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**THE FOMC DIRECTIVE AS STRUCTURED IN THE LATE 1960'S:
THEORY AND APPRAISAL**

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A handwritten signature in dark ink, appearing to be 'S. H. Axilrod', located in the bottom right corner of the page.

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This paper will attempt to lay out and appraise the workings of and a possible theory for the present structure of the Federal Open Market Committee's directive to its Account Manager. An effort will be made to indicate and evaluate the practice of open market policy as it flows from the structure of the directive. The paper will also attempt to outline one theoretical rationale for the directive's structure and to indicate the nature of the flow of economic information, including projections, that appears to be required to satisfy such a theoretical underpinning for the directive.

Structure of the Directive

The FOMC directive has for many years now contained two paragraphs. The first paragraph is a statement about the economy and the general goals of monetary policy, while the second paragraph contains operating guides for the Account Manager covering the interval between Open Market Committee meetings. In the recent past, this interval has generally been three or four weeks. The nature of the information and instructions in these two paragraphs has changed over the years. In this section, the paragraphs as they have been formulated over the past year or so will be described and evaluated.^{1/}

^{1/} The wording of a recent published directive, the one issued on August 12, 1969, is as follows:

The information reviewed at this meeting indicates that expansion in real economic activity slowed somewhat in the first half of 1969 and some further moderation is projected. Substantial upward pressures on prices and costs are persisting. Most market interest rates recently have receded slightly from their earlier highs. In July the money supply expanded as U.S. Government deposits decreased further; bank credit declined on average, after adjusting for an increase

Nature of the First Paragraph

The first paragraph of the directive typically has contained statements about over-all economic activity, prices, and various financial flows--particularly bank credit and money--and interest rates. Generally, only the statement about over-all economic activity has had a future cast to it. But the time horizon for this future has often been rather indefinite. Sometimes the wording has been such that the reader would think that it refers to no more than a quarter ahead, or to the current quarter in process. Such wording, for example, would be, "economic activity appears to be slowing". On the other hand, at

in assets sold to affiliates and to customers with bank guarantees. The run-off of large-denomination CD's which began in mid-December continued without abatement in July, and there apparently were net outflows from consumer-type time and savings accounts at banks and nonbank thrift institutions combined. The over-all balance of payments deficit on the liquidity basis remained very large in July; the balance on the official settlements basis was still in surplus in the first half of the month but subsequently shifted toward deficit as U.S. banks' borrowings of Euro-dollars leveled off. Foreign exchange markets appear initially to be adjusting in an orderly fashion to the announced devaluation of the French franc. In light of the foregoing developments, it is the policy of the Federal Open Market Committee to foster financial conditions conducive to the reduction of inflationary pressures, with a view to encouraging sustainable economic growth and attaining reasonable equilibrium in the country's balance of payments.

To implement this policy, System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining the prevailing firm conditions in money and short-term credit markets; provided, however, that operations shall be modified if bank credit appears to be deviating significantly from current projections or if pressures arise in connection with foreign exchange developments or with bank regulatory changes.

times there have been statements which note simply that economic activity is projected to slow. In such cases, the time horizon appears more indefinite.

To understand the magnitude and timing of the future projections of economic activity which provide a basis for FOMC decisions and instructions to the Account Manager, it is necessary to look outside the directive itself as currently structured. For the public, the policy record that is published at the same time as the directive (both with about a 3-month lag) contains a general indication as to the direction and magnitude of GNP, but the references are qualitative and not consistent as to time periods ahead. The FOMC itself has available to it specific, dated projections in the so-called Greenbook or the Chart Show. The Greenbook is presented at each Committee meeting and a chart show is presented three or four times a year. Both of these items contain staff projections in more detail with specific numbers and generally with a more distant time horizon than is put in the policy record.

Thus, the economic analysis behind FOMC instructions to the Account Manager in the directive cannot be understood by reference to the first paragraph of the directive alone but requires other documentation. It might well be argued that there is no necessary reason for the first paragraph to express the full scope of the economic and financial analysis that lies behind the specific operating instruction of the second paragraph. But, however that may be, the main point here is that the structure and meaning of the directive that is issued cannot

be understood in itself, but has to be considered in relation to the information gathering, economic analysis, and policy discussion given to and taking place at the FOMC meeting. In that respect, it should, of course, be pointed out that the staff material and projections may not give a correct impression of the views of the voting members of the FOMC. Their outlook for the future has often been quite different from the staff's, and a thorough understanding of this and its relation to the directive requires access to the minutes of the meeting, although a brief summary of the policy discussion is contained in the policy record that is published along with the directive.

The final sentence of the first paragraph of the directive does state the goals of monetary policy as they relate to the balance of payments, economic growth, and inflation. From time to time the structure of this sentence is rearranged so as to give particular emphasis to the balance of payments, or to price stability, or to the need to encourage growth, as may be appropriate. This rearrangement can then be taken to represent a general statement of the Committee's over-all priorities with respect to the ultimate goals of policy.

There is no explicit mention of potential trade-offs among various competing goals, however, in the final sentence of the first paragraph. The order of the goals in the sentence may give some indication of priorities attached to particular goals by the Committee, but there is nothing to indicate that the Committee is considering the sacrifice of a degree of attainment of one goal in order to obtain a

degree greater of attainment for another goal. In fact, it is probably an over-statement to suggest that rearrangements of the wording of this sentence indicate explicit, or perhaps even implicit, consideration by the Committee of the trade-off problem. It is more likely that rearrangement should be interpreted as indicating that the Committee is moving, for example, toward an emphasis on combating inflation rather than encouraging growth. But whether the Committee believes it can have both some desired level of economic growth and a desired degree of price stability over some given time period is certainly not made clear in the general statement of goals.

The statement of goals at the end of the paragraph is, in fact, so general as to be non-operational. At times in the past, it has carried a reference to particular operational variables, such as bank credit and money, but normally it has not done so; and even when it has done so, these references appear to have been more in the nature of hopes than instructions. But apart from that, the vagueness of the statement of goals when limited to ultimate objectives of policy may reflect the inability or unwillingness of the FOMC itself to take, or make known, a position on the trade-off problem, thereby possibly reflecting a gap in the discussion of policy and in the formulation of the directive.

The indefinite nature of the time horizon of the first paragraph and its very general statement of goals make its connection with the operation elements of the second paragraph rather tenuous. The second paragraph refers explicitly to how the Account Manager should

operate in the market over the interval between Committee meetings. Presumably, these operations would be consistent with the desires of the Committee with respect to the economy and the balance of payments as expressed in the last sentence of the first paragraph. But how these two paragraphs relate to each other is not made clear in the directive itself, or in the policy record accompanying the directive. If they can be related, it would appear to require an analysis of the relationship between the operating variables that the Manager works with, the financial flows and over-all interest rates that result from these operations, and related effects over time on economic activity, prices, and the balance of payments. Thus, while clear for the first paragraph of the directive, it is even clearer for the whole structure of the directive as constructed in recent years that it cannot be analyzed independently of the total flow of material and projections given to the FOMC, and the nature of the discussion undertaken by the FOMC in relation to this material. In brief, the procedures of the FOMC and the directive are inseparable.^{1/}

Before discussing the relationships among the day-to-day operational variables in the second paragraph of the directive, aggregate monetary flows, over-all interest rates, and longer-run projections of the economy, it is desirable to describe the constituent elements of

^{1/} This paper will not, however, discuss the content of FOMC discussions and the nature of the go-around among FOMC members, but will rather concentrate on the economic issues germane to the theoretical basis of the directive--thereby implicitly discussing the type of decisions that would appear to require FOMC discussion.

the second paragraph that affect the Manager's operations. These are by no means clear, of course, as expressed in the second paragraph of the directive, but they are fairly clear to those present at FOMC meetings and with access to the full FOMC documentation.

Operational Elements in the Second Paragraph of the Directive

The second paragraph of the directive generally has asked the Manager to maintain--or ease, or seek tauter, as the case may be--money market conditions. Sometimes these money market conditions have been expanded to include the words "money and short-term credit market conditions". In addition, since 1966 the second paragraph has also included a so-called proviso clause, which notes that the money market conditions should be attained provided that bank credit is not deviating significantly from projections. In addition, the second paragraph also contains, when appropriate, references to "even-keel" around periods of Treasury financings. And finally, the second paragraph has in the past made reference to possible modifications of operations in cases of liquidity crises or similar emergencies, such as exceptionally large outflows of funds from banks or thrift institutions at interest-crediting periods or potential domestic market reactions to foreign exchange market developments. The Manager also appears to have a continuing authority to avert disorderly market conditions, the definition and meaning of which are unclear, but are generally taken to mean a drying-up of trading in securities and cumulative large downward price movements with no end in sight.

Money and other short-term market conditions. The money and other short-term market conditions the Manager takes into account include principally the Federal funds rate, borrowings by member banks, and net free or borrowed reserves. At times, the 3-month bill rate has been included in this constellation. The words "other short-term market conditions" have generally been taken to indicate inclusion of the 3-month bill rate, although the bill rate has also at times been something of a factor in operations even without such specific wording. The emphasis placed on the bill rate has varied considerably with monetary and economic conditions. For instance, in the early 1960's when it was thought that international flows of funds were responsive to relations between short-term market rates here and abroad, much attention was paid to the 3-month bill rate in operations. Also, when the 3-month bill rate and the whole bill rate structure were hovering around Regulation Q ceilings, the bill rate was a particularly important operating variable when the Committee did not wish to encourage either a large expansion in bank credit that might be associated with a decline in the bill rate or the large contraction that might be associated with a rise in the bill rate.

A constellation of money market conditions is relied on for operating purposes rather than a single indicator because changes in reserve distribution and other temporary market factors result in divergent tendencies in any one of the money market conditions, and such a divergent tendency might be offset through manipulation of other conditions in order to maintain an over-all degree of ease or tightness in

the money market. For example, when reserves are distributed in favor of leading money center banks--such as at times just prior to corporate tax and dividend dates--the Federal funds rate will often decline, and this would appear to be an easing in the market unless member bank borrowings are permitted to rise and net borrowed reserves deepen. On the other hand, when reserves and funds move away from money center banks, the Federal funds rate will tend to rise because these major money market banks appear to be more willing borrowers at higher rates of day-to-day money in the market than are other banks. In such a case, if member bank borrowings are not permitted to decline some, the over-all money market will appear to tighten. There are limits within which these trade-offs can take place, and the range of trade-offs represents the over-all constellation of money market conditions which are the day-to-day operating guide for the Account Manager.

The operating emphasis on money market conditions means that the directive is essentially accommodative, in the sense that market demands for credit and money will be accommodated at a given Federal funds rate or level of net borrowed or free reserves. Some constraint on the degree of accommodation has been instituted by the proviso clause, but in practice this has represented a rather minor element of constraint, partly because the Committee has been willing to tolerate wide swings in bank credit and partly because the proviso clause has not in application been taken as a strong target of policy.

Bank credit proviso. The proviso clause in the directive has for the most part related to bank credit, although in its early days

required reserves were used (and on an occasion ~~or~~ two money supply was noted along with bank credit). The bank credit referred to was originally a proxy for daily average bank credit as measured by total member bank deposits, a series for which there is daily data.^{1/} As time went on, and nondeposit funds became relatively important sources of bank credit, the bank credit referred to became the total of member bank deposits plus the average for the month of weekly data on liabilities to branches abroad and then finally plus the average of borrowings through commercial paper issued by bank-related affiliates. The theory behind the inclusion of the proviso clause, as well as some discussion of what particular aggregates might be included in such a clause, will be discussed in an ensuing section of the paper.

The proviso has generally been a two-way proviso. That is, the Manager was directed to ease money market conditions a little if bank credit was falling short of expectations and was directed to tighten them a little if bank credit was rising above expectations. Sometimes, however, the proviso has been expressed so that its effect was only one way. If the Committee was particularly anxious to avoid a sharp rise in bank credit, for example, it might direct the Manager to alter money market conditions only if bank credit was rising above projections.

For the most part, projections of bank credit provided by the staff in the so-called Blue Book have been for only one month ahead, although on occasion a slightly longer time period has been presented. (Very recently quarterly projections, with monthly patterns within the quarter, have been presented). The monthly projections have been based

^{1/} Loans and investments of the large weekly reporting banks are available weekly in fairly detailed categories, while estimates only as of the last Wednesday of the month are available for loans and investments at all commercial banks.

on recent trends in deposit data, knowledge as to likely Treasury financing activity, expectations as to the effects of market interest rates on time deposits given Regulation Q ceilings at banks, and a view as to the intensity of loan demands in light of the current outlook for GNP. The projections have assumed either no change in money market conditions, or, if a change in the second paragraph was to be considered by the FOMC, they have been then based on somewhat tighter or easier money market conditions as the case may be. The Committee generally has, but may not always, accepted the staff projections as the appropriate quantities for the proviso clause.

There is nothing in the directive to indicate when the proviso comes into effect--whether it is after one week of deviation from projections or two or three. Nor is there anything in the directive to indicate how much of a change in money market conditions the Manager should seek in light of a deviation of bank credit from projections. Much of the time the wording "significantly" has appeared in the proviso in relation to deviations from projections, and this would appear to indicate that the deviation would have to be relatively large, with the dimension having to be gleaned by the Account Manager from Committee discussion.

No large change in money market conditions has ever been undertaken in connection with the proviso clause, and there have not been indications in Committee discussion that large changes have been considered in connection with implementation of the proviso. Only small shadings have been undertaken, no matter how large the deviation

of bank credit from projections, with the FOMC reconsidering its whole stance at the next Committee meeting. In its use, then, the proviso clause has generally not been a target, or at least a strong target, because the Account Manager has not been directed to alter marginal reserves and money market conditions as need be to attain the specified bank credit range.

Even keel. The words "even keel" have referred to the operations of the Federal Reserve open market account around periods of Treasury financings. As noted in the appended paper, "An Empirical View of 'Even Keel'", "in practical terms 'even keel' has meant that, for a period encompassing the announcement and settlement dates of a large new security offering or refunding by the Treasury, the Federal Reserve has not made new monetary policy decisions that would impede the orderly marketing of Treasury securities and significantly increase risks of market disruption from sharp changes in market attitudes in the course of a financing." The past timing of even keel and its effect on interest rates and monetary aggregates are discussed in some detail in the attached paper and will not be repeated here. Two points should be highlighted, however. One is that there have been rather marked fluctuations in both day-to-day interest rates and longer-term interest rates during even keel periods, as well as fluctuations in member bank borrowings and net reserves; however, the trend of the narrow money market measures has not generally changed during even keel periods. As a second point, it should be noted that money supply and bank credit have often risen relative to their trend during even keel periods, and

have not always completely retraced that rise after even keel. If any general conclusion about even keel can be drawn, it may be that in such periods the Federal Reserve has permitted somewhat more expansion in monetary aggregates than it might otherwise in order to keep interest rate fluctuations more damped than they otherwise would be.

But whether such a conclusion should be attributed to even keel, as such, is a question. Since the System directive is essentially an accommodative directive, with or without even keel very lumpy credit demands, such as the Treasury's, would be associated with an enlarged expansion in bank credit and money. The major impact of even keel is that the System refrains from changing its constellation of money market conditions in a period of Treasury financings, whereas it would not refrain from doing so in a period of particular corporate or State and local Government financing. The reasons for refraining with respect to Treasury financings are the very large size of such financings and the extreme sensitivity of the markets as a whole to the receptions given these financings. Moreover, should such financings fail, the System would be under extreme pressure to take up the slack since the Treasury generally requires the money either to roll over maturing debt or to finance committed expenditures.

Liquidity, emergency, and other provisions. As noted above, one use of liquidity and emergency provisions in the second paragraph of the directive has been to guard against market disruption in case of very large and unexpected net outflows of funds from banks, savings, or financial institutions. While these net outflows would often make funds

available to the securities markets, they could raise the threat that the institutions would not be able to meet commitments and, therefore, that confidence in the institutions, and perhaps financial markets generally, might be dissipated, with resulting undesirable repercussions on the economy itself. Certain kinds of liquidity and emergency provisions have also been used at times when foreign exchange markets have been in flux, and large outflows of funds from the dollar were in prospect that would have exerted strong and undesired upward pressure on the interest rate structure in this country.

Finally, it might be noted that the directive has at times given the Manager authority in the second paragraph with respect to adjusting operations to take account of changes in the discount rate or reserve requirements when it was relatively certain that such changes were about to take place. Exactly how he would adjust operations is, of course, not spelled out in the directive. But some guidance has been given through Committee discussion or through staff analysis. Nevertheless, in this respect as in other respects, there is a role, although circumscribed, for the Manager to exercise judgment.

Role for Manager's Judgment

The Manager's judgment as to what money market conditions to seek has been circumscribed statistically in recent years through the Blue Book. In this document, the staff presents projections of bank credit, as noted earlier, and also in detail projections of member bank deposits, the money supply, time deposits, nondeposit sources of funds, and interest rates generally, on the assumption of unchanged money market

conditions or, as an alternative, either tightened or eased conditions. Ranges are given both for money market conditions and for the projected monetary aggregates. Given the multiplicity of variables, the Manager has considerable scope to play off one variable against another as consistent with his sense of the desires of the majority of the FOMC so long as at least some key variables remain within specified ranges. In addition, the Manager may have some capacity marginally to alter money market conditions if credit markets more generally are being buffeted by unusual conditions or if the public's view of System monetary policy might be changing undesirably--with market expectations developing that policy is either tighter or easier than the FOMC desires--as a result of a published series of money market statistics or operations deviating significantly from previous trends or actions.

Needless to say, not all members of the FOMC would accept the Blue Book specifications as their own. Thus some members might prescribe a slightly different Federal funds rate range, even for a directive for unchanged money market conditions. Some members might be more willing to see bank credit expand above, or move below, projections than others. Therefore, the Manager is always in the position of compromising among the sometimes conflicting desires of various Committee members. This problem is compounded by the fact that not all Committee members discuss the same variables, so that the Manager cannot be sure of the wishes of those members who have not expressed themselves with respect to, say, the Federal funds rate or the 3-month bill rate. As time has gone on, however, the Blue Book specifications appear to have become more of a

guide for the Committee, and unless a Committee member specifically disagrees, it has generally been taken that he assents to the specifications contained therein.

While the Blue Book contains a good deal of specification and the various Committee members themselves often specify numerically what they hope to see happen, developments often turn out differently from projections. This, of course, is less likely to happen with the narrow money market conditions--such as the Federal funds rate and net borrowed reserves--since these are the principal operating variables the Manager seeks to attain, while it is much more likely to happen with bill rates, longer-term interest rates, bank credit, and money supply. In large part, of course, unexpected developments result from errors in specifying the relationship between money market conditions and monetary aggregates, or it may be that demands in the economy and GNP itself are stronger or weaker than assumed for purposes of making the projection. Whatever the reason for the difference between the projected and actual outcome with respect to interest rates and monetary aggregates, or even with respect to narrow money market conditions, there are some outcomes which turn out to be acceptable to the FOMC even though unspecified as a possibility. For example, a greater than expected rise in interest rates, as compared with projections, may turn out to be acceptable to the FOMC if this occurs at a time when demands in the economy are turning out to be larger than anticipated. In fact, oftentimes the FOMC may tell the Manager not to offset market-generated tendency for interest rates to rise, or to fall.

Whether the multiplicity of short-run targets means that the Manager has more scope for judgment than if he had only one single target is, strangely enough, an open question. If the single target were net borrowed reserves, it would be clear that the Manager would have almost no scope for judgment, because net borrowed reserves are one of the more certainly attainable objectives within the constellation of short-run targets. However, if the single target were a rate of increase in the money supply, there might have to be a very considerable degree of judgment for the Manager because he would likely be faced with sharp day-to-day variations in deposits, and he would have to make almost continuous judgments as to whether this should be a statement week in which he should tighten up money market conditions or ease them in order to make sure that over the month, the quarter, or whatever the relevant period was, that he was able to attain the desired money supply target.

The degree of judgment required by the Manager need not be a principal factor in determining FOMC operating targets, but the attainability of targets with a reasonable degree of accuracy should probably be a criterion. What types of targets are so attainable, and over what time periods, are not within the purview of this paper. The only point that might be added here is that emphasis on money market conditions in the second paragraph of the directive may reflect in part a sense by the FOMC that this is an attainable target, one to which the Manager can be held accountable, and one which may minimize his scope for judgment in day-to-day operations. But other targets may also be feasible and

perhaps more desirable for economic reasons which require more day-to-day judgmental decisions by the Manager since the target (for example, money supply or bank credit) might be one or two steps removed in terms of availability of statistics from the day-to-day flow of bank reserve adjustment data and money market information. Such targets might be attainable, but require the FOMC to provide the Manager with more day-to-day, or more importantly, week-to-week freedom in operations and might also require greater tolerance for errors, given existing institutional arrangements (such as the structure of reserve requirements).

Function of Money Market Conditions

As an Operating Guide

As an operating guide, money market conditions give the Manager a rather specific means by which he can determine whether or not to inject or absorb reserves. The net borrowed reserve position of member banks is relatively easy to hit within a week, particularly now that required reserves are given, and the Federal funds rate is available every day. In addition to having the virtue of providing the Manager with a target that is hittable, and thus to which he can be held accountable, the money market conditions target permits market demands to influence money, bank credit and reserves, as has been earlier noted. In that sense it permits, among other things, the market to make its own seasonal adjustment of the money supply and related items. At the same time, of course, non-seasonal changes in demand would also be accommodated, and the desirability of this is, and has been, one of the critical issues over the years in the FOMC's method of operation, since it raises the danger of providing or absorbing bank reserves, credit, and money in a pro-cyclical fashion.

Day-to-day role of free reserves and the Federal funds rate

This section will analyze in detail the day-to-day operating function of free reserves and other money market conditions, principally the Federal funds rate. The net reserve position and the Federal funds rate determine the Manager's day-to-day decisions as to whether to buy or sell securities. In the framework of the directive, it is his task

to supply or absorb reserves in response to market demands under given money market conditions. The Federal funds rate--the rate banks charge for selling excess reserves to other banks usually on an overnight basis--is one of the most sensitive measures of the demand or the supply of reserves. While the shifting distribution of reserves among major banks, or between major money market and country banks, affect this rate, a persisting tendency for the rate to rise from previous levels indicates a greater desire for reserves relative to supply than in earlier periods and vice versa.

The Federal funds rate generally bears a consistent, and relatively stable, relationship to the net free or net borrowed reserves position of member banks, although there can be week-to-week fluctuations between the two measures as a result of reserve distribution problems or unusual Treasury and other short-term financing demands in the market. There can also be a longer run shift in the relationship--for example, a rise in the Federal funds rate relative to net borrowed reserves if bank deposit drains cumulate and bank liquidity becomes increasingly strained, thereby increasing banks' demands for Federal funds borrowings (and assuming their effective demand for discount window borrowing is restricted by Federal Reserve rationing). In day-to-day operations, the Federal funds rate and net reserves are considered jointly, recognizing the necessity of some give and take in maintaining an over-all unchanged state of ease or tightness for the money market (assuming the FOMC has voted for an unchanged state of money market conditions).

The net reserve position of member banks is measured by the difference between excess reserves and borrowings. For purposes of understanding its relation to System operations, however, a better way to look at the measure of free reserves is as the difference between nonborrowed reserves (the reserves that can be supplied through open market operations) and required reserves (the result of joint decisions by banks and the public affecting the level and distribution of deposits, given interest rates).

Assuming the FOMC has voted to keep money market conditions unchanged, the Account Manager will assume that the net reserve position of banks should remain about where it was in previous weeks. This means that the amount of reserves he supplies or absorbs through the market will depend on other sources of nonborrowed reserves and on required reserves during the statement week. Thus, the Desk has to have at hand projections of float, the Treasury balance at the Federal Reserve, currency in circulation outside the banking System, gold flows, and foreign drawings or repayments on Federal Reserve swap lines, all of which are factors other than his own operations that affect nonborrowed reserves and that are for the most part outside his control.

In addition, the Desk will need for the current statement week estimates of the amount and distribution of deposits by type of deposit and class of bank in order to obtain a measure of required reserves. Under the lagged reserve scheme adopted over a year ago, required reserves in a current statement week are based on deposits two weeks ago, and thus the Desk knows with certainty what required reserves

will be in the current week. But the System has operated with a money market conditions target (with or without a proviso) for a great many years before adopting the lagged reserve provision, and the theory of using money market conditions as an operating guide is little different with or without lags--although the timing of effects of operations on key financial variables might be affected by the presence of lags.

Money market conditions in relation to bank deposits

Over the very short run period of a bank reserve statement week, bank deposits are probably determined mainly by credit demands on banks and by bank investment policies, given money market conditions, and, more generally, the level and structure of interest rates. As banks enter a new statement week, they are confronted with particular supply and demand conditions. On the supply side, they are faced with a set of fund availabilities given to them and about which they can do little (U.S. Government and private demand deposits, which in large part are beyond their influence in the short run)^{1/} and costs (reserve

^{1/} There are obvious exceptions to the statement that pertain to both private and Government demand deposits, but some of these in reality apply to banks' lending or borrowing policy rather than demand deposit flows as such. For example, banks can obtain U.S. Government deposits at times by bidding for Treasury bills offered with payment through credit to tax and loan accounts. But to an individual bank this is a temporary source of funds which it considers on the same basis as Federal funds. The Federal funds rate represents the opportunity cost to the bank that influences the price at which it bids for the tax and loan balance. Such U.S. Government deposits are probably more appropriately considered as Federal funds in contrast to, say, normal seasonal deposit flows. Similarly, policy with respect to compensating balances may be changed by banks in the short run, but this is probably better considered as a factor in loan terms and conditions.

requirements, rates on Federal funds, Euro-dollars, and CD's and other time deposits if available under Regulation Q, etc.) that influence their willingness to obtain additional funds and affect their loan terms and portfolio policies. On the demand side, banks have formulated portfolio policies and are faced with demands for loans, reflecting the underlying demand for goods and services and given the costs to borrowers of various alternative methods of financing, including banks' own loan rates and terms. Through interaction of these supply and demand forces, a certain volume of credit will be extended by banks and a volume of deposits will be generated.

A similar short run process takes place whether or not reserves are lagged. A bank's willingness to extend loans or compete for time deposits, even under a lagged scheme, will be limited by its seasonal pattern of demand deposit flows and by the cost to it of obtaining reserves in the Federal funds market, including particularly expected deposit flows and federal funds costs two weeks hence when reserve requirements on the current week's deposits have to be met. It is assumed, of course, that under existing procedures the discount window is not a permanent source of reserve supply, and can only be used as a fall-back by individual banks for short and infrequent periods when their reserve calculations go astray.

While the general theory of operating with a money market conditions guide is not different when reserves are lagged or when they are not, there may be some difference in timing of bank response to System operations. For example, if the System is tightening under an

unlagged scheme, it is possible for the banking system to adjust to a smaller increase in nonborrowed reserves by selling assets to the public and reducing required reserves in the current week. Under a lagged scheme, there is no possibility for the banking system to reduce required reserves in the current week, but that does not mean that banks need necessarily avoid preparing for the tightening of conditions in the current week. Clearly, they may still sell assets in the current week to the public, thereby reducing deposits currently and required reserves two weeks from now. However that may be--and the characteristic of bank reactions to changes in reserve availability within short-run periods is an area where further empirical research is much needed--in this paper it is assumed that bank deposits in the very short run, such as a statement week, are not much affected in practice by the System operations within that period, and that the operating option for the System is whether to supply the necessary required reserves through the discount window or by providing nonborrowed reserves.

If money market conditions are kept unchanged, presumably the System open market desk will supply or absorb enough nonborrowed reserves--given the other factors affecting nonborrowed reserves--so that the net reserve position of banks, and the level of member bank borrowings (the most volatile element in the net reserve position under current circumstances with excess reserves generally at minimal levels), will be unchanged from what they previously were. And apart from reserve distribution problems, the Federal funds rate will show little net change. Because projections of non-System factors affecting nonborrowed reserves

are uncertain (and in the days before the lag, projections of required reserves were uncertain), Federal funds rate behavior helps provide a clue as to whether the staff projections of net borrowed reserves and factors affecting it are correct. For instance, if staff projections show that net borrowed reserves early in the statement week are deeper than were prevailing in earlier weeks (and thus would require System reserve supplying operations under an unchanged policy), while at the same time the Federal funds rate is opening lower than in previous weeks, the Manager might consider holding off supplying reserves in the expectation that there were in fact more reserves around than the projection for net borrowed reserves indicated. This might then turn out to be the case when the next day's figures become available because, say, float was running higher than was allowed for or was normal at this time of the year. The interplay between statistical projections and the Federal funds rate is a source of information to the Account Manager.

If the FOMC has voted to tighten money market conditions, the Account Manager will conduct his operations so as to force the banking System to borrow more at the discount window than they had done in earlier weeks, assuming excess reserves are at minimal levels. As banks find that they are forced more into the discount window, they will also find that there are less reserves available relative to demand in the Federal funds market (both being aspects of a reduced supply of non-borrowed reserves by the System) and the Federal funds rate will rise. Banks will also begin to undertake portfolio adjustments, such as selling Treasury bills, particularly if they think the tighter conditions

are likely to persist; they will begin to alter offering rates on CD's and Euro-dollars; and they will begin to change loan terms and conditions. These changes soon will begin to feed back on the rate of growth in bank deposits and credit. For example, slower growth than otherwise in deposits may develop over a period of weeks as individual banks begin selling securities to the nonbank public as part of the adaptation to tighter money market conditions.

Money market conditions in relation to over-all interest rates

While following a money market conditions target essentially means that the System will accommodate whatever market demands for money and deposits develop at a given Federal funds rate and bank net reserve position, this does not at the same time mean that the System can be construed as stabilizing interest rates broadly conceived--that is, interest rates other than the overnight money rate. Assuredly, interest rates broadly conceived will tend to fluctuate less in the short run under an accommodative monetary policy than they might otherwise. But still there are likely to be rather wide swings, and also trend movements, of interest rates on obligations maturing in from two or three months and longer, given unchanged money market conditions. Experience in the last half of 1969 is evidence in this respect, although the markedly slower rate of growth in money supply that developed simultaneously would also be consistent with the hypothesis that an unwillingness on the part of the System completely to accommodate demands for money--however that unwillingness came about--was an important causative factor in the interest rate increase.

A number of factors can account for over-all interest variability under an unchanged money market conditions target. One, of course, is expectations. An increase in inflationary anticipations, for example, will increase the interest rate premium demanded by investors, and will make borrowers more willing to pay it. Similarly, an abatement of inflationary expectations will have the reverse effect.

Expectational effects on interest rates can also develop out of shifting attitude with respect to fiscal and monetary policies. Anticipations of a fiscal surplus, and of course the actual development of one, may lead to interest rate declines on both short- and long-term Treasury securities as dealers become more willing to position securities currently in anticipation of a relative scarcity of securities later or in recognition of a shortage in the process of developing. Similarly, a pervasive attitude that the monetary authority may at some time in the future begin to ease money market conditions is likely to bring interest rates down currently as investors attempt to load up on high-yielding securities. In the bill market, such a phenomenon can be associated with declines in both 3- and 6-month bill rates, but often a relatively greater decline develops in the 6-month bill rate, reflecting the greater likelihood that short-rates will be lower in the longer-term future than over the near-term. Expectations of a tightening in money market conditions will have the reverse effect. But if expectations of a shift in money market conditions prove unfounded, interest rates are likely to revert to previous levels.

A more permanent effect on interest rates, however, can develop as money market conditions remain unchanged over a sustained period because of a cumulating tightness that develops on banks. For instance, if member bank borrowings from the Federal Reserve remain at, say, around \$1 billion for a number of months, many banks will have been into the discount window a number of times. Given the attitude of the Federal Reserve that such borrowing should be only occasional and primarily for unforeseen reserve adjustment contingencies, the reluctance of banks to borrow will tend to increase with the number of times they have previously borrowed. Thus, as a given degree of pressure on bank reserve positions is sustained, banks will increasingly sell Treasury bills, reduce purchases of municipal securities, and make other adjustments that reduce the likelihood they will have to come to the discount window. These adjustments will add to upward interest rate pressures.

Such a process will be intensified in periods when Regulation Q ceilings are at unrealistically low levels, and thus banks are also forced to adjust portfolio policies and loan terms to rapid losses in time deposits. Interest rates tend to rise under such circumstances partly because the banks appear to be more efficient investors than are the large number of individuals and corporations. But in addition, it is more likely that the structure of interest rates may be affected--with long-term interest rates rising relative to short-term rates--as those withdrawing funds from banks, such as corporations, invest largely in short-term market instruments, while banks react not only by selling

Treasury bills but also by reducing acquisitions of long-term state and local government securities and by stiffening lending terms, which may force some business borrowers into the open market, including the capital market, for funds.

Finally, over-all interest rates can vary, given money market conditions, along with changes in basic credit demands, which may reflect changes in the trend of GNP. A weakening of credit demands on banks will reduce their need to undertake liquidity and portfolio adjustments and will lower their demand for borrowings from the Federal Reserve (in the sense of a shift in the demand curve)--at any given differential between short-term interest rates and the discount rate they will be willing to borrow less--with the result that market interest rates, both short- and long-term, will decline. Changes in demands on bond markets--predicated in part, say, on changing needs to finance business capital outlays--will also affect long-term interest rates with money market conditions unchanged. However, in this, as in other instances of changing credit demands, the extent of interest rate change will be influenced by expectations and will also be limited by the accommodative posture of the Federal Reserve.

In general as credit demands weaken, the accommodative monetary policy at given money market conditions, will be consistent with interest rate declines, but the extent of decline in the short-run will be limited by the System's maintaining unchanged, rather than easing, day-to-day financing rates and member bank indebtedness to the Federal Reserve. Similarly, as credit demands strengthen, interest rates

generally will rise, but the degree of rise in the short-run will be limited by the System's keeping day-to-day financing costs at previous levels rather than letting them rise and making it more expensive for dealers to underwrite the securities that are issued and more expensive for individual banks to accommodate loan demands through marginal borrowing in the Federal funds market.

Evaluation of the need for a money market conditions guide

One of the chief advantages of operating on money market conditions would appear to be the automatic seasonal adjustment that is provided for bank reserves and money. For instance, the drain on bank reserves from outflows of currency to the public around the Thanksgiving and Christmas holiday periods and the greater transactions need for demand deposits are not permitted to tighten up the money markets as the System provides offsetting reserves to the banks through open market operations. The resulting increase in the money supply, as it recurs regularly, would be represented as no more than seasonal on the money supply statistics. In addition, other temporary demands are also provided for, even though they may not recur year after year and thereby qualify as seasonal demands. An example would be a onetime speed up in corporate tax payments.

The desirability of stabilizing money market conditions in order to provide an automatic short-run accommodation to banks' changing demands for reserves may, of course, be open to question. One reason for operating in that way is that, under current institutional arrangements, there is no automatic access to the discount window. If there

were such access and assuming that the discount rate were continuously in touch with market rates, member bank borrowings might be permitted to fluctuate for seasonal reasons, rather than nonborrowed reserves. But apart from that possibility, the theory behind the directive appears to imply the desirability of providing seasonal and other temporary accommodation to the market on the grounds that the market cannot be completely relied on to arbitrage out through the interest rate mechanism the shifting seasonal demands for credit and money. It seems unlikely, for instance, that the market would fully anticipate tax period needs for credit in periods of seasonal slack and thereby avoid severe credit market crunches at tax dates. Of course, one might argue that the market's learning process is rapid and that it would not take more than one or two tax dates before the market did learn to borrow in advance, when short-term interest rates would be tending to be lower.

While there is something to be said for accommodating seasonal and temporary market demands in the System's day-to-day operations, there are also dangers. The chief danger is that if economic activity is heading up beyond expectations, there is likely to develop over the short-run a larger expansion of bank credit and money than is desired for either seasonal, temporary, or longer-run growth reasons. On the other hand, if the economy is weakening, the System is likely to find itself in a position of absorbing more reserves over the short-run than it may wish to when taking into account the sustainable growth needs of the economy. This condition might be corrected, of course, either by strict adherence to the proviso (that is, by making it more

of a target) or by adjusting the money market conditions target when the FOMC again meets. But in very weak or very strong economic situations, small adjustments in money market conditions--and past experience has shown that the FOMC moves in small steps with respect to money market conditions--may not be sufficient to achieve over-all financial conditions consistent with desired economic activity. The focus on money market conditions, therefore, and the concern with stability of money market conditions tend to limit the System's ability to control monetary aggregates and to effect the desired associated changes in over-all credit conditions and interest rates.

While money market conditions are generally considered to be an operating and merely instrumental target, they are moved infrequently enough and slowly enough so that they, for all practical purposes, assume the aspects of a goal of policy. The stability of the money market is clearly a short-run goal, but often the desire not to have sharp shifts in money market conditions appears to be a longer-run goal in that the System in the past has appeared reluctant to change money market conditions by more than small gradual amounts. Such short-run and longer-run goals for the money market can often interfere with the attainment of the longer-run interest rate, bank credit, and money objectives of policy--all of which appear to be more closely related to economic activity than are money market conditions themselves.

It is not completely without reason that the System pays such close attention to the money market and its operations. Many of the reasons have been discussed in the preceding pages of this paper. In

particular, the use of such a target for enabling the System to provide for the seasonal and temporary reserve needs of the economy has been noted. In addition, a theoretical construct of how the System can attain credit conditions and monetary flows consistent with a desired GNP through an interlocking set of short-run and long-run projections of financial and real flows while operating day-to-day or money market conditions will be sketched out in a subsequent discussion.

But perhaps the chief reason for a focus on the money market in operations is the feeling that it will lead to less interest rate fluctuation and less danger of liquidity crises than would a focus on a monetary aggregate. The history of central banking, and particularly the genesis of the Federal Reserve System, has had as one of its main themes the need to have an institution which will be able to avert old-fashioned financial panics by providing a source of ultimate liquidity to the economy. Thus, concern for the central money market--where liquidity pressures focus--has historically been a main concern of the Federal Reserve. Perhaps partly explainable as an outgrowth and aspect of such a tradition, it would appear that the FOMC believes that wide interest rate fluctuations over the short-run are more likely than short-run swings in the money supply or bank credit to cause possibly destabilizing disturbances in the behavior of borrowers and lenders, who to a great extent rely on the interest rate structure as a source of information about current and prospective credit and possibly economic conditions.

The sharp rise in both short and long interest rates over the last half of 1969 certainly raise questions, however, as to how much

stability in interest rates is produced by the focus on narrow money market conditions. Setting aside the question of whether one should stabilize interest rates at all in the short-run, it might be pointed out that more stability could be introduced into the interest rate structure by encouraging offsetting fluctuations in the Federal funds rate. That is, a tendency for bill or other interest rates to rise could be offset by forcing the Federal funds rate down, and vice-versa. This may be desirable depending on economic prospects, but there is the danger that such a policy could increase the likelihood of providing reserves pro-cyclically. For example, as people expect interest rates to rise, an effort by the System to lower the Federal funds rate and provide more nonborrowed reserves to prevent such a rise would result in an even larger short-run rise in the money supply than would otherwise be the case--and, of course, might not over the longer-run forestall a rise in market interest rates if the greater expansion in money led to inflationary expectations.

While the use of changes in money market conditions to offset fluctuations in interest rates over-all is not desirable in a period when the economy is either strengthening undesirably or weakening undesirably, it may be desirable to permit money market conditions to move in such a way as to reinforce over-all interest rate movements. That is, the money market itself might be permitted to tighten up as other interest rates rise, or to ease off as other interest rates decline. But if the money market is permitted to tighten up, one danger is that it may affect the solvency of dealers in securities who may have exposed

positions and rely on the money market for financing. Thus, an excessive tightening of the money market over the short-run could lead to some failures of underwriters and to an associated weakening of confidence generally.

While there is some argument for the System assuring a degree of stability in the money market, more fluctuation in money market conditions than has been permitted seems to have desirable aspects.

Because of the past and current emphasis on money market conditions, many market participants apparently view a change in money market conditions as signaling a change in policy. If the money market were permitted to fluctuate more, this view might tend to be eroded. As this view was eroded, the System's flexibility in attaining targets for interest rates more generally, reserves, or other monetary aggregates would be enhanced.

A greater fluctuation in money market variables, once the market was used to such fluctuation, would not appear in and of itself to affect credit conditions that affect spending. As the Federal funds rate fluctuates up and down, banks are unlikely to change loan and investment policies, and dealers in securities are unlikely to become significantly more or less aggressive in bidding for a position in securities. A clear trend in money market conditions either toward the tight or easy side, would, however, as it does now, have an effect on over-all credit conditions.

If the money market were permitted to fluctuate more, it might permit the System to run an open market policy with less short-run

variability in money supply, bank reserves, bank deposits, and possibly even interest rates generally. But whether it is better policy to minimize short-run variability in the money supply or short-run variability in money market conditions is a much debated question. Even if the System were to move to a monetary aggregate target for the short-run, the effect on money markets would depend on how the value of the aggregate was chosen. The System could choose, for example, to expand bank credit in accommodation of Treasury financing demands in a current month just as it would under a fixed money market conditions target. If the staff projected that bank credit would expand at a 15 per cent annual rate in a month with fixed money market conditions, given the Treasury financing and past seasonals, and the Committee accepted the 15 per cent as a suitable target for the month, then it is likely that money market conditions, assuming the staff is correct, would remain relatively stable within the month and would show little change from the previous month.

The Committee could, however, reverse the current main and proviso clauses in the current directive if it chose to make a monetary aggregate its primary target. Under such conditions, the money market is likely to fluctuate more than in the past because the Manager would have to move rapidly to attain the aggregate target if the projections appeared to be wrong. But clearly an aggregate target over a one-month period could not be considered except as a part of a desired longer-term trend. As it became clear to the market what the longer-term trend appeared to be, some of the short-run variation in money market conditions might tend to moderate as borrowers and lenders became more efficient in discounting the future.

Possible Relationship between the Structure of
the Directive and a Theory of Monetary Policy Formulation

The second paragraph of the directive is essentially an instruction to the Manager on how to operate in the open market during the interval between Committee meetings. In that sense, the second paragraph need not be interpreted as representing monetary policy, if monetary policy as it influences financial markets is to be judged by such key variables as over-all credit conditions, interest rates, the availability of funds to the mortgage market, money supply, and the liquidity positions of banks, other institutions, corporations, and individuals. All of these key financial variables can change while the second paragraph of the directive itself remains unchanged. It takes only a cursory reading of history to point out such periods, but the one that comes quickest to mind is the period from the spring to the end of 1969, when there was a sharp tightening in what almost anyone would call monetary policy--whether judged by interest rates, the money supply, or liquidity--without any accompanying change in the second paragraph of the directive.

Since money market conditions themselves are not a key variable affecting spending, the theory of using money market conditions, with a proviso clause, as day-to-day operating variables in the directive can be explained by noting one possibility of how the second paragraph of the directive might relate to projections for key financial variables that affect the economy and to projections of economic activity itself.

The view of these interrelationship to be presented here represents a theory that has only been partially practiced, with gaps in knowledge of economic and financial relationships tending to vitiate the theory and to limit the practice. Moreover, it is not clear that the theory to be presented, particularly as it reflects on the role of the proviso, has been held by all, or even most, members of the FOMC. It is, however, a theory that is generally consistent with the type of information presented by the staff to the FOMC, although as will be brought out in the concluding section of the paper, there are gaps between theory and practice, some of which may reflect the fact that the FOMC itself has not accepted or does not follow the theory and some of which may reflect that the detailed information and interrelationships required by the theory have not been presented or made clear to the FOMC--and perhaps in the present state of the act cannot be.

Formulation of longer-run projections

The staff ordinarily presents to the Federal Open Market Committee longer-term projections of the economy, with certain assumptions as to monetary policy. These assumptions have been expressed in various ways at various times; for example, at times they have been expressed in terms of a particular bill rate, at other times in terms of a growth in bank credit, and at times in terms of growth in total reserves. Most frequently, perhaps, the policy assumptions are stated as a collection of financial flow and interest rate variables which are believed to be mutually consistent. The following few paragraphs on the formulation of longer-run projections and their relation to operating

guides are based for the most part on a paper, "Notes on Monetary Policy Formulation and Operations", prepared by the author for another occasion.^{1/}

Basic to the formulation and operations of monetary policy is a long-run forecast of how the economy is likely to develop with a length of run of, say, one year. For the purposes of this paper, the techniques of such forecasts will not be discussed, the alternatives and problems of which have been under intensive debate among economists for some time now. Within the structure of a long-run forecast of economic activity--meaning GNP in both real and nominal terms--there would be contained a time path of economic activity. The units of time could be as small as one would like, but the state of economic data and the art of forecasting suggest one quarter as a reasonably short division of time for projections of real economic activity and associated financial flows. While the quarterly pattern of projections within the context of^a longer-run projection may be satisfactory for policy formulation by the FOMC, it seems clear that even shorter-run projections, at least of certain key financial variables will be needed for the operations of policy in the open market in order to verify that policy is on the track of the longer-run projection, assuming that projection represents a goal of policy.

But before discussing the projections needed for day-to-day open market operations, it is necessary, first, to consider in a little

^{1/} Prepared for a meeting of the Southern Economic Association on November 8, 1968.

detail the assumptions behind the longer-run forecast of real activity and financial flows, since this forecast is presumed to provide the ultimate guideline for operations. One basis for a longer-run forecast would be an assumption of no change in over-all credit conditions as currently prevailing, or changes in credit conditions could be posited if required to lead to a desired GNP. One reason for using an assumption about credit conditions would be that most of the links thus far found between financial conditions and categories of spending appear to be from the credit side--interest rates and credit availability--rather than from the asset side--money supply, etc. There is, of course, a debate in process, and a forecast could also be constructed on the assumption of no change in the rate of money supply growth from, say, a growth of the previous several months on average. In this paper, however, it will be assumed projections of GNP are based on credit market assumptions.

An assumption of unchanged credit conditions from those prevailing in the recent past might be consistent with some fluctuation or movement of nominal interest rates, but it would not be consistent with such large variations as to change the willingness of borrowers to undertake credit financed spending from what is anticipated at the time of the forecast. Real economic activity will also depend, of course, on past financial market conditions as they have come to influence spending in the quarters ahead. Finally, fiscal policy, wage and price pressures, and exogenous shocks to the system such as technological changes, unforeseen defense emergencies, and sudden surges of

consumer optimism or pessimism will all influence the forecast of economic activity.

For the forecast level of GNP to be realized, a certain pattern of financial flows would then be required, given current and past credit conditions. This pattern will reflect business, mortgage, U.S. Treasury, consumer, and State and local Government credit demands. The financing of these demands, given a level and structure of interest rates, will imply a distribution of financial assets held by consumers and others that will in effect serve as a source of funds for the borrowers. Thus, the money supply, time deposits, savings and loan shares, etc., fall out of the projection; and so does the need for aggregate bank reserves.

If the pattern of real economic activity in the projection is satisfactory to the monetary authority, then given how the projections were made, there will be no need for monetary policy to be changed--in the sense that there is no need for open market operations to be directed toward achieving firmer or easier over-all credit conditions. But that does not mean that there would not be short-run variations in rates of growth in bank reserves and money supply, given the lumpiness of various types of demands both from the U.S. Government and businesses, as required to be consistent with the longer-run financial and credit flows necessary to achieve the desired level of growth of economic activity. If some other pattern of change in real economic activity were desired by the FOMC, a consistent projection of real and financial flows could,

of course, also be worked out, with the effects past monetary policies imposing a restraint on how soon a more desired economic goal might be achieved or on how large a wrench might be required in the financial system to attain it.

Role of money market conditions and proviso
in relation to longer-run projections

A structure of interest rates and pattern of financial flows consistent with the credit and money demands generated by the desired level of economic activity can be attained by using money market conditions as a day-to-day guide for open market operations as described in the previous section of the paper, provided the relationship between money market conditions, over-all credit conditions, and desired GNP can be reasonably well predicted. One reason, in addition to those noted earlier, for having day-to-day open market operations focus on narrow money market conditions--that is on such things as the Federal funds rate and net borrowed reserves rather than on longer-term interest rates--is that the focus on the narrow money market runs less danger of supplying reserves in response to expectational shifts that affect the longer-term interest rates.

It has to be recognized, however, that money market conditions and over-all credit and financial conditions are not the same and that the relationship between the two can shift. Thus, while day-to-day money market conditions comprise convenient operating variables, if they are kept unchanged over long periods over-all credit conditions could become

relatively tighter or easier than desired for the FOMC's economic goal; or, on the other hand, to achieve tight enough financial conditions, money market conditions may have to be kept unchanged at a taut level for a sustained period. While the relationship between money market conditions and over-all credit conditions may be fairly predictable, the relationship is not generally a consistent one, as again the last half of 1969 has demonstrated. What all this amounts to is that money market conditions have little policy meaning in and of themselves, and acquire meaning only as they lead to effects on financial variables that affect spending.

Money market conditions are chosen as an operating guide on the view that they are attainable and that the level of money market conditions--i.e., how high the Federal funds rate or how deep net borrowed reserves are--can be set in such a way that they will lead the Account Manager to provide or absorb reserves in response to demands in the economy, these demands being no more than and no less than is associated with a desired level of GNP. Because of the presumed interrelation between the money market and GNP in the longer-term projections, day-to-day open market operations conducted in terms of money market conditions can be said to be free of the sin of money market myopia. But they can only be said to be so if there is no hesitancy in resetting money market conditions when it appears as if over-all credit conditions are becoming tighter or easier than is desired.

Needless to say, however, there can be many slippages between the specification of the set of money market conditions and the ensuing

financial developments that more directly affect GNP (as well as reflect GNP), just as there can be large miscalculations as to the basic state of aggregate demands in the economy or of the degree of fiscal stimulus and restraint. Because of these slippages and because money market conditions in themselves do not include variables which affect spending, it would appear that such conditions would have to be varied frequently as errors in specification between money market conditions and variables that affect spending become apparent or as errors in projections of aggregate demand become apparent. In practice, therefore, one would on theoretical grounds expect rather frequent changes in both the directive and in projections, although during 1969 it seems fair to say that changes in projections were much more frequent than changes in the directive.

One way of hedging against the possibility that given money market conditions are leading to a policy which condones undesirable economic developments is to make short-run forecasts for time units of less than one quarter--such as for the months within the quarter--for certain key banking and monetary variables immediately responsive to open market operations, such as total reserves, nonborrowed reserves, money supply, and time deposits. In other words, money market condition targets can be set in the expectation that they will lead to a certain growth of bank credit, money, and reserves over a particular one month period representing an interval roughly reflective of the time between meetings of the Federal Open Market Committee. And the growth rate in such variables over that month--as well as the successive monthly

projections--would be consistent with the quarterly growth rates that are implicit in the credit conditions leading to the GNP forecast--if the whole ball of wax was put together consistently, with correct analysis of the relationships between real economic activity and credit conditions (taking due account of the distinction between nominal and real interest rates in judging the appropriateness of credit conditions), between credit conditions and the public's asset preferences, and between financial flows this month and next month. That such relationships can be predicted with accuracy represents, of course, a very heroic assumption, but this paper is discussing theory as much as reality.

The proviso clause can be interpreted as using total member bank deposits subject to reserves--called the bank credit proxy--as a variable which tests the consistency between money market conditions and projected developments in the real economy. If the successive weekly and monthly observations of this variable were rising faster than projected, the assumption would be that GNP was stronger than expected. If this variable were weaker than projected, the assumption would be that GNP was weaker. On this theory that the proviso clause is the link between the day-to-day money market conditions target and the ultimate GNP goal, two principal criteria for the variable to be included in the proviso clause could be reasonably posited: one would be its responsiveness to GNP, and the other would be the ready availability of data on a daily basis so that they could be taken into account in the course of operations. Another criterion would be its controllability through open market operations; this criterion becomes more

important in the degree that the proviso is considered more as a target to be attained rather than as an indicator of GNP trends. And the proviso may have certain target aspects because under particular conditions--such as inflation--the FOMC may wish to put more stress on attaining the specified aggregates if it feels relatively more uncertain about appropriate credit conditions because of inability to evaluate the impact of inflationary expectations on interest rates. The ambiguities in the concept of the proviso--whether it is a target or indicator--are discussed in somewhat more detail at a later point in this section.

Whether total member bank deposits meet the first criterion of being related to aggregate economic demands in a consistent manner is a testable proposition. On a priori grounds, one might think that the money supply would be a better variable in this respect, since the income elasticity of money probably dominates the interest rate elasticity of money. Total member bank deposits, on the other hand, include a time deposit component which is highly interest elastic and probably less elastic with respect to income.

The staff in making its short-run forecasts of total member bank deposits does attempt to estimate the extent to which time and savings deposits, as well as demand deposits, will be affected by the level of market interest rates expected to accompany a given level of money market conditions. Thus, an expected amount of intermediation or disintermediation is included in the forecast. For purposes of the proviso clause, the assumption could then be made that to the extent the projection of total member bank deposits is wrong, it is wrong not

because of errors in forecasting intermediation or disintermediation, but because the assumption about aggregate demands is wrong. It is also obvious, however, that the staff can also miscalculate the income elasticity of total member bank deposits, even if the GNP forecast is correct.

The monthly projections of monetary aggregates provided to the FOMC in the Blue Book could be thought of as the link between day-to-day money market conditions and real economic activity. This link depends on a degree of detailed knowledge about the functioning of the economy and about interrelationships between real and financial variables and among financial variables which is barely attainable by the human mind, and is certainly not at hand at the moment. Thus, at best, the directive may be said to have been working with a very imperfect mechanism, but a mechanism--that is, a proviso clause--which has probably been better than no such mechanism at all, for it may give correct signals in periods when there are large deviations in GNP as compared with projections.

Before going on to discuss in somewhat more detail the problems of errors and uncertainties implicit in such a theory and practice of the directive, the ambiguities in the role of the proviso clause in practice need to be brought out. Many apparently have considered that the proviso clause represents a target for policy and not an indicator of whether money market conditions were set in such a way as to achieve a desired GNP. Those who consider the proviso as a target, therefore, are concerned about whether it properly measures bank credit, if that is taken

as the goal of policy. It may be concern with the target aspect of the proviso that has led the FOMC to add to total member bank deposits funds obtained abroad through Euro-dollars and obtained domestically through nondeposit sources when specifying the ranges for the proviso. But if the proviso is taken purely in its indicator role--that is, its role as reflecting transactions or credit demands in the economy--it is not clear that it needs to be a comprehensive measure of bank credit. In this sense, the use of the term "bank credit proxy" may have led to considerably more conceptual confusion than is necessary.

The theoretical bases for considering the proviso clause as a target as compared with considering it as an indicator of whether the relationship between money market conditions and evolving GNP are about as expected would appear to be quite different. Taking it as a target, one would have to argue that the proviso clause should contain a flow variable readily controllable by the Federal Reserve and most likely to lead to desired GNP in the future, given the lags in monetary policy. Moreover, one would probably also have to argue that the proviso clause should be the principal operating instruction, with money market conditions, or whatever else, put into the proviso. However, taking the proviso clause as an indicator of GNP (not as an indicator of monetary policy in this context it should be stressed), one might argue that it need only contain the flow variable that is more income sensitive and readily available in relation to current trends in GNP. It is not readily apparent that the target variable and indicator of current GNP variable need be one and the same, though this is an empirical question

basically. But there does seem to be some uncertainty in the FOMC directive as to which type of variable is being sought.

Errors and uncertainties considered

As the previous section has made clear, there is considerable scope for error in the relationship between the operating targets in the second paragraph of the directive and the ultimate goal of policy-- a satisfactory performance of the economy in terms of activity, prices, and the balance of payments. Errors in projections of GNP and in prices, since they are given in framing monthly and quarterly financial projections, can obviously lead to errors in the directive variables given to the Manager. In addition, GNP might in a sense be correctly projected, but the staff may err in its evaluation of the relationship between current financial flows and the given GNP. Finally, there may simply be random variations, or noise, affecting monthly estimates of monetary flows. One result of the latter two sources of misestimation would be that, with money market conditions given in the directive, bank credit may turn out to be stronger or weaker than projected, but still not inconsistent with the desired GNP. However, the deviation of bank credit from projections might trigger the proviso clause and set up a chain of events that would lead to an undesired GNP. The possibility of this sort of error is one of the reasons why the proviso clause has generally not been triggered except in cases of large deviations from projections, and when triggered, has led to only very minor changes in money market conditions.

There would be potential sources of error affecting operations, of course, whether the directive was couched in terms of some monetary aggregate rather than money market conditions, or whether the proviso was reversed, with an aggregate in the principal clause and money market conditions in the proviso. The sources of error might differ somewhat, however. With some sort of monetary aggregate target--such as the money supply--there would be some built-in protection against underevaluating the effect of inflationary expectations on nominal interest rates and thereby choosing a wrong interest rate target when using a market conditions guide. On the other hand, a money supply target might very well be set wrongly--say too low--in relation to liquidity demands with the result that credit conditions become too tight to achieve desired GNP.

In general, linkages between financial variables and economic activity, as well as among financial variables, including money market conditions, are--despite two decades of empirical research--still subject to considerable uncertainty. As a result, any form of directive by the FOMC is likely to involve the risk of error and thus of poor policy after the fact, though presumably economic research will lead us to the point where it will be possible to specify operating variables that at least minimize the potential deleterious effect on the economy from mistakes in projected relationships among economic and financial variables. Whether such operating variables would encompass monetary aggregates, interest rates, or some combination of the two is not within the purview of this paper.

The potential sources of errors are the result of uncertainties as to linkages between and among financial and economic variables, as well as the unpredictability of exogeneous shocks to the economy, such as wars, technological breakthroughs, and erratic changes in consumer buying sentiment. There is uncertainty as to which financial variables affect economic activity--for example, it is not clear whether or what type of rationing occurs in the economy when there is a shortage of credit relative to demand, or whether the balancing of demand and supply is accomplished completely through interest rates. It is not clear what the lags are between changes in financial variables and changes in economic activity. It is not clear how strong a change in financial variables is required to obtain a given effect on an economic activity--i.e., whether the money supply should rise or fall 2 or 4 per cent, or whether interest rates should fall or rise 2 or 4 percentage points.

In addition to these uncertainties as to linkages, there are uncertainties as to how much variability should be permitted in key financial variables over the short-run. One of the premises underlying the present form of the FOMC directive is that it is better to keep money market conditions stable over the short-run, while permitting more short-run variability in such items as the money supply, longer-term interest rates, and even Treasury bill rates.

A decision to stabilize money market conditions would appear to assume that this will lead to less errors in other financial variables in relation to desired economic activity than would a decision to stabilize

a longer-run interest rate or a money supply variable. In other words, the directive as currently structured would seem to assume that the greater variability in member bank borrowings and the Federal funds rate which might result from specification of a money supply or total reserve target would be more harmful to the economy--given the current state of uncertainty as to what should be the level, rate of change, and value of key financial variables--than would stability of money market conditions. The reason would have to be that a money market condition target gives maximum scope for permitting market demands to determine financial flows and for permitting expectations to determine movements in interest rates away from the basic relationship to the Federal funds rate--decisions about which the FOMC feels that it cannot make directly, at least in the short-run, either because it cannot know the linkages in the current state of knowledge, or because it believes that the demand for money is inherently unstable, or because out of concern with the potential for liquidity crises it places higher value on money market stability in the short-run than on predetermined levels or rates of change in other variables.

Perhaps at the risk of reading more into the framing of the current directive than was in the minds of the framers, it would appear that uncertainties as to linkages between financial variables and economic activity and uncertainties as to the ability to determine the short-run demand for money and bank reserves, are important factors behind the choice of money market conditions as an operating target. In addition, it is likely that money market conditions can be thought of as bearing

a closer and more predictable relationship to over-all credit conditions and liquidity positions of banks and other key lending institutions, so that those who adhere to a view that credit conditions--rather than changes in the public's holdings of financial assets, particularly money--determine spending may feel more comfortable with the money market conditions target. But for those who hold such a theory, it is difficult to understand why it would not be better to specify some particular interest rate, constellation of interest rates, or desired reduction or enhancement of liquidity for banks, as a target instead. However that may be, the uncertainties faced by the policymakers, together with the need to provide the Manager with an attainable target, provided them with a reason for adhering to money market conditions as a short-run operating guide for the open market Desk, while keeping an eye on other financial variables that bear more direct relations to spending and to GNP in the formulation of policy.

Money market conditions taking on aspects of a policy target

While staff presentations and projections of GNP and financial variables both in the short-run and the long-run do give the Committee an idea of what is likely to happen/given money market conditions, there is still the danger that a directive couched primarily in terms of money market conditions will lead to unexpected and undesired changes in variables that are more directly reflective of the impact of monetary policy on GNP. This can happen not only because of errors in staff projections, but it can also happen because money market conditions themselves can come to be taken as an objective of policy. In part, this

can happen as the need for a stable money market in the short-run is over-stressed. But in part it can happen because a continued stable money market comes to be viewed by the market as an objective of policy. When this occurs, the System often tends to get locked in, because it feels that any change in money market conditions will be interpreted as a change in policy and, therefore, lead to over-reactions by the market participants and others. This is particularly the case in periods, such as 1969, when abatement of inflationary psychology appeared to be the ultimate aim of monetary policy. With that aim, there seemed to be the fear that any change in money market conditions would be interpreted itself as signaling a change in policy and thus would fuel inflationary psychology.

Whatever may be the relation in particular periods between money market conditions, over-all credit conditions, and the money supply, it does seem clear that concentration on money market conditions in the operating paragraph of the directive leads both the Committee and the market at times to interpret these conditions as policy itself. If an operating directive were phrased in terms of some monetary aggregate, or even in terms of over-all credit conditions, it might be more difficult for the Manager to operate, but it would be less likely to lead to a confusion between operating variables and the financial conditions that are the goals of policy. It might also lead to more fluctuation in money market conditions--which would come to be considered normal. However, it is difficult to predict how money market conditions would react over the longer-run to such a recasting of the directive, since

the market itself might find ways of stabilizing itself as borrowers and lenders come to discount the future more accurately.

In sum, the second paragraph of the directive would appear to have only a tenuous relationship to monetary policy as most economists perceive monetary policy. What relation it has depends on staff projections of the relationship between money market conditions and other financial variables. These projections are generally made known in summary form to the public when the policy records are released after a 3-month lag. Unless money market conditions themselves change, many in the market do not consider that monetary policy has changed, and it is not completely clear that this view is also not held by many members of the FOMC.

The focus on money market conditions has in practice tended to prevent the Committee from adjusting these conditions rapidly. Changes in money market conditions, when they have been undertaken, have been undertaken gradually. Another reason for gradual changes, apart from concern with the money market, as such, is the uncertainty by the System as to the effects of its action or as to their desirability. This results in a directive that specifies attainment of slight, modest, or moderate changes in money market conditions. But as a result of this unwillingness to move money market conditions rapidly at times, the System may also be put in the posture of not being able to encourage as rapid an acceleration (or deceleration) in money supply growth or as large an easing (or tightening) of credit conditions as may be necessary to achieve its economic goals. Thus, there may be a conflict between the attitude toward money market conditions and what is necessary to achieve changes in financial variables that more directly affect changes in the

public's spending propensities.

Recapitulation and Concluding Remarks

This paper has attempted to indicate how the construction of the second paragraph of the FOMC directive, as it was in the late 1960's, affects the flow of money and deposits and of interest rates broadly conceived in the practice of open market operation. The paper also attempted to present one theory--though admittedly one which may not be generally held or acted upon by the FOMC--as to how the money market conditions operating guide in the second paragraph, in conjunction with the proviso clause, can be fitted into a nexus of financial and nonfinancial projections of the economy and related to financial variables, particularly over-all credit conditions, that more directly affect spending decisions. It was not the task of the paper to determine if another theory--for example, one that put more stress on monetary aggregates both in operations and for their role in economic forecasting--would improve the functioning and posture of monetary policy. But the paper did point out the great uncertainties present in the economic and financial relationships that would have to be projected both over short and longer periods of time to satisfy the proposed theoretical basis for the FOMC directive of the late 1960's. Uncertainties, though perhaps of not exactly the same sort, would also plague other conceivable forms of a directive.

While the general problem would appear to be to find a directive form that will minimize the potential for errors in policy, the directive of the late 1960's even on its own terms did not appear

quite to live up to the theory that has been constructed for it here. There were, in other words, gaps between theory and practice--some of which may have been because the theory required more knowledge or explanation than was or conceivably could have been produced; some of which may have been because the FOMC simply operated on another theory or theories; and some of which may have been caused by money market conditions in practice taking on aspects of a target role rather than playing only an instrumental role in policy.

The following points recapitulate the highlights of the paper and offer some conclusions:

(1) Neither the first or second paragraph of the FOMC's directive to the Account Manager, nor the relation between the two paragraphs, are understandable when the directive is considered by itself, or perhaps even when it is taken in conjunction with the simultaneously published policy record. It can only be understood as an aspect of the whole procedure at FOMC meetings, including the economic information and projections presented and the discussion of policy by the members of the FOMC as ultimately revealed in the minutes published for the meeting. Within this context a theory for the directive may be constructed, particularly a theory which relates the operating instructions of the second paragraph to the economic forecast and objectives that are vaguely noted in the first paragraph.

(2) One theory of using money market conditions--essentially the net free or net borrowed reserve position of member banks and the Federal funds rate--as a day-to-day operating guide for the Account

Manager would be that such conditions bear a predictable relation to over-all credit conditions, that over-all credit conditions (including interest rate structure, bank liquidity, etc.) can be set so as to influence economic activity in a desired direction or toward a desired level, and that the flow of bank reserves, bank credit, and money expected to result from the money market conditions and desired credit conditions will, perforce, be appropriate. Such a theory does not imply that monetary policy stabilizes either interest rates broadly conceived or a rate of change in some monetary aggregate. It does imply, however, that over the short run money demands would be accommodated at any given Federal funds rate, and to that extent policy operations would tend to moderate fluctuations in other interest rates, although such rates would still be affected by changes in expectations and shifts in credit demand.

(3) Under such a theory, economic and associated financial projections are required for several quarters ahead, as are short-run projections--for, say, a month--of key monetary flows, such as bank credit and money supply. The short-run projections can be used to indicate whether the money market conditions fixed for the interval between FOMC meetings are leading to the flows of bank credit and money that were projected over the longer-run to be consistent with desired GNP, given credit conditions and interest rates. To the degree that the short-run flows are showing changes greater or less than projected, the presumption is that GNP, or aggregate demand, is stronger or weaker than projected. On this view, the proviso clause in the second paragraph serves as an indicator of aggregate demand, which would suggest that the

variable included in the clause should be one which is dominated more by income-elasticity than interest rate-elasticity. This may be an argument for using money supply rather than bank credit, although the staff projection of bank credit would have already allowed for the interest-elasticity of bank deposits, particularly time deposits.

(4) There are many gaps between theory and practice. The most obvious is that even if such a theory were a proper basis for policy, the requisite economic knowledge of interrelationships among financial variables and between financial variables and real economic activity may not exist for a high degree of probability to be attached to the necessary projections. It is probably recognition of the uncertainties about the state of economic knowledge--not to mention the sharp and unexplained swings noticeable in daily and week-to-week deposit and reserve data--that has led the FOMC to require implementation of the proviso clause for the most part only when deviations from projections have been "significant" and that has led to only very minor variations in money market conditions when the proviso clause has been implemented.

(5) Another gap between theory, at least as presented here, and practice, at least in the minds of some voting members of the FOMC, is that some appear to consider the proviso to serve, partially, as a target for monetary policy rather than to be an indicator of the relationship between money market conditions and GNP. This gap may help to explain the focus in the proviso on bank credit (which those who start from credit conditions may believe to be a reasonable short-run target related to spending)--without here discussing whether the change in bank

credit is a desirable flow target (as compared with other possibilities such as the change in aggregate reserves or money supply). But if the proviso is taken as a target, it does not appear to have been a very high priority one, since experience shows that money market conditions have not been varied rapidly or extremely enough to keep bank credit within proviso limitations when it has tended to move significantly outside it.

(6) The desire by the FOMC to minimize short-run variability in money market conditions, as well as the relatively small changes in such conditions that are undertaken when the money market target is shifted, suggest that money market conditions themselves are in some degree a target of policy, rather than being merely instrumental variables through which the interest rate and financial flow, and ultimately economic, objective of policy are attained. While the relation between free reserves and over-all credit conditions might be predictable, at least judgmentally if not econometrically, experience, especially in 1969, appears to indicate that the relation is not consistent--i.e., with fixed free reserves credit conditions can and will change. Thus, minimizing fluctuations in money market conditions and changing them only gradually over the longer-run would represent yet another gap between theory as presented here and practice--unless, of course, the FOMC willingly accepts the changes in over-all credit conditions (not to mention in flows of monetary aggregates) that accompany an unchanged or only gradually changing level of free reserves.

(7) As a short-run target, money market conditions have the advantage of permitting the market to make decisions about the appropriate short-run flows of bank credit and money. But, as is well known, so accommodative a monetary policy may lead the System also to provide more or less reserves, credit, and money than is consistent with desired economic objectives if credit demands turn out to be stronger or weaker than projected, or, expressed in another way, if banks' demand for free reserves turn out to be weaker or stronger than expected. The proviso, of course, represents something of a hedge against such undesired short-run developments. But if the economy weakens or strengthens considerably more than expected, the proviso is a weak hedge unless the FOMC is willing, either when it meets or in the interval between meetings, to move money market conditions, or permit them to be moved, rapidly enough to offset the changing impact on reserves of demand forces. For example, both the money supply and interest rates may be declining because demand is weakening; to turn the economy around under such circumstances may require a sharp easing of money market conditions (e.g., a sharp short-run decline in member bank borrowings assuming they are already high) if the Federal Reserve is to do more than merely permit a built-in flexibility of over-all interest rates to brake the decline in economic activity and is to encourage an expansion of economic activity, credit, and money.

(8) The target aspect of money market conditions inhibits the flexibility of monetary policy when these aspects become so ingrained in market thinking that the System is reluctant to move for fear that

any move will be over-interpreted. When combatting inflationary psychology is taken as a primary goal of policy, for instance, it becomes difficult to permit variations in money market conditions--if the market is not used to such variations--because this might be taken as signaling an unwillingness of the System to persist in its efforts at eroding inflationary expectations.

(9) The short-run stability of money market conditions and the gradualness of any longer-run change in money market conditions tempts one to the conclusion, be theory what it may, that a basic reason for couching the second paragraph in such terms is pragmatic. Given uncertainties as to the proper money supply, bank credit, or interest rates, money market conditions represent objectives that are readily attainable, which keep the scope for the Account Manager's judgment within reasonable bounds, and to which the Account Manager can be readily held accountable.

(10) Within the context of the theory presented in this paper, or almost any other theory of how monetary policy works, it would appear desirable to permit more short-run variability in money market conditions and to move them more rapidly or frequently in altering the second paragraph of the directive. This would, at a minimum, reduce the market's focus on such conditions and thus increase the flexibility of the FOMC in attaining targets for reserve or monetary aggregates, if it so wishes, or even in attaining credit condition objectives in relation to shifting demands and GNP by reinforcing, or offsetting, tightening or easing trends in credit terms and conditions when it appears desirable to do so.

(11) There are probably some limits to the flexibility that can be permitted money market conditions, although the degree of limitation is both a conjectural proposition and an empirical question on which precious little evidence is available. Such limitations would appear to apply more to the tightening than easing side. When interest rates are rising, a considerable tightening of the money market may have undesirable repercussions on such sensitive market participants as security dealers, who may be faced with the prospect of failures if carrying costs rise sharply relative to the return on their pre-existing security holdings, and thereby lead to financial crises that affect confidence generally. Even on the easing side, a sharp easing of money market conditions could lead to an overly large buildup in speculative positions in securities, which might force the System to provide more reserves and money than it would otherwise want to, or be faced with considerable market confusion and churning if the market were forced to liquidate these positions over the short-run. But in the absence of much recent experience with a monetary system in which relatively wide fluctuations in money market conditions are permitted,^{1/} it is obviously hard to tell how the market would react in such a different environment. If human nature is any guide, there will be periods of market problems, including undue speculation, no matter what the system by which monetary policy works. Some concern with money market conditions may reduce this problem, but the contribution of money market stability may not be

^{1/} Very wide fluctuations may not develop if the market discounts the future properly.