INSTRUMENTS OF FEDERAL RESERVE POLICY *

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~~The~~ Federal ~~reserve officials~~, faced with a given situation which tends, say, to inflation, decide to do something. Shall that something be an increase in the rates, sales of Government securities, warnings, direct action, or the use at some other instrument? The decision, as represented by what actually is done, indicates a judgment as to the relative efficacy of the various instruments of policy. Of course, one cannot equate warnings with changes in the volume of securities, or changes in the rate with penalties. For example, one cannot say that ½ page warning in the Bulletin equals in effect the sale of $50,000,000 of Governments, equals an increase of ½ % in the rate of rediscount. And yet, somehow or other, the reserve authorities must approximate just that! In short, the banks, subject to review and determination by the Board must establish whether and in what direction and to what extent the rate of rediscount is to be changed; the open-market committee with the approval of the Board must decide in what direction and to what extent the reserve banks' portfolio of Governments is to be changed, etc.

An important element in each situation is the flexibility of the various instruments of policy. Although there is nothing absolute about these instruments, some are subject to a wider and more precise adjustment than are others. Nor are these factors independent of the circumstances under which they are used. Thus one cannot hope to enforce a firm control over the volume of credit by tinkering with the tradition against rediscounting. It is true that rate changes (particularly reductions) may be taken as a signal that a change in this tradition is desired, but the adjustment on the basis of the tradition is very crude. There is no method to determine the extent to which central bankers may rely upon changes in the effectiveness of this instrument to alter the volume of credit.

Warnings fall into much the same category. Herein lies the chief objection to their use as instruments of policy. Some time elapses between the issuance of a warning and the determination of its effectiveness. This period may be sufficiently long to permit "the vicious circle" of inflation to get underway. If a single warning proves ineffective, experience seems to indicate that an entire series is likely to prove ineffective also. In a sense one may say that much of the effectiveness of the instrument is exhausted with the single use; and there is no method to determine even roughly how effective it will be.

In this respect direct action is more like these instruments than it is like the rate and open-market operations. How can one adjust the amount of direct pressure which is exerted upon the member banks, be equitable to all, and yet produce the desired amount of curtailment? If the pressure is too effective, how is it to be relieved? On the other hand, if the first application is not sufficiently great, how is it to be increased?

For this purpose the rate has certain advantages. Its effectiveness is not exhausted with a single use. If the first change does not produce the desired effect, it may be changed again and yet again - and in either direction. However, it is not efficient under all circumstances. In periods of rapidly falling prices any rate at all is likely to be deterrent.[1] The lowest

1. Fisher, I. The Theory of Interest, Chs. II and XIX and appendix to Ch. XIX.

central bank rate in history did not encourage borrowing early in 1931. The bank rate can be raised sufficiently to curb any rise in prices not financed exclusively without reserve funds; but it may not be possible to lower it sufficiently to check a fall.[2] Furthermore, changes are made one-half per cent. or multiples thereof at a time. One can determine only roughly, if at all, how much effect a given change will have. In short, the rate is a crude instrument to be used for major changes only; and, even then, is likely to be ineffective in depressions.

Open-market operations bridge both these gaps. Probably they are the most sensitive and adjustable of all the instruments. They are effective in periods of prosperity and depression alike. The chief limitation upon their use is the volume of securities held at any given time by the reserve banks.[3] Within this margin adjustments may be made with a great degree of nicety. For this reason the rate should be used for the cruder adjustments, while the open-market portfolio is retained for the finer ones. Since the extent to which the securities may be used to curtail credit is contingent upon the size of the portfolio, it is wise for the reserve banks to build up their holdings of securities in periods of depression. And it is precisely at such a time that purchases of securities are the best instrument to stimulate recovery.

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2. Cf. Pigou, A. C. Industrial Fluctuations, Part II, Ch. iv; Keynes, J. M. The Nation and Athenaeum, May 10, 1930, p. 183.
3. Gov. Strong suggested (Stab.Hear.1927,p.450) that at times Governments are almost unobtainable. Probably they could be secured at a sufficiently favorable price. Should the total volume be reduced greatly, other securities might be substituted. Especially important in this connection is the suggestion to put bill purchases upon a footing similar to that of Governments. If necessary, the Federal Reserve Act could be amended to supply sufficient investments.

As an aid to meticulous adjustment, it probably would be wise for the reserve banks to handle the portfolio of purchased bills in a fashion similar to that used for Governments. If the open-market committee would purchase definite amounts of bills instead of taking all that are offered at the established rate, the situation could be adjusted more accurately.[4] Certainty and adjustability are two criteria which should be important in the selection of instruments of policy.

1. The Rate of Rediscount.

The traditional (that is to say the oldest) instrument of reserve bank policy designed to control the volume of credit is the central bank rediscount rate. Although the functioning of a central bank in the open-market seems to have been understood by Ricardo,[5] central bankers did not adopt the instrument. Ricardo also understood that a low rate would operate in the direction of inflation, and that a high rate would tend toward deflation.[6] He did not, however, discuss analyze the effects of changes in the rate ~~designed~~ to stabilization. Nor did Mill discuss the matter, though his general analysis leads one to believe that he understood it.[7] Beckhart states that the operation of the bank rate was understood by British central bankers as early as 1857.[8]

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4. In 1928-1929 the purchased bill holdings of the reserve banks were used as a part of general credit policy. Cf. Burgess, W. R. In Review of Economic Statistics, XII, pp. 19-20.
5. Ricardo, Works (McCulloch Edition), pp. 507-512. Plan for the Estab. of a Natl. Bank.
6. Prin. Pol. Econ., p. 220.
7. Cf. Prin. Pol. Econ., Book III, Chs. XXIII and XXIV; also Report Select Com. on Bank Acts.
8. Discount Policy of Fed. Res. Sys., Ch. I. contains an account of the historical development.

Nowadays, however, there is no longer an exclusive reliance upon the rate on the part either of central bankers or of banking students.[9] Of course the logical case for the rate remains unchanged. It runs as follows: If prices are tending to rise, an increase in the bank rate will decrease borrowing by making it less profitable. Less borrowing will mean a reduced volume of money and credit. The decreased demand for goods which results will mean a tendency for prices to fall. Likewise the tendency of prices to fall can be corrected by a reduction in the rate - which will increase the volume of money and credit by making borrowing profitable.

It was observed, however, that in periods much disturbed - especially those of precipitously falling prices - any rate, however low, was prohibitive. In other words, a reduction in the rate did not have the desired effect. It was observed further that if the member banks were supporting the credit structure without reserve bank funds, they would not pay the rate; and hence the penalty feature would not be effective. As a consequence there developed various theories defining an <u>effective</u> rate.

This concept has gone through an interesting evolution. Since the obvious purpose of rate changes is to effect changes in the volume of credit, one might suppose that the definition of the word effective would run in terms of changes in the volume of credit, or in terms of developing a credit situation which could be seen to be leading to a reduction of rediscounts. For, though there may be no immediate reduction, the increase in the rate may

9. Recently the American reserve bankers have relied more heavily upon the rate. For some time the holdings of Governments have not been changed greatly. Cf. testimony of A. C. Miller in <u>Oper. of Natl. and Fed. Res. Bank.Sys. Hear. 1931</u>, p. 150. Cf. Keynes, J. M. <u>A Treatise on Money</u>, Vol. 2, Chapter 32, secs. i and iii.

condition a later decrease in the volume of currency.[10] Unfortunately sensible conclusions have been drawn but seldom in reserve banking history, and this is no exception.

During the period under consideration various phases of theory have risen into prominence. The first idea is that a central bank rediscount rate, in order to be effective, must be above the market rate.[11] The second, which is fundamentally similar to the first, also centers attention upon the relation between member banks and the reserve banks. According to this idea a rate cannot be effective unless some banks actually pay it, that is, are in debt at the reserve banks.[12] The third concept of effectiveness is that the rate is effective if it forces market rates to follow.[13] Finally, the concept which is based upon the objectives of rate changes makes the definition contingent upon the relation between rate changes and changes in the volume of credit. These various concepts of effectiveness will be examined in turn.

The oldest theory ostensibly is borrowed from British practice and states that the bank rate should be above the market rate.[14] The implication is that the reserve banks should not be used except in cases of emergency.[15] As a matter of fact, however, the earning assets of the reserve banks continually run

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10. Robertson, Money, pp. 174-175.
11. Ann. Rep. Fed. Res. Board, 1931 (VIII) pp.30-31; 1919 (VI) pp. 2, 68.
12. Fed. Res. Bull., July 1922 (VIII) p. 769.
13. Ann. Rep. Fed. Res. Board, 1933 (X) p. 10.
14. Ann. Rep. Fed. Res. Board, 1931 (VIII) pp. 30-31. At times Hawtrey seems to take this view. Cf. his Review of the Annual Report for 1923 in Econ. Jour., (XXXIV) p.284. The concept of market rates itself has gone through an interesting evolution. Cf. the following: Ann. Rep. Fed. Res. Board, 1921, (VIII) pp. 30-31, Fed. Res. Bull. July 1921, (VII), p. 776. Stab. Hear. 1927, p. 964 (testimony of W. R. Burgess). Ann. Rep. Fed. Res. Board, 1928, (XV) p. 12.
15. Cf. Furniss, E. Foreign Exchange, pp. 395-396 and Keynes, J. M. A Treatise on Money, Vol. 2, Ch. 32, secs. i and iii.

over a billion dollars. Rediscounts alone have been more than a billion dollars at times and typically run over half-a-billion. To reduce this to zero without offsetting purchases in the open-market would involve stupendous deflation. J. M. Keynes has pointed out that in this respect the American banking system is decidedly different from its British neighbor.[16] The Bank of England rate habitually is kept at a penalty height. Since the War, the Bank controls the reserve resources of the member banks practically exclusively by means of open-market operations. In England, with its branch banking system, this instrument works very well. All of the central offices have direct access to the central 'pool of reserves.' Changes in the Bank of England portfolio of open-market securities react upon all. In America, however, with rather more than 24,000 commercial banks scattered over the country, the pool of reserves is made more available to the member banks by means of rediscounting. The question resolves itself into choosing between the rate and open-market operations as the better of instrument of policy. While the latter is undoubtedly more precise for accurate adjustments, and appears to be more effective to stimulate a recovery from a severe depression, it does not follow that it is best in all systems for major changes. Since the War Britain seems to have chosen open-market operations. The recent policy of the reserve board seems to indicate a greater reliance upon the rate.[17]

The second theory of effectiveness is a variant of the penalty rate idea. According to this theory, however, a differential is not of itself sufficient. Some banks must also <u>pay</u> the penalty, i.e. must borrow from the reserve banks. Historically,

16. <u>Ibid</u>.
17. <u>Ibid</u>.

this criterion always has been satisfied in America. On the face of things this idea is paradoxical. Since the object of the increase in rates is the discouragement of borrowing, it would seem a contradiction in terms to call a rate sufficiently high to discourage all borrowing, an 'ineffective' rate. Upon more extended study of the statements this contradiction dissolves into an unfortunate selection of terms. Statements of this sort are made when rate increases are combined with reserve bank sales of Governments. The argument under those circumstances runs as follows: If the member banks are not in debt at the reserve banks, an increase in the rate cannot curtail credit because no one will be forced to pay the penalty. Consequently, if the member banks are not heavily enough indebted to the reserve banks <u>when the rate is increased</u>, the change will be ineffective. Under such circumstances it is further necessary to force some member banks into the reserve banks by sales of Governments. Once the member banks are sufficiently indebted to the reserve banks the penalty feature will operate on them in the direction of reducing their own extensions of credit. In essentials, therefore, these two theories - one that member banks should not normally borrow from the reserve banks, and the other that they must so borrow <u>in order to be discouraged</u> - are built upon the same base, viz., that an effective bank rate is a rate above the market.

Although this may be a convenient rule of thumb under certain circumstances, such as exist in Britain for example, it should not be set up as a goal applicable under all conditions. In some of the reasoning of the reserve officials there appears to be a process of rationalizing this rule of thumb into an end *per se*.[18] Thus Burgess, both in his book on the reserve system and in his testimony before the House Committee,[19] concludes that a rate between that on commercial paper and that on bankers' acceptances is a 'fair price' for reserve money. He seems to set up the relationship between the bank rate and market rates as an end of policy.

The Board does not always set up the same goal as does Burgess. In the Report for 1919, a year of tremendous inflation, the Board suggested a penalty bank rate to make borrowing unprofitable and thus tend to check the inflation. When the Board relies upon the rate and suggests the penalty feature as ideal under normal circumstances, it posits a persistent tendency toward inflation on the part of the economic system. For if there is a tendency toward deflation - as there is from time to time - borrowing should be encouraged by making it profitable; the rate should be below the market. If one assumes that the rate is an important factor in controlling the volume of credit, the bank rate, in general, should be fixed at whatever point is necessary to secure the desired result. Although the relation to market rates might prove a convenient rule of thumb in determining the probable results of changes, the market rate structure should not be made a shibboleth. The Board recognized no such mechanical formula as the proper guide for policy. Indeed, there appears to be no consistent policy at all.[20]

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18. *The Reserve Banks and the Money Market*, pp. 191-195.
19. *Stab. Hear. 1927*, pp. 966-967.
20. Two citations from *Annual Reports of the Federal Reserve Board* may be given to indicate the lack of consistency. In the *Sixth Report* (1919,p.2) appears a statement of the earlier concept. "The rediscounts of the Federal reserve banks, therefore, instead of being higher than the market

The analysis of the penalty rate is not complete without mention of another factor. Since the bank rate must be above the market, any downward movement of the bank rate must await earlier changes in the market rates. Such a change must wait until the market rates decline sufficiently to keep the bank rate higher even after the change. In other words, the bank rate must follow. It is not viewed as an immediately causal factor; though, of course, it is considered a conditioning factor indirectly.

A third concept of effectiveness meets this difficulty. It is not based upon the rate structure at any particular moment of time. On the contrary, it centers attention upon the rate as an active factor in the situation. A bank rate is effective provided changes in it are followed by changes in market rates.[21]

This theory of effectiveness has run the whole gamut from denial to explicit statement as a fact. In June 1920, the Federal Reserve Board presented a reverse sequence. At that time it was stated that the increase in the bank rate reflected, that is followed, market rates.[22] This is in keeping with the

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Contin.- rates, as in theory and normal practice they should have been, were made lower than the market rates. This circumstance is enough to prevent the normal functioning of a Federal reserve bank, whose rates should be so fixed that resort thereto is unprofitable to the borrowing institution and thus has a tendency to check inflation." Italics those of the present writer. In the classic Tenth Report (1923, p.9) appears the later idea. "The outlook for Federal reserve credit regulation would indeed be unpromising, in view of the great disparity of customer rates at member banks in different sections of the country, if the reserve banks had no other means than discount rates by which to regulate the volume of their credit used, and if this discount rate could exert no effective influence unless it were a penalty rate." Cf. Report for 1925, pp. 15-16.

21. Cf. Gregory, T. E. Federal Reserve Banking System, p. 43. and Keynes, J. M. A Treatise on Money, Vol. I, pp. 200-201.

22. Cf. Fed. Res. Bull., June 1920 (VI), p. 558; and June-July, 1924 (X) pp. 457 and 531.

analysis of Burgess that primary consideration is given to money rates in the determination of the bank rate. A 'fair' rate lies somewhere between the open-market rate for commercial paper and the rate for bankers' acceptances.[23] Of course, such a rate structure may be justified logically.[24] Since the spread between these rates does not as a rule run as much as 1 per cent.,[25] bank rate changes generally are limited to $\frac{1}{2}$ per cent. However, it is anomalous, to say the least, that the control element should follow other factors in the market. Indeed, it is a tacit admission that the main controls lie elsewhere.

Another feature of this problem connects it with two other instruments of policy: open-market operations and the tradition against rediscounting. A sale of securities leads, in the first instance, to increased rediscounting. If the tradition holds, therefore, the sale will result in efforts on the part of member banks to get funds with which to repay their indebtedness to the reserve banks. This scramble for funds will force up the rates.[26] According to the theory presented above, these higher rates will be the signal to the reserve banks to increase the bank rate. Although other factors enter into the rates, this still places the primary responsibility upon the reserve system. All that has happened is that more of the burden of responsibility has been placed upon open-market operations and less upon the rate itself.

At times sufficient attention has been focussed upon the market rates to exonerate the bank rate entirely. This is true,

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23. The Reserve Banks and the Money Market, pp. 191-195.
24. Ibid. and Stab. Hear., 1927, pp. 964-967.
25. There are exceptions as in the last half of 1924 and late in both 1928 and 1929.
26. Cf. Riefler, W. W., Money Rates and Money Markets, Ch. 2.

of course, particularly in periods of severe depression. Illustrations may be drawn from the 1920-1921 depression.[27]

After that, however, there was another change. In the Tenth Annual Report (1923) the Board states that the bank rate is an important and at times dominating element in the situation.[28] This report has been called the matured opinion of the Board. It claims effectiveness for the rate if such effectiveness is measured by changes in the market rates resulting from changes in the bank rate.[29] This idea of responsiveness of market rates to changes in the bank rate is similar to the others given in that all center attention upon the rates themselves. However, not the rates but control over the volume of credit is the prime objective of banking policy.[30] It is true that an increase in rates will tend to decrease the amount of credit demanded. It will do so in the first instance by cutting off marginal loans. More remotely the change in policy will change the expectancy of borrowers. The prospects of profits are less roseate when the reserve system indicates that it intends to curtail credit than otherwise. If a change in the bank rate is followed by changes in the market rates, it is termed effective <u>because</u> it thus discourages borrowing.

Therefore, it would appear that a more useful definition of effectiveness is that which relates rate changes to changes in the volume of credit. This focusses attention upon the heart of the matter - the objective of rate changes - and states that an effective rate is one which accomplishes the object sought. The

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27. <u>Fed</u>. <u>Res</u>. <u>Bull</u>., January 1921 (VII) p. 6; and July 1921, pp. 775-776.
28. <u>Ann</u>. <u>Rep</u>. <u>Fed</u>. <u>Res</u>. <u>Board</u>, 1923 (X) p. 10.
29. <u>Ibid</u>.
30. As was indicated in <u>Fed</u>. <u>Res</u>. <u>Bull</u>., July 1920 (VI), pp.665-666.

concept is useful especially in periods much disturbed, when all rates move in the same direction but too slowly to correct the tendency. Thus, often in periods of rapidly rising prices the bank rate is increased and market rates increase, but the volume of borrowing continues to be augmented and prices continue to rise. Likewide, frequently in periods of falling prices, hesitant reductions in the bank rate do not check the continuous reduction in the volume of borrowings. Such periods, which come from time to time (1920 and 1930), indicate a further usefulness of this method of attack. Other methods center attention upon the control over inflation; this is equally useful for periods of deflation. An effective rate should not only be high enough to discourage borrowing in periods of rising prices; it should also be low enough to encourage borrowing in periods of falling prices.

Nor can the rate be abstracted from other instruments of policy. Thus if the credit structure is being carried largely without rediscounting at the reserve banks, an increase in the rate cannot appreciably reduce the volume of this borrowing from the reserve banks and consequently cannot decrease the volume of commercial credit. Gold imports under such circumstances would lead to inflation. The rate alone would not be an effective instrument of control.

Under such circumstances the rate can be made effective through a reduction of the reserve banks' holdings of open-market securities.- either by a sale of Governments or by a reduction in the holdings of bills bought. This reduction will absorb funds from the market and thereby impair the reserve balances of the member banks. The efforts of the member banks to restore these balances through borrowing from the reserve banks will be possible only upon payment of the higher rate. In other words, even under the assumed conditions, the commercial banks do not support the market independently of the reserve banks. A large support always comes from reserve bank credit. If this reserve bank credit is largely in the form of rediscounts, the rate can control it effectively. If, on the other hand, it is largely in the form of bills bought or holdings of Government securities, decreases in these holdings will cause a shift to discounts and thereby make the rate effective. One may rely upon the self-interest of bankers to reduce unprofitable borrowings.

At the other extreme of the cycle, however, self-interest may point toward the folly of borrowing at any rate which the reserve banks are likely to establish. If prices are falling as rapidly as they did in 1920-1921 and again in 1930-1931, a nominal rate of a very small per cent. will be a real rate of a much higher figure.[31] Consequently, increased open-market holdings by the reserve banks may be used to supply additional funds in order to stimulate revival.

Although member banks may not borrow at the reserve banks to increase their balances, neither will they long retain surplus reserves. Consequently, purchases of securities by the reserve banks which increase these balances will lead to competition amongst the member banks to loan surplus reserves. If the business community does not borrow more funds, the commercial banks will increase their holdings of securities of various types. These purchases by the commercial banks will increase the deposits

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31. Fisher, Irving, The Rate of Interest.

of their customers. Increases in the volume of deposits may be forced upon the community in this fashion. In fact, this sequence of events probably is more efficacious than rate decreases to stimulate a revival out of severe depression. As is indicated later, open-market operations may also be used for small or temporary operations.

Open-market operations and the rate, therefore, are coordinate and supplementary instruments of policy. There is no similar conjunction between the rate and the tradition against rediscounting. They not only fail as supplementary instruments; to a certain extent they are antagonistic.

An interesting paradox arises out of the statements of the reserve authorities concerning the relation of the member banks to the reserve banks on the one hand and the theory of rate changes on the other. Time and again it is stated that the member banks should not resort to the reserve banks except in cases of emergency. They should not resort to the reserve banks for the purpose of profiting by a rediscount rate which is lower than the rate which the member bank charges its customers for the funds secured. In other words, resort should be had to the reserve banks in periods of stress regardless of the rate; and correspondingly, reserve facilities should not be used at other times no matter how favorable the rates. In developing this concept that the purpose of reserve funds is to meet emergencies only, the reserve banks have fostered what has been termed the tradition against rediscounting.[32] Pressure is brought to bear upon banks which borrow too heavily or too continuously from the

32. Burgess, W. R., The Reserve Banks and the Money Market, pp.183-184.

reserve bank. In other words, every effort is made to keep member banks out of debt at the reserve banks. If that is the object, one might wonder why not legislate member banks' borrowings from the reserve banks out of existence? If the tradition against borrowing were fully developed, of course, the same result would be obtained without legislation. This is not done because it precludes the possibility of caring for an emergency. Now, there is nothing absolute about such an emergency. In fact, Mr. A. C. Miller implies that there is a continuous emergency to the extent of one billion dollars.[33] He also favors the operation of the reserve banks solely as institutions of rediscounting.[34] Taken together, this may mean that the tradition is not to be effective against the first billion dollars. This fact is mentioned here only to indicate that the member banks as a whole are expected always to be "in" the reserve banks.

But a more serious charge may be levied against the tradition against rediscounting. If member banks are to resort to the reserve banks in cases of emergency only, and then without regard for profit, the rate should not be a necessary element of policy. An increase in the rate would not discourage borrowing because there would under no circumstances be any but emergency borrowing and that would take place regardless of the rate. More serious, however, would be the fact that a decrease in the rate could not be effective. It might make borrowing more profitable, it is true, but if resort to the reserve banks is not based upon profit, a reduced rate would not encourage borrowing.

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33. See his testimony in Oper. of the Natl. and Fed. Res. Bank. Sys.Hear.1931, pp.138-139. The statement would seem to imply that the member banks should be expected to borrow $1 billion minus the reserve banks' holdings of Governments and purchased bills.
34. Ibid., p. 150.

Of course, the reserve officials do consider the rate an integral and essential instrument of policy. Perhaps the way to look at the matter is to consider a reduction in the rate as an announcement to the business community that the tradition against rediscounting is to be 'suspended' for the time. Contrariwise, an increase in the rate is to be taken as an announcement of the 'reenactment' of the tradition. Reading such a meaning into the term certainly stretches the concept. What is important is that this hiatus between the theory of rate changes and the tradition against rediscounting be recognized.

2. Open-market Operations.

At least three not entirely dissociated points of view are possible in surveying the 'Reserve Bank Credit Outstanding' account of the Federal reserve banks. One point of view emphasizes the composition of the account. The total at any time equals the sum of the separate items: viz., "Bills discounted", "Bills bought", "United States Securities", "Other securities", "Foreign loans on gold", "Due from foreign banks", and "Reserve bank float". Here we have an automatic balance. The whole equals the sum of its parts.

Another view emphasizes changes in the money market correlative with the changes in "Reserve Bank Credit Outstanding." The elements are as follows:

1. Increase in monetary gold stock.
2. Decrease in money in circulation.
3. Increase in Treasury currency.
4. Decrease in unexpended capital items.
5. Decrease in member balances at Reserve banks.
6. Decrease in non-member balances at Reserve banks.

Any excess in the total of these items will be absorbed by equal decreases in the item "Reserve Bank Credit Outstanding". Conversely, any deficit will be counterbalanced by increases in "Reserve Bank Credit Outstanding". Again we have a balance automatically.

These two views may be combined.[35] The combination would show the sources of change in the demand for and the supply of reserve bank credit as well as the particular forms which the changes took. It might show, for example, that additional currency requirements or gold exports were supplied with reserve bank purchases of securities rather than through rediscounting.

The third view is that changes in the volume of Reserve Bank Credit Outstanding are an index of Federal reserve policy. This view emphasizes not <u>how</u> the balance is struck; but - far more important as a matter of policy - <u>at what amount</u> the elements balance. The emphasis is upon changes as evidences of policy not as matters of correct accounting and arithmetic. These three views will be examined in turn.

At times it is stated that the open-market arm of Federal reserve policy is not effective because a sale of securities results merely in an immediate increase of rediscounts. The absorption of funds by the reserve banks through the sale of securities impairs the reserve balances of the member bank (or banks) which purchases them or whose customers purchase them. To offset this debit item to its balance the member bank may either increase its reserve by rediscounting at the reserve bank

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35. See Riefler, W. W., <u>Money Rates and Money Markets in the United States</u>, tables pp. 133, 139, 141, 143, 151, 169, 196, and Appendix II.

or it may reduce its loans and other investments. In other words, the percentage may be restored by increasing the reserve, by decreasing the liability against which the reserve is held, or by both. Immediately, banks do the former. This is indicated clearly by the curves showing Government securities held by the reserve banks and rediscounts at the reserve banks. When the first changes, the latter changes almost invariably by an amount roughly the same. In longer perspective, however, especially when the sales of securities by the reserve banks are accompanied by rate increases, the banks decrease loans and investments.[36] It must also be remembered that although the banks may borrow from the reserve banks for short periods to meet an emergency, the reserve bankers exert pressure upon banks which borrow continuously.[37] Bankers may be called in and advised that surplus funds could better be used to repay the Federal reserve banks than to increase loans.

The immediate effect of a sale of securities, then, just as the immediate effect of a gold shipment, may not be an appreciable curtailment of reserve bank credit; but the tendency in the long run will be in that direction.[38] This tendency can be supplemented by a simultaneous increase in the rate.

A purchase of securities operates in the opposite direction. The additional funds may be used to repay loans at the reserve

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36. The banks may trench upon the readily convertible assets first, but the efforts to restore what the banker considers desirable proportions amongst his assets will exert pressure upon customers' loans and long term investments.
37. More will be said about this tradition against rediscounting in a later section.
38. Cf. Burgess, W. R., The Reserve Banks and the Money Market, pp. 210-211 and 314-315. Also see Keynes, J. M., A Treatise on Money, Vol. II, pp. 253-254.

banks, or may be used to increase the loan and investment account of the bank. It is this last alternative which is not fully discussed. Yet, from the viewpoint of policy it is of tremendous importance. It appears to be the only way out of the dilemma of a serious business depression. This dilemma of low rates which fail to attract borrowers appeared insoluble. If loans could be increased at such a time, they would mean larger bank balances for the public, larger purchasing power in their hands, and larger purchases resulting in stimulated trade. 39. But it is said, persons simply will not borrow. If, in such a period, the reserve banks increase very greatly their holdings of securities and bills bought; and the commercial banks, unable to loan the additional funds, in turn purchase investments, the result will be larger bank balances for the public just as if there had been an increase of loans to the public. The difference is that the business man, instead of borrowing, sells his investments to the bank. In other words, bank balances - and for present purposes they are of crucial significance - can be increased at a time when any rate at all seems to be deterrent.

Changes in the reserve banks' holdings of bills bought operates in this connection precisely as does a change in the portfolio of Governments. Although this connection has been stated recently, it is something new in reserve bank thinking. The earlier comparisons emphasized the <u>differences</u> between bills bought and Governments. On the contrary, when bills bought were compared with bills discounted, chief attention was paid to <u>similarities</u>. Thus for both purchased and discounted bills

39. One of the characteristics of such a period is an increased demand for currency and bank balances (i.e. a lower velocity of circulation). For trade to be stimulated, the increase in credit must be more than sufficient to offset this increased demand (the lower velocity).

the reserve bank and the Board determine the rate, and the member banks take the initiative in offering the bills to the reserve bank.[40] Furthermore, reversals in the differential between the buying rate and the discount rate led member banks to shift from one to the other in order to secure reserve bank credit.[41] This fact - that member banks are guided primarily by rate differentials - is a weighty argument for those who claim that the tradition against rediscounting is not especially effective.

Viewed as instruments of policy, bills bought appear to have the essential characteristics of Government securities. Indeed, in 1929 the volume of bills bought was allowed to decrease greatly in order to tighten rates. In other words it was implied that a differential rate unfavorable to purchased bills acts approximately as does a sale of Governments. Viewed as instruments of long-run policy, the newer position places bills bought in essentially the same category with Governments. Previously, changes in the holdings of purchased bills had been used largely to adjust reserve bank credit to seasonal needs. Usually the low for the year is reached in July or August and the high in December. Intervening months represent gradual approaches to these peaks and troughs.

The determination of the proper relation between the reserve banks and the open-market, especially the bill market, has occupied considerable attention. With regard to open-market purchases the American Bankers' Association Convention expressed the desire for an investigation into the wisdom of such competition

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40. Ann. Rep. Fed. Res. Board, 1925 (XII), pp. 7-8. Cf. Fed. Res. Bull., Aug. 1925. (XI), p. 537.
41. Burgess, W. R., in Rev. of Econ. Statistics, XII, p. 17.

by the reserve banks with their member banks for business.[42] It is not difficult to understand the argument of these bankers that the reserve banks should not enter the open market. On the face of things they can make out a presentable case. In a period of depression when, to use the bankers' phrase, there is a plethora of funds, the reserve banks typically buy in the open market. They thus add to the supply of available funds when they are large and subtract from investment opportunities when they are small. In periods of rising prosperity and rates, on the contrary, when there appear to be scanty funds and abundant investment opportunities, the reserve banks add to the latter and subtract from the former. It might appear, therefore, that the reserve banks merely aggravate the evil. Such a policy, however, through its application of additional pressure in periods of increase tends to check the increase - tends to break 'the vicious circle of inflation.' Likewise the decrease of pressure in periods of decline tends to retard the decline - tends to break the 'vicious circle of deflation.' In other words, such a policy tends to stabilize.

Open market purchases also have been made in easy periods with a view to the position in which they will put the reserve banks in the long run. They have been made to equip the reserve banks with an additional weapon for later use. They are part of the effort to make the rate effective.[43] Such operations are designed to make closer the relation between the reserve banks and the market.

42. 1924 Convention in Chicago. Report in the Commercial and Financial Chronicle, A. B. A. Convention Section, p. 14. See also testimony of Gov. Strong, Stab. Hear. 1927, p. 317.
43. See section 1 of this paper.

If an inflation is being financed largely without resort to rediscounting, say, on the basis of gold imports, a change in the rate would not be effective to curb it. In order to decrease the volume of credit it is necessary to force the member banks into the reserve banks. To do this in a period of large gold imports, however, requires relatively large holdings by the reserve banks of open-market securities. They must be owned in order to be available for sale later. Consequently, they must be bought sometime.

These purchases, however, must be carefully supervised. Their effects are inflationary and may bring on the very inflation which their sales are designed to control. Recently this fear seems to have become an obsession with the Federal reserve authorities. The ills of the system have been traced to open-market operations.[44] The recent handling of the account by the reserve banks certainly has differed from that followed earlier. Early in 1931, when the portfolio might well have been increased to stimulate revival, not only was it not increased sufficiently to offset decreased rediscounting, but the volume of both Governments and purchased bills was reduced. Apparently every effort was made to use open-market operations to check the volume of bank credit - perhaps on the assumption that the recovery should be 'healthful' and finance itself in spite of a decreasing open-market portfolio.[45]

The second type of analysis of Reserve bank credit outstanding

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44. By A. C. Miller in his testimony on Oper. of the Natl. and Fed. Res. Bank Sys., Hear. 1931, p. 150.
45. Such seems to be the position of Mr. A. C. Miller in Oper. of the Natl. and Fed. Res. Bank. Sys. Hear., 1931, ~~p. 152.~~ p. 152. Cf. Testimony of W. W. Stewart in Stab. Hear. 1927, esp. p. 770.

in recent years has been most common in Board literature. It consists of a factual statement of changes in the various factors of demand for and supply of reserve bank credit. Since it is composed almost exclusively of factual material, one might wonder why it is offered in addition to the usual tables which give the details much more succinctly. Generally, it may be stated, the purpose of this analysis is to create the impression that central bank policy is a matter of mere arithmetic, involving no judgment. At other times there is an assertion of control over the amount of credit immediately supplied. At still other times there is a further claim for responsibility for the amount immediately demanded. At no time is there a systematic statement of the longer-run responsibility over demand and supply.

Stated otherwise, the analysis has varied from time to time. Unfortunately there is not an orderly evolutionary trend in the development of these ideas. However, some generality may be claimed for a 'cyclical' interpretation. Usually in periods of depression the factual analysis is given. And with good reason! If the inevitable sweep of events is fatally responsible for the depression, no mere board - even though it be the central bank - can be held accountable. This claim is said to be verified when a decrease in rates, however small, does not lead to an immediate increase in the volume of credit. In a parenthesis it might be mentioned that if the tradition against rediscounting is effective, the decrease in rates cannot be expected to have such an effect.

An opinion which gains ascendency generally in periods of advance in business is that which attributes to the reserve banks some degree of control over the amount of reserve bank credit supplied. In this connection it is stated at such times that the usual practice of compensating for the net change in demand and supply by an increase or decrease in the volume of reserve bank credit has been modified. At such times gold imports, decreases in the volume of currency in circulation, etc. are not permitted to have their usual inflationary effects. Instead securities are sold by the reserve banks to absorb the incoming funds and thus make them unavailable for expansion. On the other hand, gold exports, increases in the volume of currency, etc. are not offset by security purchases. In other words, not all tendencies toward changes in member bank reserve balances are permitted to have their customary effects. When the Board decides upon a deflationary policy, it permits the deflationary influences to have their usual effects; but it offsets or, at times, more than offsets inflationary tendencies. The so-called sterilization of much of the post-war gold imports has been an operation in this category.[46]

Attempts to counteract a deflationary tendency lead to the opposite policy of purchasing securities to offset gold exports and increases in the volume of currency in circulation. Gold imports and decreases in the volume of currency are permitted to have their usual inflationary effects.

It should be mentioned that although this second view of reserve bank credit does shoulder the reserve system with some responsibility, it still assumes that the general conditions determining demand are unalterable data. There is no indication in it that the Board considers reserve bank policy itself as one of the conditioning factors. It goes without saying that the

46. Burgess, W. R., The Reserve Banks and the Money Market, Ch. XIV.

system may over - or undercompensate particular factors. It has in fact moved in a direction complementary to the action of some factors instead of compensating their effects. Yet the analysis presented by the Board runs in nicely articulated quantitative terms of compensating action.

Although these analyses of non responsibility satisfy tolerably well in periods of little disturbance, they are an inadequate basis for a claim of authority when the Board feels the necessity for positive action. In 1928 and 1929, for example, when the Board was interested in tightening rates to curb speculation, reliance upon the theory of compensations was not sufficient. The Board claimed responsibility for some control over the amount of credit demanded. Rate changes are conditioned upon this fact. But though this is a change in the amount demanded, the Board hesitated to state that it is a change in the whole demand schedule. As a matter of fact, the issuance of warnings, the exertion of direct pressure, etc. have a direct effect upon the amount of credit demanded for all uses.

This presents system literature upon the matter of reserve bank credit. With infrequent exceptions, it will be noticed, changes are described largely by showing the extent to which gold movements, currency requirements, etc. have influenced the composition of the reserve banks' earning assets. Apparently the Board attempts to leave the impression that they have little control and that theirs is merely a book-keeping task. They always show that the net result is a balance. What they do not show - but what is obviously more important - is that, within limits, they have the power to control the fiture at which the balance is struck. Nor is this control merely immediate. For reserve policy is a most important element in the factors which condition the demand for credit.

The more fundamental analysis, then, would seem to be that which considers these changes as evidences of changes in Federal reserve policy. Here the emphasis is not only upon the distinction between bills bought and bills discounted (in which transactions the member banks take the 'initiative') on the one hand, as contrasted with holdings of Government securities (in which the reserve banks take the 'initiative') on the other, nor is it merely the nice adjustment of factors in the money market; rather the emphasis is placed upon the shift in type of holding and the change in total as evidences of policy. To what extent have rates, open-market operations, direct action, etc. contributed to make the items what they are? and to what extent would a change in those policies lead to a change in the items? In other words, the question here is not only how do the items balance? but the far more important one, at what amount do they balance?[47]

Through changes in the open-market portfolio and the rate the reserve system may influence the conditions under which it supplies credit to the market. The Board admits such control over the supply of credit. Occasionally there is some admission of control over the supply of credit in the long run. Thus, when the Board looked to the declining reserve ratio in 1920, it admitted a responsibility for control over the supply.

What the Board does not admit explicitly is that it exercises an important influence over the demand for credit. Usually

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47. Cf. Gregory, T. E., The Practical Working of the Federal Banking System of the United States, Lecture IV, pp. 58-59.

the analysis presented assumes the current demand for credit as a fixed datum which has grown out of the past and is not, therefore, subject to control by the system. According to this view the demand merely records the results of a past business situation. But, as Professor Commons has stated, futurity is an important element in any situation. Business men borrow on the basis of prospective profits. Anything which affects these prospects affects the demand for credit. Indeed, the assumption which lies behind the use of such instruments as direct action, warnings, etc. is that the demand for credit can be influenced by the reserve policy. And this effect is not solely on the amount of credit demanded at a given rate nor does it apply only to undesirable uses; it also affects the whole demand schedule. The Board apparently tries to create the impression that it has no such responsibility for the demand schedule. In doing so it ignores Federal reserve policy as one of the important elements in any given business situation. A change in policy means a change in the prospects of business. In short, the demand for credit in the longer run as well as immediately is conditioned by Federal reserve policy.

3. Direct Action, Warnings, and Publicity.

An instrument of policy which was being used at the close of the War and which was resorted to again in 1929 is so-called direct action or pressure. The object to be attained by the use of direct pressure has varied. At times it is used as a part of general credit policy.[48] The object in such cases is to restrict the total volume of credit outstanding by appealing to

48. See Fed. Res. Bull., Feb. and June, 1920 (VI), pp. 116-117, 556. Also for Feb. 1929, (XV), pp. 93-94.

the non-profit motives of the bankers. At times, to be sure, an appeal is made to the long run self-interest of the banker. In that event statements are made indicating that an excessive volume of borrowing will undermine the credit structure and eventually will imperil the banks. Usually, however, the appeal requests the bankers not to take advantage of a favorable rediscount rate at the reserve bank. Direct pressure, in such cases, is substituted for increases in the rate. The reason for choosing direct pressure in preference to the rate most generally lies in an effort to control not merely the volume of funds but their uses as well. This change in instruments follows from the correct assumption that a rate increase will penalize 'legitimate' business as well as 'undesirable' uses of credit.[49]

Thus in the most illuminating case of the use of this instrument - that in 1929 - the effort was made to control the use of funds for security speculation. In this case the New York Bank refused to cooperate with the Board in applying direct pressure.[50] Both wished to control the stock market; but the Bank preferred to rely upon the rate. Members of the Board were opposed to rate increases because they thought such increases would not be effective in arresting the speculation but would penalize legitimate business.[51] The New York bankers, however, preferred the impersonal rate and open-market operations to the more personal instruments. The objections of Governor Harrison to direct action were:[52] first, that the Brokers' Loans of the

49. In other words, it is a recognition of the fact that the rate is not the instrument to be used in controlling the uses of funds.
50. The history of this contest was told by Chas. S. Hamlin in Oper. of the Natl. and Fed. Res. Bank. Sys. Hear., 1931, pp.163 et seq.
51. Ibid., testimony of A.C.Miller, especially pp. 140-146.
52. Ibid., pp. 55-57.

New York banks had not been increasing; and second, that direct pressure is an ineffective instrument. The chief obstacle to effectiveness in the use of this instrument is the distribution of loans. As Governor Harrison stated, when pressure is applied to any particular banks, it may lead merely to a shifting of the loans from them to other banks. If chief reliance were placed upon the tradition against rediscounting for long periods, the borrowing could be shifted from bank to bank every few days. In this manner no bank would borrow continuously, but the volume of borrowing for the system would remain large. In other words, there would be a persistent tendency for rediscounting to be done by member banks whose call loans were small. Those members with large volumes of call loans would not rediscount.

The use of rationing in connection with this problem is discussed in section 4 of this paper.

Direct pressure also is used as an instrument of so-called banking policy.[53] If any particular bank is too heavily or too continuously in debt at the reserve bank, the officers of the member bank may be called in for a conference with some of the officials of the reserve bank. The member bank will be advised to reduce its borrowings.[54] Member banks should not use their rediscounting privilege as a substitute for capital. The reserve banks should not make loans to member banks if such loans are likely to lead to eventual loss to the depositors of the member bank. Such banking policy has been handled independently of general credit policy.[55]

53. For the distinction between credit policy and banking policy see <u>Ann</u>. <u>Rep</u>. <u>Fed</u>. <u>Res</u>. <u>Board</u>, <u>1921</u> (VIII), p. 688, Topic 10.
54. See below.
55. Except that in-so-far as credit conditions generally are extended, more individual banks may be borrowing to excess.

Not only have the objects to be attained by the use of direct pressure been various, but the precise form which the instrument has taken as well as the agency which has initiated the move has varied from time to time. Because they are analogous in many ways, warnings also may be considered in this connection. Upon occasions the form has been the publication of statements by the Federal Reserve Board which point out that reserve bank credit is not to be applied to certain uses, such as loans on securities.[56] At other times the reserve banks issue the statements. Sometimes the statements issued by the banks are at the instigation of the Board; at times the banks assume the initiative. Yet again, the bank has refused to cooperate with the Board in the matter.[57] The typical method of applying direct pressure centers attention upon the individual member banks. Although this method usually is used as a part of banking policy, at times it has been considered an element of general credit control.[58] In general, if, in the opinion of the reserve bank, a member bank is borrowing too much or too continuously, an investigation will be made. Apparently, if the particular circumstances in the bank's community justify the borrowing, the reserve bank will make no special effort to effect a reduction. But if there is no local situation which justifies to the reserve bank the loans to the member bank, pressure will be exerted to bring about a reduction.[59]

Although the function of inspection and control over individual banks is an important one, a conflict is apt to arise between

56. See Report of the Joint Commission of Agricultural Inquiry, III, Pt. 3, p. 41; also Burgess, W.R., in Rev. of Econ. Statistics, XII, p. 15.
57. As in the conflict between the Board and the New York Bank in 1929
58. Oper. of Natl. and Fed. Res. Bank. Sys. Hear, 1931, p. 170.
59. Ibid., p. 67. Cf. Stab. Hear. 1927, p. 456; Fed. Res. Bull. Feb. 1920, p. 118; Keynes, J.M., A Treatise on Money, II, p. 240.

it and general credit policy.[60] Thus if a large number of particular cases are found which require the extension of credit to particular areas for local emergencies, the reaction upon the banking system as a whole is inflationary. Unless the reserve system takes steps to curtail credit generally to counteract such a tendency, banking policy - which, after all, should be secondary - assumes a primary role over credit policy.

Question may be raised with respect to the effectiveness of these instruments. Warnings and similar efforts must act upon individual bankers. They are appeals to non-profit motives. Consequently, their effect upon bankers is in proportion to the timidity or public spirit of the individual bankers. But banks which are heavy borrowers already have violated the tradition against rediscounting and are not likely to be affected greatly by 'human' appeals. It is possible that some of these borrowers may be bankers who were too timid to refuse loans to customers in the first instance. In that event they are not likely to remain bankers very long. Large city bankers, on the other hand, are apt to be able to present a good case for almost any policy.[61] They are generally better paid than reserve bankers and are not all apt to take advice favorably. In any event the result of a contest between reserve bankers and commercial bankers is likely to turn upon personalities rather than upon sound banking practice. If all reserve bankers were Benjamin Strongs, the case for direct action would be more favorable. Unfortunately, it is not so. Probably an important element in the effectiveness of an instrument based upon non-profit incentives is its effect upon

60. Except, of course, in-so-far as it is used as a part of that policy.
61. Stab. Hear. 1928, p. 127.

the bankers' outlook. Thus, direct pressure indicates the current drift of reserve bank policy. If it is not heeded, it may be followed by the application of instruments with 'tteth'. A failure to follow the import of a conference with the reserve bankers may lead to rationing. So, perhaps, part of the effectiveness is due to the assumption by member banks that the instruments will be reinforced, if necessary, by other and penalty instruments. This fact should be kept in mind when one attempts to analyze the wide difference of opinion concerning the effectiveness of warnings. At the one extreme is C. S. Hamlin of the Board, who claims tremendous power for it. He places it at times above the rate in curtailing credit.[62.] Mr. Treman, Director of the New York Bank, stated at a meeting of the Board in 1920, that although warnings would hot be effective, direct action in the form of conferences with the commercial bankers would effect a restriction of credit.[63.] Mr. Bailey of the Kansas City Bank and most of the New York reserve men place reliance upon the rate and would abandon warnings entirely.[64.]

Another weapon, which has been suggested by Professor Commons, is publicity. He states that individuals attempt to anticipate future changes. If no official statements are forthcoming concerning the probable course of reserve policy in the the future, statements of those close to authority (a member of the Board, the President) will be gleaned for clues.[65.] This, according to Professor Commons, is a crude method likely to lead to error and unnecessary fluctuations. Consequently, he suggests

62. Oper. of the Natl. and Fed. Res. Bank. Sys. Hear. 1931, pp. 168-175. Cf. Fed. Res. Bull., June 1920, (VI), p. 581; and Ann. Rep. Fed. Res. Board, 1920 (VII), p. 11.
63. Sen. Doc. 310, 67th Congress, 4th Session, p. 15.
64. Ibid; passim and especially p.31. Also see references under note 1
65. Stab. Hear., 1927, pp. 1092-1094.

that official statements be made from time to time to indicate the possible (likely) action of the system under given circumstances.[66] Anticipation of the action may result in the desired movement and thus make unnecessary the action itself. In that event it merely hastens the result without requiring the use of the instrument. Thus, if prices are rising and the Board states that it 'may take this fact into account in considering possible rate changes', the business community may anticipate a rise in the rate and prospective falling prices and hence may hesitate to buy.[67] The effect will be analogous to that resulting from an actual increase in the rate and may make the increase unnecessary. Should the reaction be different, however, or lead to additional borrowing, the higher rate can always be put into effect.[68]

4. Rationing.

An effective method of restricting the volume of credit is to refuse to grant it. The eligibility rules of the Federal Reserve Board set up a limit to the possible volume of rediscounting. Only paper falling within the categories as defined by the Board is eligible for rediscount.[69] The several reserve banks decide whether any particular piece of paper which is presented falls into an eligible category. The general basis of these rules is that the original transaction which gives rise to the paper determines its eligibility. At times for particular banks, these rules may limit the volume of rediscounting. The

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66. Ibid., pp. 62-65.
67. Cf. the discussion of E. Cannan on Monetary Reform in Econ. Jour., XXXIV, p. 157.
68. Cf. Gregory, T. E. in reprint on Fed. Res. Bank. Sys., p. 43.
69. Federal Reserve Act, Sec. 13.

largest amount of reserve bank credit which a member bank could possibly receive is the discounted value of all its eligible paper. Hence any rule which places any particular piece of paper into an ineligible category is, in a sense, a possible rationing of credit. For the system as a whole, however, these regulations are not important from the point of view of restricting the volume of rediscounts. The volume of eligible paper is always much larger than that actually discounted at the reserve banks.

Rationing means that the rate is alike for all classes of paper but some requests for credit are granted, and other requests are not granted.[70.] It proceeds upon the questionable assumption that the Board is a better judge of legitimacy than is the criterion of ability to pay. The use of the instrument requires much tact and knowledge. Such omniscience is not possessed either by central bankers or others.

Rationing may be used as a part of general credit policy - which limits the volume of all or a particular class of credit - or as a part of banking policy - which deals with the extension of credit to a particular bank. As an instrument of banking policy, the use of the instrument is unexceptional. Reserve bank credit should be available to enable particular banks to tide over emergencies; it should not be available to enable them to postpone bankruptcy. Rationing credit in order to protect depositors of member banks by aiding the solvency of banks is a legitimate function.

The usual method which is employed is based upon the distinction between eligible and acceptable paper. A particular

70. Sen. Doc. 310, 67th Congress, 4th Session, p. 19.

piece of paper is eligible for rediscount provided that the reserve bank decides that it satisfies all the rules and regulations of the Board concerning eligibility. Nevertheless, the reserve bank may refuse to rediscount it because it is not acceptable.[71] In other words, <u>in addition</u> to meeting the Board's requirements of eligibility, paper must also be acceptable to the loan committee of the reserve bank. In this fashion the reserve bank can further restrict the extent to which a member bank may use reserve credit by narrowing the rules of acceptability. The widely varying character of particular pieces of paper makes it possible for the loan committee to restrict narrowly the volume of credit granted to any particular bank.

Rationing also has been used as a part of general credit policy to control the uses of credit. At times this has aroused the opposition of interested parties. For example, the attempt of the Atlanta Bank to refuse loans on automobile paper was a failure because interested parties exerted sufficient pressure to have the instrument dropped.[72] The classic instance of the use of the instrument was that in 1929 to curb stock speculation. Members of the Board stated that the stock-market <u>per se</u> is no concern of the system.[73] Even if one grants that it is a concern, however, there is still the question of the efficacy of rationing to control the uses of funds. The failure of direct pressure in accomplishing this result has been discussed in section 3 of this paper and provides the basis for the present discussion.

In the hearings on the matter,[74] some questioners of

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71. Goldenweiser, E. A., <u>Federal Reserve System in Operation</u>, pp. 147-148.
72. Cf. <u>Commercial and Financial Chronicle</u>, May 22, 1920, p.2142.
73. <u>Stab. Hear. 1928</u>, p. 396; <u>Stab. Hear. 1927</u>, p. 661.
74. <u>Oper. of Natl. and Fed. Res. Bank. Sys. Hear. 1931</u>, pp.31-106.

Governor Harrison stated that control could be exercised by refusing to grant reserve credit to member banks which were using funds for undesirable purposes. Unfortunately for this position, what constitutes a legitimate need is a matter of opinion. If general agreement would besecured on this matter, it might seem that the Board could regulate by means of its rules on eligibility of paper for rediscount. But this does not regulate the uses to which credit is put. Eligible paper arises out of past transactions; credit secured from the reserve banks on the basis of this paper will be used by the member banks in any way they see fit. For example, a bank may purchase an eligible acceptance. This past use of credit may be legitimate and unexceptional in every way. But it does not follow at all that the bank will use the proceeds of the rediscounted bill for legitimate purposes. Indeed, in actual practice the matter is more complicated still. Bankers do not follow out separate transactions as was done above. Instead, the volume of rediscounting is contingent upon the net result of all the operations of the bank.

In addition, to a certain extent legitimacy is a function of amount. Thus, some brokers' loans are necessary for the efficient functioning of the securities market. It is only when the volume becomes excessive (and there is no accepted measure of this point) that they become illegitimate uses of credit. Further still, the volume of legitimate brokers' loans(and other forms of credit which become illegitimate when used to excess)is not a direct function of the capital and surplus of the member bank. It is contingent upon other factors, such as the location of the bank.

Rationing, therefore, must needs be based upon the whole bank statement. It might appear a simple matter to refuse credit to banks which are expanding their brokers' loans. However, that would not have been effective against the New York banks in 1929; because those banks were not expanding such loans at the time. Another alternative is to refuse to grant credit to banks which have too large a volume of such loans. This alternative would involve the computation and establishment of basic ratios between the undesirable loans and total loans for member banks. As is indicated above, the ratio might not be the same for all banks. No member bank which had a higher ratio than its predetermined base would be granted reserve credit. It might prove necessary to change the basic percentages from time to time. But credit is fluid; it has an uncanny knack for avoiding pressure. The possible result of this proposal would be a shift of undesirable loans from those banks which are heavily stocked to others. As a consequence, all banks may be eligible for reserve credit even though the total volume of undesirable credit has not been reduced. This would necessitate a reduction in the ratio. However, one can hardly expect an accurate manipulation of such a ratio by a group of men who have handled other instruments as poorly as have the reserve officials. This almost omniscient system which is required to use rationing as an instrument of credit policy is not with us.

Governor Harrison presents a more extreme case to illustrate what would happen. The result, he states, would be merely a shift of brokers' loans from those banks which are borrowing at the reserve banks to those which are now borrowing.[75] Even a reduced

75. See section 5.

ratio would not be effective under those circumstances. One may also say generally that when the sources of undesirable credit are other than the reserve banks, - as was true of the 'for other' loans on the stock market in 1928-1929 - rationing cannot be an effective method of control and the reserve banks might well not use it.

In the discussions of the earlier sections of this paper it was demonstrated that credit could not be directed into desirable uses and out of undesirable uses by means of the rate or open-market operations. It now becomes evident that rationing also is ineffective to control the uses of credit. Credit is very fluid, and pressure applied in one sphere is rapidly transferred to all spheres. This is true of the pressure is in the form of direct action or rationing as well as if it is in the form of rate increases or open-market operations. One may express the matter in terms of responsibility. If the Board decides to apply pressure in order to force liquidation of credit in particular lines, it must take into account - and accept responsibility for - the added pressure upon all uses. Since the pressure operates through its effect upon the whole credit structure, if the Board decides to liquidate it may very well use the conventional instruments the rate and open-market operations. They serve to drive home the inter-relations of credit uses and force the Board to shoulder responsibility.

5. The Tradition Against Rediscounting.

An instrument of Federal Reserve policy which has received a great deal of attention is the tradition against rediscounting. Burgess states, "today there exists generally a feeling against

large and continuous borrowing from a Federal reserve bank."[76]
He attributes the development of this tradition to a transference of an inheritance from the past to the reserve system. R. F. Harrod, on the other hand, attributes the origin to "an initial distrust of the new system and the desire of member banks not to become indebted to it."[77] They agree upon assigning the origin to the pre-war period.

After the entry of the United States into the war, however, the volume of rediscounts increased very rapidly. From $180 millions in September 1917, it increased to $2,780 millions in October 1920. After October the volume decreased very rapidly till July, 1922. Some member banks borrowed in excess of three times their basic line for several years after the conclusion of the war. The Annual Report of the Board for 1922 states that some of the member banks had been borrowing heavily and continuously.[78] Since the middle of 1922 the volume of rediscounting has been over a billion dollars at times and frequently over half-a-billion. Under such circumstances to speak of an effective tradition is anomalous.[79]

Member banks have not always availed themselves of the opportunity to reduce borrowings instead of expanding loans. Sometimes when extending loans is more profitable than repayment, the banks adopt the former course.[80] In other words, bankers will violate the tradition, as W. S. Gilbert would say, only if they are insulted with a sufficiently large tribe - that is when

76. The Reserve Banks and the Money Market, p. 182.
77. Econ. Journal, XXXVII, p. 285.
78. P. 3.
79. See section one of this paper.
80. Riefler, W. W., Money Rates and Money Markets in the United States, p.161. Miller testimony in Stab. Hear. 1927, p. 665.

borrowing is sufficiently profitable. Therein lies the most telling criticism against the tradition. It is not sufficiently effective to curb a persistent demand for credit in periods of rising prices. If rediscounting is sufficiently profitable, banks will indulge in it regardless of the tardition. To rely upon this instrument in preference to rate increases permits the 'vicious circle of inflation' to develope. Then successive rate increases and sales of Governments are necessary to curb inflation. It would appear more sensible to rely upon them in the first instance.

In periods of depression, on the other hand, when public interest would be served better if the tradition were violated, it becomes too effective - largely because rediscounting is unprofitable in such periods. The instrument seems to operate in reverse.

It has been stated at times[81] that reliance upon open-market operations rather than rate changes is an indication that the tradition against rediscounting is considered effective. Open-market operations represent, according to this view, merely a shift from one type of reserve bank credit to another. Consequently, it is argued, if reliance is placed upon that mere shift to reduce the volume of reserve bank credit, the cause must be the dislike of the member banks for the new type of credit - rediscounts. It should be noted, however, that all appreciable changes in the reserve banks' holdings of Governments have been followed or accompanied by rate changes. In other words, the reserve banks do not consider the tradition sufficiently effective to reduce the volume of credit.

81. E.g. by Riefler, W. W., Op. cit., p. 33.

Certain special problems have been encountered in the use of tradition. One of these is the concentration of borrowings in a few member banks.[82] If the reserve banks rely upon the tradition enforced by each member bank upon itself, unscrupulous bankers may take advantage of the situation. Rationing or other banking policy might better be considered separate instruments rather than ancillary to a tradition.

A far more serious practical difficulty is that it is possible for banks to follow the letter of the tradition (if one may so speak of it) without abiding by its purpose. Certain types of short time borrowing are of this character.[83] To illustrate: If Bank A, after being indebted to the reserve bank for several days, calls loans to repay the reserve bank and thus forces Bank B to rediscount; and Bank B, in turn, calls loans after the lapse of a few more days, only to force Bank C into the reserve bank, no single bank will have violated the tradition against continuous borrowing; nevertheless, the total volume of rediscounting may be continuously large. The same consequences follow if the action is not deliberate. The tradition against rediscounting simply does not meet the problem at all. This subtlety in evading the pressure of the instrument illustrates once more the fluidity and adaptability of credit.

The tradition would seem to be effective against bankers in proportion to their temerity and unscrupulousness. Without the use of direct action and rationing it would appear ineffective against the boldly unscrupulous.[84] It appears further that the

82. Annual Rep. Fed. Res. Board, 1922, p.3; Stab. Hear. 1927, pp. 972-973.
83. See testimony of Prof. Sprague, Stab. Hear. 1928, p. 150.
84. Riefler, W. W., Money Rates and Money Markets in the U.S., p.34.

tradition has a reverse effectiveness. When it is most needed to check an expansion, the profitableness of violating it takes upper hand; when every effort is being made to increase the volume of credit, it enters as hindrance. The most telling argument against the tradition is a rate decrease designed to stimulate rediscounting. Such an effort is a direct appeal to the profit motive of the commercial bankers. If the tradition against rediscounting prevents increased borrowing, a reduction in the rate cannot be effective in stimulating it. The tradition, therefore, might well be abandoned in favor of more dependence upon the rate and open-market operations.[85]

Summary:

Although no quantitiative relationship between the various instruments of Federal reserve policy can be found, it is evident that some are more efficacious than others. Likewise their efficacy is conditioned by the development which they are designed to control and by the use of supplementary instruments. Open-market operations appear to be most widely efficienty and adjustible. First, they are effective alike in periods of rising and falling prices. When any rate at all is likely to be deterrent, bank balances can be 'forced' upon the community through open-market purchases. If the resulting reserve balances of the commercial banks do not lead to an extension of loans and deposits, increased security purchases by the commercial banks will increase the latter. In periods of rising prices, open-market sales tend to reduce the reserve balances of member banks and thus tend to check the expansion. Further, the amount of pressure exerted by open-market operations may be adjusted with a great degree of nicety since the only limit on the volume of such

85. See secs. 1 and 2 of this paper.

operations is the volume of securities and purchased bills held by the reserve banks at any given time.

The rate likewise is subject to wide variations. It can be raised to any height necessary to restrict credit expansion arising out of rediscounting. It is not always able to stop inflations arising out of imports of gold and other sources of reserves outside the reserve banks themselves. The changes also are more crude than those in open-market operations because they are made $\frac{1}{2}$ % or multiples at a time. The most serious limitation, however, is the inability of the rate to check a severe deflation. If prices are falling very rapidly, any rate at all is likely to be deterrent.

The tradition against rediscounting obviously can be used only to retard an advance and not at all to retard a decline. Further, it appears that the tradition really operates in reverse. When the volume of credit should be expanded, the tradition becomes effective and discourages borrowing from the reserve banks. But when borrowing is profitable, the tradition does not seem to be effective enough to discourage borrowing. If such a tradition means anything, it is not subject to manipulation at the behest of the central bank for the purpose of ironing out the business cycle.

Rationing is effective to curb a rise but is obviously ineffective to retard a decline. In addition the use of rationing proceeds upon the questionable assumption that the reserve officials are a better judge of credit demands than is ability to pay.

Direct action, warnings, and publicity also are crude instruments whose effectiveness cannot be predicted. It appears further, that if one use is ineffective in any given case, a whole series (e.g. of warnings) is likely to prove ineffective also. To rely upon them is precarious central banking policy. In general they are useful at all only to halt a rise. However, referse warnings such as statements that ample credit is available, etc. may be stimulating because they imply an easy policy on the part of the central bank.

Taken in conjunction, open-market operations and the rate are complementary and are effective in both directions with the possible exception of a rise built solely upon funds whose origin is outside the reserve banks. Even then the increase in 'external' funds must be sufficient to replace all the earning assets of the reserve banks. The tradition and the rate are contradictory (especially in depressions) because whereas the latter appeals to the profit motive of the bankers, the former would eliminate that motive. Other instruments are effective only to halt a rise and even there their effectiveness cannot be predicted. Of comrse, they may be supported' by one or more of the 'penalty' instruments.