserves. If a bank is going to have a deficiency in reserves, then, rather than have a deficiency and incur the deficiency penalty, it will borrow from the Federal Reserve Bank at the discount rate. So that by operating in

that way, the Federal Reserve System determines the average amount of reserves in the market and can determine whether some banks somewhere will have to borrow at the discount rate. The discount rate is really the rate that applies to money borrowed from the Federal Reserve System. The necessity to borrow is determined by the Federal Reserve through its open market operations on its reserve requirements.

We can change the reserve requirements. At the same time we seldom do, although during this period the reserve requirements were lowered twice--once in 1953 and once in 1954. But let me put it this way: If the banks a a whole have reserves in excess of the requirements, the Federal Reserve will lower the reserve requirements. That will free reserves which the bank can draw and put to work. If any of them are borrowing, of course, the first thing they will do is to pay off the borrowing at the Federal Reserve. This is the quickest way to put themselves in liquid shape and escape that problem, and also escape the deficiency penalties and the discount rate.

If they have no borrowings, if they have surplus reserves, they immediately try to lend them in the market. That will mean an increase in the volume of funds for loan in the market. You know about the ratio of expense to deposits and reserves. It means a tremendous howl in the market when there are excess reserves, because you have to multiply them so much. If the Federal Reserve on the

other hand should raise the reserve requirements, it would apply to all the member banks of the Federal Reserve System. All the member banks would immediately have to somehow get those reserves back to meet this deficiency and avoid a penalty.

If there weren't a Federal Reserve System around, of course, there would be terrific deflation, terrific contraction, because for every dollar deficiency of reserves it would have to contract twenty-five or thirty times in order to have sufficient reserves and not a deficiency. So that doesn't happen, and it is the main purpose of the central bank to prevent that from happening, to prevent that steady drain on the market, to prevent major contractions. Banks can always borrow from the Federal Reserve at the discount rate. Of course, they would like to work it out so there would be no tendency toward credit tightness developing. It wouldn't be actually a deflationary contraction under those circumstances.

It is for that reason that we practically never raise the reserve requirements. Operating, as we are, under a free market, it woul d be very hard to raise the reserve requirements unless some unforseen special situation occurred. We don't want a situation of all the banks simultaneously being in debt to the Federal Reserve. That would be too contractionary.

The other way we operate on the free reserve position of the member banks is through open market operations. Every day we are watching the money market. At the beginning of each day we make a

projection of what we think the amount of reserves will be in the market at the close of that day. At the close of each day for the next three weeks we also make a guess at the actual operating position each day projected for the next three weeks.

Now, these projections are estimates. But we can start with the position that we know the amount of reserves in the market, and we know the requirements for reserves. We know if currency is withdrawn from banks, that will decrease the reserves. We know if it is deposited, that will add to the reserves. We know that if gold comes into the country, that will bring the reserves up; and if gold is pulled out of the country, that will take the reserves down. The banks keep us informed on what their balances are. We know that if the Treasury is pulling in bills, that will take reserves out of the market. We know that if the Treasury is paying bills, that takes reserves out of the Federal Reserve Banks and puts them into the market. We know about any big fluctuations from day to day. We know about the float, as we call it; that is, the difference between the time it is withdrawn, when credit is given it as having been withdrawn, and the time it is collected. That is a variable item. It will vary frequently with a change in the airplane schedules. It is very complicated and complex machinery. This is a rather difficult technical operation. But a projection is made each day of what each of these factors will probably be, whether gold will come in and how much, whether gold is going out and how much, whether the reserve requirements will be increased or not, the extent of credit, how much the

Treasury balance will change, and what the float will be.

We are pretty good at most of that estimating. In the case of the float, that is the most difficult of all. But we can usually estimate most of the changes of the float from day to day.

The Treasury balance is one that the Treasury and the Federal Reserve both work at very hard from day to day. One of the largest checks that the Treasury has are the cash adjustments. They make their calls on the deposits of the member banks in an effort to minimize as much as possible any variations in the Treasury balance at the Federal Reserve to eliminate that factor in playing on the reserve situation.

Now, when we have made this estimate at the beginning of the day of what the reserve position will be, that tells us whether there is a deficiency or surplus for the day. Then it is the duty of the Open Market Committee to operate there--to get that figure up to the policy level we have decided on.

The Federal Open Market Committee meets every third week ordinarily, and makes a very extensive review of the whole economic situation, of the whole financial situation, and of the reserve position. It establishes our policy line.

For example, when we are in a period when the economy is dipping, the policy might be to increase the free reserves in the market, to establish a market situation where banks feel at ease in lending, where their lending will spread out through the market and help sustain

the economy. You will see from this line that here we have a strong free reserve position established. We have free reserves from day to day. What we mean by that is the difference between the volume of the member banks' borrowing and the volume of excess member banks' reserves.

If we had only one bank in the country, we would not have to work with the concept of free reserves. It would be much simpler. The one bank would simultaneously have reserves and debts. It would every day borrow from the Federal Reserve and so have excess reserves, because we have seven thousand member banks, and there are always some banks that are in debt and a great many banks that have excess reserves. So we try to determine the net position of the market in this concept of free reserves, whether it is excess reserves over the aggregate borrowings of the member banks.

You will see that when we are trying to reduce expansionary forces in the economy, the reserve position is normally a free position. It will be a free position in times of quiescence. After the Korean inflation struck, it was a time of free reserves during that period.

The cross hatching here is what we call negative free reserves. That means that member banks as a whole are borrowing in excess of their free reserves, and in so borrowing they are paying the discount rate.

Now, let us go back to the open market operations. Each day the first thing we do is project the reserve position. It goes back to

the latest policy line given to the Open Market Committee. So that committee is very likely to state: "Under these circumstances of the economy as we see them, we should maintain a comfortable level of free reserves in the market." Or they are likely to say: "Under these circumstances of persisting boom and inflation, some credit restraint is needed in the open market. We should maintain a negative free reserves position." So this is the result of this operation as it has gone on.

In the period from June, 1952, to June, 1953, during the boom which started at that time, a negative reserve position was maintained. That means that the member banks have borrowed this much in excess of their reserves, and they are paying the discount rate. In the other quarter this excess over the reserve position was maintained. The money market has been kept easy, so it could expand. In doing that, if they had to borrow, they paid a lower discount rate. But when you have free reserves, there is not much occasion to borrow. It is only on occasion that the banks will do it.

That is in sum the operating of the Federal Reserve System. That is what we do. That is what we are responsible for. It is simply in response to a judgment of the general economic situation.

There are in these figures errors in sometimes making projections incorrectly. This free reserve position, this negative free position, may be different from the one we thought we would have when we started operating. Sometimes these errors can get difficult and

hard to retract. But although one particular projection may not be an exact indicator of what the policy action should be, the free position over the quarter is certainly pretty close to it.

Now, I would like to show you what happens as a result of these things that we do. This is going to be what happens in the market. To bring this out, I have computed a figure of the margin between the discount rate and the bill rate. Here is the discount rate and here is the bill rate, the average yield, and the Treasury balance. It is about 21 million in the market. These are 91-day bills. There is a cushion each week on the discount basis. They are billed every 91 days.

These are the closest equivalent to money at the present time. So at the first instant that a bank has surplus reserves, one of the first things that it would do would be to invest them in Treasury bills, because they can get their money back quickly. It is not a long-term investment. In the open market a hundred million dollars turn over every day. The different banks buy and sell Treasury bills to keep their money position stable and at the same time to have money for use in longer-term commitments if they need it.

So that the bill market is the most active money market in the country. It has the biggest turn-over every day. Its prices are quite sensitive to changes in demand. It is the market that is more freely sensitive than any other to the things that the Federal Reserve does in its operations. So the Federal Reserve operations in bills for that

reason we like to be fairly large. They may be 80 million dollars at a clip. That is a pretty large operation. But the bill market is a big enough and broad enough market to absorb it without much direct reflection.

Well, this is the margin between the discount rate and the bill rate. If what we do up here in changing the free reserves to positive or negative has any reflection anywhere in the economy, we would expect to find it there, because it is the nearest equivalent to money. This by quarters shows what it is.

Now, take this on the margin. On that chart the figure is upside down. When the bill market is positive, that means the bill rate is below the discount rate. When it is cross hatched, it means the bill rate is above the discount rate.

You will see from this chart that only once in this postwar period was the bill rate above the discount rate. That was the third quarter of 1952 and the first quarter of 1953. You will see they are the same quarters as those in which the free reserves were negative, when borrowing exceeded excess reserves.

All the other quarters when you had net positive free reserves, the bill rate averaged below the discount rate. The connection, I think, is fairly clear and well set out. So that our first responsibility in the money market is to operate for the Federal Reserve so as to affect the bill rate, and particularly this margin between the bill rate and the discount rate.

So that the next que[illegible] that comes up is what happens in the rest of the money mark[illegible] hen the bill rate goes up or down, or the margin between the bill r[illegible] goes up and down relative to the discount rate. For that I have taken the bond yield and tried to get it down to as few lines as possible. I have gone away out to the end of the money market for long-term United States Government securities and particularly corporate bonds. This solid line here is the bond yield on long-term government securities. The cross hatching is the corporate yield on corporate bonds.

Well, you will see from that that there is a connection between the bill rate and the interest rate on the long-term market. When money is relatively tight, the bill rates go up, above the discount rate. The long-term interest rates go up. That means the bond prices go down. When the bill rates go down, that means that there are plenty of funds available. Banks are lending freely. The long-term interest rates go down, which, translated, means that the bond prices go up.

Since the accord, in this post-accord period, these have been quite sensitive. They have had a very marked success, we think, on the activities of lenders in the economy and on borrowers also. But there is a connection between this operation and a stable GNP and stable prices. What happens in the money market is registered most importantly in changes in long-term interest rates. When they rise, bond prices go down, because the demands on the economy for con-

struction are beyond the availability of funds for lending.

Finally, I only have one more series. We tried to work this down to one. This is a new one, which I discovered in working this out. I didn't think it would happen. I am not sure yet how reliable it will be. But in working with this concept of growth and stability, there ought to be some relationship between the money supply, the total volume of deposits and currency, and the outside money work being done and stable prices and full employment. So I thought I would compute the ratio between the money supply and the GNP.

In simple monetary theory one could keep the money supply stable all the time. Actually it is not a simple thing to do. It is very complex. People have all sorts of money habits. Historically the ratio of the GNP to the money supply has been fairly volatile. So I didn't expect to find very much when I computed this figure out, but I am presenting here the results of the computation.

I took the post-accord period by quarters and computed the ratio of the money supply to the GNP. The first thing that emerged was that it was amazingly stable over the period. The money supply had grown and the GNP had grown. There is a very small variation there--a variation about 35 or 36 percent. But it averaged 36 percent for the period.

The next thing that came out of it--and that in itself is rather surprising--it is quite surprising to find actuality come as closely as that.

The next thing that emerged, when we charted the money supply both at the average and above and below, was that to a considerable extent this contour of the fluctuation of the ratio relative to the GNP was very similar to the contour of the fluctuations that arise between bill rates and the discount rates. It is very similar to the contour of the free reserve that we established in the Federal Reserve System.

If you take a look at two simple lines here, you can see that this scheme of keeping the market price at a stable level, keeping the money supply level, would be an economists' paradise. It is not as true as that. But it is true that in the postwar period and down to this time, these concurrent relationships have been extremely close. In this period the total volume of money made available by banks, all their lending activities with all their many customers, all shaken down, has been extraordinarily responsive to the operations in the open market on the discount rate.

I don't think we can look for that response, for this stability, over a long period. I don't think we can count on that indefinitely in any sense whatever. It is a period in which a lot of things have helped. There haven't been any large Treasury surpluses or deficits. They have been small enough so that the monetary policy could counteract them, could offset them. It has been a period in which confidence has been strong, when businessmen will always have lots of new markets to exploit and lots of new profits. It has been a period in which there has been a housing shortage, when real estate is in demand. That makes

the whole economy very responsive to the value of money. It has been a period in which we came out of the war with an enormous government debt. We have ceased thinking about a collapse, but actually, and most importantly, have played with the idea of propping it up.

As a matter of fact, our experience since the accord has been just the opposite. It has been a huge debt. Approximately all parts of the economy have held it--individuals and everyone else. It is held by all the financial institutions, by the trust funds. All are watching its yield in a free market such as we have had since the accord.

This government debt is translated into very slight moves in the availability of reserves throughout the economy. The movement has gone all the way from "Go ahead and expand" to "Hold back." That has had an influence certainly on banks.

So that it breaks down into a period in which the actual cost of money in the long-term money market, for mortgages and so on, not only has been extraordinarily responsive to operations in the reserve situation; but the actual total ratio of the money supply and the GNP has been an equally extraordinarily responsive thing. I doubt whether that record will be continued.

Now, I want to go back to this position pre-accord to show you the difference. Some of these figures are entirely different post-authority than they were pre-authority. First of all, we had that discount rate pre-accord. We came out of the war with a one percent discount rate. We gradually raised it to one and three-quarters, where it was at the time of the authority.

Now, note the difference between that discount rate and the current rate. If you look at the free reserves, you will see that the discount rate now is far in excess of the discount rate in the pre-authority period. You will see none of the variations in them. The discount rates had not changed, because they had no occasion to borrow except some individual banks in very rare cases. Also the reserves were more or less constant in their volume, depending upon convenience at the time. They weren't under control of the Federal Open Market Committee.

The reason for that was that those figures of government securities--or I might put the sum that we had over there--triple A, fluctuated some. They went above par. Government securities couldn't go below par, because the Open Market Committee would buy them. When we did that, we gave a check on the Federal Reserve. This check went into the banks and created reserves. So there was no occasion for them to borrow at the Federal Reserve, no occasion to pay the discount rate on anything. In time of free excess of demand for funds on the market, that excess demand would be reflected also in the bond market. So it seems sort of an automatic mechanism to keep free reserves, to keep your market easy and expansionary. The real policy at that time, in other words, was almost out of the hands of the Federal Reserve and in the hands of the market.

Here is the general ratio between the discount rate and the bill rate. You see that for a given line that is a fairly constant margin.

Taking this yield on bills, if this margin is large here, it means that the Federal Reserve certainly would make an effort, perhaps by pegging the bill rate, to keep the margin small, within one percent of the discount rate. It was doing that during the war. This means that as the Federal Reserve raised the discount rate, that didn't have an effect on the bill rate for a while. Then it kept rising, and the Federal Reserve finally resumed pegging the bills continuously more or less in line with the discount rate. So that this isn't a market phenomenon.

But it is frequently a market phenomenon. This margin determines the market. What this means is that the yield of bills in the market was going up in the pre-accord period. So gradually we at the Federal Reserve thought we had to affect the prices of government bonds.

But at the same that they tried to stop inflation, they thought a higher price for money would stop it. So that as the discount rate was raised, that was sort of a signal to the Open Market Committee to raise the rate at which it was pegging these bills. All the corporations that had funds invested in bills, instead of paying three eights percent, had to pay one percent. It meant their funds in deposits would yield nothing. So they would invest heavily in bills. As the bill rate was raised to one percent, it might be an advantage to transfer some of this cash into bills. As a matter of fact, the bill market did expand during the period when the Federal Reserve was raising its pegs on bills.

Now, I want to say a word about the money supply. This is the clearest story of all. I have that on this chart--the relation of the money supply to the GNP. What did that look like before the accord? Something like this:

First of all, we came out of the war with a very high ratio of money supply to GNP. Here we have a fairly continuous decline at the time of the recession in 1948--a continuous decline. I think it had gotten down to around 32 percent at the time of the accord. How are you going to explain that Normally a decline in the money supply means a recession or deflation, pressure on prices downward. In a period of inflation you have prices rising relative to the purchasing power.

How did this behavior occur before the accord, when the money supply was determined by the free market and bond prices were pegged? I don't know, but my own explanation would be this: We came out of the war with a very redundant money supply in this country as a result of the way the war was financed. We came out of the war with the short money rates very low. Treasury bills were one percent. Then, as we raised the rate on Treasury bills, they did offer some return to the corporations and individuals who had funds in volume on deposit. Gradually we got a transfer of money from deposits into bills and other interest-bearing securities. I think that accounted for this decline.

What this really means to me more than anything else is that it is incorrect to measure money supply by just the deposits of currency prior to the accord. At that time a lot of securities were carrying

interest and were essentially stable in value. They were stable in price. They were being used as substitutes for deposits. And therefore this system up here is not really comparable. Although it is made up of the same components, it is not really comparable as it behaved in the pre-authority free market.

That is the end of what I have to say. I will be very glad to take questions.

MR. MUNCY: Gentlemen, our speaker is ready for your questions.

QUESTION: Doctor, assuming there was a loss of confidence in this country and a withdrawal of funds simultaneously from banks, what is the limit to which the Federal Reserve System could rebuild the reserves?

DR. RIEFLER: Almost no limit. Withdrawals reflect the need of banks for getting money immediately. In such a situation they would come and borrow from the Federal Reserve. That would leave them in debt; and, if it were a normal situation, where you wanted to discourage banks from doing that, you would raise the discount rate.

But if it were the picture you are posing, a general withdrawal, the Federal Reserve would enter into the open market and buy securities. When it buys securities, it pays for them with a check on itself, and any check issued by the Federal Reserve is money. That check would be deposited to the account of the banks and give them reserves. They would draw on those reserves and get cash immediately.

There is almost no limit to which that can be done. We do operate under the ratio of reserve requirements. We are operating now at 25 percent. We can go up to fifty percent. So that we could double the amount of Federal Reserve credit without getting below our 25 percent reserve requirement.

But the Federal Reserve Board has the power in an emergency to change these reserve requirements. So technically they could meet any amount of drain. The real problem would be the policy program of how much you would buy and how long you would keep buying, whether the problem is really a loss of confidence in the banks or something else, whether the situation was such that some pressure should be brought on it.

QUESTION: With that policy don't you get the old-fashioned working of the economy, where you might produce worthless money? How do you get around that?

DR. RIEFLER: That is a difficult judgment you have to make. If the problem is purely a problem of an irrational loss of confidence and you pay out money to actually stop the run, under conditions of irrational loss of confidence that money is not going to go to work to produce inflation. People will be hoarding it in their pockets. It isn't doing any harm.

On the other hand, if there is a good reason for the loss of confidence, such as an unsound economic policy, when you pay money out, you are financing the unsound policy, and you will have worthless money pretty soon. So there is a very close judgment to be made there.

So I think judgment has been wrong in history in some countries at some times. Take Germany in their first inflation. After the First World War, when the Reichsbank needed money, it just turned it out. Of course in that way it financed a first-class inflation that destroyed its society. So that is always a problem.

QUESTION: In comparing pre-accord against post-accord, these stable consumer and wholesale prices and the raising of the gross national product as against the rest of the free economy pre-accord, what do you feel contributed to that? What was the significant thing in this money control that contributed to that stabilization?

DR. RIEFLER: To the extent that it was a result of financial operations--and I don't want to claim that it was; I think that it couldn't have happened without them--if you hadn't had the accord, I don't think we would have had the stability in price, but a lot of other things contributed also--but to the extent that it was the Federal Reserve System, you will see that we are looking all the time at the GNP and the outlook of business. We are trying to lean against the breeze. That is one way it has been expressed.

If the country has full employment, as it has at the present time, lots of bounding confidence, everybody has expansion plans, the sum total of those expansion plans is likely to add up to a demand for more labor and goods than exist. It is at that time that the Federal Reserve tries to lean against the breeze, tries to make money less freely available. We do it by decreasing the free reserves, by raising the discount rate, by creating negative reserves.

In the third quarter of 1955 there was practically a negative reserve. It was slightly negative for the quarter. That has some effect on the money demand for commodities. It helps keep down the rise in prices. It has been a difficult situation. Steel prices have been going up. Industrial prices have been edging up. That is one reason for the Federal Reserve policy of greater restraint at the present time.

When a community is undergoing a recession, when the outlook is not so clear, and people are not spending as freely, then the Federal Reserve leans against that breeze by creating excess free reserves. That has the effect of making money cheap to borrow, the Treasury interest rates particularly. Banks can take on loans by selling bonds they already have at probably higher prices than they bought them. They lend more freely. We saw that operating very effectively over the last part of 1953 and in 1954.

The part of the market that responds most freely is the mortgage part, the house-building situation. As you know, the volume of housing starts and the volume of mortgages went up at an extraordinarily rapid rate at that period, as easy money developed in the latter part of 1953 and through 1954.

Probably it was overdone. A guaranteed mortgage is a valid instrument. Our financial institutions woke up and found that they had committed themselves to make mortgages to finance houses way in excess of any available funds they had or had coming to them. So part of their problem was trying to work off those commitments.

The price index began to edge up fairly strongly as the demand for

construction materials grew. Construction materials are now about 5 percent higher than they were a year ago. So I think it is a partial reflection of the effect of our Federal Reserve policy, the part that it plays in all of these things.

QUESTION: What causes the bill rate to vary as the Federal Reserve varies the discount rate?

MR. RIEFLER: A member bank here has reserve requirements that make it necessary for it to have a million dollars in its reserves this week. That is its weekly requirements. It works out its calculation on Monday or Tuesday of the week ending Wednesday. It projects it into the last couple of days and finds that its actual reserves are only nine hundred thousand dollars. That leaves a hundred thousand that it has to get. What does it do? It has to have a hundred thousand dollars to bring that requirement up. It only has two days left of the requirements week. It probably should have three hundred thousand for it to average out right. What does it do?

One option that it has is to borrow from the Federal Reserve and deposit the proceeds in its reserve account. That will cost it two and a quarter percent for the three days.

Another option it has is to borrow the reserves of another bank. That is called the market for Federal funds. Some other bank simultaneously finds that it has excess reserves for the week. So it says it is going to have an excess of one hundred thousand or two hundred thousand dollars. Bank No. 1 can borrow that excess from bank No. 2.

it will pay for that nearly two and a quarter percent. At the present time, as it closed last night, it was the same as the discount rate. Usually it can borrow those founds at about one sixteenth below the discount rate, or about two and three sixteenths. And in this money market a difference of a sixteenth or a thirty-second amounts to a great deal, because the funds are large.

This market is very volatile. It varies from minute to minute. A bank that has surplus is constantly telegraphing to New York and saying it has surplus reserves to lend to some bank that has a deficiency. The two get together on the telephone and match them together. The bank with the surplus funds sends a check to the other bank, and that is transferred to the funds in its reserve account.

Or it could sell bills. It can sell anything, of course. We will take the illustration of the bank with a one hundred thousand dollar deficiency that it has to make good by Wednesday night. It can sell anything in its portfolio and the checks it gets it can deposit in the Federal Reserve account and bring its reserves up. However, it usually will sell bills if it has them, because bills are instruments where the commissions are least in the market. The difference between the buying and the selling price is least in bills that are maturing very quickly.

So it can sell bills. If the bill rate is below the discount rate, say the bill rate is one percent, if it sells bills, it is foregoing that one percent interest for two days; whereas if it borrows at the discount rate, it would have to pay two and a quarter percent interest for the two days.

So clearly it is cheaper for it to sell bills.

So each bank each day has a very tough time deciding what it will do, whom it will go to, whether it is going to borrow from the Federal Reserve or do it by selling Federal securities or by selling bills. It will make a decision what will be to its best advantage financially and on very close figuring. That brings about this sensitive relationship.

QUESTION: The question arises whether the desire to stabilize prices is an end in itself or whether it is done for another purpose. Assuming there is a reason why stable prices are desirable, in effect because that is believed to be the best condition for growth of the gross national product, on this short term it does seem that the variation in growth of the gross national product is about the same in both cases. Would you comment on that?

DR. RIEFLER: Yes. The growth has been about the same in both cases. In the former case it was price stability, and in the latter case it looks like price instability. But it seems obvious, if the growth is the same in both cases, that we must have had stability instead of instability. In other words, although some individual people were actually ruined by the deterioration in the purchasing power of their savings, we had stability in the economy as a whole.

But let us take it in more basic terms. It would be my own judgment that growth based on stable prices would add to the productivity of the country over the long run more than growth based on rising prices.

The important thing, as we measure the GNP, is not the total output of goods and services, but, more important, what is being produced.

Are you producing the right things or the wrong things? We could be producing bath tubs when people want refrigerators. The GNP would not reflect that error. It would still be going up. Do people really need refrigerators or bath tubs in that particular case? If you have stable prices, and the production plans are soundly made as to our future demand, if these are linked up, I think you will get a more efficient use of capital, a more efficient production with that capital, than if it was done on the basis of an unstable price level.

QUESTION: What was it that brought about the monetary accord? Why did it happen at that particular time?

DR. RIEFLER: Well, you had the position during the war of pegged prices of government bonds. Everybody seemed to think that was essential, so as to raise as much taxes as necessary and not to have financial limitations to impede the war effort. Anything that didn't come in taxes of the money needed for the war effort was raised from the banking system, and that is admittedly inflationary.

The part of the process that was inflationary was financing the margin, the deficiency. So the pegging of the price of government bonds was inflationary, because it simply meant that the Treasury would make up for any deficiency we had in the output of these securities. If the market didn't buy those bonds, the Federal Reserve created money so that the money was there.

Then the question came up at the end of the war what to do about the inflation that had arisen. Everybody was getting worried. We had

great debate as to whether the thing to do was to go back to the free market. If we had, it would have brought about a collapse, chaos, bankruptcy, ruin. So we kept on with this practice of supporting the government debt, and trying to control the inflation with price controls, wage controls, consumer credit controls, jawbone controls, and all the rest of it.

That debate went on with only minor measures to get money under control, minor controls, until the accord, because of fear of what would happen, fear that we might have a collapse. However, as the debate progressed, the Federal Reserve--I don't have the exact sequence on these things, because they are always mixed up--but the Federal Reserve, having this problem of money, became more and more convinced that the pegs should be dropped.

That didn't mean very much. The Federal Reserve was counting noses on the committee. It was seven out of twelve. These things are decided by vote. There are always differences of opinion. But the Federal Reserve became more and more of a majority that this pegging of the price of government securities should be stopped.

It next went to selective credit controls through shifting the reserve requirements. The rest of price control was being negatived. That was unsound, because new money was being created automatically by bonds coming into the Federal Reserve that they had to buy.

We had outside the Federal Reserve less recognition of that, in the Treasury particularly. In the whole security market there was only a negligible result when the pegging of government bonds at par was

stopped. Of course, they had to keep that up. They had to control this thing in another way.

Of course, there came a very fast debate and in February and March, 1951, it broke out of Congress and broke into the press. There were statements issued by various members of the Government of what they thought about it. These were highly critical of the Federal Reserve. Then finally the Treasury and the Federal Reserve got together in a series of meetings, and the net result of these meetings was the accord.

MR. MUNCY: Dr. Riefler, on behalf of the Commandant and the students, we are indebted to you for a very clear and intimate picture of the operations of the Federal Reserve Board.

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