



**BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON**

CONFIDENTIAL (FR)

August 24, 1965

To: Federal Open Market Committee


From: Mr. Young

In accordance with the suggestion made at the meeting of the Committee on August 10, 1965, there is enclosed a copy of a memorandum dated August 14, 1959, entitled "System Open Market Policy Following an Enemy Attack," by Messrs. Daane, Marsh, and Walker. Copies of this memorandum were originally distributed to the Committee by Mr. Reifler, then Secretary, on September 14, 1959.

Also attached is a copy of a memorandum dated August 20, 1965 from Mr. Cooper of the New York Bank to Mr. Holmes, reviewing the System's approach to open market operations under the emergency conditions at the start of World War II. As Mr. Holmes has indicated, this seems to be the most comparable past episode that might be relevant to the recent discussions regarding hypothetical emergency situations.

In the same connection, Committee members and other Reserve Bank Presidents may want to review Annex III (Federal Open Market Committee Guides for Emergency Operations - revised 1962) and Annex IV (Guidelines for Emergency Monetary Policy - revised 1961) of the Board's Emergency Plan, copies of which are in the possession of all Board members and Reserve Bank Presidents.

Attachments


Ralph A. Young, Secretary
Federal Open Market Committee

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Draft for Discussion

August 14, 1959

To: Governor J. L. Robertson

Subject: System Open Market Policy

From: Messrs. Daane, Marsh, and Walker

Following an Enemy Attack

The working group charged with responsibility for open market matters in Operation Alert 1958 presented its findings and recommendations relating to open market operations at a simulated Board meeting on July 17, 1958, and in a memorandum dated July 18, 1958, addressed to Mr. Fauver. The latter memorandum was subsequently circulated to all members of the Open Market Committee and to all other Reserve Bank presidents.

The working group recognized that one of the major unresolved basic problems was that of liquidity policy following an attack. The group also stressed the related problem of the rates and prices at which purchases of securities might be made by the Reserve banks or the Open Market Account under emergency conditions. The discussion of these problems was accompanied by the recommendation that these unresolved basic matters be given further study on a continuing basis.

To stimulate further study of the problem of the yield curve, the present memorandum attempts to explore the various alternatives under which securities purchases might be made in the post-attack period. It is assumed that in the event of an actual attack similar to that assumed in Operation Alert 1958 the individual Reserve banks or the System Open Market Account would make post-attack purchases for purposes of absorbing panic selling of securities and of providing liquidity as a means of encouraging the continuing functioning

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of our monetary and economic system.¹ The purpose of this memorandum therefore is not to inquire whether the System's post-attack role should include supplying liquidity freely under a given set of post-attack conditions, but rather to explore the terms on which such liquidity might be provided through securities purchases. While the general governmental approach to the problem of liquidity is closely related to the matter of System open market action immediately following the attack, this memorandum deals only with the latter question. Specifically, the question is at what rates or prices should the initial purchases be made. The following discussion does not purport to be a definitive answer to this question, but rather is designed to promote further consideration within the System of an area that constitutes an important gap in the System's emergency planning. This memorandum focuses primarily on the question of the most advantageous yield curve for purchases in the initial stages of an emergency; at the outset, however, it should be recognized that the initial choice may prejudice later actions and that the duration of support of any given rate pattern becomes immediately relevant.

Existing Guides; Experience in Past Alerts

The guides for emergency open market operations on file at the Reserve banks contain only very general suggestions as to the appropriate prices for purchases of securities following an attack.

In determining the prices at which initial purchases are to be made, the major considerations will, no doubt, be the extent of the pressure on the Reserve banks to buy, and the desirability of a uniform approach by all Reserve banks, even though some of the banks are presumed to be out of communication. In the initial stages, the only guide which can be applied with any degree of uniformity by

¹It is assumed that in order to minimize the extent of permanent addition to the reserves of the banking system, to the degree possible the liquidity needed will be provided through the discount window supplemented by repurchases. This will in turn reduce the initial rate problem.

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all the Reserve banks will be the existing market structure. The initial price paid should preferably not be so far out of line from price and rate patterns existing prior to the emergency as to result in excessive profits or losses to sellers. Thus, a Reserve bank might initially buy at prices somewhat below the closing market prices prior to the emergency so as to reflect the increased availability of securities and to encourage buying on the part of investors if market confidence in the rate structure should be maintained and funds are available for investment.

As these initial prices might be considerably above or below a rate structure which would prove sustainable for a long national emergency, they might have to be moved gradually in the direction of the pattern which subsequently develops. The question as to how this adjustment in prices and yields would be made is difficult, but it may be suggested that a rate curve reasonably related to the most recent prevailing structure could prove satisfactory initially. In this connection, if the Federal Reserve discount or loan rates were set for emergency purposes, considerably below the previously existing market rates, problems of abuse could arise which would necessitate lowering the rates paid (raising the prices) on market purchases.

It is not likely that securities purchased under these circumstances would be resold by the Reserve banks in any size, at least in the initial stages of the emergency, and it would be preferable that no sales be made under chaotic market conditions because of the possibility of arbitrage by purchases from one Reserve bank and sales to another at a profit. However, if sales are deemed appropriate as conditions improve, they should be made at prices above the purchase price to minimize possible abuses. Of course, as the Reserve banks come into contact with each other and with the Federal Open Market Committee, uniform purchase and sale prices could be established.¹

These guides have not proved adequate even during the practice alerts and clearly point up the need for further study of the question of the yield curve. As pointed out by the Federal Reserve Bank of New York in its report on the effects of the assumed attack on the Government securities market in Operation Alert 1957:

One gap in the advance planning was the absence of a general set of instructions with respect to the pattern of interest rates on which purchases or sales of Government securities should be made. There are a good many obvious difficulties involved in attempting

¹Federal Reserve Bank of New York, Securities Department, Guides for Emergency Operations for Federal Open Market Committee, April 1957, pp. 17-18.

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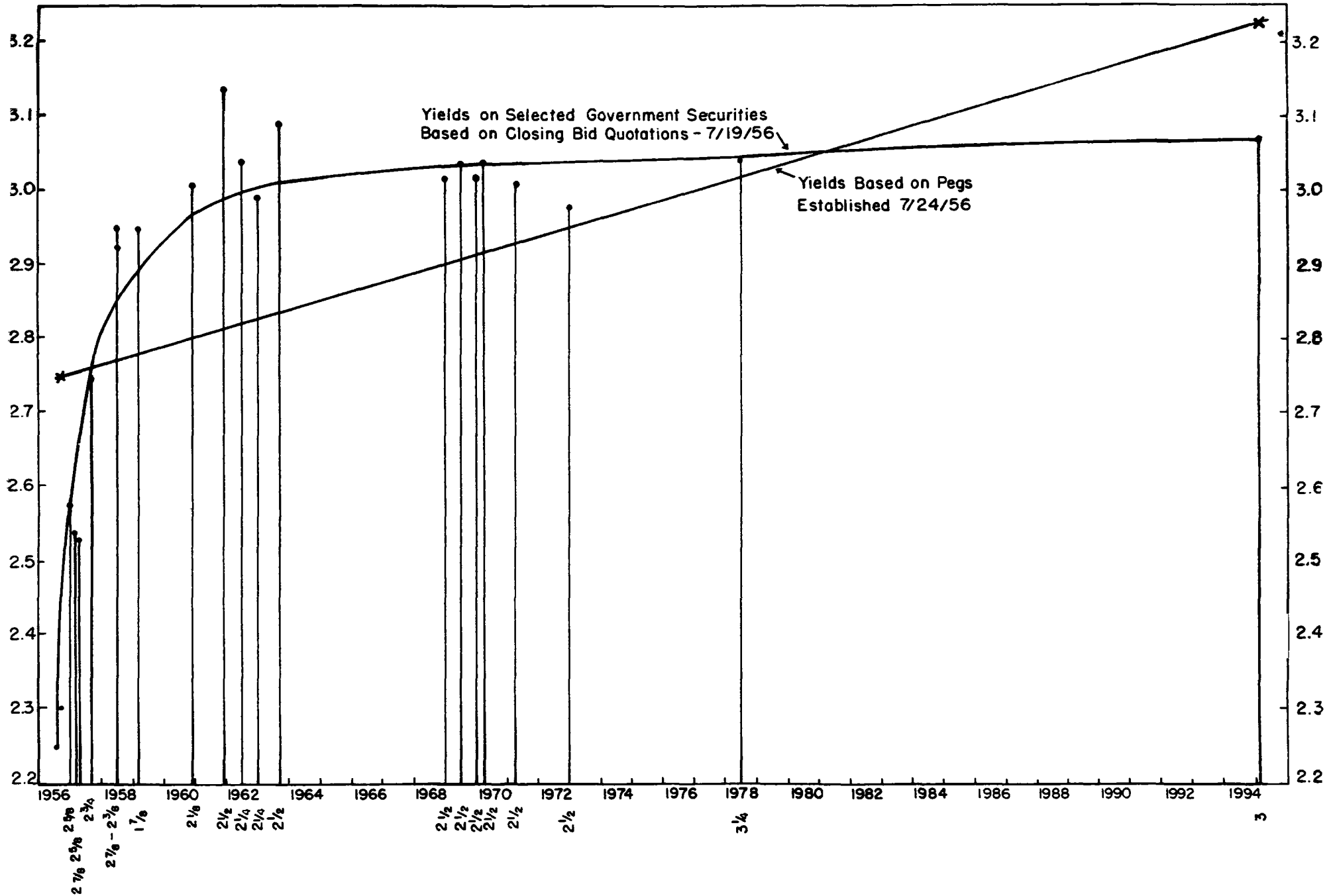
to set up continuing instructions on a rate pattern to go into effect in the event of an emergency. At the same time, there are advantages in having such instructions, and it is suggested that further consideration be given to establishing them. In Operation Alert 1957, the purchases and sales of the Reserve banks were made on widely different rate patterns, as each bank adopted its own assumptions. It is unlikely that the level of the rate pattern adopted, as such, would have had any effect on the supply of or demand for Government securities during the emergency, so it is unlikely that regional rate patterns could be justified in terms of the different problems that the various Reserve banks had to deal with. On the other hand, the existence of regional differences in rates being maintained by the Reserve banks would tend to add another complication to the process of redeveloping national financial markets and would, at least temporarily, needlessly create possibilities for profiting through arbitrage in Government securities.¹

A year earlier, in Operation Alert 1956, practically all of the assumed purchases made by Reserve banks in the early post-attack period were at the market prices existing the day before the attack. The Open Market Committee, however, at its first meeting following the attack, issued a directive that in effect established purchase prices at levels considerably different from the market, involving a straight-line yield curve ranging from 2 3/4 percent on bills to 3 1/4 percent on the longest-term bond. Effective stabilization of this straight-line curve would have resulted in price increases for most issues of Governments, although bills and the longest-term bond would have declined in price. (Chart I.) Similarly, in Operation Alert 1958, the existing yield curve was adopted as an assumed action, but largely as an expedient.

The different approaches adopted during practice alerts reinforce the need for a reappraisal of alternatives. Before reviewing the advantages and disadvantages of several alternatives, however, some basic assumptions must be made.

¹Federal Reserve Bank of New York, Securities Department, "Operation Alert 1957," Report on the effects of the assumed attack on the Government securities market, October 15, 1957, p. 5.

CHART I
OPERATION ALERT - 1956



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Basic Assumptions

The primary assumption is that individual Reserve banks or the System Open Market Account will have to make post-attack purchases of securities in order to forestall panic selling of Government securities and to provide a basis for reactivating the market. The question of whether holders of Governments would be disposed to sell their securities, even for demand deposits that might be temporarily "blocked" under Treasury regulations, need not be debated in this memorandum. It is sufficient to admit that such liquidation might occur and, if it did, a cumulative, self-feeding decline in prices of Governments might take place. Consequently, the System needs to plan for such an eventuality.¹

¹Although not directly analogous, the experience with panic selling immediately following the invasion of Poland on September 1, 1939, and following the attack on Pearl Harbor in December of 1941 may be of interest.

A sharp break in the American security market immediately preceded and followed Hitler's invasion of Poland on September 1, 1939. To insure maintenance of orderly market conditions, the Federal Reserve System purchased \$473 million of Government securities for System account and \$74 million for Treasury account between August 28 and September 29, 1939.

Despite these support operations, interest rates rose sharply from the latter part of August to a high point in the third week of September, largely reflecting sales by private investors and smaller institutional holders. Larger banks and other institutional investors held or increased slightly their holdings of Government securities during this period and thus cushioned the price declines (rate increases). In the August-September period, yields on short-term Treasury notes rose approximately 2/3 of 1 percentage point; on long-term Treasury bonds, 1/2 of 1 percentage point. Prime commercial paper rates went up 1/8 of 1 per cent. High-grade corporate bond yields rose from less than 3 per cent to about 3 1/2 per cent, and rates on high-grade municipals went from roughly 2 3/4 per cent to over 3 1/4 per cent. Yields on low-grade corporate bonds showed little change.

For three days following the attack on Pearl Harbor, the security markets registered a relatively sharp decline, but this decline was not comparable with the break of September 1939. However, on December 9 and 10, the System purchased \$48 million in Government securities for its own account and \$36 million for Treasury account. Yields on some short-term Treasury notes and bonds rose as much as 1/5 to 1/4 of 1 percentage point between December 7 and 10, 1941, while the newly issued, taxable 2's of 1951-55 and the long-term, taxable 2 1/2's of 1967-72 dropped to par, representing an increase in yield of 0.19 percentage point and 0.08 percentage point, respectively. Similar increases in yields were registered by both high-grade and low-grade corporate bonds. From December 10 to year-end 1941, security prices and yields showed little change.

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Another basic assumption relates to the pattern of Treasury financing of its war and redevelopment expenditures, which in turn is directly related to the importance of the term structure of interest rates in the post-attack period and the appropriateness of interest patterns to meet various possible conditions. It is assumed that, regardless of the extent of the attack damage, a major problem will be that of financing reconstruction and military efforts. Reconstruction conceivably could be financed to a considerable extent by some form of capital levy which would spread the losses. However, there is a strong presumption that the Government would have to undertake large expenditures to pay for reconstruction and military efforts. In such case a national policy decision would be required as to the extent such expenditures would be covered by heavy taxes (of the traditional type), a capital levy, or borrowing (both from nonbank investors and from banks).

This was the basic problem confronting the Government in the Second World War, and it was resolved in favor of financing out of taxes to the extent deemed politically feasible. In addition, funds were intensively sought from nonbank investors, but a substantial, residual amount was obtained from commercial banks. The country's prospects at the time were not sufficiently bleak to warrant confiscatory measures; borrowing, despite its almost certain inflationary consequences, appeared to be a more palatable form of hidden capital levy. The resultant depreciation of the dollar is often rationalized as the cost of waging war--unavoidable in view of the practical limits of non-inflationary financing.

To what extent public expenditures arising out of a future attack could be financed in a similar manner cannot be judged in advance, but it is presumed that they would, for good or bad, be financed in considerable part by bank credit. If the damage is excessive, confiscatory measures, such as drafts

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of capital, goods, and manpower, may be the only possible course of action. On the other hand, if our surviving financial structure is such as to permit borrowing, even with inflationary consequences (barring runaway inflation), borrowing probably would offer a better chance of preserving a market economy. It is in this kind of a situation that the pattern of interest rates would become of significant importance, since the rate structure would strongly influence the inflationary potential and would directly determine the dollar cost of borrowing to the Treasury. The selected rate structure should also encourage an equitable distribution of the new debt among the various types of holders and, to the extent possible, should promote balance between real saving and real investment.

Another related assumption emphasizing the importance of the initial rate structure is the strong possibility that in making initial purchases early in the post-attack period the System would find itself setting a pattern of rates which would be difficult to alter to meet longer-range Government financing needs, to minimize inflationary effects, and to harmonize with national monetary and economic policies. Failure to recognize this early in World War II contributed significantly to the System's subsequent problems. If panic sales threaten to dominate the market in the early post-attack period, promises on the part of the Reserve banks that the selected structure of interest rates would be maintained could be quite effective in stabilizing the market; holders of Governments would in effect be indemnified against future losses. Any future upward change in the structure, however, would then be viewed as a breach of faith. While it might still be possible to move, over time, to a different rate pattern--either higher or lower--it would be preferable for initial System purchases to be made at rates consistent with the longer-run objectives.

As a matter of planning, what type of pre-emergency program can be developed to meet best all of the various possibilities? If Government borrowing

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must give way to more drastic measures, the question of interest rates may well be academic, and purchases by Reserve banks may not be appropriate. If Government borrowing is resorted to, the System should be in a position to effect its purchases in as close conformity as possible to a rate structure which would meet longer-run objectives. And it should be recognized that the Reserve banks in the initial post-attack phases might be in a position of having to decide whether to buy, or on what basis to buy, without any advance knowledge as to national policy decisions on the methods of financing to be pursued. The Reserve banks should, therefore, have as much advance guidance as possible for meeting this situation. Advance System planning should also be helpful in developing with other agencies a uniform approach to the problem of post-attack financial policies, particularly with respect to the rate pattern. This advance planning would undoubtedly prove useful even though it is admittedly impossible to select in advance a rate pattern which would meet all conceivable eventualities.

The remainder of this memorandum explores various possibilities with respect to appropriate interest rate patterns by presenting some of the advantages and disadvantages of four alternative approaches to support purchases of securities:

- (1) purchases at existing market prices—a steeply sloped yield curve;
- (2) purchases to maintain a horizontal yield curve, or one of slight positive slope;
- (3) purchases to raise the yield curve considerably above the existing market; and
- (4) purchases to maintain a downward sloping yield curve.

1. Purchases at Existing Market Prices—A Steeply Sloped Yield Curve

Perhaps the simplest approach would be to place a floor under prices (a ceiling on yields) by making purchases at or slightly below the bid quotations

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that existed immediately prior to the attack. If agreed to in pre-attack planning, this approach would have the advantage of assuring that each operating Reserve bank, even though not in communication with the Federal Open Market Committee or other banks, would be providing support in its area on practically the same price basis as other operating Reserve banks.

The primary disadvantage of taking the existing price schedule as a base arises from the possibility that the System might be forced to maintain the initial pattern of rates for a considerable period of time during the reconstruction phase, and that the pattern might be unsuitable for long-run stabilization. This might be especially the case if Reserve bank efforts to forestall panic involved either implied or explicit promises to dealers, banks, and other holders that the prices of Governments would not be allowed to decline below the levels existing at the time of the attack. As noted earlier, such promises--which in effect would involve indemnification of holders of Governments against loss--might be especially effective in forestalling panic in the market.

The need to appraise the long-run appropriateness of any given existing yield curve can be amply demonstrated by a brief reference to the experience in the Second World War. The abnormally low and steeply sloped yield curve prevailing at the outset of war reflected an unprecedented volume of excess reserves (primarily due to the gold inflow), a depression-diminished demand for funds, a Federal debt structure dominated by longer maturities, and market expectations of rate increases. The prevailing structure of rates was obviously inconsistent with a different pattern of expectations on the part of the market, a different concentration of loanable funds in the hands of financial institutions, and a Federal debt structure involving larger amounts of short-term securities. The structure was clearly unsuitable for a period of full employment and high

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demand for goods and services such as existed during and after World War II.¹ The rationale of the rate pattern adopted in World War II supposedly involved four considerations:

- (1) It should bear some supportable relation to the existing market so that its maintenance would not mean a disruption of that market.
- (2) It should be fair to the Government in the sense that it would permit the Treasury to borrow funds at relatively low and stable rates.
- (3) It should be fair to the market in the sense that interest rates and economic well-being, including the performance of our private banking system and of our system of savings and institutional investment, were involved.
- (4) It should, insofar as possible, be deemed reasonable by the market, so that it would have ready acceptance, thus minimizing the special measures of support which might have to be provided by the Treasury and the Federal Reserve System.²

The results of the experience in the Second World War sharply reveal the basic problems created by attempting to stabilize a rate structure which, by its nature, presupposes the probability of a change in the pattern in the future. While many forces affect yield patterns, and no single factor can be singled out as dominant, it is generally agreed that expectations as to future trends in interest rates is an important element in influencing the term structure of rates. A sharp upward (positive) slope in the curve (i.e., long rates considerably higher than short rates) reflects an expectation that interest rates are likely to rise, inasmuch as investors, under such conditions, will prefer short to long issues, in order to avoid the capital losses associated with longer-term securities

¹See: Charles E. Walker, "Federal Reserve Policy and the Structure of Interest Rates on Government Securities," The Quarterly Journal of Economics, Vol. LXVIII, February 1954, p. 25.

²Allan Sproul, "Changing Concepts of Central Banking," essay in Money, Trade, and Economic Growth in honor of John Henry Williams (New York, 1951), p. 301.

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as a result of rising rates. For opposite reasons, a general expectation that rates will decline may be reflected in a downward (negatively) sloping yield curve—or at least a movement of shorter rates upward and longer rates downward.

The World War II case may not be completely analogous in all respects, but it is noteworthy that the attempts to stabilize the selected pattern, which ranged from a low of $\frac{3}{8}$ of 1 percent on 3-month bills to $2\frac{1}{2}$ percent on long-term bonds, resulted in upward pressure on short-term rates, downward pressure on long-term rates, and resultant creation of reserve money with strong inflationary consequences. Once the market became convinced of the willingness and ability of the System to maintain the pattern for an indefinite period, investors were encouraged to liquidate the low-yielding, short-term issues (which the Federal Reserve had to purchase to prevent their yields from rising) in order to buy the higher-yielding, long-term maturities. Moreover, the steeply sloped shape of the pattern caused prices of long-term issues to rise over the earlier years of their life; this gave rise to what was referred to as "playing the pattern of rates," or "curve-riding." Curve-riding involved the successful attempts of investors to obtain, in effect, a higher return on Governments than by merely retaining holdings of particular issues for the yield to maturity. Thus, an investor who sold a long-term Government security that he had purchased at par and held for, say, two years, would, as a result of the price rise along the curve, have realized both the current interest income and an additional capital gain obtained through the sale. His rate of return on the investment was in effect higher than the apparent yield to maturity on the security. The investor could use the proceeds of the sale to reinvest in longer-term issues, and the cycle of pattern playing would be repeated. Inasmuch as the technique involved sales of shorter issues and reinvestment of the proceeds

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in longer-term securities, the actions reinforced the pressures on short rates to rise and promoted expansion of central bank credit.

The whole process resulted in considerable emission of high-powered Federal Reserve dollars, thereby stimulating inflationary pressures. Moreover, the process was self-reinforcing, inasmuch as the additional Federal Reserve funds generated in purchasing the short-term securities, by increasing bank reserves, provided a basis for purchases, by banks at least, of longer-term issues several times greater in amount than the original sales.

The World War II experience may still be sufficiently fresh in the minds of market participants to accelerate the process, should the System again attempt to stabilize a yield curve of steep positive slope. The process was impeded during the early period of World War II, partly because the market did not accept as certain until late 1942 or early 1943 that the System would be successful in stabilizing the structure. No such doubt should exist in future instances.

It may be noted that the yield structure that existed at the time of Operation Alert 1958, which as an expedient was assumed to have been selected for stabilization, ranged from a bill rate of about 1 percent to yields on long maturities approaching 3 1/2 percent. In our judgment, any attempt to stabilize such a pattern of rates would have contributed to rate pressures and inflationary forces similar to those that characterized the World War II experience.

Aside from the inflationary effects of attempting to stabilize a steeply sloped yield curve, difficulties might well arise from the fact that the level of long-term rates in the structure would probably be too low for an extended period of capital reconstruction. It is, of course, impossible to select in advance a long-term interest rate consistent with the widespread

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destruction that would probably result from an enemy attack; but the appropriate (or equilibrium) level doubtless would be higher than that prevailing in the market at the time of the attack. The significance of this consideration depends largely on the extent to which the market mechanism is to be used in promoting reconstruction, as opposed to Government direction of economic processes. In a market economy, Federal Reserve stabilization of an interest rate considerably lower than the equilibrium rate would contribute to strong inflationary pressures. In a Government-directed economy, however, the inflationary effects might be repressed at least for a time by rationing, price and wage controls, allocation of materials and labor, and controls over liquidity.

2. Purchases to Maintain a Horizontal Yield Curve, or One of Slight Positive Slope

An effective method of eliminating completely the curve-riding potential of the yield curve would be to minimize the deviation of the yield pattern from a horizontal straight line; i.e., by adopting a single uniform rate for all maturities. All issues would be pegged at prices which would produce the same yield to maturity regardless of whether the pegged prices were at par, or above or below par, and regardless of the terms to maturity.

While this technique would remove the temptation on the part of investors to sell short-term issues in order to obtain funds to purchase longer-term securities, successful stabilization of a horizontal yield curve might result in some shifting in the opposite direction—from longer-term securities to short-dated issues. Such shifting would reflect the fact that, inasmuch as interest returns on all maturities would be identical, it would be safer over the long run for investors to invest almost wholly in short- as opposed to longer-term issues. If, for some reason, long rates were actually permitted to rise some time in the future, the investor would, by having invested solely

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in short-term issues, be in a position to take advantage of the higher long rates without suffering capital losses. On the other hand, there would also be a possibility that rates would be expected to move lower later on and such an expectation would prompt acquisition of the longer-term securities.

In view of these possibilities, it might be preferable to stabilize a schedule of prices on Governments that would eliminate all but a small amount of upward slope from the yield curve. For example, a yield structure ranging from, say, 3 percent on 3-month bills to 3 1/2 percent on the longest-term bond would afford little attractiveness in shifting from short-terms to long-terms. On the other hand, the slightly higher yield on longer-term issues might help to maintain their attractiveness, as opposed to short-term issues, and perhaps forestall a shifting movement from longs to shorts.

One simple way for arranging the establishment of such a pattern would be to instruct the Reserve banks, in their open market operations following an enemy attack, to make purchases of Governments at prices that would result in a yield curve pegged to the yield on the longest-term bond existing at the time of attack, ranging to a yield about 1/2 point lower on 3-month bills. Thus, if the longest-term Treasury was yielding 4 percent at the time of attack, the yield curve would range from 3 1/2 percent on 3-month bills to 4 percent on the bond. If the bond was yielding 3 percent at the time of attack, the curve would range from 2 1/2 percent to 3 percent; and so on.

A disadvantage of this approach lies in the fact that losses to holders would occur to the extent that the prices of issues other than the highest-yielding security would have to decline so as to conform to the selected rate pattern. On the other hand, there is no assurance that such losses would occur-- this would depend on the shape of the yield curve at the time of attack. Furthermore, under the type of yield curve generally prevailing (in other words short

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rates lower than long rates) the rise in rates would be greatest on the shortest maturities and the necessity of taking losses would be lessened by the option of holding to maturity. Moreover, conditions can be imagined under which a majority of holders of Governments would realize profits on their holdings. In the final analysis, however, the possibility of losses to market holders must be weighed against the clear advantage of moving swiftly to a yield curve that could be maintained with a minimum of difficulty for what might well turn out to be a long period of time.

3. Purchases to Raise the Yield Curve Considerably Above the Existing Market

A third approach to the problem might involve an attempt to move immediately to a yield pattern that would minimize efforts of investors to shift from short- to longer-term securities (i.e., selection of a pattern with a small degree of positive slope, as discussed in (2) above), but which would also contain a long-term rate that would conform more closely to the probable equilibrium rate under conditions of widespread destruction (recognizing that under such conditions an equilibrium rate would really be an abstraction).

In principle such an approach seems highly desirable. The main advantage it offers is that of encouragement to investor expectations that future rate movements might be in a downward direction which in turn would encourage the acquiring and holding of long-term securities. Immediately, of course, it would have the advantage of locking in holders and inducing reliance on borrowing to obtain needed liquidity.

As attractive as this approach may be in principle, it involves certain important difficulties. In the first place, it would inveigh against the immediate provision of liquidity to ensure the functioning of the monetary and economic system. Secondly, there is the "political problem" that the central bank would face in attempting to move to a substantially higher long-term rate of

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interest. While the long-term 2 1/2 percent rate of World War II may well be a relic of the past, the chances of moving to a rate much higher than 4 percent, in view of the probable opposition from the legislative and executive branches of Government, would not seem too favorable; Congressional distaste for a higher interest ceiling is all too clear. In our judgment, there would be a strong preference on the part of Congress and the Executive for freezing the long-term rate at the level existing at the time of attack.

Thirdly, there is the problem of the precise level at which the long-term rate should be established. While it should no doubt be higher than the pre-attack level, and perhaps much higher than the System could realistically expect to achieve, pre-attack selection of a true equilibrium long-term rate would be impossible. Nevertheless, any movement toward the higher equilibrium rate should prove beneficial in the long run.

Finally, early and decisive movement to a higher long-term rate would result in substantial capital losses to holders of Government obligations to the extent they had to dispose of the securities. There is serious question whether such losses should be borne solely by the holders of the securities, inasmuch as the move to higher yields would be to the benefit of the economy as a whole. Perhaps some technique of indemnification and spreading of the loss among the entire population could be worked out.

4. Purchases to Maintain a Downward Sloping Yield Curve

The tendency over the past three decades for long-term interest rates to be higher than short-term rates has led to general acceptance of the view that a positively sloped yield curve on Governments is the "normal" relationship. Prior to the 1930's, however, short-term rates (as reflected, for example, in commercial paper rates) were usually higher than the yields on long-term bonds. In recent years, moreover, yields on some issues of shorter-term Governments (particularly in the so-called bank maturity ranges) have sometimes been

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above rates on longer-term Governments. This recent return to the earlier "normal" relationship would seem to provide sufficient reason for examining the implications of stabilizing a downward sloping yield curve in the post-attack period.

In addition, the analysis of at least one theoretical study of the term structure of interest rates points to the desirability of promoting a downward sloping pattern in the type of conditions that might be expected to prevail in an economy severely damaged by nuclear attack. This view--which clearly implies that a relatively lower long-term rate would contribute to the capital reconstruction process--has been presented by W. Braddock Hickman as follows:

In conformance with the idealized precepts of traditional financial theory, corporations and other business organizations in need of capital are assumed to finance long-term outlays with long-term instruments and short-term outlays with short-term instruments. This linkage of the terms of evidence of debt or equity participation to the durability of capital assets is by no means so clear-cut in practice as in theory. National Bureau studies in business financing indicate that the debt of large and very large corporations is more closely related to total assets expansion or contraction than it is to changes in the fixed property accounts. And small to medium concerns, for cost and institutional reasons, incur their debt mainly in the short-term market. In some degree, however, the traditional theory of business financing seems to have some roots in fact; and we shall therefore assume it to hold in the long-run picture here considered.

If the term structure of debt is linked to the durability of capital assets the central bank may control the several parts of the economy at will. A relative rise in short rates will tend to reduce inventories, goods in process, and stocks held for sale in the near future, by increasing the costs of carrying them; a fall will tend to increase these stocks and these inventories. On the other hand, a relative rise in long rates will depress, and a fall will augment, the volume of new construction of plant and durable capital equipment.

* * * * *

Under these assumed and admittedly artificial conditions a structure of rates of the horizontal type, or a curve that is mildly increasing, would in a sense have a neutralizing influence on the price levels and production of capital goods and consumer goods, respectively. Such a structure would balance the forces making for an increase in the supply of the one against the forces

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making for an increase in the supply of the other. A rotation of the structure of rates around a central pivot (a constant average level) from the neutral structure, in order to make it of a decreasing type, would have the effect of raising costs in the less capitalistic consumer goods industries and lowering costs in capital goods industries, thus pushing and pulling factors of production from the former to the latter. It would also decrease the reservation demands for -- and consequently the carryovers of -- stocks held for sale in the near future, and increase carryovers for the distant future. On the whole, the society would become more capitalistic or "roundabout." A decreasing structure therefore appears to be the type properly maintained by an agricultural economy with growing population wishing to expand its heavy industries.

A sharply increasing structure, on the other hand, seems to be the type favorable to a mature industrial economy. Roughly speaking, such a structure will tend to expand consumer goods industries in relation to producer goods industries, increase stocks held for sale in the near future, decrease those held for sale in the distant future, and in general induce a less capitalistic form of production. This, then, is the policy indicated by theory for an over industrialized economy -- an economy with overdeveloped capital goods industries, underdeveloped consumer goods industries, and an unbalanced rate of technical development favoring the capital goods industries as against the consumer goods industries.¹

The desirability of attempting to stabilize a downward sloping yield curve in the post-attack period can be questioned on at least three bases. In the first place, stabilization of this type of curve, especially if steeply sloped, would tend to promote a shifting movement among market holders of Governments from long- to shorter-term issues. This process might be even more pronounced than the shifting tendency from short-terms to long-terms in connection with stabilization of a positively sloped curve, inasmuch as the uncertainty prevailing under post-attack conditions would probably stimulate investor preference for issues of short maturity in any event. Consequently, any attempt to maintain a downward sloping structure would be a strong invitation to market holders to sell long-term issues to the Federal Reserve

¹W. Braddock Hickman, The Term Structure of Interest Rates (unpublished), November 16, 1942, p. VI-16 ff.

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(which would have to buy them to preserve the structure) and to purchase short-term securities with the proceeds. The Federal Reserve credit emitted in the process would, of course, provide the basis for even greater purchases; growth in bank credit and the money supply would be strongly stimulated.

Secondly, the inflationary implications of a low long-term rate in the reconstruction period--aside from the pressures stemming from the shifting process--should be clearly understood. Under the existing conditions, there might well be a wide gap between the demand for funds to finance capital reconstruction and the supply of real savings; market pressures would therefore tend to promote a relatively high long-term rate. Thus, the central bank could maintain a relatively low long-term rate only through large-scale injections of central bank funds, with consequent growth in bank credit and the money supply, and stimulation of inflationary pressures. Capital formation might indeed be fostered, but only through the technique of "forced saving"--that is, the transfer of resources to capital formation, away from current consumption, by pricing consumers out of the market. While some degree of inflation would no doubt be inevitable, the appropriateness of a central bank policy that would directly promote capital formation through forced saving and inflation is open to serious question.

Finally, a strong case can be made for initial establishment of a long-term rate that would be high enough to permit a movement towards lower rates as reconstruction proceeded. If investors held any expectations at all that long-term rates would rise in the future, purchases of long-term securities would be impeded. On the other hand, a firm conviction among investors that the initial long-term rate was at a peak level, and that the only probable movement over time would be downward, would encourage purchases of long-term securities. In our judgment, an attempt to stabilize a downward sloping structure--which implies stabilization of a relatively low long-term rate--would probably promote market expectations of higher long-term rates in the future and thus create in the minds of investors a fear of capital losses on newly acquired long-term issues.

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Duration of Support Purchases

The preceding discussion of the various alternative yield curves that might be adopted initially for post-attack purchases does not explore the related question of the duration of support of the particular yield curve adopted; in other words, the duration of more or less rigid support of the pattern of prices of Government securities selected for the post-attack period. This is an important consideration, however, and relates directly to the choice of alternatives as to initial post-attack purchases. Specifically, for example, if investors anticipate a change in the particular yield curve adopted, this may strongly affect their initial willingness to hold securities of varying maturity. Some expectation of change may indeed be vital to the acquiring and holding of securities in the immediate post-attack period; e.g., if investors could be led to believe that a downward shift in the yield curve would be the most likely change, this would clearly strengthen their willingness to hold or acquire such securities, particularly the longer maturities.

The precise timing of any move away from a fixed pattern of rates would not be determinable in advance but would be a function of existing conditions. Advance planning, however, should provide guidance in principle on the basic question of whether to maintain rigidly the pattern selected or to permit that pattern to change as pressure develops. In general, the Guides for Emergency Operations for Federal Open Market Committee assume a gradual movement away from "full support" with the end objective the reactivation of a self-reliant Government securities market. That the question of duration of support operations, however, will arise even in the first phase of so-called "full support" is recognized in the Guides as follows:

In the phase of full support for a range of issues, the first question will be what issues to buy and at what prices. In this connection, a basic decision will have to be made whether to accept a pattern of prices related to a hypothetical yield curve on a

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flexible basis or whether the price structure should be frozen in some specific relation to the structure existing just prior to the emergency. Another question would be whether to give unyielding support to a fixed rate pattern or to let the rate structure, as a whole, change as pressure develops. These are questions of policy which could only be answered by the Federal Open Market Committee, probably in consultation with the Treasury and others at a national policy-making level. However, the management of the Account should be prepared to provide advice on such matters in the light of the existing conditions.¹

This basic decision is a question that should be explored thoroughly in advance planning for open market operations. The alternatives posed in the Guides may be modified somewhat in considering this question; an intermediate alternative might involve allowing part of the rate structure to reflect immediately market pressures. A variable pattern of rates would not necessitate permitting the same range of fluctuation on all types of rates. The System might set an anchor at the long end, or limit fluctuations in long-term rates to a narrow range, and permit intermediate and short-term rates to respond more freely to current market influences.

Exploration of the preceding approaches (1) through (4) has involved brief review of the various types of rate patterns that might be adopted and maintained on a relatively rigid basis. The advantages of moving early in the post-attack period, however, to a somewhat different rate pattern than that adopted initially merits additional consideration in emergency planning particularly in the light of the World War II experience. In reviewing that experience, Mr. Sproul has noted:

If mistakes were made in this period [World War II], as they were, the principal one was the too rigid maintenance of the pattern of rates and unwillingness to let the short rate fluctuate (rise) somewhat. A modest rise in short-term rates could have

¹Guides, op.cit., p. 34.

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further mobilized unused reserves of banks outside the money centers and in the hands of nonbank investors; would have taken account of the fact that as the war progressed the amount of idle funds declined, demands grew, and stability of long-term rates became accepted; would have narrowed the spread between short and long rates and the consequent riding of the pattern; and might have preserved a slight but healthy degree of unpredictability in the short and intermediate rate area. Since some movement of short rates could probably have taken place without much, if any, over-all increase in cost to the Treasury and without disturbing the maintenance of long rates, it was and is difficult to justify dogged adherence to a "fixed" rate pattern, but that was the final decision of the war period.¹

The question of greater flexibility at the short end of the curve arose very early in the World War II period. In a memorandum to the Federal Open Market Committee in June of 1942, shortly after agreement had been reached with the Treasury as to the maximum rate for Treasury borrowing and as to the 3/8 percent rate on Treasury bills, Mr. Sproul pointed out:

If a further rise in short-term rates is to be permitted, we should take action before we have too greatly increased the volume of short-term paper outstanding at present rates, and before we have seemed to become permanently committed to a 3/8 of 1% rate on 90-day bills.²

There seems little point in reviewing in detail both the within-System and System-Treasury differences in view over permitting the bill rate and other short rates to rise. In passing it may be noted, however, that the Treasury regarded the actual rise that occurred in the certificate rate as a breach of faith and that the Treasury's concept of the "pattern of rates" was a smooth curve from 3/8 percent to 2 1/2 percent, while the System's concept was one involving more fluctuations around a smooth curve. The Treasury favored a low short-term rate to be maintained by a large volume of excess reserves, while the System favored slightly higher short-term rates to be maintained without a large volume of excess reserves. The posted buying rate of 3/8 percent was more or

¹Allan Sproul, Money, Trade, and Economic Growth, "Changing Concepts of Central Banking" (New York, 1951), p. 304 f.

²Allan Sproul, Memorandum to the Executive Committee of the Federal Open Market Committee, dated June 19, 1942.

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less a compromise but the Treasury consistently opposed any suggestions by the System to permit an increase in this rate. The spread between this rate and the 7/8 percent rate on certificates posed a major rate problem in the short area; the Treasury bill consequently lost its character as a market instrument while there was constant upward pressure on the certificate rate.

As noted in the preceding quotation from Mr. Sproul, the principal arguments advanced for a more flexible and higher short-term rate structure were the encouragement of nonbank demand, the introduction of some healthy degree of unpredictability into the rate pattern, and the narrowing of the short-long rate spread and possible reduction in the riding of the pattern. At the same time it was also pointed out that an increase in short rates would "validate" the long rate since, basically, it would represent recognition on the part of investors that the long rate was going to hold.

On the other hand, it was argued that more flexibility in the rate structure, and specifically higher short-term rates, would accomplish very little. The arguments against using flexible short-term rates were that it would have required substantially higher short rates to discourage shifting and this would have resulted in an undesirable increase in cost of the public debt, that in any event it would not have prevented debt monetization, that it would not have attacked the basic causes of inflation in terms of the existing money supply and insufficient production, and that the price declines attendant on an increase in interest rates would adversely affect the Government securities market and complicate the Treasury financing problems.¹ The argument against permitting an upward shift in interest rates generally was summed up by Murphy as follows:

¹See Annual Report of the Board of Governors of the Federal Reserve System, 1945 (Washington, 1946), pp. 5, 7.

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. . . it is unlikely that an increase in interest rates would have been helpful in furthering the ultimate objective of reducing total spending and hence indirectly the total accumulation of liquid assets. Government spending during World War II was scarcely amenable to interest-rate control. If it could have been reduced with high interest rates, it should have been reduced with low ones; if a reduction would have hindered the war effort, it should not have taken place at all. Private spending is of two kinds: capital formation and consumer spending. Capital formation was rigidly controlled in wartime and so was likewise not amenable to interest-rate control. Consumer spending is probably not very much affected by interest fluctuations over the range of practicable rates . . . Higher wartime interest rates, therefore, would have been of little use in furthering the real objective of the wartime borrowing program and would have substantially increased the post-war burden of interest on the debt¹

This comment, however, does not deny the importance of the rate structure. Even if it were true that the absolute level of interest rates was more or less academic under the circumstances, the actual pattern of rates selected for stabilization tended to generate an excessive expansion of money and credit.

Concluding Comments

The preceding review of the various alternatives under which securities purchases might be made in the post-attack period is designed primarily to stimulate further consideration of the problem rather than to provide specific answers at this stage of System planning for emergency open market operations. A few general observations, however, representing a tentative judgment with respect to several key points may be in order:

1) Agreement should be reached in advance as to the most appropriate type of yield curve and specific guidance incorporated in the Guides for Emergency Operations for Federal Open Market Committee. The importance of all open Reserve banks following the same course of action should be emphasized; the advantages of a uniform rate pattern take

¹Henry C. Murphy, National Debt in War and Transition (New York, 1950), p. 285 f.

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precedence over the particular type of yield curve selected. Regional differences would complicate the process of reconstructing a functioning Government securities market and would, at least temporarily, needlessly create possibilities for profiting through arbitrage.

2) The choice of any alternative type of yield curve is subject to a variety of differing considerations; no single curve will fit most appropriately all of these considerations. Advantages on balance, however, seem to accrue to a moderately upward sloping yield curve with the long anchor at a rate above the long rate existing at the time of attack--how much above reflecting the level of market rates at that point of time as well as the conflicting considerations of assuring liquidity and deterring liquidation. The unresolved problem of a pre-attack decision for System guidance on this point obviously requires further study. The advantages of a considerably higher than market long-term rate have been pointed out in terms of impact on investor expectations as to future rate movements, and consequently on their willingness to hold or acquire long-term securities. Under post-attack reconstruction conditions current savings could not possibly be expected to match all demands for funds. The real bottleneck undoubtedly would be that of getting people to save and lend; the objective, then, should not be one of higher rates per se, but rather of generating some expectations of a future decline. This suggests the initial establishment of a long-term rate that would at least be high enough to permit a movement toward lower rates as reconstruction proceeded.

3) Related to the possibility of a downward shift in the yield curve, recognition of the importance of not adhering to a fixed pattern of rates for any long period of time should be incorporated more

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specifically in advance planning. The Guides for Emergency Operations for Federal Open Market Committee recognize generally the desirability of moving away from full support through limited support to operations for credit policy objectives. Any assumption that the System could in the immediate post-attack and emergency reconstruction phases move entirely away from market support to credit policy objectives is extremely unrealistic. The question of a partly flexible versus a rigid rate structure in the initial phases, however, seems directly relevant. Resolution of this basic question along with the selection of a yield curve and level of rates will arise at the outset of governmental planning at the top administrative level and the System's position should be unequivocal; namely, a preference for higher rates to avoid as much as possible the inflationary emission of Federal Reserve credit, a long anchor well above the existing market rate so as to encourage investor expectations of a downward movement, and some degree of flexibility from the outset in any rate pattern selected.

Federal Reserve Bank
of New York

OFFICE CORRESPONDENCE

DATE: August 20, 1965.

TO: Mr. Holmes

SUBJECT: System Support Operation in

FROM: Robert L. Cooper

September 1939

System open market operations following the outbreak of World War II probably provide the most clearcut example of System intervention in the Government securities market for the sole purpose of dealing with disorderly market conditions precipitated by a crisis abroad. The possible occurrence of such a crisis had been foreseen for some time and the executive committee of the Federal Open Market Committee had been specifically authorized to deal with it. The directive given by the full committee at the meeting on June 21, 1939 authorized the executive committee to purchase securities "...for the purpose of exercising an influence toward maintaining orderly market conditions...". Furthermore, in the event that armed conflict or political developments threatening armed conflict abroad should result in serious disturbance to the market in this country, the executive committee was authorized to take immediate action to deal with it by increasing the Account by up to \$500 million and, upon approval of the Federal Open Market Committee, by an additional \$500 million. It also appears that as early as the spring of 1939 a plan of action had been devised by the System Account management to deal with the market repercussions of any political crisis abroad. The plan included action to relieve the Government securities dealers of their positions and to assure their cooperation with the System, to put bids in the market, on the stock exchange and over the counter, and to enable the market to find its own level of support without panic or disorder. In general,

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this plan was carried out during the month of September, under the direction of the executive committee, which was in almost continuous session in Washington with Mr. Harrison participating by telephone from New York. Daily strategy was planned in the morning, and frequently confirmed or changed during the day, after consultation between New York and Washington. Executive committee authorizations to the New York Bank with respect to amount and price ranges were given on a daily and sometimes hourly basis.

The crisis began with the German invasion of Poland, which shook confidence badly, produced heavy and prolonged selling of Government securities, and forced buyers to the sidelines. The System took immediate action to head off the development of panic or disorder in the market. Before the opening on Friday, September 1, 1939, dealers were told that they would be relieved of their net long positions at prices $1/8$ point below the previous night's late (4:30 p.m.) closing prices. In return, the dealers were asked to make no short sales to the System and to solicit no sales from customers. This meant, of course, that the System not only bought securities that the dealers were long but, to the extent that System holdings permitted, short positions were also filled by sales of \$18.5 million to the dealers. If the System did not hold a particular issue in which a dealer was short, he was allowed to keep an equivalent amount of an issue he was long. It was not until late in the day that it was ascertained that the net positions taken over amounted to \$61 million. At the opening of the market at 10 a.m., similar bids were entered throughout the list of Government direct and guaranteed issues on the stock exchange and offerings began to be taken in the over-the-counter market at the same prices. At about 11:40 a.m., with approximately \$19 million purchases made (excluding dealer positions), prices were

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dropped $1/8$ to $1/4$ point. During the rest of the day bond prices were reduced by $1/8$ or $1/4$ point on three more occasions--prices on notes were also reduced but less frequently and less sharply. System buying prices at the close were below the previous night's close by 1 point for bonds, $1/2$ point for long notes and $1/8$ point for short notes. Total net purchases including dealer positions, were \$114 million.

In general, this method of buying was followed over the next several business days. Bids were entered on the stock exchange at the opening, and offerings were taken from dealers, at prices about $1/16$ to $1/4$ point below the previous night's close and further price reductions ranging from $1/16$ to $1/4$ point were made at various times during the day. Some of the changes represented adjustments in prices of issues that had gotten out of line to the point where they were attracting unusual selling pressure. Total purchases from September 1 through September 6 amounted to almost \$350 million (a small amount was apparently allocated to Treasury accounts but there was no distinction made at the time of purchase.) Over the next few days pressures subsided. Bids were entered, if at all, at the previous night's close and changes during the day were relatively small. Total purchases September 7 through 9 were a little over \$25 million.

Beginning September 11 it was determined to make a real show of strength by buying a large amount of securities, in an attempt to dry up the selling and to encourage non-official buyers to reenter the market. However, unfavorable news over the weekend produced a new wave of selling. In contrast with the initial approach on September 1, prices were still permitted to decline but not as fast or as far. System purchases were large--almost \$110 million for the two days, September 11 and 12,

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nevertheless, the System gave ground grudgingly. For example, occasional offerings made below the market were taken while still paying market prices on other offerings. Despite the heavy selling, price changes on September 11 amounted to a maximum of only 1/2 point for bonds, 6/32 for long notes, and no change for short notes, while there were some increases of up to 7/32 on September 12.

During the rest of the month purchases were small. Bids were entered on the Stock Exchange on most days at the same level as they had closed the day before and only minor adjustments were made to bring straying issues back into line.

The selling apparently originated mainly with non-institutional investors. Banks had been requested to refrain from selling and reportedly cooperated to a large extent. Large institutional sellers were restrained to some extent by the absence of real demand and by the sharp price decline and attendant losses. Some problems developed along the way and had to be dealt with. For example, it was necessary to make constant and arbitrary adjustments in prices of particular issues that appeared to be getting out of line. It was also found expedient at times to pay somewhat lower prices for large blocks of securities while still maintaining prices for smaller offerings. During the early part of the month dealers were required to report the name of sellers and the purpose of the sales but this led to much protest and to larger selling through the stock exchange, where such information could not be obtained, and was soon abandoned. Finally, it was found necessary to request dealers to suspend trading by 4 p.m. in order to avoid undesirable price declines after official buying had been completed for the day.