

FUNDAMENTAL REAPPRAISAL OF THE DISCOUNT MECHANISM

**SUMMARY OF THE ISSUES RAISED
AT THE ACADEMIC SEMINAR
ON DISCOUNTING**

PRISCILLA ORMSBY

Prepared for the Steering Committee for the Fundamental Reappraisal of the
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The following paper is one of a series prepared by the research staffs of the Board of Governors of the Federal Reserve System and of the Federal Reserve Banks and by academic economists in connection with the Fundamental Reappraisal of the Discount Mechanism.

The analyses and conclusions set forth are those of the author and do not necessarily indicate concurrence by other members of the research staffs, by the Board of Governors, or by the Federal Reserve Banks.

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ACADEMIC SEMINAR ON DISCOUNTING**

May 11, 1966

by

**Priscilla Ormsby
Board of Governors of the
Federal Reserve System**

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I. Introduction

On May 11, 1966, an Academic Seminar on Changes in the Discount Mechanism was held at the offices of the Board of Governors of the Federal Reserve System in conjunction with the "fundamental reappraisal of the discount mechanism" underway within the System. This paper represents an attempt to organize and summarize what was by design a far-ranging and unstructured exchange of ideas and opinions at that seminar. The issues discussed there have been explored much more extensively in the academic literature by these same professors and by others. However, this paper presents the arguments only as they developed during the seminar and does not evaluate them (other than to comment at times on the course of the seminar discussion) or to trace their origin.

The following professors participated in the seminar:

Professor Lester V. Chandler, Princeton University, Chairman
Professor G. L. Bach, Carnegie Institute of Technology^{1/}
Professor Edward E. Edwards, Indiana University
Professor Hyman Minsky, Washington University
Professor Franco Modigliani, Massachusetts Institute of
Technology
Professor Paul A. Samuelson, Massachusetts Institute of
Technology
Professor Richard T. Selden, Cornell University
Professor Warren L. Smith, University of Michigan^{2/}

In addition, a large number of academic scholars submitted brief papers on the general topic of the role of the discount mechanism. The ideas presented in those papers appear in this summary only insofar as they were again reflected at the seminar itself.

1/ Now of Stanford University

2/ Now of the Council of Economic Advisers

Section II of this paper, Role of the Discount Mechanism, discusses, in a general way, the present and possible future roles of the discount mechanism: whether it is necessary, and if so, what purposes it should serve. Sections III and IV contain detailed considerations of the two major issues considered at length during the seminar: (1) the role of discounting in the reallocation of reserves; and (2) the use of the discount rate to control the volume of borrowing. A number of connected issues, which while important in themselves were treated only peripherally in the course of the seminar, are also discussed in these sections. They include: the influence of existing banking structure on credit needs and the operation of the discount window; the relationship of discounting to general monetary policy; announcement effects of changes in the discount rate; and non-price rationing at the window.

For the most part, the ideas brought forth were not restricted by the working of the present discount mechanism and therefore should not be evaluated in terms of today's laws and regulations.

II. Role of the Discount Mechanism

The participants in the seminar were dissatisfied with the discount mechanism as it currently existed; the two chief complaints concerned "non-price rationing" and "announcement effects." However, unsatisfactory as the present discount mechanism might be in their estimation, there was little sentiment at the seminar for its complete elimination. Several suggestions were made early in the discussion that perhaps, in the interest of tightening up aggregate monetary controls, the discount mechanism could be dispensed with. However, the suggestion was not pursued and subsequent discussion lent no support to the proposal.

One major reason seen for keeping the discount mechanism was uncertainty about the future. It was noted that the banking system is constantly changing and what seems superfluous today may become vital tomorrow; for instance, if the banking system were to run out of the assets employed in open market operations, the window could become the major source of reserves. The possibility was also cited of the window becoming important in a changing political climate where oral suasion became the order of the day.

Although no one felt that, in today's economy, the discount mechanism should be used as the major tool of monetary policy, a number of roles for the discount window were suggested. Some of these were to provide a safety valve for correcting mistakes in open market operations, to permit individual bank and regional adjustments, and to protect the unit banking system. It was noted in this discussion that the discount window could serve a variety of purposes at one time and need not be limited to a single narrow role.

III. Reallocation of Reserves

One of the most basic and widely accepted functions of the discount mechanism is to provide temporary assistance to individual banks and regions in adjusting to changing reserve pressures. Thus, in a sense, short-run reallocation of reserves is inherent in the window's operation, and none of the professors questioned this sort of reallocation. The desirability of permitting longer-term reallocation of reserves through the discount window was regarded as much more controversial, however, posing problems of both a political and an economic nature.

While not totally separable, the reallocation problem falls into two categories--regional reallocation and sector reallocation. Although many of the same considerations apply to both, the pattern of the discussion at the seminar seemed to warrant separate treatment in this paper.

A. Regional Reserve Reallocation

A basic consideration in evaluating the need for regional reserve reallocation is the relative freedom of capital flows among different parts of the country. The rapid growth of the California economy in recent decades was pointed to as demonstrating the adequacy of this flow. It was estimated that, during the period of most rapid growth, about 40 per cent of the money in mortgages came from out of state. It was questioned whether one could generalize from this experience, however. The example was cited of an agricultural area in which methods of farming were becoming increasingly capitalistic, but deposits were not growing at a pace sufficient to finance this potentially profitable trend and no apparent means, such as Federal insurance of farm loans, existed for drawing in the necessary funds from other areas. It was agreed, however, that capital flows have become somewhat more flexible and responsive throughout the country since the early thirties, due to the development of Governmentally-sponsored protective measures such as deposit insurance for both commercial banks and thrift institutions and mortgage insurance through the Federal Housing Authority and the Veterans Administration.

One of the professors criticized severely the one-way flow of capital which he contended was encouraged by the present discount mechanism. According to his analysis, the New York money-market banks "raided" the small country banks, drawing funds away, mainly through the use of certificates of

deposit, by paying higher interest rates than the small banks can afford. He would resolve this inequity by having the Federal Reserve lend liberally to the money-market banks, satisfying their demand for funds and keeping them out of the small banks' markets. To offset the resulting reserve creation, the Federal Reserve would sell Government securities in the open market. It is conceivable that these securities could be bought directly by customers of the country banks, resulting in the same loss of funds on their part; but in contrast to the case with CD's, such purchases would not involve a personal commitment of customers to a specific money-market bank.

This proposal met with very little support from the other professors. According to traditional economic logic--and assuming away any barriers to credit mobility--the fact that the New York banks could pay a higher interest rate indicated that the funds "belonged" in New York. It was also noted that the above analysis was concerned with a "bank" allocation problem which might be quite distinct from the "customer" allocation problem. If the depositors sending their money to New York could, with equal ease, obtain loans from the New York banks, the net result for the region might be beneficial. If this were true, then the capital flow was not really one way; it was merely bypassing the local bank.

In the final analysis, however, a majority of the participants felt that the "small bank problem" probably existed in some degree. A second solution was offered which would create a dichotomy of banks--money market banks and non-money market banks. For the money market banks, the Federal Reserve would adopt something similar to the British technique of discounting, denying them access to the window and fostering the development of market operators who would use the window. The non-money market banks

would retain access to the window at a rate "considerably higher than the money market rate." This suggestion likewise elicited little support from other participants.

It was noted that one of the underlying causes of whatever small bank problem existed was the currently existing banking structure. Those banks which were handicapped were typically unit banks and as such were probably inherently limited in the level of fund-raising efficiency they could attain relative to the larger banks. Mixed views were apparent among the participants as to whether the Federal Reserve should work toward the liberalization of branching laws, protect the traditional unit banking system, or, in fact, take any action in the area.

B. Sector Reserve Reallocation

The most commonly cited purpose of sector reallocation of reserves was to by-pass market forces and to insulate part of the economy (the most frequently cited example is probably the homebuilding industry) from general monetary policy. This was generally envisioned as being undertaken to offset imperfections already existing in the markets and to ameliorate what would otherwise be a disproportionately large impact of policy decisions on specific sectors. The Federal Reserve might offer such selective credit assistance through the indirect method of accepting the paper of those sectors for discounting by member banks on a more liberal basis, perhaps at a preferential rate. The professors saw problems with this action, apart from the question of its desirability. It was pointed out that it was in fact a reincarnation of the commercial loan theory, long since proven ineffective. Unless the window were to accept the specified paper on a massive and perhaps unlimited scale--a policy which

could have serious consequences for monetary management, especially at a time when the overall posture of the System was probably one of tightness-- there was very little assurance that the funds thus provided would be used for the desired purpose.

Other possible actions of the System included subsidizing of the various agencies, such as the Federal National Mortgage Association, which supported specific sectors or direct purchase of the paper of specific sectors.^{1/} The overwhelming sentiment at the seminar, however, was toward keeping any assistance as indirect as possible. None of the professors felt that the Federal Reserve had a responsibility to support any sector on a long-term basis. Perhaps if a rate were obviously out of line the System would be justified in stepping into that market temporarily, but the border between a temporary situation and a fundamental trend is necessarily hazy and it was noted that direct assistance of one segment of the market, even in an extreme situation, could set a precedent which would result in an increasing number of requests for such assistance.

The professors therefore favored continuing the present system of establishing separate agencies, not endowed with the power of reserve creation, to foster specific sectors. This left open the question of how deeply the Federal Reserve should involve itself in assisting these agencies; no one doubted that the System would have a responsibility to protect them from complete failure, but they would prefer to see it remain, as much as possible, in the role of "lender of last resort."

^{1/} This course would require a change in the statute.

IV. Use of the Discount Rate to Control the Volume of Borrowing

If a single recommendation could be said to have come out of the academic seminar, it would be for the Federal Reserve to make more and better use of the discount rate as a means of rationing credit. The present rate system was almost unanimously criticized, and most of the professors recommended that the discount rate be tied to some market rate. Recommendations were also made for graduated rates based on the amount of borrowing. Finally, a number of specific models using rate as the principal control device were recommended and discussed.

The major criticism of the present rate system was of the ambiguous "announcement effects" of a rate change. Without careful inspection of market rate patterns (and sometimes even with such inspection) it can be difficult or impossible to determine whether the Federal Reserve is leading the market and opening a new phase in monetary policy or lagging the market and merely adjusting to existing conditions. The value of an announcement effect was not completely rejected, however; it was pointed out that it might be extremely important in restoring international confidence in a shaky currency.

A number of recommendations were made to permit less ambiguous announcement effects. The simplest suggestion was for the Federal Reserve to issue a statement saying exactly what it wanted to convey. Such a direct method would seem to offer less chance for misinterpretation, but it would have drawbacks of its own. A statement agreed to by seven Governors or twelve members of the Federal Open Market Committee would, by the very facts of human nature, almost unavoidably be rather bland, and

even the most clear-cut statement would probably have less effect than a lasting change in rate.

A second proposal was to establish a regular schedule of changes in the discount rate. These changes would be frequent and very small and therefore should become accepted and almost unnoticed by the public, but they would allow the discount rate to keep pace with changing market rates. When the time came to announce a change in monetary policy, a relatively large change in the discount rate should accomplish this without confusion. If their sole criticism of the present rate system were the ambiguity of announcement effects, adoption of this proposal would probably be viewed as a major improvement by the academic community.

The final proposal for improving the announcement effect assumed that the discount rate would be tied to some market rate and vary with that rate automatically. Any desired announcement effect could be achieved by changing the differential between the two rates. The impact of a change in this case might be even stronger than in the previous proposal, since it would be a voted and announced change after a period of automatic and continuous adjustment.

Although the ambiguity of announcement effects was the most frequently mentioned criticism of the present rate system, most of the professors saw other benefits that would result from a tied rate policy. One was simply an appeal to the principle of parsimony; it is wasted effort to control the money supply through open market operations and set the discount rate more or less independently when you could cut your work in half by letting the market handle the second task.

Other more positive benefits suggested for the tied rate included the insurance of a nationally determined rate automatically and a stabilization in the amount of borrowing. There was some doubt as to whether the amount of borrowing would be an invariant function of the spread between the controlling market rate and the discount rate, but it was agreed that shifts in this relationship could probably be predicted and offset.

Assuming the desirability of a tied discount rate system, a number of specific problems were identified in the establishment of that rate. These included: the choice of the market rate to which the discount rate would be tied; whether the discount rate should be a penalty rate, and if so, just what constituted a penalty; and whether there should be a freely open window at the established rate and what the implications of such an arrangement would be for general monetary policy.

The deciding factor in the choice of a controlling market rate was deemed to be the manner in which commercial banks were financing their positions--i.e., the most typical source of short-term funds, apart from the discount window, to which they turned to adjust to changing reserve pressures. It was recognized that, in the current financial environment, a variety of such sources were used by the banks and there was therefore no one obvious answer to the question. However, several nominations were made for the role of controlling market rate. Historically, the most logical seemed to be the Treasury bill rate; here was an extremely well organized market for an almost universally held instrument. However, present trends suggested that the sale of bills was becoming (and in some cases had already become) obsolete as a means of bank reserve adjustment. For many banks, almost the whole of their declining holdings of Government securities are tied to specific purposes, such as collateralizing public deposits.

A second possibility was to tie the discount rate to the rate paid on certificates of deposit, which is of increasing importance but is still not a universally important rate for commercial banks. Another problem in this case was seen to arise from the fact that certificates of deposit are normally for maturities significantly longer than the typical adjustment borrowing at the discount window. The Federal funds rate, also suggested, was not regarded as a significant rate for all banks and also was highly volatile in the short run.

While not seriously proposed, it was suggested that the only really relevant rate for some very small country banks might be the rate they were making on their loans. A proposal made earlier, to tie the discount rate to some measure of the individual bank's profit rate, was rejected almost without discussion, apparently because this would not provide the single nationally determined price for reserve credit that they felt to be important.

There was also some discussion as to whether the rate chosen really mattered. It was pointed out that, in all but the very short-run, all the rates proposed were highly correlated. Thus the choice of a base was somewhat immaterial. However, it was recognized as important that the initial value of the discount rate be appropriately set in relation to a market rate which was significant for all commercial banks. The wrong choice of the initial level was seen as having possibly disastrous results, if with that choice the Federal Reserve relinquished further control of the rate. If the discount rate were set fifty basis points above the Treasury bill rate (4-1/2%) and banks were actually financing their positions with certificates of deposit at 5-1/2%, the discount rate would be 1/2 of 1

percentage point below the relevant rate. With a freely open window, the money supply would increase drastically until banks were out of CD's and actually financing their positions at the discount window.

The second question relating to discount rate policy was whether the rate should be at a "penalty" level relative to market rates. One of the participants, a consistent advocate of increased discount window use, recommended that it actually be set below market levels in periods of tight money. The other professors present agreed that it should be a penalty rate, but were hesitant to commit themselves to specific figures, which they regarded as incidental to the concepts they were developing and better worked out in practice. There did seem to be general support for a penalty in the vicinity of 1/2 of 1 percentage point--something that would provide a deterrent to borrowing, but would "maintain the virtues of a system that permits the individual bank adjustment possibilities" It was expected that, should the Federal Reserve adopt a tied penalty rate, a period of experimentation would be required before the appropriate differential could be judged.

It was suggested that, even with a freely open window, discounting should be worth more than other methods of obtaining funds, since it provided increased liquidity to the banking system as a whole. Therefore perhaps the entire differential of the discount rate above the market rate should not be regarded as a penalty.

Although participants in the seminar were almost unanimously in favor of a tied rate, there was some doubt expressed as to how much such an arrangement would actually accomplish. It was pointed out that the Federal Reserve had a major effect, through its open market operations,

in determining the level of market rates, so perhaps it was wrong to speak of an independently determined discount rate. In the final analysis, the System played a major role in both money supply policy and interest rate policy, regardless of how it chose to exercise these roles.

The question of an open window with a tied rate was recognized as important for general monetary policy. The problem in the case of a poorly chosen discount rate was discussed above. But even if the discount rate were set above the appropriate market rate, possible problems were foreseen. The increased cost of credit at the window had to be looked at in conjunction with the increased availability. Basically, no matter how high the rate was set, the central bank gave up direct control of the volume of reserves created and supplied through the discount window.

Advocates of an open window pointed out that any undesired reserve creation through the discount window could be offset by open market operations. This was fairly generally accepted as true in principle--at least in the absence of a shortage of assets employed in such operations, seen by some as a possibility--but it was felt that it could require continuous offsetting operations and, in the extreme case, on a massive and unheard-of scale. It was noted by some, however, that in the proper environment an open window could have the advantage of avoiding great scrambles for funds which sometimes result in disorderly rate patterns.

None of the professors advocated a permanently open discount window at a rate which the Federal Reserve could not control. The System should always have the option of increasing the rate spread if borrowing became obviously excessive. Two more continuous methods of controlling the volume of borrowing within a tied rate system were suggested: (1) a

graduated penalty rate based in some way on the amount of borrowing; and (2) the kind of administrative, non-price rationing employed today.

The first possibility, while not actively supported by all those at the seminar, was unanimously viewed as feasible. Advocates of a graduated rate schedule variously supported two versions; the more popular would base the schedule on the amount of borrowing by the individual bank. This was seen as consistent with the fact that the System was trying to influence individual decisions and more effective from an allocative point of view. The alternative version would base the penalty schedule on the aggregate amount of borrowing by member banks. It was felt by some that such an arrangement would avoid penalizing an individual bank that was the innocent victim of an adverse situation rather than the guilty party, or a bank with unusually profitable opportunities which was therefore justified in unusually large borrowing.

Nonprice rationing was rejected by the seminar participants more by omission than commission. The general feeling seemed to be that it was too personal and apt to be arbitrary. The only statement offered in its defense was that it might prove useful if, because of circumstances beyond the System's control, the U.S. economy found itself in an extreme inflationary spiral. Under anything approaching normal circumstances, however, the professors were unanimously opposed to its use.

The remainder of this section describes a number of specific models using rate to control the volume of member bank borrowing which were proposed by seminar participants. None of these represents a closed and self-sufficient system, but they nevertheless represent a more structured level of thinking than the general discussion reported above.

In the first model proposed, the discount rate would be tied to an average for the past two weeks of the Federal funds rate. This rate was chosen because the Federal funds market is, like discounting, a short-term source of funds and is therefore, for the member bank (although not for the system), the closest alternative to borrowing at the window. The discount rate would be set 100 basis points above this past average of the Federal funds rate. With a freely open discount window, this would limit swings in the Federal funds rate by creating a ceiling on that rate. In the short run, this could create a spiral situation, since there would be a tendency for the Federal funds rate to increase until it was equal to the discount rate. Thus, in the extreme, the discount rate would equal a past value of itself plus the differential. However, in practice this tendency could be controlled by open market operations conducted in such a way as to reduce the banks' necessity to stay in debt, and it would have a natural limit since, if the rate became too high, banks would presumably find it desirable to adjust their basic positions by such methods as calling loans and selling off other assets.

The second model had as its immediate goal the stabilization of the amount of free reserves which, it was argued, would "give a fairly rigid relation between what the central bank directly controls and the total amount of reserves." The amount of borrowing would be controlled by tying the discount rate to a market rate (the rate was not specified in this case). The discount rate would be above this and would increase with extensive use of the window (with the term "extensive" probably encompassing both duration and amount of borrowing). The amount of excess reserves would be controlled by paying interest on them. This rate would

also vary with a market rate--and here the Federal funds rate was specified--but would be below that market rate. Advocates of this model would even go so far as imposing a penalty on the holding of excess reserves if the Federal funds rate fell that low.

A somewhat more conventional model proposed would employ a nationwide discount rate tied to and slightly above some market rate. Proponents of this model chose the Treasury bill rate for this purpose, but felt that the choice was somewhat arbitrary. They would decrease over time the amount of nonprice rationing, eventually eliminating it altogether. The rate could be adjusted as the system was perfected, but massive change would be employed only when the Federal Reserve wanted to create an "announcement effect."

The final model would provide for automatic determination of the discount rate, not by tying it to any one market rate, but rather by having the System regularly auction a specified amount of borrowed reserves in a manner somewhat analogous to the weekly Treasury bill auction. The System could then directly control the money supply and would have the added advantage that the discount rate would be auction-determined and would not be tied to any market rate that could become obsolete. This arrangement could result in tremendous rate instability, however, in cases where unusual circumstances caused a great scramble for funds. To offset this, a penalty rate could be instituted, above the auction rate, at which reserves were available for the rest of the period, or very frequent--even daily--auctions could be held.