



THE MONETARY AND BANKING SYSTEM

Dr. Robert P. Black

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The Monetary and Banking System

10 September 1963

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GENERAL STOUGHTON: As we proceed this morning to the study of "The Monetary and Banking System" we are fortunate to have as our speaker, a representative of the Federal Reserve System which plays such an important part in our banking system in this country.

Our speaker, Dr. Robert P. Black, is the Vice President of the Federal Reserve Bank of Richmond. It's a pleasure to welcome him back and to present him to this audience.

Dr. Black.

DR. BLACK: Thank you very much, General Stoughton.

It's certainly a pleasure for me to be here. I am sure that I have never before spoken before a group that was nearly so good as the two that I had on my two previous visits here. I consider it a distinct honor to be asked to take part in your program again. There is one element of trepidation, however, in my feelings today, and that is the fact that you have already been delving pretty deeply into the field of economics, and I'm sure that at this point you're not at all happy with the prospect of being confronted with another economist.

Now, the problem is not in the economist, really, it's in the type of economist that you've had. The trouble is that you have had two-armed economists. But the only good economist is a one-armed economist. You see, he can't qualify everything he says by saying, "On the one hand it may be this way, and on the other hand it may be that way." Well, now, unfortunately I'm a two-armed economist too, but I will try to get down to the concrete facts as soon as I can.

When I think about concrete facts I'm reminded of the child psychiatrist who

decided that he had to do something about his driveway; it was muddy and every time it rained he got his car messed up. He cancelled all his appointments one weekend, came on home, worked on his driveway, and laid out a beautiful driveway. Well, when he finished he limped into the house and sat down by the window to relax and enjoy the fruits of his work. No sooner had he sat down than he looked out the window and saw a couple of the neighbor's children riding their bicycles back and forth across his driveway. Well, he was furious. So, he went tearing out of the house followed by a cloud of blue smoke, and matching comment, I might add, with his wife close behind him. She said, "John, John, remember your child psychology; you must contain yourself; you know you love little children." "I know I love little children, but I love them in the abstract and not in the concrete."

So, from a concrete standpoint there are three things that I'd like to do this morning. First, let's look at the nature of our monetary system, briefly, by asking ourselves the question, "What's behind your money?" Second, "Let's examine the role money plays in the economy." And third, "Let's discuss what the Federal Reserve can try to do to make sure that money behaves in the way it should."

So, now to point one; what's behind your money? As I'm sure you've probably already discussed in your sessions, the economist ordinarily thinks of money as being not simply demand deposits or currency, but both of these. Demand deposits are included because these are generally acceptable, or the checks which you draw on them are generally acceptable in payment for goods and services. Consequently, these make up the largest part of our money supply, since an estimated 90% of all our payments are made by check.

Treasury currency, silver certificates and coin are the usual types of money you see; the kind with the blue seal, primarily, and makes up only 1% of our money supply, strange though it may seem. But it is true. Federal Reserve Notes make up

the second largest part in the largest part of our circulating medium. These constitute about 20% of our money supply. These are the types of paper money that have the seal. Demand deposits make up the largest amount of our money supply - about 79%, according to the last figures.

Well, let's look now, first, at what is behind the money that we call "Treasury Currency." The answer to this can't be given very simply because there are many kinds of assets that are back of the Treasury Currency. One of the main types is silver. In the case of the so-called "Silver Certificates" - for example - the Treasury has got on deposit in its vaults silver bullion, or a silver dollar, to back each dollar that it has outstanding in Silver Certificates.

Other types of money that the Treasury has; for example, the United States Notes which were first issued during the Civil War and kept outstanding at \$347 million at all times. They are also backed by a pledge in gold - \$156 million - a specific pledge in gold. Certain other types of Treasury Currency have no specific pledge of any kind of assets behind them. Rather, they are based simply on the faith and credit of the United States Government.

Now, Federal Reserve Notes do have a specific pledge of assets behind them. The assets that back Federal Reserve Notes are partly in the form of the so-called Gold Certificates. These Gold Certificates are not nearly as bad as the name would imply. Actually, all these amount to is a warehouse receipt for an equal amount of gold which is stored over here at Fort Knox, underground where it sleeps peacefully while you folks guard it.

In addition to the Gold Certificates which back Federal Reserve Notes there is a specific pledge of other assets making up the remaining amount. Usually, these assets are government securities which are held by the Federal Reserve Banks that issue the Federal Reserve Notes. Those certificates must be held in at least 25%

of these notes. And, as a matter of fact, they are held to a large extent, so long as we have the gold. Right now this amounts to over 31%. And most of the remaining amount is in government securities, although there are certain other types of collateral that are sometimes used to back the Federal Reserve Notes.

Now, demand deposits come in two categories, we might say; those that are held by the so-called "Member Banks of the Federal Reserve System," which make up most of the larger banks of the country, and a lot of the smaller ones; they hold something like 85% of all deposits. The others are the non-member banks. And here the plot commences to thicken, as Andy Griffith would say. Because, they don't hold their required reserves with the Federal Reserve Bank of their district, but rather, in the form of vault cash in their own banks, or in the form of balances with corresponding banks, ordinarily. But, let's just disregard that because it complicates it unnecessarily.

The member banks must hold with the Federal Reserve Bank of their district, required reserves amounting to 16½% of their demand deposits, in the case of the larger banks located in the so-called "Reserve Cities," and 12% in reserve in the case of the smaller banks, or the so-called "Country Banks" that are not located in the principal financial centers. Or, if they are in these centers they are the smaller banks.

Well, against these reserves that are held with us - I might add, incidentally, they may also hold their reserves in vault cash, but most of them are in balances with us - against these reserves we must hold Gold Certificates too, in the amount of 25%. These are our reserve requirements to which we are subject just as the commercial banks are subject to theirs.

Now, if we look at this whole schema here, you see you have what really amounts to a kind of pyramid, with gold down here at the base. So, gold does act=

or, I should say at the apex, probably, since this is an inverted triangle - gold does act as the ultimate backing, in one sense, of our total money supply. The key point here, really, in the level of the money, is in this reserve figure right here, because, more than anything else, the total volume of money that we have in the country depends upon the level of Member Bank reserves. And these, in turn, determine pretty well the level of demand deposits which make up most of our money supply. So, this is the key to the whole scheme.

But, when we ask ourselves what really does back our money, even though we've come down to gold, and even though I've shown that there are government securities in back of some of our money, and silver in back of some of our money, the thing that backs it, really, is the faith in the integrity of the United States Government; the faith on the part of the public and foreigners, that the money will maintain its purchasing power. And, of course, you can have this faith in varying degrees. You may feel that there may be some price rises, but nevertheless, even though you expect these you still have faith that basically the money will maintain most of its purchasing power. And it's this factor that really gives it its purchasing power.

The time will come, I am certain, when this will no longer hold, because we're losing gold rapidly. And when it does occur that this loan is rescinded, then we will have clearly the faith and integrity of the government as the backing of our money supply.

Well, now to point two. What role does money play in the overall economy? Well, money is important basically because this is one of the important determinants of the flow of money spending. And the flow of money spending is basically important because this is the thing that determines more than anything else the level of employment, income, and output in the resulting level of prices. So, if

you look at this series of dials on the thermometer here on my left, I think we can bring together in a nutshell all of the factors that affect the flow of money spending and the resulting level of employment, income and output.

The first dial here shows the behavior of consumer expenditures, and let's trace through, how these expenditures have behaved between the period 1954 and 1962. Starting off with 1954, consumer expenditures were running \$238 billion per year. That same year business was spending on plant and equipment, inventories and the like, \$50 billion. The government spent on newly-produced goods and services, \$75 billion. This includes state and local government outlays too. It excludes pensions and other transfer payments by the government that show up rather, in somebody else's spending here. This is simply what the government bought here, not what it transferred to others to use for purchases. So, this will look smaller than you really think it should.

Total expenditures, the sum of these three here in that period, ran \$363 billion. Now, you can't have total expenditures as large as \$363 billion without a lot of money to finance it; you just can't spend that much without a lot. In this particular period the money supply was \$130 billion. And obviously \$130 billion is not enough to finance a total expenditure of \$363 billion, unless this money is spent several times. During this period it was spent on these goods and services that entered into our total spending, which is simply GNP, really, 2 8/10ths times. It was spent additional times, but on the final goods and services that we produced it was spent only 2 8/10ths times.

Now, if we want to measure the physical output during 1954 we have something of a problem. The only way that you can measure physical output, it would appear, would be in physical terms. Yet, when you ask yourself how you can add up bushels of wheat, thousands of automobiles, dozens of oranges, etc. into one common denom-

inator, you have to come up with the idea of money. But when you say you're going to add physical output in terms of money you have another problem; money changes in value. Prices go up and down. So, if we are to use money as a measure of physical output, then we must use dollars that do not change in value. For example, if we want to measure - as I'm going to attempt to do here - the behavior of physical output between '54 and '62 it's all right to use dollars so long as we value 1962's physical output in terms of dollars that bought what they would in 1954. And that's what I'm trying to do here, really.

Total spending was \$363 billion. We can also say that the physical output was \$363 billion worth of goods and services that particular year, 1954. So, this is our measure of physical output.

Now, let's examine what happened over this period - 1954 to 1962. Some expenditures climbed rather sharply, to \$355 billion. Business expenditures by no means stood still, rising to \$83 billion during that period. And the government outlays on goods and services climbed from \$75 billion to \$117 billion. Adding these three elements of expenditures up we have a total of \$555 billion, which is where out total GNP or total spending stood in 1962. Well, to finance this rising expenditure from \$363 to \$555 we had to have either a large pickup in the money supply or an increase in the turnover rate, or some combination of the two. And, the latter is what happened.

The money supply rose to \$146 billion, and the turnover of that money supply increased to 3.8 times per year. Here we have a very rapid rise in total expenditures over this period of time, so let's look, now, at what happened to physical output. Physical output too was rolling, but in this case physical output did not expand as fast. Rather, it rose to \$475 billion worth of goods and services in terms of 1954 prices. And if you valued it in terms of '62 prices you would have

had \$555. But that would have reflected part of the price changes. Instead, you value in terms of 1954 prices in both of these years, and consequently you've got a measure of physical output.

Well, physical output rose considerably less in total expenditures over this period, so the same thing happened then that happens every time expenditures rise faster than physical output; prices rose to take up the slack. If we set prices at the level of 100 in 1954, then prices rose from 100 to 117 - a 17% rise in prices of items entering in the gross national product over that period of time. So, this illustrates a very fundamental truth in economics that can't be disputed, really. This is one of the few things that can't be.

That is, if total expenditures rise faster than physical output, then you're going to have some inflation. And the converse of that is true too, or roughly the converse. If total expenditures do not increase fast enough - in other words, as fast as we can step up physical output - then goods and services are not sold; they stack up on the shelves and consequently you have to have a recession in which unemployment rises, income falls, etc., and possibly, prices even rise.

Now, in a period of substantial unemployment when you can step up output very quickly, then it's possible for total expenditures to rise quickly also, without causing inflation, simply because physical output can rise more rapidly. But as you approach nearer and nearer, full employment, total expenditures must rise relatively less rapidly if we're to avoid inflation, since physical output cannot increase so quickly.

Let's move on to our final point and ask ourselves what the Federal Reserve can do to try to make sure that money behaves in the way it should. In essence, what I'm asking this morning, is what the Federal Reserve can do to try to make sure the total expenditures behave in a manner that is consistent with price sta-

bility, with a growing economy, and with high levels of employment.

Now, there are two basic kinds of tools that the Federal Reserve has, that it can use in trying to stabilize the economy. One of these is called "selective controls," or "quantitative controls," and these are the controls that are aimed at a particular kind of credit; not at the overall level of credit, or not at the overall level of interest rates, but rather, at a particular kind of credit and a particular kind of interest rate. These make up a very small part of our arsenal of weapons that we can use to attack a problem such as this. Consequently, I won't run through these in any detail, because of the lack of time. Rather, let's look at the broad quantitative kinds of controls, or the general controls that we have, since these are the ones by which we really have our main impact on the economy.

Let's take the three broad general credit controls and run down these one at a time, looking at the tools individually, and then taking a look at who does what, in studying the actions of these tools. The first one of these tools that I would like to look at, is open market operations. Because, this is the most important one of our tools. The open market operations encompass several different types of transaction, but for our purposes we can think of these as simply being the purchasing and sale of government securities in the New York market primarily.

Why do purchases and sales of government securities by the Federal Reserve have an important impact upon the economy? Well, I think I can perhaps bring this out better than any other way if I show you the difference between a transaction involving the Federal Reserve where a government security is bought, and one which does not involve the Federal Reserve. In this particular case, for example, let's suppose that individuals are selling bonds on the government securities market. When they sell bonds on the market the same thing is going to happen there that happens any time you dump something on the market; the price of that item tends to

fall. And when the price tends to fall, then let's say that these bond prices become attractive enough to institutions such as insurance companies, to buy these bonds. Well, those institutions are going to have to pay the individuals for their bonds by drawing checks on their own banks in payment for the bonds. So, in that case, they're going to draw down their deposits and the checks are going to be given to the individuals who will then deposit the checks in their own banks. No change in deposits here at all; no additional money supply to finance is taken out of activity. It's simply a transfer in the ownership of existing money.

Let's take another case and suppose that instead of these bonds being sold by the individuals to institutions, the bonds are sold instead to commercial banks. In that case, the commercial banks will draw checks on their reserve account at the Federal Reserve Bank, to pay for these bonds. They will give those checks to the individuals who sold the bonds; they will deposit the checks in their banks; and their banks will collect from the banks on which the checks are drawn. The two banks will end up in somewhat the same position. But there will be an increase in demand deposits by the individuals who sold the government securities. This is new money that can be used to finance additional economic activity. So, you see that this kind of purchase is more high-powered so far as the economy is concerned, than the other type.

Let's take another case now and suppose that instead of the bonds being sold to the bank, they're bought by the Federal Reserve. In this case the Federal Reserve will pay for these bonds by drawing a check on itself. It will give this check to the individual who sold the bonds; he will deposit the check in his bank; and his bank will send the check on through for deposit to its reserve account at the Federal Reserve Bank. In that case, the reserves of the commercial bank increase. And the money supply also rises. Well, on the basis of these new re-

serves the banking system can expand credit, as you have studied or will study shortly, a multiple amount. So that, the money supply will increase not by this increase in deposits alone, but by an amount several times as large.

The purchase of government securities, then, by open market committee tends to ease credit conditions and bring about an expansion in the economy through multiple expansion of bank credit by the commercial banking system, and consequently this tends to have a stimulating effect upon the economy.

Now let's take the opposite case, where the Federal Reserve instead of buying securities on the open market, sells bonds on the open market. Now, if it sells bonds on the open market these bonds are bought by individuals, and these individuals must draw on their deposits to pay for the bonds. They send the checks on to us and we in turn collect the checks by deducting these from the reserve account of the bank on which they are drawn. Consequently, this wipes out reserves in demand deposits. And this tends to cause a tightening effect upon the economy; rising interest rates; a decline in bank credit; and generally, so-called "tight" conditions throughout the market.

Well, open market operations are most important too; when we tend to ease we buy more government securities than we otherwise would. This adds more to the reserves of the banking system and gives you an easier situation. When we want to tighten up we either sell government securities and actually wipe out reserves, or we simply purchase government securities at a lower rate and add to reserves less rapidly than we otherwise would tend to do.

Open market operations are a most important kind of tool because we can go in and out and offset temporary things that affect member bank reserves that would cause reserves to change in the wrong direction. And because we can also go in and push reserves the way we would like them to go, which would tend to stimulate or

restrict bank managers. Open market operations are conducted by the Federal Open Market Committee which consists of the seven members of the Board of Governors in Washington, who are appointed with advice by the President with the advice and consent of the Senate. In addition to these seven Board Members there are five presidents of the 12 Federal Reserve Banks who serve on the committee. The New York president is ex officio a member, and the remaining four are elected from the other 11 Federal Reserve Banks.

Now, the second type of general credit control that we have, changes in reserve requirements; this refers to changes in the amounts of reserves that member banks must hold with us, or involve cash. We are empowered by law to change these reserve requirements within specified limits; in the case of the country banks, within the limits of 7% and 14%, on demand deposits; in the case of city reserve banks, between 10% and 22%; and currently, as I mentioned, demand deposits of 12% and 16½%.

Changes in reserve requirements - we can also change them against time and savings deposits, but I won't go into that - have much the same sort of effect as open market operations. If we reduce reserve requirements this means that the banks instead of having to hold, say, 16½% in the case of the large banks in back of their demand deposits, will have to hold, let's say, only 16% in required reserves. This means that they have on deposit with us, funds amounting to ½% of their deposits, that they don't have to legally keep there. These are excess reserves that they have with us - idle balances. And when banks get excess reserves above the amount they think they need as a minimum they use this as a basis for expanding loans and investments.

Consequently, when we cut reserve requirements; increase excess reserves, this tends to have an easing effect upon the economy because it gives the banks funds

with which to expand credit.

Another effect of changes in reserve requirements, in addition to giving banks the excess reserves they use, is that they increase the amount - that is, the reduction - increases the amount of credit on amount of deposits that a given dollar of reserve can support. For example, take this case. Suppose you have a reserve requirement of 20%. This means that you've got to have 20% on deposit or in vault cash for each dollar of deposit. Consequently, \$1 in reserves will support \$5 worth of deposits. But if the reserve requirements are only 10%, then you have to hold only 10% with us in back of your deposits, and consequently \$1 of reserves would support \$10 worth of deposits. So, when we cut reserve requirements we not only give the banks additional funds, but we give them the basis for expanding credit, a larger amount on the basis of such funds as they have in excess.

Conversely, when we change reserve requirements this wipes out some of the excess reserves that the banks did have, and this may cause a contraction in bank credit depending upon the extent to which this is offset, as I say, by open market operations. It also means that any dollar of reserve that the banks subsequently acquire will not support as much in the way of deposits as it would before. If you go from 10% to 20% in additional dollars' worth of reserves you will support not \$10 worth of deposits as it did support, but rather, \$5 worth.

So, you have this two-fold effect from the changes in reserve requirements. The changes in reserve requirements are very powerful tools and consequently they must be offset in part every time by open market operations. We reduce reserve requirements, and this means the banks have substantial excess reserves, so we sell government securities to wipe out some of these excess reserves. And then gradually we feed the funds back out. If we increase reserve requirements, then we buy government securities to offset part of these effects, and then we allow the effects

to take place gradually, over a period of time. These are simply too powerful to use alone.

You might think of this as a sort of scalpel-type operation. It can be tailored down to the minute degree. This is a meat-ax kind of operation and you've got to refine it a little bit in order to use it properly. Changes in reserve requirements are made by the Board of Governors here in Washington. This is entirely under their jurisdiction.

The final one of these general credit controls that we have - changes in the discount rate. The discount rate refers to the rate that is charged member banks when they borrow money from the Federal Reserve Bank of their district. Right now that is 3½%. Now, when the discount rate is increased this tends to have several effects upon the economy. At times it may well be that an increase in discount rate will have virtually no effect upon the economy because the market interest rate has already moved up beyond the discount rate, and the market anticipates that the Federal Reserve will move. Consequently, when the discount rate is brought into line it may have no particular effect upon the economy at all, because it has been anticipated. But, at other times when the discount rate has changed and the market has not anticipated such a move, it has very important effects upon the economy - psychological effects. Because, this is a clear indication that the credit climate is about to change.

For example, I remember particularly, back in 1957 when there was some doubt as to what kind of course monetary policy was following at the moment. This was in, I believe, November '57. On that particular day American Telephone & Telegraph was trying to market a large block of convertible debentures. These debentures had already been purchased from the telephone company by the underwriters, and they were in the hands of the underwriters. And they weren't moving very well at all. The

underwriters were faced with the prospect of loss, or so it appeared; or at least a pretty lengthy process of trying to get the market to digest the securities. And after the market closed that night, the Federal Reserve cut the discount rate. Well, what had not been an attractive interest rate on these debentures before this announcement appeared, suddenly became an attractive rate. With the cut in the discount rate the market anticipated that lower rates would follow. So, these rates on these AT&T debentures suddenly became very attractive rates. And that night, after normal trading hours, in what the market describes as "moonlight trading," all these issues were sold; simply because of the expectational effect.

Well, there are other effects from the change in the discount rate too. For example, if you raise the discount rate, banks that need funds to meet their loan demands are not as apt to borrow from the Federal Reserve Bank of their district because they have to pay a higher rate. Well, one of the main alternatives they have for obtaining funds, if they don't borrow them from us, is by selling short-term government securities in the government securities market. So, if we raise the rate we force them to sell government securities to some degree. If they sell government securities on the market this tends to force a rise in interest rates. The price of these securities goes down, and since you receive the same dollar return on them, if you buy them at a lower price, you receive a higher percentage return on your investment. And so, that transmits the higher interest rates from the discount rates to the market.

If we want to tighten up we raise the discount rate. This tends to cause an increase in interest rates. If we want to lower - I mean, if we want to ease up we lower the discount rate. This tends to cause a discount and tends to cause interest rates in the market to also decline.

Now, the discount rate is set by the Board of Directors of each Federal Re-

serve Bank, but it is subject to the okay of the Federal Reserve Board. Now, sometimes you'll see that the discount rate is different for the 12 Federal Reserve Banks, and this is usually the Boards of Directors there meet on different dates; nothing more than that. Some time back there was some question as to the exact significance of a change in the discount rate that was made by the Kansas City bank.

Ordinarily, the market seems to think that the New York bank is apt to move first, or maybe the Chicago bank. But they were very much puzzled by the fact that the Kansas City bank moved first. So, in a question period, for example, one of them asked a question as to what this really meant. They were inclined to think that if the New York bank moved first, that this meant international considerations was a primary factor to consider. If Chicago moved first they tended to think that maybe it was the domestic economy. But what did Kansas City mean?

Well, there was a very simple answer to it. It so happened that the Athletics were having their first game on Wednesday of that week. The Kansas City Board ordinarily meets on Thursday, but the Directors wanted to attend the opening game of the Athletics, so they put the meeting up to Wednesday and consequently Kansas City moved on Wednesday instead of on Thursday when the rest of them did, and this was the significance and proof all together.

But, ordinarily all the banks do come in line, because it's well-recognized that you can't have a separate credit policy for long periods of time. Well, the real policy-making group here, more than any other, really, is the Federal Open Market Committee. Because, all the presidents and all the board members attend there every three weeks. They're in a meeting right now over at the board here in Washington, and there they discuss the main credit control tools - open market operation and the discount rate. Every president will say what he is prepared to

recommend to his Directors for a change in the discount rate. So, everybody there is fully apprised of what actions are likely to be taken. And the board has additional policy on reserve requirements. They're not particularly important tools, but it also has power to set the ceiling on the maximum interest rate that can be paid on time and savings deposits. These are becoming more important, incidentally, but basically the important tools are the open market operations, really, and the discount rate; and most important, the open market operations. These are established here.

Well, there are certain important advantages to monetary policy as a stabilizer, and there are some disadvantages too. Among the advantages we have to list the fact that monetary policy is a highly impersonal sort of a stabilizer. When we try to tighten up, for example, we don't try to discourage any particular kind of expenditure. Rather, we try to create a climate in which total expenditures will rise at a rate no faster than the increase in output of goods and services. What we're trying to do is just hold back that total; not any particular kind. You might compare this to changing the outfield bleachers of a baseball park. When we tighten up we don't change the rules of the game. The market still determines what's going to be produced and in what quantities. When we tighten up we move the outfield bleachers out; the same rules of the game, but it's a lot harder to hit homeruns. When we ease up, still the market decides the basic decisions as to what will be produced and in what quantity, but we move the infield bleachers in; we make it easier to hit the homeruns.

Even the actions, I might say, in open market operations and changes in reserve requirements - discount rate changes - are highly impersonal. Nobody really realizes that these things are being done, hardly. We buy, and the fellow who sells the government securities sells because we offer him an attractive price.

When we sell government securities the government security dealer buys these because we offer these at a price he considers to his benefit. And then the effects spread out through the economy. But nobody is conscious of anybody reaching right down into his life and telling him he can or can't do something. And, depending on how you feel about the workings of a free economy this is an advantage or disadvantage. If you believe a consumer should make the basic decisions in the economy this is an advantage. If you feel he shouldn't, then you have to list it as a disadvantage.

Another advantage of Federal Reserve policy is the fact that it is very flexible. The Open Market Committee, as I mentioned to you before, meets every three weeks, and reaches a decision either to tighten, ease, or remain constant. Nevertheless, it reaches a decision and the very next day the New York Bank, acting as agent for the committee, begins to implement the decision that was reached the previous day.

No other kind of policy-making machinery is better, or except with a few exceptions, can operate this quickly. Now, there are delays in aspects of our actions. I don't mean to imply there are not. But we can reach a decision very quickly.

Another advantage of monetary policy is the fact that it is free from the day-to-day political considerations that would necessarily have to get involved in almost any other kind of stabilizer that you might use. I don't mean to imply for a minute that this is outside the control of the government, at all, because it isn't. What I do want to point out is that the Federal Reserve is responsible to Congress rather than to the Administration. And Congress has given the system a wide range of powers to try to stabilize the economy. Within this range of powers we are free to do what we feel is in the economic best interests of the country. There are no political pressures on a day-to-day basis here.

Now, if the political climate of the country changes, Congress will change

our powers, either modifying them to increase them, or decrease them. And in this sense we're responsive, of course. But on a day-to-day basis we are free to consider only economic questions rather than the political, social and all these other questions that necessarily must get involved in most types of government policy. And this, again, depending upon your viewpoints, can be considered an advantage or a disadvantage.

Turning to the other side of it, I don't want to imply that it's all advantage and that we are all-wise and all-knowing, because we're not. I imagine sometimes that people in the system really take a dimmer attitude of what we can do than do a lot of people outside. Because, there's a limit to what we can try to do stabilize the economy. There are a lot of other considerations. For example, if you've got wage-price pressures, or if you've got monopolistic pricing practices on the part of businesses, these can push up prices quite apart from what we can do sometimes. And, if you've got certain situations, even though we try to act, it's sort of a case of pushing on a string, you might say, or leading a horse to water and being unable to make him drink. We create the environment to try to make the horse drink, but he may not drink.

And sometimes, I might add, on the other side, when the horse has had enough and we try to get him to leave the water trough, sometimes it's hard to get him to go back too. So, this is just a matter of influencing the environment and hoping that this can contribute to the objectives of economic growth, high employment and price stability. Real stability is going to require not only a wise monetary policy, but a sound fiscal policy - a sound budget, a sound debt-management policy. And it's also going to require that we have sufficient competition so that prices are free to move up or down, both, instead of simply up, as they have been free to move in the past. And such stability is attainable, it seems to me, within reason-

able limits, if we demand it. And the main threat, or so I view it, to our stability, is the threat that people will emphasize one of these objectives of national policy - price stability, high levels of employment, or economic growth, or sound balance of payments position, to the exclusion of the others.

It seems to me that all of these objectives are inextricably tied up together. And the failure to attain all four of these objectives or to work simultaneously for all four of these, is apt to result in the failure to reach any of the four important ones.

QUESTION: Doctor, we've heard various opinions on what an \$11 million tax cut would do to the economy, including what General Eisenhower said. After hearing your lecture today I'm willing to accept your opinion.

DR. BLACK: The best answer I could give you there is that I have misled you if you think that I could give you a very good answer to this. I think it would tend to have a real stimulative effect upon the economy, and I think this is probably one of the few times that we've had in the post-war period when you could probably do something like this without causing much in the way of inflationary pressures. But, of course, you've got to avoid that kind of thing.

Certainly, I would be in favor of the right kind of tax cut, but I would prefer that it be coupled with a cut-back in expenditures. However, I doubt that this will be done. The right kind could certainly do a lot for us in terms of stimulating the environment for investment and consequently making it more profitable to invest in this country as opposed to investing abroad. And this could bring in some capital and help solve our balance of payments problem as well as give the domestic economy a good boost.

Really, we've done pretty well domestically, it seems to me, without it. But,

of course, you always like to do better if you can, without inflation. That would be the only thing that would worry me. But I don't really think the pressures are there to the extent that they have been in the past.

QUESTION: Doctor, could you give us your opinion of the most effective way to reduce the gold out-flow?

DR. BLACK: Well, this is a very hard question. I would say that there are three basic things that have to be done, probably. I think that somewhere along the way we're probably going to have to cut some of our foreign aid. I suspect - and this is a question on which you are far more qualified to say than I - that we're probably going to have to take a good, hard look at some of our military expenditures abroad, to see if we can cut back any that we can get along without there.

Now, I realize that there are an awful lot of serious problems here, but one might ask the question whether it's any good to have five divisions someplace when you really need 30, or something like that. And whether you might not accomplish the same thing with two instead of five. Also, I suspect that as business continues to pick up we'll probably have to have higher interest rates here, a little tighter monetary policy to discourage some of the capital out-flow. And we've got to make sure over the long-run that we hold back inflationary pressures. This is the thing that we've really got to watch.

The long-run balance of payments situation I don't think is quite as serious as the short-run one, in that we've got tremendous volumes of long-term investments abroad that are bound to produce growing amounts of income for us here. Also, we have succeeded in holding back price increases very well in the last few years. The Europeans are beginning to experience some price pressures there. And the situation is really stronger in that sense than it looks from the median sense. Now,

I don't mean to say for a second that it isn't very serious. I think we need some strong action and we need it immediately.

QUESTION: Is this last discussion part of the answer for the Reserve in open market operations buying only the short-term rather than the long-term as far as this will effect returns from investments abroad?

DR. BLACK: Well, we'd have to buy the mechanical for mechanical reasons, primarily short-term securities, because we make such large purchases that there is no sector of the government securities market that is large enough to accommodate our purchases and sales except the short end, really. Now, since we've had balance of payments problems, we've been trying to avoid purchases in the short end because when you put reserves in by this route you have a larger effect upon short-term rates than when you put reserves in, say, by a change in reserve requirements by buying longer-term securities; simply because, when you buy a short-term security you effect the price of that type security right then. You also put out reserves which have effects that spread throughout the whole economy. But that additional impact of the purchase, there, we try to avoid so far as possible.

We've used a lot of special means in recent years to try to avoid putting pressure on the short-term rate. We try to keep that rate up without raising the long-term rate at the same time. But there's a limit to the extent to which you can do this, because all the rates are more or less competitive. And if short rates move up, then somewhere along the way we're going to put some pressure and tend to pull up long-term rates too. We've tried very hard to avoid that. The Treasury has worked awfully hard to avoid it too by issuing large quantities of short-term securities to keep that rate up. And I suspect, really, that they deserve more of the credit for keeping that short rate term up than we do, actually.

But, as it turned out, it has worked out very neatly. I just hold my breath

because I'm not sure how long we can do that sort of thing, really; I mean, keep the differential in rates as wide as it is now, or as narrow, I should say.

QUESTION: Dr. Black, you have shown how the purchasing and selling of government securities is a part of our monetary control system. What do you consider the minimum amount of government securities that is needed in order to operate our banking system?

DR. BLACK: Are you thinking about it from the standpoint of commercial banking system; how much they need in the way of government securities to remain liquid; or, are you thinking about the amount we need to be able to purchase?

QUESTION: The amount needed by the banking system as a whole in order to have securities backed by reserves, and in order to operate the monetary control system in advancing or extending credit.

DR. BLACK: I think that's a very provocative sort of question, really. I've had a lot of fun with my banking audiences in kidding them a little bit about this. You know, if you look at the total government debt you find that though it has grown rapidly, and perhaps too rapidly in certain senses, depending upon your viewpoint, it nevertheless is not nearly as large now in relation to our gross national product as it was in an earlier period of time. Consequently, I've had some fun playing around with the banking audiences in speculating as to what is going to happen if we get the kind of economic growth over the next several years, that everybody is predicting.

If you do, you're going to get to the point that unless the government debt increases rather considerably, that banks are not going to be able to hold as much in the way of government securities in relation to their deposits, as they now hold. And, of course, the bankers don't like to face this question, because they almost get to the point - and I kid them about this - that they're advocating an increase

in the government debt so that they'll have some securities for their secondary reserves.

But I don't think that it necessarily has to follow. I believe that if these government securities are not available, that the private economy would generate this sort of security that will be suitable for secondary reserves to the banking system. I mean, there would be such a demand on the part of the banks for liquid securities that they could sell readily, that they would be willing to buy these at a very low interest rate. And if the banks are willing to buy things at a very low interest rate you can bet that somebody is going to produce some securities that they can buy at such low interest rate.

It's certainly conceivable that we could engage in operations other than government securities. Practically speaking, we're in government securities almost entirely now. But if we did get to a point where the economy didn't have enough of these I think we would have to broaden our price and make other kinds of open market purchases and sales. So, I don't think there is really any prospect of a shortage there. But you do need large quantities and you do need a market that you can go into and out of that's a pretty broad sort of market. It would certainly shake us up a bit if there weren't this broad Treasury Bill market and other short-term securities in which we could operate.

We make tremendous quantities of purchases and sales. A lot of them, of course, wash out in a year's time. Now, net additions to our holdings are very small in relation to our gross transaction, because one day we'll sell, one day we'll buy, offsetting these temporary factors all the time. So, we've got to engage in a pretty wide variety and we've got to have a pretty large volume there.

QUESTION: Do we find that the Federal Reserve Banks and the Treasury are very often in conflict? And if so, who resolves the problem?

DR. BLACK: Well, I don't think we've ever had a better working relationship between the Treasury and the Federal Reserve than we now have, at all. The objectives are generally pretty much the same. National economic policy is devoted to the three broad objectives I've mentioned - price stability, high levels of employment and economic growth - and depending upon whether you want to look upon it as a fourth objective, a sound balance of payments position. And certainly, the Treasury and the Federal Reserve have both been working in very close conjunction to achieve these objectives.

For example, we conduct, as an agent for the Treasury, all their foreign exchange operations. We also do certain other agency functions for the Treasury, acting as a fiscal agency and facilitating the issuance and sale of government securities, redemptions, etc. So, you get a close day-to-day working arrangement there.

When the Treasury, for example, decides that it's going to shift deposits from the commercial banks to the Federal Reserve Banks this has an important effect upon member bank reserves. This is going to reduce member bank reserves by a like amount.

So, every morning we check with them by telephone to see what their plans are. And if we feel that probably the reserve pressures are going to be such that it wouldn't be wise for them to make the contemplated move there, with the Fiscal Assistant of the Treasury, ^{and} officials of the New York banks, they reach a decision and the Treasury will usually make these shifts in accordance with what the Federal Reserve wants. If there's some reason they have to do it, then we try to accommodate ourselves to what they have in mind.

The thing that you're getting at, really, is a broader thing than this day-to-day cooperation. This gets around to the question of the real broad policy objectives here. Here you can have some kind of conflict. For example, prior to 1951 the Federal Reserve, as a result of the war effort, had been pegging bonds and

other Treasury obligation prices in order to keep interest rates low to facilitate the financing of the war effort. Well, after the war was over, inflationary pressures began to build up and the Federal Reserve was very anxious to get out from under the yoke of the Treasury so that they'd be free to follow a tighter monetary policy by way of trying to prevent inflation. There was an open conflict here, a real drawn-out battle, and finally, something called "The Accord" was reached in 1951 - in March - in which the Federal Reserve, in effect, said we can no longer be a party to this sort of transaction.

The weight of Congressional opinion was behind us on this. It was borne out in the so-called "Douglas Committee Hearings" which Senator Douglas chaired, and the Joint Economic Committee, where the testimony was clearly in our favor there. And that is the way this one was resolved.

I hope we never get into this kind of problem again. But, in that case we won. I don't know who would win next time. The objectives are pretty similar here, I think, at the moment anyway. They could differ and there may be problems, but I hope not.

QUESTION: How are the officials of the 12 Reserve Banks elected?

DR. BLACK: They are elected by the Boards of Directors of their own banks and their salaries must be approved by the Federal Reserve Board in the case of all officers.

Now, in the case of the president and the first vice president of each of the Federal Reserve Banks, their specific appointments must be approved by the board. But, the Board of Directors initiates the recommendation. And the fellow who is elected as president, and the first vice president, have to be acceptable to both of these. Sometimes the board has turned down someone, but generally this has not been felt necessary by the board. But the board certainly has this prerogative.

QUESTION: Dr. Black, consistently in open market operations the public is motivated by the profit motive. The government is motivated to stabilize the economy. It appears as though the Federal Reserve is committed to a large overall loss on transactions. If this is so, how is this loss financing accounted for?

DR. BLACK: Well, strangely enough, we're a very profitable institution. You see, we hold large quantities of government securities and we get the income on these. We also get income when we make loans to member banks because we charge them 3½% on these loans. We also get income from certain fines and penalties levied against member banks, and various miscellaneous charges. Also to the extent that we do services for the Treasury. Most of these are reimbursed by the Treasury. But basically, our "profits" come out of the interest on these government securities. And, of course, we may make trading profits when we buy and sell in the government securities market, although this is never our objective. We never consider profits here. But, our portfolios are so large that we are a very profitable institution, and consequently, every year we turn over to the Treasury in the form of a voluntary tax, you might say, all our earnings that are left after we pay dividends to the member banks that own our stock.

After we build up our surplus to a point that is twice our capital - I believe this is the figure; I've looked at it a half dozen times and I should remember it - but, we build up our surplus to twice our capital and then everything else, after dividends and after we have paid our own expenses, goes to the Treasury in the form of this voluntary tax - voluntary in the sense that if we didn't pay it they'd come looking for it - but there's no law that requires that we do it. So, there are no appropriations or anything like that to finance us.

We create our own money, I might say. It's a rather interesting sideline. When we get ready to spend money the Central Bank has to do this because, you see,

it has to add to member bank reserves in order to have any influence on the economy. So, it has to have this power. We write a check on ourselves; give it to the government securities dealer; and this gives us the security and the bank gets the reserve. We haven't given up anything, you might say, in a sense. And we have some earning assets from which we'll get profits.

We get criticized on this thing a lot of times by people who don't understand it. For example, the Richmond News Leader - the evening newspaper in Richmond - not so long ago criticized us rather severely because we bought a parking lot next to the bank. The reason we bought it was that we knew we were going to have to expand before very many years had gone by. Even in downtown Richmond, as in other cities, you have a problem in getting ground. And this was the only possibility that we saw for getting some ground adjacent to our bank. So, we bought this thing to use for future expansion, but while we were waiting to build the building, we used it as a parking lot.

Well, the News Leader criticized us very severely on this account, saying that we had used taxpayers' money to buy this lot and that this was an unholy use of such funds. But what they didn't realize was that we had created the money to buy this. And I'm not going to tell them, either. We just wrote a check on ourselves. They thought we, you know, got some tax money from somewhere and had drawn down some balance. Heck; we just wrote a check and gave it to them and that was it.

Central Banks all over the world operate this way.

QUESTION: Dr. Black, could you tell us something about the problems faced by other countries in establishing their monetary policy, and particularly, is there any significant difference between the problems faced by our Free World governments and countries, and those faced by Russia and China?

DR. BLACK: That's a real question there. I'm glad that I'm not a one-armed

economist. I would say, as best I can answer the thing, that the problems faced by the Free World economies in their central banking policies are basically the same, except those that arise out of the economic and political differences of the countries involved; plus the fact that in most foreign countries foreign trade is a more important part of the activity than it is in this country; I mean, relative to gross national product. Consequently, I think that over their histories most Central Banks have been forced to pay much more attention to international considerations than we have in our policy here.

Now we're moving into the same predicament where the balance of payments has become, I think, our No. 1 economic problem and we've got to pay a lot of attention to it. Just like the case of you who go out to your bank and your other creditors and borrow money. Sometime, somewhere along the line if you continue, the creditors are going to say, "No more money can be borrowed." And in the same sense we are in exactly the same position.

This country is borrowing abroad from other countries more than they would like to see us borrow. That's what it really comes down to. And sometime along the way if we don't lick this thing they will say, "You've gone as far as you can go." It's just as simple as that. This has become a very crucial one. And the key difference, I don't think, really separates us as it once did on the international end. So, there is not much difference there, I would say, basically, other than the fact that you've got political and other economic differences, geographical differences, etc., but basically, the problems are the same.

Now, when you come to the Russian and Satellite countries you've got an entirely different situation there because they, in effect, rather than using the impersonal kinds of controls such as you get through monetary and fiscal policy that we use in this country, they have direct control. Instead of the market economy saying, "We

will produce this in response to the demand of spenders, and we'll produce it by the methods that turn out in the market to be the most efficient; we'll produce the quantities that the buyers want, etc." they say, "We'll produce this in this quantity; that in that quantity; and that in this quantity," etc. They have a very stringent direct control, which is their alternative to monetary policy. So, they don't really have a monetary policy in the sense that we see it. It's a very different sort of thing.

There are three ways you can stabilize: These direct types of controls, of which price and wage controls are a type; by fiscal policy, the way in which the government handles its debt; or by budget policy or by monetary policy. We've taken the latter two and they've taken the first two.

That's the best way I can answer your question, really, in a nutshell.

QUESTION: In using the policy that you have described, do you say that it would be possible to select geographical areas; selecting some areas; discouraging some areas, for, perhaps, the defense of others?

DR. BLACK: Well, not under the system of controls that we now have. There are some people who feel that we ought to have extensive selective credit controls. For example, there's a professor at West Virginia University who has the idea that we ought to have selective credit controls that we could use to ease up, particularly in the case of West Virginia which is a depressed area, and try to stimulate West Virginia.

I've really got serious doubts that we could do this sort of thing with the monetary policy of the type that we've got. He would let the banks there be subject to lower reserve requirements and all sorts of things like that, than the others. But, the credit is pretty fluid. You've always got the problem of policing; just like price controls will break loose if you don't police them very carefully. The

same thing is true of selective controls. Unless you have the whole economy in a straight-jacket of selective controls, credit moves in and out. You can't even have a different discount rate very long in one of the Federal Reserve Districts from what you have in another. If you do, the banks will borrow from the bank with the low rate and lend to the banks in the other districts that have to pay a higher rate, and make a profit on the differential. So, I don't really think it's very feasible.

Colonel Tillman, before we end, could I clear up a point that Admiral Rose raised that I think is very valid. He raised the point as to whether or not this is really quite cricket for us to lower the discount rate when the underwriters of the AT&T issue stood to make a profit on it.

Well, I might say that this was not in any way considered on the basis of what was true of the underwriters of AT&T at all at the time. AT&T, of course, didn't make anything on this; they had already sold the securities. The only ones who profited there were the underwriters when they bought the securities. This kind of thing has to be done at some time or other. Any time you change the discount rate there are going to be securities in the hands of underwriters. And if you raise the discount rate some of the underwriters are going to take a loss. We don't consider that. We can't consider it. We're not profit-motivated. We're interested in the overall economy and not any particular group.

Similarly, if you lower the discount rate anybody who has securities to sell - marketable securities - is apt to make some profit because security prices are likely to go up. So, you're going to affect somebody. What we try to do is to raise or lower rates from time to time. And the raising or lowering of rates can be profitable or unprofitable to a number of people and a number of institutions. And it is, every time we change it, profitable to some and unprofitable to others.

It's just a question as to whether or not they guessed right concerning how interest rates are going. But we had no intention of giving a windfall profit to these folks at all. The time had come and somebody had to benefit by it. And if it had not been this group it would have been somebody later on. Just as when we do the other thing, somebody is going to get hurt and it might have been this same group that might have gotten hurt.

COLONEL TILLMAN: Gentlemen, Dr. Black is going to be in the Faculty Lounge from now until 10:30 and you're invited to come in and discuss additional questions.

Dr. Black, on behalf of the faculty and student body I want to thank you very much for a very interesting, revealing, and wonderful presentation. Thank you very much.