

BOARD OF GOVERNORS of THE FEDERAL RESERVE SYSTEM WASHINGTON, D. C. 20551 REC'D RECORDS SECTION MAR 3 1970

March 3, 1970

# CONFIDENTIAL (FR)

TO: Federal Open Market Committee

FROM: Mr. Broida

There is enclosed a copy of the report dated March 2, 1970, of the Committee on the Directive, consisting of Messrs. Maisel, Morris, and Swan. Mr. Maisel will comment on this report at the March 10 meeting of the Open Market Committee, as indicated in item 16 of the agenda for that meeting.

a. Hun I Broida

Arthur L. Broida, Deputy Secretary, Federal Open Market Committee.

Enclosure



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TO: The Federal Open Market Committee

FROM: Messrs. Maisel, Morris, and Swan

# REPORT OF THE COMMITTEE ON THE DIRECTIVE

# Recommendation

The Committee on the Directive believes new procedures are necessary in order to improve the FOMC's formulation of monetary policy and to give the Manager a set of operating targets more closely aligned to the chosen policy.

We recommend a directive under which the FOMC would determine at each monthly meeting a desired monetary policy for the following three months. For operating purposes, this policy would be translated into a total reserves target covering this same period. In attempting to achieve this target, the Manager would be instructed to avoid extreme (although we recognize that only actual experience will produce a definition of extreme) strains or slacks as money markets fluctuate.

At each successive meeting, the policy and the target would be reconsidered in the light of current developments in the economy, monetary aggregates, and interest rates. Probably--as at present--basic policy would change infrequently. On the other hand, each month the specific target would be replaced by a new target again with a -2-

three-month horizon. At each meeting, the target would adapt cumulatively to the economy reflecting the current flow of information concerning output and prices, all of the monetary and credit aggregates, and interest rates. Changes in the target would also reflect the Manager's and staff's best judgment as to how to react to the not unexpected misses in current operations which would echo the basic incompleteness of knowledge and the uncertainties in both the data and the underlying relationships.

## Background

The directive of the Open Market Committee can best be considered in its broadest terms, as the policy guidance by the Committee to the Desk embracing all the detail--formal and informal, tangible and intangible--out of which the Committee judgment is fashioned. This "broad directive" thus implicitly encompasses the content of such items as the relevant Green Book and Blue Book which provide the Committee with economic and financial background data; special memoranda presented to the Committee; the full panoply of the discussion, both as recorded by the Manager and staff, and also as reflected in the nuances and overtones of face-to-face deliberations which defy even the most reliable recording.

The directive enables the FOMC to focus its discussion and debate, to evaluate current and past policy, to agree on future monetary policy, to instruct the Manager of the Open Market Account and to hold -3-

him accountable for following instructions, and finally to report to Congress and the public on the Committee's policy decisions.

# The Three Tasks

The directive enables the FOMC to formulate its basic goals. Goals are primarily concerned with desirable future movements of aggregate spending in relationship to potential output, but they also encompass the impact of money and aggregate demand on employment and prices, and they may deal with sectoral results as on international reserves, income distribution, housing, State and local government, and other spheres greatly influenced by changes in money and credit.

The directive enables the FOMC to discuss and formulate monetary policy and with a delay to report such decisions to the public. The FOMC debates and selects a plane of monetary action aimed at bringing the path of the economy closer to its desired goals than would occur if some other line of monetary action were followed.

The directive enables the FOMC to instruct the Manager of the Open Market Account as to the actions he should take in altering the System's assets between the current and next Committee meetings. These instructions do not specify the amount or type of assets the Manager should purchase or sell. Instead they indicate a few particular and a few more general targets at which the Manager is to aim. The targets have varied from period to period. Included have been and can be targets such as levels of marginal reserves, growth in reserves, rates on Federal -4-

funds and call money to dealers, market sentiment, the short-term Treasury bill rate, expansion in bank credit, growth in the money stock, and others.

### The Current Situation

This committee and its staff have examined the workings of the broad directive in the past four years. During this period, many of the concepts advanced by the previous Committee on the Directive have gradually been adopted. We find that as a result of the debate and suggestions, then and since, major improvements have been incorporated in the broad directive. We are in virtually unanimous agreement on the following view of the existing situation.

No major difficulties have arisen in this period from uncertainty as to the ultimate goals of the Committee. This result may, however, follow from the fact that--with the exception perhaps of the summer of 1968--no significant differences have existed among the Committee members over policy goals. Current procedures can and should be improved in the sphere of goal discussion and formulation, but such changes are not critical. While this committee or another should propose changes, we are not including such proposals in this report.

There has been a constant improvement in the ability of the FOMC to furnish the Account Manager with instructions as to the targets it wished him to achieve between meetings. The Manager has responded excellently in all ways to the Committee's instructions. There has -5-

probably never been a period in the Committee's history marked by as high a respect for the skill and integrity of the Manager in complying with the spirit of the Committee's directives.

The weakest sector of the FOMC directive operations has been the Committee's formulation of the role and posture of monetary policy for the intermediate period which stretches between the current month's targets and the ultimate goals. While improvements have taken place in concepts, data, and formulations, the specification of what monetary policy the Committee desires and the relating of such a policy to the Manager's operations and the Committee's goals remain critical problems. The FOMC's recognition of the difficulties arising in this sphere led to the formation of our committee.

### Improvements

We believe that further major progress is possible. If our recommendations are adopted, they should enhance communications and discussion within the FOMC, make the directive more responsive to the Committee's objectives, advance the formulation of monetary policy, better the FOMC's instructions to the Manager, and speed the feed-back between operations and the information necessary to formulate and control them.

We believe improvements are necessary in two spheres. In the first place, the Committee and staff spend too little time in analyzing alternative paths of monetary policy and their expected results. Secondly, the specific targets given to the Manager may not be consistent with the -6-

path of monetary policy which the Committee desired to follow. In fact, when either demand in the economy or the demand for liquidity shifts, a directive couched--as is the current one--in terms of money market conditions can lead to perverse results--opposite the basic desires of the FOMC.

## Alternatives

The Green Book now contains a continuously updated forecast of the economy from six to fifteen months in the future. At the time of chart shows, the staff projects monetary variables, credit flows, and interest rates believed consistent with the over-all economic forecast. In addition, at each meeting the staff reviews current economic and monetary conditions and may discuss in over-all terms the outlook in each sphere.

It is difficult, however, to relate the information to a choice of monetary policy. The projections have not contained an analysis of alternative monetary policies. Proposed shifts in the FOMC's targets have not been related to resultant movements in money and credit markets and consequently to changes in the economy.

The FOMC has spent but little time in discussions or debate of the missing type of information. Moreover, in most cases individual members have failed to make clear their agreement or disagreement with the staff projections, their acceptance or rejection of the forecasts as logical goals to seek, and their view of why and what paths the economy would follow if different settings of the monetary targets were chosen. -7-

## Targets

The specific targets for the operating variables, primarily money market conditions, are given to the Manager as a result of Blue Book alternatives and Committee discussion. They are targets to be achieved between the current and the next FOMC meetings. These targets are related to intra-meeting projections of monetary aggregates and shortterm interest rates. In recent months, such correlated projections for the monetary aggregates have been extended to a quarter.

Difficulties have arisen because the FOMC has failed to relate its operating target decisions to their intended impact on the intermediate path of monetary policy. Furthermore, such monetary policy paths have not been related to the basic economic goals. The FOMC has made considerable progress toward filling in this problem area. The directive committee believes that now is the time to make further improvements. Money Market Conditions

The staff for our committee reports their unanimous agreement that ". . . primary focus in the directive on money market conditions-construed as net borrowed reserves, borrowings, and the Federal funds rate-can lead and often has led to inappropriate policy. We also believe that financial markets are sufficiently resilient to offer scope for wider week-to-week fluctuations, and intermediate-term changes, in money market conditions than has generally been permitted in the past." Our committee agrees. -8-

The problem, as is well documented in the staff reports, arises because with a target of money market conditions a shift in either the economy's spending or its demand for liquidity can and has caused intermediate monetary policy effects to shift drastically from those desired by the FOMC.

The proviso clause was introduced in an attempt to meet part of the problem of an undesired shift. It has not been too successful. The FOMC has not articulated its views of the purposes and functions of the proviso clause. Its theory remains in embryonic form. The clause conceivably could relate, but it has not, the immediate targets to the FOMC's intermediate desires. Perhaps more importantly the Manager, because of this weak articulation, has used the proviso only to make minor changes in his operating targets. Some of these have improved operations, but the net effect has been small.

## Scenario

We have drawn up the following scenario for the broad concept of the directive to indicate how we believe the FOMC could adapt to our suggestions.

Approximately three times a year, the staff would project their view of the economy for the coming year on an assumption of no change in monetary policy. The projection would include movements in such monetary aggregates as reserves, the money stock, bank credit, assets of all financial institutions, and total credit flows as well as in short- and -9-

long-term interest rates. All movements would be those believed consistent with a policy of no monetary change and the expected non-monetary forces of the economy.

Such a picture of the economy and monetary conditions under the no-change directive would be contrasted with either one or two projections each of which assumed a marked change in monetary policy. The staff analysis would be expected to discuss the inter-related movements in output, employment, prices, and the monetary aggregates and interest rates expected to result from the policy change.

Such an analysis could be entirely eclectic but it could also point out the differences which might or might not be expected to result from conflicting concepts of monetary policy. Thus, in addition to a staff judgmental model, the analysis might show how the basic results and inputs would differ from a St. Louis-type money supply model, the contrast in critical variables with the Fed-MIT model, impact of the expected changes in interest rates, etc.

The FOMC would discuss and analyze the staff presentations. This discussion would give the Committee members an opportunity to state their agreement or disagreement with the assumptions underlying the projections. They also could indicate their satisfaction or dissatisfaction with the output, prices, etc., projected on each path. -10-

Based on the Committee discussion and analysis, the FOMC would determine in qualitative terms  $\frac{1}{2}$  the monetary policy it desired to follow. The decision would hold only until the next Committee meeting, but it would be expected that as at present the stance and goals of monetary policy would not be altered lightly.

This qualitative posture for monetary policy would be translated into a plane of hoped-for monetary movements including desired rates of growth in the narrowly defined money stock, bank deposits, and the general availability of credit as measured by the stock of short-term credit and interest rates.

After the FOMC had agreed on the proper stance for monetary policy, it would translate this policy into a total reserves target covering this same period. As at present, this target would appear in the formal directive only in qualitative terms. However, as at present, it would be spelt out in quantitative terms in the working memoranda of the Committee and in its discussions.

The instructions to the Manager would specify the level for total reserves which the Committee desired to achieve in the third month following the meeting. It would also specify the staff's best estimate of the path most likely to achieve this target, given seasonal demands,

<sup>1/</sup> The FOMC might well adopt a standard set of terms which it would normally use to describe monetary policy. As an example, assume that the term, "neutral," would be used when the monetary aggregates were growing at a rate which would, on average, accompany a 6 to 7 per cent growth in current-dollar GNP. Then one possible list of policy terms might be: restrictive, moderately restrictive, neutral, moderately expansive, expansive.

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Treasury financings, and other temporary phenomena that might be expected (such as tax payment speed-ups). The path for the first four weeks following the FOMC meeting would be the Manager's prime operating target.

There would be no assumption that the Manager would be on the target week by week or even by the end of the four-week period. Errors will develop in projections because of market factors affecting reserves, such as float and other technical forces, or in the relation between total reserves, excess reserves, and deposits. The Manager would have to use his best judgment in determining the speed with which he would attempt to move back to the expected growth path. In this process, he would work with the targets two or three months ahead, as well as the actual course of deposits. The instructions to the Manager would include a set of constraints dealing with disorderly markets, the potential degree of interest rate fluctuations, even keel, and expected deposit and credit behavior as at present.

At each meeting of the FOMC, the Committee would re-examine the basic stance of policy and also set a new total reserve guide for the Manager extending three months ahead. Any change in policy and the setting of the next target would be based on the information arising since the previous meeting. A change in policy would presumably involve setting the new path for total reserves required to bring about desired changes in deposits, credit, and interest rates. On the other hand, because of previous technical errors, staff misestimates of such things as banks' demand for excess reserves, changes in the deposit mix, or the basic -12-

relationship between money and spending, a somewhat different path for total reserves might also be set without entailing a shift in policy.

We would expect the staff memoranda and the discussion of these meetings to include such factors as:

- Information concerning the apparent accuracy or inaccuracy of the economic forecast.
- (2) A review of the Manager's operations. His views on problems in meeting the target and any suggestions for the next target assuming policy remains unchanged.
- (3) An analysis of the information content of any variances of the target aggregates from their expected path.
- (4) An analysis of the information content of the variances in the non-target aggregates and interest rates from their expected paths.

This committee is fully aware that our outlined procedure will place significantly increased demands on the staff. We will be operating initially at or beyond our present limits of knowledge. Errors will be frequent and should be expected. They will arise because the field of monetary policy is difficult, knowledge is far from perfect, and we are dealing with an extremely complex and constantly moving economy.

Unfortunately, it is the case that the formulation of monetary policy is a hard task. We do not eliminate complexity by failing to face up to it. The contrary is true. If we attempt to cover over difficulties, they may not be noticed but they will exist and will insure poor results. If we examine them and deal with them in as bright a light as available, we hopefully will learn how to solve even those problems which appear most difficult. -13-

The procedures we have set out assume a lack of knowledge, errors in projections and operations, and many misses. Hopefully, however, they allow the FOMC both to make the best possible selection of policies with our existing state of knowledge and to insure that knowledge develops to fill the current gaps. The same is true of operations. We will build on existing techniques. Errors will occur, but they will be corrected as rapidly as possible. We have intentionally left procedures flexible so that they can start with what we now know, use our existing skills to the optimum, and develop new knowledge and skills as a feed-back from future operations and analyses.

# References to Supporting Documents

Appendix A discusses some of the techniques and problems which can now be foreseen as the Manager attempts to follow this directive.

Appendix B spells out the type of information which the FOMC could expect from the staff.

Appendix C is the report of our staff committee. It, plus the staff papers (Appendix D) upon which it is based, explain the advantages of setting a target well into the future as well as the reasons for the use of monetary aggregates as a target.

#### APPENDIX A

### Open Market Operations Under a Total Reserves Target

At the time of each FOMC meeting the staff would present a path of seasonally adjusted total reserves over the next three months expected to be consistent with the Committee's goals for bank credit, money supply, interest rates, and overall financial conditions more broadly. The path would make allowance for known factors that may be expected temporarily to add to or subtract from the need for bank reserves in a particular week (and are not otherwise taken into account in the seasonal factors based on experience of the past few years). Such temporary factors would include Treasury cash financings undertaken at times of the year different from usual, one-time speed-up of tax payments, and inflows of funds from abroad by U.S. corporations for window dressing purposes at around year-end.

Not all factors that turn out to be temporary can be allowed for in advance, since experience of the past several years indicates that there is a large week-to-week random element in the need for bank reserves. Thus, in practice, there will inevitably be numerous instances in which the Account Manager will be required to exercise judgment about how accommodative he should be to apparent surges or contractions in the need for bank reserves. But the FOMC may provide some guidance in determining how accommodative the Manager should be by setting money market boundary conditions, which -2-

as they are approached lead the Manager to provide or absorb reserves as the case may be.

# General aspects of operating on a total reserves target path

The total reserves path laid out by the staff as consistent with the Committee's goals will lead to an average level of total reserves in the last four weeks of the three-month period, which, if endorsed by the FOMC, would be the Manager's ultimate operating objective. But his immediate objective would be the pattern of total reserves over the four weeks during the interval between FOMC meetings. At every monthly meeting of the FOMC, the Manager will be given a new path over the immediate weeks ahead and also a new threemonth objective moved a month further ahead. Thus, the three-month goal will be a continuously moving one.

The influence of the three-month goal on the Manager's operations in the four weeks immediately after the FOMC meeting will be akin to a gyroscope. As he moves off--either under or over--the total reserves path for the immediate four weeks ahead, knowledge of the ultimate objective will help to determine the extent to which, and the speed with which, he should move back toward the path in any given statement week. For example, if he is above the path in any particular week and if the ultimate total reserves objective is sharply above the target for the particular week (because of the pattern of Treasury financings, or because the FOMC wishes to move toward a faster rate of increase in the monetary aggregates as time goes on as - 3-

part of its longer-run strategy), then under the circumstances the Manager would move back toward the path more slowly than if the longer-run goal were less sharply above the particular week's target.

It should be stressed that when the Manager is off path, he is expected to do no more than move back toward the laid-out path. He is not expected to undershoot or overshoot deliberately in order to make up for past misses, since that would involve unnecessarily large wrenches in the money market (which in any event will be fluctuating more than it has in the past). But, at the same time, he would be expected to begin moving back toward the path rather promptly, since not to do so would involve the risk of having to undertake extremely large operations in a short period to reach the end goal, assuming the FOMC does not shift the end goal in light of evolving experience.

The ability of the Manager to get back on path without causing extreme money market conditions to develop (for example, periods of very considerable tightness or ease as compared with expectations) would be a factor to be taken into account by the FOMC in evaluating the desirability of the prescribed path at each of its meetings. For example, if the money markets were extremely tight, it might mean that the staff had underestimated the demand for liquidity at a given GNP, which might lead the FOMC to raise the targeted path. On the other hand, the incoming data from the real sectors of the economy might suggest that GNP was stronger than assumed in the projections. This would suggest demands for -4-

credit to finance spending were stronger than expected, so that the FOMC might, at a minimum, wish to keep to the targeted path and accept the more stringent than expected credit conditions that were developing.

Not only would the end goal for total reserves three months ahead influence how the Manager reacts to misses in his current intermeeting operating period, but the actual behavior of money market conditions and bank deposits would also be an influence. In carrying out operations, extreme short-run movements in money market conditions would be avoided, although the definition of "extreme" cannot really be given prior to actual experience with a total reserve target. The FOMC may wish to move cautiously in permitting greater week-to-week flexibility in money market conditions, particularly in the transition period when the money market will have to unlearn its previous expectations built up over a long period of years as to the timing and nature of System operations. As a greater degree of money market flexibility comes to be permitted, the actual behavior of money market conditions would, as noted above, then be an input to the FOMC's decisionmaking about the appropriate future target path for total reserves.

With respect to bank deposits, or the desired mix among bank credit, money supply, and other variables that the FOMC wishes to achieve, the Manager will have to be watching how these perform as he aims at the total reserves path. He would have the flexibility to adjust that path if it becomes apparent in the course of operations that the staff has, for example, underestimated the demand for excess -5-

reserves by banks. This would require more total reserves for a given level of deposits. Or it might turn out that the mix between demand and time deposits, or between demand deposits at country and city banks, is different from original expectations. And this too . would require some ongoing adjustment of the total reserve path so as to accommodate to whatever sense of priority the FOMC may have given to one variable as compared with another.

#### The specifics of week-to-week operations with a total reserves target

To operate week-to-week with a total reserves target, the Desk will need to have its objective put onto a seasonally unadjusted basis. This is not a technically difficult procedure. The seasonally adjusted total reserve path will be based on the bank deposit and related financial variables wanted by the FOMC. The seasonally adjusted total reserves for any given statement week will be equal to required reserves as determined, under current reserve requirement procedures, by deposits two statement weeks ago plus seasonally adjusted excess reserves to be expected in the statement week, given the generally prevailing level of interest rates and economic activity. For the Desk's operating purposes, this seasonally adjusted total can be readily transposed into an unadjusted total since the seasonal factors indicate the actual deposits and required reserves consistent with the desired path (although data revisions can occur with distressing frequency), and actual excess reserves likely to be demanded by banks can be based on experience of past years and knowledge of current economic tendencies.

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Given its seasonally unadjusted total reserve target for the week, the Desk will have to project, as it does now, the noncontrolled factors affecting reserves. These will include float, the Treasury balance at the Fed, currency in circulation, gold, and System holdings of foreign currency. In addition, however, the Desk will have to project what banks would normally want to borrow from the Federal Reserve under current economic conditions. (Under a fixed free reserve target, the Desk does not have to project borrowings; rather it aims at attaining a particular level of borrowings, assuming excess reserves are minimal.)

The "normal" level of borrowings that might be expected would have to be based on knowledge of banks' demand for borrowings, given the relation between market rates and the discount rate, economic activity, and loan demand. While some guidance in this respect can be expected from recent and prospective research on bank behavior, a suitable practical proxy for a short-run operating period would be to assume that the "normal" level of borrowings would be about equal to the average level of borrowings over the past few weeks, unless there has since been a sharp change in market interest rates relative to the discount rate. If market interest rates have dropped relative to the discount rate, one would assume that the "normal" level of borrowings has also declined, and vice-versa if market interest rates have risen.

This "normal" level of borrowings is not likely to develop each statement week in the operating interval between FOMC meetings. -7-

Rather, one might expect borrowings (and excess reserves) to fluctuate more than they have under the free reserve operating procedures. But in gauging how much nonborrowed reserves to provide or absorb through open market operations, the Desk must have some idea of the borrowings banks may desire as consistent with the overall constellation of monetary aggregates and credit conditions desired by the FOMC. This might be made clear through a numerical example.

At the beginning of a statement week, the Desk will have a total reserves target, estimates of the non-controlled factors affecting nonborrowed reserves (float, etc.) and knowledge of actual required reserves. Assume the total reserves target in terms of levels for the statement week is 10,000, required reserves are 9,900 (with excess reserves expected to be 100), and non-controlled factors supplying nonborrowed reserves are expected to be 4,000. The Desk will then know that the source of 6,000 of reserves will have to be U.S. Government security holdings of the System or member bank borrowings from the discount window (setting aside for this discussion the small--up to 2 per cent of required--reserve deficiencies or surpluses than can be carried over into the next statement week). If the normal level of borrowings over the past few weeks has been around 400, the Desk would operate on the assumption it will adjust the holdings of U.S. Government securities to a level of 5,600 during the statement week through open market operations.

The actual amount of open market operations during the statement week (i.e., the net change in holdings of U.S. Government securities that occurs) will depend on the change in the total reserve target from -8-

the previous week and the change in the level of the non-controlled factors. Illustrative net changes are shown in parentheses in the summary table on page 12, the first column of which shows the example given in this paragraph. In line 4 of the first column, it is shown that open market operations would supply 700 of reserves in the statement week.

If the money market appears exceptionally tight as the week progresses, or if banks tend to borrow more than "normal", the Desk could assume, as it might under current operating procedures, that its estimates of non-controlled factors affecting reserves are off (in this case too large); and it may supply a few more reserves through open market operations so as to encourage banks to reduce, or not incur, borrowings later in the statement week. In this sense, the behavior of the money market remains as a source of information to the Desk. But since the money market likely will, under a total reserve target, fluctuate more than in the past, banks and the market would not tend to read policy implications into individual weeks when borrowings were below or above "normal"; thus, the Desk would be under less pressure to undertake large-scale operations to offset banks' tendencies to borrow or to pressure banks into borrowing.

The numerical example given above was designed to indicate how the Desk would operate if actual deposit developments were on track with--i.e., were consistent with--the targeted path for total reserves. It is quite likely, however, that in any given statement week actual deposits and required reserves may not coincide with the desired path. The Account Manager may then find himself off the total reserve path, or off the deposit path, or both; and the decisions -9-

he makes to move back toward the path will involve fluctuations in borrowings, excess reserves, and money market conditions. Modifications of the preceding numerical example will clarify some of these issues.

Deposits stronger than desired. Assume deposits in the week turn out to be considerably larger than is consistent with the targeted total reserve path--the total reserve target is 10,000, but required reserves turn out to be 10,400 rather than 9,900 of the previous example. Evidently total reserves will have to be off target since the banking system as a whole must acquire the reserves to balance out (apart from the possibility of carrying over excess reserve deficiencies). The Manager should in the circumstances do whatever he can to ensure that the departure from the path is temporary. What he can do in that respect is to force the banking system to borrow from the discount window more than is "normal" for economic conditions and interest rate relationships, thereby subjecting itself to the discipline of the window, and to force individual banks to pay more than usual for Federal funds. Assuming as in the previous example that non-controlled factors supply 4,000 of nonborrowed reserves, the Manager would attempt through open market operations still to have U.S. Government security holdings be the source of only about 5,600 more of nonborrowed reserves, just as in the previous example. If he did so, banks would borrow 900 instead of the "normal" 400. Or the banking system could reduce the 100 of excess reserves

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somewhat, and borrow a little less. (The numbers in parentheses in the second column of the summary table on page 12 show open market operations during the statement week and the changes that would occur in reserve figures from the previous week under this example).

The general principle to be followed is that if required reserves are larger than expected, the Desk would not supply through nonborrowed reserves any, or very little, more than it would if required reserves were on track, thereby forcing banks to borrow more than they want, or to reduce excess reserves by more than they want under the prevailing basic economic and credit conditions. As a result, banks will tend to reduce deposit and credit expansion. But it should be recognized that if underlying economic conditions are strengthening, it may take some weeks and a sustained sharp rise in borrowings before the banking system is forced back to the desired deposit path.

How much of a tightening in the money market the Manager should permit will inevitably be judgmental. The FOMC could set limits in a proviso clause. But if the bulge in deposits seems highly temporary and likely to be soon reversed on its own--for explainable reasons such as a sharp drop in cash items associated with a drying up of Euro-dollar borrowings because of a holiday abroad--the Account Manager may wish to be even somewhat more accommodative than permitted by the limits set in a money market proviso or money market boundary conditions that may be specified by the FOMC. On the other hand, should the deposit strength persist, -11-

it might be desirable for the Manager to have the authority to permit money markets to tighten outside the boundary conditions if this can be accomplished without undue market disturbances.

Deposits weaker than desired. The operating problems that develop when deposits and required reserves are weaker than desired relative to the total reserve target path also need to be briefly described. Assume the total reserve target, non-controlled factors affecting nonborrowed reserves, and "normal" borrowings are all the same as in the preceding example, but that required reserves are only 9,600. Under the circumstances, banks would not want to borrow their "normal" amount, and should not be forced to. Rather, the Desk would be expected to increase its supply of nonborrowed reserves through open market operations so as to bring U.S. Government security holdings up to 5,900. Borrowings would drop to 100, and excess reserves would be 400. Excess reserves would be about 300 more than "normal" for the period, given assumed economic conditions; the Federal funds rate would have dropped considerably; and banks would begin taking actions leading to an expansion of deposits, such as buying U.S. Government securities from the public. (Again, the numbers in parentheses in the third column of the summary table on page 12 show open market operations and the changes in reserve figures that would result from efforts to attain the target.)

Symmetrical with the case of stronger deposits than expected, it may take a sustained period of high excess reserves -12-

and/or lower borrowings to convince banks to expand if the economy is in fact much weaker than assumed. Also, the Manager should have some flexibility as to whether he goes as low as, or even lower than, the lower end of the money market boundary conditions, depending on his assessment of the factors that are affecting the unexpected deposit behavior.

However hedged about with money market boundaries, the general principle influencing open market operations when deposits are falling short of those consistent with the targeted total reserves path is that the Manager, in attaining the total reserves target, would supply sufficient nonborrowed reserves so that the banking system can reduce borrowings and/or add to excess reserves, as compared with "normal" expectations.

<u>Summary of numerical examples</u>. The table below summarizes and compares the numerical examples given. In between cases can, of course, be readily interpolated.

	Required reserves con- sistent with total reserves target	Required reserves high relative to total reserves target	Required reserves low relative to total reserves target
(1) Total reserves target	10,000(+500)	10,000(+500)	10,000(+500)
(2) Required reserves	9,900(+500)	10,400(+1,000)	9,600(+200)
(3) Non-controlled factors	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10,400(11,000)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
supplying reserves	4,000(-200)	4,000(-200)	4,000(-200)
(4) U.S. Government security			
holdings (open market			
operations)	5,600(+700)	5,600(+700)	5,900(+1,000)
(5) Member bank borrowings	400 (0)	900 <b>(+</b> 500 <u>)</u>	100(-300)
(6) Excess reserves	100 (0)	100 (0)	400 <b>(+3</b> 00)
(7) Actual total reserves			
(2+6)	10,000(+500)	10,500(1,000)	10,000(+500)
(8) Nonborrowed reserves			
(3+4)	9,600(+500)	9,600(+500)	9,900(+800)
(9) Free reserves (8-2)	-300 (0)	-800(-500)	300(+600)

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### Relation between total and nonborrowed reserves targets

The summary table above also is a convenient means of showing the relation between a nonborrowed and total reserve target, as well as the relation of these to free reserves. Before discussing this, it should first be pointed out that the extent of fluctuations in free reserves and money market conditions generally, of course, may or may not be as wide, or wider, than shown in the examples. This will depend on how the total reserve path is chosen and, ultimately, on how banks adapt their behavior to gathering knowledge that the System is following an aggregate target.

The Account Manager is less likely to be able to hit a total reserve target than he is a nonborrowed reserve target. Total reserves in the short-run would be determined by deposits when required reserves are high relative to the total reserve target. Thus, as in the second column, actual total reserves (line 7) would be above the target (line 1). When required reserves are low relative to the target, the Account Manager would be able to reach the target by throwing in enough nonborrowed reserves. Misestimates in either event of member banks' desires to borrow would throw the Manager off of either the target or his expected deviation from the target. While the Manager knows borrowings from day-to-day, he cannot be sure that banks will reduce borrowings if he puts in nonborrowed reserves when borrowings seem high, say, over the weekend. In that case, for example, he would end up with larger total reserves than he expects. -14-

The Manager can more easily attain a nonborrowed reserve target since for it he need project only the non-controlled factors affecting nonborrowed reserves. These projections are subject to considerable error, though, so his control is far from perfect. But the problem is essentially no more difficult than hitting a free reserve target, given the relationship that nonborrowed reserves less required reserves (already determined by deposits two weeks earlier) equals free reserves.

While the Manager has more control over a nonborrowed reserve target, the advantage of a total reserve target (at least one as described in this note) is that it forces the Manager to be more aggressive when deposits and required reserves are running weaker than is consistent with the FOMC's general policy stance. For example, if the Manager had been given a nonborrowed reserve target of 9,600 rather than a total reserve target of 10,000 his actions would have been no different in the cases outlined in the first and second columns above. He would, however, have appeared to hit the nonborrowed target (see line 8) while missing the total reserve target in the second column case (comparing line 7 with line 1).

On the other hand, if the Manager had followed a nonborrowed reserve target of 9,600 in the conditions of the third column, the total reserve target would not have been hit. The total reserve target of 10,000 forced the Manager to raise U.S. Government security holdings to 5,900 and to bring nonborrowed -15-

reserves up to 9,900 (see line 8 under the third column). As a result excess reserves rose to 400 (line 6) and free reserves to 300 (line 9); free reserves would have been zero if the target had been 9,600 of nonborrowed rather than 10,000 of total reserves. The greater downward pressure on interest rates that would result from the increased provision of nonborrowed, and hence free, reserves to reach total reserves would appear more likely to bring deposits back up to the desired path.

Thus, the choice between nonborrowed reserves and total reserves as targets depends on balancing a target that is more readily hittable with one that might be more economically meaningful (in that it is more closely related to bank deposits and bank credit). But the question of meaning has not yet been fully resolved by the economics profession, with differential effects in bank and public behavior from the relative weights of nonborrowed and borrowed reserves in a given total open to some debate. On balance, however, a total reserve target appears feasible, recognizing that it is likely to be missed week-to-week with some frequency and recognizing further that the Manager is essentially working on a nonborrowed reserve target that shifts from week-to-week depending on the relationship between total reserves and required reserves, given some "normal" level of borrowings and excess reserves for the prevailing basic economic conditions. -16-

# Public announcement of a move toward an aggregate reserve target

The FOMC may wish to consider the desirability of making a public announcement if it moves to total reserves (or even nonborrowed reserves) as its primary operating target. It might avoid confusion in the first months if banks and the market were to be informed that the Federal Reserve would, in its open market operations, be less accommodative of day-to-day and week-to-week reserve needs. The announcement might state that the Federal Reserve would be guided more by the need to provide the total reserves required to support the longer-run bank credit and deposit growth that is consistent with the stance of monetary policy--whether restrictive, expansionary, or neutral. Thus, more week-to-week variation in such narrow money market conditions as the Federal funds rate, member bank borrowings, and the net reserve position of banks would be expected. It would also be desirable for the System, in any such announcement, to restate its continuing interest in the avoidance of disorderly market conditions, and in averting extreme swings in money market conditions to the extent that they would distort the decision-making processes of banks and the public and threaten short-run liquidity crises.

Such an announcement would foster public understanding of the System's intentions in changing a method of operation that has been pursued for around two decades. Some predictable effects of the announcement might be noted. Banks may begin to hold larger amounts of excess reserves. They may also begin to agitate for larger carry-over reserve deficiencies and surpluses, and they may -17-

even want longer, and/or staggered, reserve settlement periods. These measures would all help protect them against sharp shortrun money market swings. From the viewpoint of the System, such an announcement would be a step toward eliminating the public's focus on money market conditions as an objective of policy, and would, thereby, help free up policy to follow longer-run bank credit, money, and overall credit market conditions goals.

> Stephen H. Axilrod, Associate Economist Federal Open Market Committee March 2, 1970.

### Appendix B

Economic Staff Documentation

The recommendations for changed procedures contained in the report of the Committee on the Directive would require a substantial increase in staff work in the economic and monetary projections area. Projections for the year ahead of alternative paths of economic performance based on differing monetary policy assumptions; specification of the tradeoffs among production, employment and price developments that might result; estimates of the relationships among a broad range of monetary variables that appear consistent with each monetary policy assumption; monthly updating of the economic forecast in terms of the meaningfulness for the longer-run of deviations from the pattern projected earlier; and monthly estimates of the weekly and monthly movements in total reserves consistent with the basic monetary policy path selected--all would be needed to underlie the proposed new Committee procedures.

In addition to the increase in staff workload, it is important to recognize that these new demands for information push well beyond the present limits of knowledge as to economic processes and relationships. It is extremely difficult to quantify differences in any detail, quarter by quarter, that alternative monetary policies might make for the economy. It is even more difficult to specify the employment/price tradeoffs of alternative economic paths--an area in which past staff projections have often been wide of the mark. And there is a large -2-

degree of judgment involved in estimating the money, bank credit and interest rate relationships that would represent an optimal mix consistent with a given path of economic expansion. Indeed, past relationships between GNP and such variables as the money supply, bank credit and total credit have shown a substantial variability, and this variability will no doubt persist regardless of the proximate targets of monetary policy.

The increase in detail required by alternative projection paths and monetary assumptions also raises questions about presentation of the material to the Committee. The whole projection exercise--with alternatives, tradeoffs and the spelling out of financial variables--will be vastly more complicated than our present procedure. Also, the Committee apparently will be asked to make an explicit choice among the alternative paths of economic and policy developments. This would seem to require much more discussion of the projection and a fuller Committee understanding and approval of the many assumptions and judgments made by staff, than is now the case. Altogether it seems clear that considerably more Committee time would need to be devoted to the projection exercise--perhaps requiring the addition of Monday afternoon or Tuesday afternoon meetings. Changes also would need to be considered in the format for presentation of projections to the Committee, as well as in the timing of distribution of materials. A chart show format, for example, might no longer be feasible.

It can be argued, of course, that the new Committee procedure focuses on the things we need to know in order to formulate monetary -3-

policy more intelligently. It will make explicit, for Committee debate and determination, many aspects of policy objectives, processes, incidence and timing that heretofore have either been assumed or implicitly evaluated, in conditioning attitudes toward the formulation and implementation of policy. Uncertainty is no excuse for failing to attempt to quantify these issues, and it is expected that the stimulus to specific research in these problem areas may serve to reduce the uncertainties over time. Meanwhile, however, the new procedures that the staff will make will tend to highlight the many inevitable projection errors in attempting to quantify these relationships; an indication of how far astray we can go is provided by the staff projections of the relationship between monetary variables and the GNP accompanying the Chairman's JEC statement in February 1969. In a continuing review process, corrections in faulty projections can be made promptly, as was in fact done as 1969 progressed, but the point is that the Committee will have to be prepared to live with a continuing stream of error and subsequent correction in the expanded projection assignment.

## I. Projection Meetings

The main recommendation of the Directive Committee as regards longer-range staff projections is that alternatives be presented, based on different monetary policy assumptions. This sounds deceptively simple, but in fact it would present the staff with serious problems. We have not progressed to the point where an econometric model can be the foundation of our projections; indeed, we may never do so. Instead, staff projections for the year ahead are based on many hours of judgmental forecasting, -4-

sector by sector, though of course a variety of statistical procedures are used to assure consistency and to develop projections based on past relationships among economic and financial variables. Models are run too, using the same judgmentally derived exogenous variables, largely as a back-up means of checking projections developed independently by judgmental forecasting methods.

It seems to us that judgmental projections will have to continue serving as the fundamental staff inputs to the Committee. Moreover, it is unlikely that the staff can present more than one full-scale judgmental projection, given the difficulty of shifting one's thinking to another frame of sequence once a fully developed projection has been worked out. Therefore, to meet the requirement of alternative projections based on different monetary policy assumptions, we would propose to develop a standard projection that assumes some fairly reasonable course for monetary policy. Variations from this "standard" projection would be based on different monetary policy assumptions, and would depend mainly on our econometric model to isolate the points of difference. The hazard in this, of course, is that the model may not adequately forecast even first differences in GNP pattern on all occasions, particularly in view of the fact that the lag patterns in our present model are essentially fixed. We may be able to make judgmental adjustments, such as for some variation in the lag structure depending on the stage of the economic cycle, the sensitivity of expectations at a particular time, or the apparent backlog of pent-up demands; but there is not assurance of reasonable accuracy on this score.

The Committee also will apparently want to focus on the tradeoffs as among its ultimate objectives, such as employment versus price performance, that would result from different monetary policies in a -5-

given economic environment. Here too there is doubt as to the degree of accuracy that the staff will be able to develop in forecasting such tradeoffs. Both employment and prices have proved unusually difficult to predict, using both judgmental and econometric projection techniques, and estimates of the <u>differences</u> that monetary policy would make in these areas would be unusually subject to error.

The report of the Committee on the Directive envisions that a qualitative posture for monetary policy would be decided upon, based on "desired rates of growth in the narrowly defined money stock, bank deposits and the general availability of credit" and translated into a total reserves target. The staff can, of course, present estimates of money, bank deposits and total reserves which it believes to be consistent with its longer-range economic projection, and with the variants produced by alternative policy assumptions. However, since staff estimates of these variables can be subject to a considerable range of error, the Committee would need to keep an open mind as to the desirability of substantially different rates of growth in the monetary aggregates as the economic forecast period evolved. Evaluation of the meaning of growth rates different than those that had been projected, or of a pattern of interest rates different from that which appeared consistent with the actual behavior of the aggregates, would be a major staff function for the intervening monthly meetings of the Committee.

#### II. Monthly Meetings

The kinds of materials presented by staff at the monthly Committee meetings would continue to include a greenbook, a bluebook, -6-

and oral senior staff briefings at the FOMC meeting. There would, however, be a considerable shift in emphasis in the staff presentations. The greenbook, while still containing review material on the economic and financial situation, would concentrate on revisions in expectations for the future from those contained in the previous full-scale projection that had been accepted by the Committee. Thus, the GNP outlook would focus on the reasons for observed and expected variances from the projection model, and the financial outlook would reexamine the projected financial profile; in each case, emphasis would center on the meaning of any changes for the conduct of monetary policy. Continuing review of the probable extent and character of projection misses would be a useful and desirable addition to staff materials, althouth this new assignment should not be permitted to displace continuing detailed attention to the short-run economic and financial situation as it actually seems to be developing.

The role of the bluebook in Committee deliberations would, of necessity, be considerably expanded. In addition to specifying the money market variables that would be consistent in the short-run with the monetary growth path desired by the Committee, staff notions as to the appropriate level of total reserves three months hence, the likely pattern of monthly movement that would achieve that level, and the weekly targets of total reserves over the next four weeks that would seem to fit that pattern--all would have to be estimated and explained. Obviously, all of these variables would be in continuous revision, reflecting earlier errors in estimation, unexpected developments that -7-

should be accommodated within a given policy stance, accumulated misses in Desk operations, and the passage of time.

In carrying out this function, the bluebook would have to evaluate how the interrelationships that developed over the past four weeks among bank deposits and credit, total reserves, excess reserves, borrowing, and interest rates might influence the desired future path of total reserves. It would have to suggest whether the path should be changed, consistent with an unchanged basic monetary policy, or whether it remains desirable to move back to or continue on the old path. The bluebook would also have to specify alternative paths if it appeared that FOMC might wish to consider shifting the stance of monetary policy.

The oral presentations, as we see it, would be more closely keyed into the earlier written documentation than is now the case. Thus, the economic briefing would center on an explanation of the changes introduced into the projections of GNP and related measures and of their meaning for policy. The financial briefing, similarly, would focus on the changes that appeas to be developing in over-all financial conditions, including monetary aggregates, liquidity, credit demands, and interest rates; the briefing would evaluate how these developments might influence the desired longer-run expansion of total reserves even under an unchanged monetary policy assumption.

When the need for an interim change in policy seems to be indicated by emerging economic developments and/or staff analysis, the briefings explaining the reasoning behind the recommended change and -8-

the financial briefing detailing how it might be carried out. As a rule, however, we would expect that interim changes in policy--defined in terms of the whole complex of variables making up the rate and "quality" of monetary growth would occur only infrequently. Details of the economic situation and the specific numbers describing an unchanged monetary policy in that environment, however, would probably require revision at every meeting of the **C**ommittee.

> J. Charles Partee, Economist, Federal Open Market Committee, March 2, 1970

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### APPENDIX C

#### CONCLUSIONS OF THE STAFF COMMITTEE ON THE DIRECTIVE

1. The staff committee believes that primary focus in the directive on morey market conditions--construed as net borrowed reserves, borrowings, and the Federal funds rate--can lead and often has led to inappropriate policy. We also believe that financial markets are sufficiently resilient to offer scope for wider week-toweek fluctuations, and intermediate-term changes, in money market conditions than has generally been permitted in the past. Some experimental work by the staff committee indicates that the fluctuations in the Federal funds rate that might ensue from, say, more concentration on aggregate reserve flows in operations would not be of unmanageable proportions. Actual operating evidence is, however, scarce. As the System permits greater flexibility in the money market, the results should, therefore, be observed with care, and due recognition should continue to be given to the System's role in insuring the viability of financial markets. Recognition should also continue to be given to the System's role as the ultimate source of liquidity for the economy.

2. The staff is unanimous in the view that monetary aggregates should have considerably greater weight in the conduct of open market policy. In our framework, there is a distinction to be made between monetary aggregates which may be taken to reflect the intent of policy as it affects the economy--such as narrow money stock, more broadlydefined money stock, or bank credit--and the operating variables through which the desired rate of growth in such an aggregate may be achieved--

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such as total reserves, nonborrowed reserves, the monetary base, and money market conditions.

3. It is important to note that greater emphasis on aggregates --and in particular the one we recommend, the narrowly-defined money stock--is consistent with a variety of economic theories. For instance, a strategy for monetary policy using the money stock as a control variable could be developed out of the FRB-MIT model--which stresses linkages between interest rates and spending--or out of other models, such as the St. Louis Reserve Bank model, which directly relate total spending to monetary aggregates. Our emphasis on aggregates does not imply any particular judgment as to the importance of monetary flows on the economy relative to other possible influences such as fiscal policy, expectations, and credit market conditions. It rather reflects the view what among the variables subject to more or less direct influence of open market operations, use of some aggregate or aggregates will be most likely to lead to effective policy.

The choice between monetary aggregates, on the one hand, and money market conditions or interest rates, on the other hand, for the conduct of monetary policy is in theory a question of the best method of monetary control under conditions of uncertainty. In part, the choice will depend on whether the demands for money and other financial assets are more stable than the demand for goods, under given income and financial market conditions. This question has been in dispute among economists for some years. Some members of the staff believe that there - 3-

is sufficient evidence to conclude that the demand for money is relatively more stable over the longer-run than the demand for goods. Other members of the group believe that the evidence is inconclusive, but that there are still practical reasons for placing more emphasis on aggregates. The experience with monetary policy in the past has been one in which money market conditions have moved sluggishly, and such behavior has been associated at crucial junctures with pro-cyclical movements in the money stock. Putting more emphasis on aggregates would provide some built-in protection against the dangers of undesirably sluggish movements in money market conditions. It would also reduce any tendency to assume that changes in nominal interest rates reflect changes in the degree of restraint or ease induced by policy rather than changes in the strength of aggregate demand or in expectations.

While we would place considerably more emphasis on an aggregate in operations, the information conveyed by the behavior of interest rates is useful and should not be ignored. The FOMC has to continue to be mindful of interest rates in judging the appropriateness of a chosen growth path for the aggregate. If, for example, interest rates turn out to be higher than projected for any given growth in the money stock, the question would arise as to whether GNP is stronger than projected or whether the demand for money has shifted at a given level of income and interest rates. Judgments will have to be made under such conditions on the basis of the best evidence available.

4. The staff believes that the narrowly-defined money stock (currency plus private demand deposits) is the most appropriate aggregate -4-

to use in the conduct of monetary policy. The rate of increase in the money stock would, of course, be chosen in the light of its impact on prospective economic and financial conditions, and would be varied as changes in such conditions require. We recognize, however, that as experience accumulates under this policy, it may turn out that more weight should be given to other aggregates in the conduct of policy.

5. Our reasons for preferring the money stock at this time include: (a) the belief that the demand schedule for narrowly-defined money is generally more stable and better understood than the demand schedule for bank credit and possibly also for money more broadlydefined; (b) doubts about the meaningfulness of bank credit as an aggregate considering the great heterogeneity of its components; (c) doubts about the extent to which rationing is an important variable when financial markets as a whole are considered; (d) concern about the disturbing role of Regulation Q in distorting the meaning of the broedlydefined money stock and bank credit; (e) a related concern about the significance of changes in bank credit in light of the further blurring of the distinction between liabilities of banks and nonbanks as a result of various devices that the banks have found for broadening the sources of funds for credit extension.

It should be noted that while the staff committee has a definite preference for M1, it also believes that some controllable aggregate is substantially preferable to no aggregate at all in the conduct of open market policy. The aggregates--such as M1, M2, or bank credit--show divergent movements, but over the longer-run the stability of their - 5--

relationship to gross national product appears to be rather similar, as does the timing of their cyclical movements. Long-run rates of growth do, of course, differ, and some significant differences have been noted over the past decade, primarily as a result of the effects of Regulation Q.

6. In considering its monetary policy strategy, we believe the FOMC should decide upon a long-run growth path for the money stock --extending over a number of quarters--and formulated so as to achieve its broader economic objectives. Such decisions would, of course, be subject to re-evaluation and revision at every meeting in light of new information. But with respect to the decision-making process, the available evidence suggests that the impact on the economy of a monetary policy change is very small in the first subsequent quarter, with achievement of the full impact taking several quarters or more.

The length and shape of estimated lag structures have several consequences. One is that large changes in GNP cannot be effected through monetary policy in a short period of time without violent disturbances in financial markets. Secondly, the failure to produce immediate results on the economy should not mislead the FOMC into making frequent large adjustments in the money stock growth path since these adjustments might set off a potentially destabilizing pattern in which the FOMC is forced to wrench policy back and forth in an attempt to offset the subsequent exaggerated impacts on aggregate demand. Thirdly, since it is essential to consider the impact of policy changes over a long period of time, a basic input to deciding on a growth path for the -6-

money stock should be a comprehensive projection for the long-run planning period of GNP and related financial conditions, such as interest rates, mortgage market conditions, and bank liquidity.

This comprehensive projection should be redone quarterly or whenever sharp changes in the economic outlook occur, and at such times the FOMC could best decide on its desired long-run growth path for the money stock. In order to facilitate the FOMC decision-making process, it would be desirable for the staff to present multiple projections with differing monetary growth paths so that possible trade-offs among price stability, economic growth, employment, and the balance of payments can be evaluated.

7. After deciding on a long-run growth path for the money stock (or whichever aggregate is chosen by the Committee), the FOMC should specify at each meeting the level of the money stock to be attained in each of the next three months. Within the 3-month operating horizon of the Manager, the growth path of the monetary aggregate would best be a straight line interpolation. Such a path which seeks to hit a particular value for the aggregate on a month-by-month basis has the advantage that it does not require the Manager to rely heavily on projections with time horizons extending more than a few weeks. On the other hand, we recognize that a disadvantage of this procedure is that it does not readily encourage accommodation of very short-term shifts in the demand for money. Moreover, we recognize that in the nature of the case there are bound to be substantial errors in hitting the targeted value in any given month. In operations, the extent to which variability in money market conditions turns out to be tolerable would influence the degree to which the Manager -7-

attempts to hit a particular month's target. To allow for these sorts of problems, the instruction to the Manager would permit the money stock in the short-run of, say, a month to vary within a reasonable band about the central value, so as to permit the Manager to moderate, if it should prove necessary, undue swings in money market conditions.

8. To assist the Manager in achieving a money stock target path, the staff would prepare projections for the current and two succeeding months of rates of growth in nonborrowed reserves and the behavior of free reserves, borrowings, and the Federal funds rate that are believed to be consistent with the targeted value of the money stock for the months in question. The projection of nonborrowed reserves will depend critically on expected bank behavior with respect to time deposits, on member bank demands for borrowings, and on other factors. As a result, it is quite possible that the actual behavior of nonborrowed reserves and the money market variables may turn out different from projections, even though money stock growth is on the targeted path. In that case, of course, the Manager would be guided by what is happening to money stock. For exemple, he would adjust his nonborrowed reserve target upward to take account of a greater degree of intermediation, or would adjust his nonborrowed reserve target downward to take account of a greater demand for member bank borrowings. However, comparisons of actual developments in money market conditions and interest rates more broadly as compared with projections, will over time provide the FOMC with information bearing on the appropriateness of its money stock target. The operating procedure described here puts a high premium on timely and accurate reporting of

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the necessary information on deposits and on improvements in the current reporting system.

9. In formulating a directive consistent with these views,  $\frac{1}{1}$  the present second paragraph would be recast along the following lines:

> "Open market operations until the next meeting of the Committee shall be conducted with a view to attaining growth in the money stock at a (qualitative adjective) rate, while moderating fluctuations in money market conditions to the extent consistent with this objective."

The money stock target expressed qualitatively in the directive would be specified in the Blue Book as monthly levels to be attained in each month over the ensuing three-month period. The targets for subsequent months are intended to help the Manager in deciding how to adjust to a deviation of the money stock in the current month from its targeted value.

The projected constellation of money stock, nonborrowed reserves, money market conditions, and interest rates more broadly will be subject to large degrees of error in individual months. Despite this, it is our belief that over longer periods of about three months a money stock target

<sup>1/</sup> The staff has not formulated any recommendation with respect to the first paragraph. In examining the directive, it was felt to be most important to concentrate on the operating instructions contained in the second paragraph and to suggest how these relate to long-run monetary policy strategy.

<sup>2/</sup> One member of the Committee, Mr. Friedman, while concurring generally with the preceding discussion, favors the formulation of directive language in terms of money market conditions, with targets frequently modified in light of a complex of financial conditions, including behavior of aggregates.

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can be achieved with an acceptable degree of precision--perhaps with errors generally kept within +1 to -1 per cent annual rate of change.

In working with a money stock target path, the Manager would not be expected to compensate in any month by being below target to the same degree as he was above target in the previous month. He would be expected rather to move toward the targeted path. This type of adjustment would be expected to moderate money market fluctuations relative to a procedure that attempted to compensate for overshoots by undershoots. Moreover, the staff is not aware of any evidence that reasonable deviations from the target path within a 3-month period are a significant factor affecting the economy.

10. In line with the monetary policy strategy outlined in this document, and perhaps in any event, we recommend--as is implied in paragraph 6--that the Committee plan on holding relatively long meetings at regular intervals--perhaps quarterly...in preparation for which the staff would undertake a full-dress review of its economic and financial projections and to present new sets of alternative longer-run policy courses. At these meetings, the Committee would attempt to reach conclusions with respect to the appropriate policy courses for the longer run. For the shorter, interim meetings, the staff's preparation would take the form of updating the single set of projections that reflect the Committee's latest longer-run policy decision, and the Committee's deliberations (normally) would focus on short-run operating variables. The Committee would always be free to call for a full-dress review at an -10-

interim meeting, and it would, of course, be free at any meeting to revise its policy stance.

Stephen H. Axilrod, Chairman Leonall Andersen Arthur L. Broida Howard Craven Richard G. Davis Benjamin M. Friedman John H. Kareken James Pierce William Poole

January 30, 1970.

#### Appendix D

Staff Papers Prepared for the Committee on the Directive (To be sent under separate cover)

- Andersen, Leonall, "Selection of a Monetary Aggregate for Use in the FOMC Directive."
- Axilrod, Stephen H., "The FOMC Directive in the Late 1960's: Theory and Appraisal."

Craven, Howard, "Some General Problems of Directive Formulation."

Davis, Richard G., "Short-run Targets for Open Market Operations."

do "Which Aggregate Would Make the Best Indicator."

Friedman, Benjamin M., "Tactics and Strategy in Monetary Policy."

- Kareken, John H., "Experimental Determination of the Optimum Monetary Instrument Variable." (In process of being written up)
- Pierce, James, "The Trade-off between Short- and Long-Term Policy Goals."
- Poole, William, "Rules of Thumb for Guiding Monetary Policy."

Other Related Papers that were Prepared

Clarke, S.V.O., "The Interest Rate Policy Change of 1947 and 1951."

Link, R.G. and Tschinkel, S., "Errors in Quarterly GNP Equations using Money Supply and Bank Credit."